

# THE IMPACT OF HOUSEHOLD DEPOSITS ON BANK CREDIT ACTIVITIES: EVIDENCE FROM SELECTED WESTERN BALKAN COUNTRIES

---

1 Gorana Krunić, Deposit Insurance Agency of Bosnia and Herzegovina, Banja Luka, Bosnia and Herzegovina

\*Corresponding author's e-mail: [gorana\\_krunic@aod.ba](mailto:gorana_krunic@aod.ba)

1 ORCID ID: [0009-0006-3706-5651](https://orcid.org/0009-0006-3706-5651)

---

## ARTICLE INFO

Review Scientific Paper

Received: 27.05.2024

Revised: 22.11.2024

Accepted: 03.12.2024

doi:10.7251/ACE2441175K

UDK

336.717.3/.5:336.71-022.5

---

Keywords: *bank deposits, household bank deposits, bank credit activities*

JEL Classification: D14, E21, G21, G51

## ABSTRACT

Credit activities of banks are significantly conditioned by the level of bank deposits as the main source of bank financing, especially for banks operating in underdeveloped financial markets. A notably significant part of the bank deposit base comprises household deposits, which in the banking sectors of the Western Balkan countries have a considerable share of total deposits. This paper investigates the dependence of bank lending activities on the total household deposits in the banking sectors of the Western Balkan countries. The research was conducted for the period from 2000 to 2021 for the banking sectors in Republika Srpska and the Federation of Bosnia and Herzegovina, for the period from 2002 to 2021 for the banking sector in Montenegro and for the period from 2003 to 2019 for the banking sector in Serbia. The level of total loans in banks represents the dependent variable, while household deposits in the observed banking sectors represent independent variables. This research has also opened some new directions in research work in terms of the intensity of the factors that can contribute to the growth of household deposits as a source of financing bank lending activities in the Western Balkan countries.

© 2024 ACE. All rights reserved

---

## 1. INTRODUCTION

Deposits, taken loans, issued debt and equity securities, and bank capital can be used as sources of financing banking activities. In Western Balkan countries, deposits are usually the most common source of financing banking activities, while bank assets are mostly made up of loans which are one of the primary sources of funding economic activities.

Bank deposits can be owned by individuals, governments and government institutions, financial institutions, non-profit organisations, public and private companies and other entities.

This research pays special attention to the household deposits which are the subject of deposit insurance and, as such, represent a stable source of financing bank activities. More specifically, it studies the conditionality of bank loans on household deposits as part of the total deposit potential. Deposits (especially, as we will see, insured deposits) are a stable source of funding for banks.

In order to determine the dependence between changes in loans and household deposits in banks, this paper researches how the level of loans in the banking sectors of the selected Western Balkans countries changed in relation to household deposits. The research covers the period from 2000 to 2021 for the banking sectors of Republika Srpska and the Federation of Bosnia and Herzegovina, the period from 2002 to 2021 for the banking sector of Montenegro and the period from 2003 to 2019 for the banking sector of Serbia.<sup>1</sup>

This research aims to determine the correlation and degree of connection between bank loans and household deposits in the selected Western Balkan countries. The study proposes the hypothesis that loans in the observed banking sectors are primarily conditioned by the changes in the level of household deposits. By verifying the hypothesis above, this study paves the way for further research directions. In addition, the findings from this paper can support decision-makers by showing the importance of adopting measures that should contribute to the growth of household deposits in banks and, thus, the bank credit potential.

## 2. LITERATURE REVIEW

Banks are the backbone of the economy. The simplest operational definition of a bank is that it is an institution whose activities are related to granting loans and receiving deposits from the public (Freixas & Rochet, 2008). By acting as financial intermediaries, banks enable a smooth functioning of an economic system. Financial intermediation represents intermediation between sectors that have a surplus of financial resources (households, real economy, external sources) and sectors that have a deficit of financial resources (households, real economy, state) (Bašić, 2012).

Constant banking activity manifests itself in the activities of accepting a deposit, recording it and the obligation to return it. In terms of historically variable

---

<sup>1</sup> For the banking sectors in Serbia and Montenegro, the research periods are somewhat shorter due to the availability of comparable data, but still long enough to verify the hypothesis.

features, the predominant ones are the change in the shape and requirements of banking institutions, different subject of a bank deposit or the way in which deposit safety is ensured (Mikliński, 2021).

Banks use their sources of financing to lend funds to those who need them. By placing the aforementioned funds, banks build their own assets that can take various forms, namely, liquid assets, loans, securities, tangible and intangible assets and other forms of assets. That way, banks perform one of their fundamental roles in financial markets: financial intermediation. Furthermore, bank credit activities play a key role in determining the aggregate economic activity because deposits are necessary for economic exchange and economic exchange is required for production and consumption (Kumhof & Wang, 2021). The loan-to-deposit ratio had a positive and significant effect on commercial bank deposits. This result implies that when the loan amount is high, a large amount of money circulates in the country. Therefore, this large amount of money in the country can lead to an increase in commercial bank deposits (Teshome, 2017).

Deposits act as the driving force of bank lending (Disyatat, 2011) as banks use deposits as a primary source of funding for their lending activities (Gobat, 2012). For commercial banks, deposits are generally considered as low cost finances (Pitoňáková, 2016). Empirical studies suggest that banks with larger increases in deposits expand their credit activities (Carletti et al., 2021). Economic development via real GDP has a consistent influence on bank deposits, so policymakers must target it and concentrate on the interest rate and the re-discount rate as significant instruments for monetary policy in attracting deposits and funding loans (Saleh et al., 2023). A bank with insufficient deposits to finance lending loans must rely more heavily on non-deposit sources of funds whose availability and price are much more sensitive to changing economic or financial conditions (Disalvo & Johnston, 2017).

On the other side, the problem of credit shortages may be due to significant credit risks that banks are not willing to take (Vyhovska, Lysenok, Hranovska & Krykunova, 2021). The loss reserve and the liquidity ratio have a positive effect on total loan growth. From a macro perspective, the inflation rate has a positive effect on the total loan growth rate, while the interest rate has a positive effect on total loan growth rather than a negative effect (Chun & Ardaaragechaa, 2024). The factors that determine the level of credit growth in Indonesia are deposit growth, the ratio of nonperforming loans in the previous year, the bank capital adequacy ratio, GDP, real growth, and the Indonesian benchmark interest rate (Jessica & Chalid, 2021). Some researchers demonstrate the reverse effect between macroeconomic indicators such as GDP per capita, the ratio of loans

to GDP, the ease of doing business index and bank loan rates (Ivakhnenkov, Hlushchenko & Sverenko, 2021).

The importance of researching the bank deposit potential stems from the existing literature and studies indicating the importance of deposits as a source of financing for banks, i.e. the riskiness of the funding from non-deposit potential. Generally, banking strategies that principally rely on attracting non-deposit funding are very risky and require maintaining relations with rather complex nonretail customers and capital market participants (Demirgüç-Kunt & Huizinga, 2010).

Literature suggests that a decrease in bank financing from deposits, along with an increase in market financing, represents a negative factor for financial stability. Market funding has proved to be less stable than customer deposits, and reliance on market funding has thus made the banks' liquidity positions more vulnerable to external shock (Berg, 2012). Access to core deposits insulates a bank's cost of funds from exogenous shocks that may be caused by external shocks in the financial markets (Berlin & Mester, 1999). The banks that relied more on deposits for their financing in 2006 fared better during the crisis (Beltratti & Stulz, 2012).

Many banks predominantly rely on household deposits as a primary source of funding. In many economies, households are the sector that saves the most (Fredriksson & Staal, 2021). At the bank level, focusing on retail deposits (consisting of household deposits and small business deposits) can produce a more diversified and stable funding base which is generally less sensitive to market changes (Han & Melecky, 2013). At an individual and household level, savings support stability thus contributing to the stability of the financial system (Cull et al., 2012).

The research for Bosnia and Herzegovina shows that the representation of household savings was not that significant before the financial crisis of 2007 and 2008 due to the free inflow of capital that opened up a wide credit facility for banks. After the crisis, there was a change in the strategy of the banks in the direction of paying more attention to mobilising the household savings (Vladušić, 2010). Such trends have led to the fact that household deposits in Bosnia and Herzegovina in recent years have made up a significant part of total bank deposits. In the other observed Western Balkans countries, the share of household deposits in total bank deposits is also substantial.

Several factors influence changes in the level of household deposits. For instance, research in Croatia has confirmed that the level of household deposits can be influenced by factors such as financial, social, psychological, political, organisational and technical conditions of banks, among others. However,

without attempting to undermine the importance of those factors in creating household savings, the most significant role is played by the achieved gross domestic product, directly or indirectly (Jurman, 2008).

Research results in Slovakia show that the real interest rate, the elderly dependency ratio, inflation and gross disposable income boost up deposits, while income growth reduces household deposits. Outcomes indicate that elder generation tends to increase financial wealth in the form of bank deposits (Pitoňáková, 2016). The most important role in the formation of deposit resources of households is played by the level of their income, namely the number of wages received by household members (Dubyna et al., 2022).

Research conducted in Ukraine resulted in proposed measures to increase household bank deposits, as follows: reducing unemployment; creation of favourable conditions for increasing the average monthly salary in the regions and modifying household spending to make savings; formation of an appropriate interest rate policy aimed at actively attracting temporarily available funds of the population to commercial banks (Kichurchak, 2021).

There is an interesting research that analysed the impact of remittances from abroad on bank deposits. Remittances do not appear to promote utilising financial services such as bank savings accounts. One possible explanation is that remittances are spent on consumption rather than saved or invested. However, fees for remittance services are an additional factor. Considering the high transfer fees, poor migrants avoid using banks for money transfers (Cekrezi, 2022).

Previous research has shown a significant correlation between bank loans and deposits, emphasising that bank deposits essentially determine credit activities. The reverse effect of loans on deposits is not significant, suggesting it could be that depositors do not hold their funds in banks due to their efficiency but due to other factors such as security and specific benefits (Nguyen & Tripe & Ngo, 2018).

Research on developing countries has confirmed that bank deposits and loans play a key role in the process of monetary transmission in the economy (Kassim & Majid, 2009). Research in Republika Srpska has shown that there is a very strong positive correlation between changes in the volume of bank loans and changes in the gross domestic product (Ćurić, Popović & Bašić, 2021).

The importance of the research on the relationship between loans and deposits is also reflected in contributing to the findings of the earlier studies, which showed that there is a causal connection between interest rates and the volume of deposits. When interest rates are reduced, investors reduce their investment in deposits

because their return on invested funds diminishes, and it is assumed that they are looking for other investment opportunities (Ozen, Vurur & Grima, 2018.). In such conditions, the reduction of the deposit base in banks has an impact on the lending activities of banks which contribute to the economic development of a country.

In case there is a decrease in the demand for deposits, not only do the costs of bank financing increase, which directly decreases the supply of bank loans, but it also decreases interbank lending, thus reducing the demand of companies for loans (Berlin & Mester, 1999). Demand deposits, savings and time deposits, according to the study and discussions, have a positive and significant impact on the credit offer of Regional Development Banks in Indonesia (Zufikar, 2024).

Research at the European level has shown significant differences in loan-to-deposit ratios in certain European countries, suggesting a different degree of reliance on deposits as a source of bank financing in the countries of the European Union. From 2007 to 2019, that ratio ranged between the minimum amount of 0.75 (France, the Netherlands, Belgium) to the maximum amount that Denmark, Sweden and Finland had, that is 2.87, 2.23 and 1.59, respectively. Significant differences in the relationship between loans and deposits in European countries suggest that the importance of deposits as the main source of financing varies across banks in different European countries. Banks in the Scandinavian countries prefer to provide significant sources of funding in the financial markets rather than in deposits. Until the second half of 2008, the average loan-to-deposit ratio of European banks grew, given that banks had considerable market funding available for lending activities (Beijer, 2020).

### **3. DATA AND METHODOLOGICAL FRAMEWORK**

In this research, multi-year time series data relevant to the applied methodological framework were used. Sources of data on loans in banks and household bank deposits, which are observed variables in this research, are the officially published reports of institutions that supervise the operations of banks, i.e. banking supervisory authorities.

Determining the interrelationships and relationships between two or more observed phenomena is the subject of regression and correlation analysis, and the goal is to quantitatively express the average ratio of the observed phenomena if such a relationship exists. At the same time, the degree and direction of the interconnectedness of the observed phenomena is expressed. If two phenomena

are observed, then it is a simple regression and correlation analysis (Komić, 2000).

This paper determines the relationship between household deposits and total loans using a simple linear regression analysis. Household deposits in banks represent an independent variable, loans in banks are a dependent variable, and they are observed in the aggregate amount at the level of the banking sector of Republika Srpska, the Federation of Bosnia and Herzegovina, Serbia and Montenegro. Therefore, there is a functional connection between household deposits and total loans in banks and it is shown as:

$$Y = f(\text{def}, X)$$

The simple linear regression model can be written as:

$$Y_i = \beta_0 + \beta_1 x_i + \varepsilon_i \quad i=1,2,\dots,N$$

Where:

- $Y_i$ : means dependent variable, in this analysis, total loans;
- $x_i$ : means independent variable, in this analysis, household deposits;
- $\beta_0$  and  $\beta_1$  are unknown constants or regression parameters;
- $\varepsilon_i$  is a stochastic member or a disorder, or accidental error, and
- $N$  means the size of the base set.

The estimates of the parameters in the regression equation are obtained using the least squares method (Lovrić et al., 2006), and it is shown as follows:

$$b_1 = \frac{n \sum xy - \sum x \sum y}{n \sum x^2 - (\sum x)^2}$$

$$b_0 = \bar{y} - b_1 \bar{x}$$

The parameter  $b_0$  shows the expected value of the dependent variable  $Y$  if the independent variable  $X$  has the value of zero, while the parameter  $b_1$  shows the average change of the dependent variable with a unit increase of the independent variable.

For this analysis, the econometric program EViews was used. The obtained coefficient of determination shows that the applied model is representative, that there is a strong connection between the observed variables, and that the applied model is good at forecasting trends.

#### 4. RESULTS

Household deposits have the most significant share of total bank deposits in the observed banking sectors. Table 1 shows graphs with the shares of household deposits in total bank deposits.

Regarding the banking sector of Republika Srpska, a significant decrease in the share of household deposits in total deposits occurred in 2007 (from 31% to 24%), following an increase in deposits of government institutions that resulted from the sale of state-owned enterprises.<sup>2</sup>

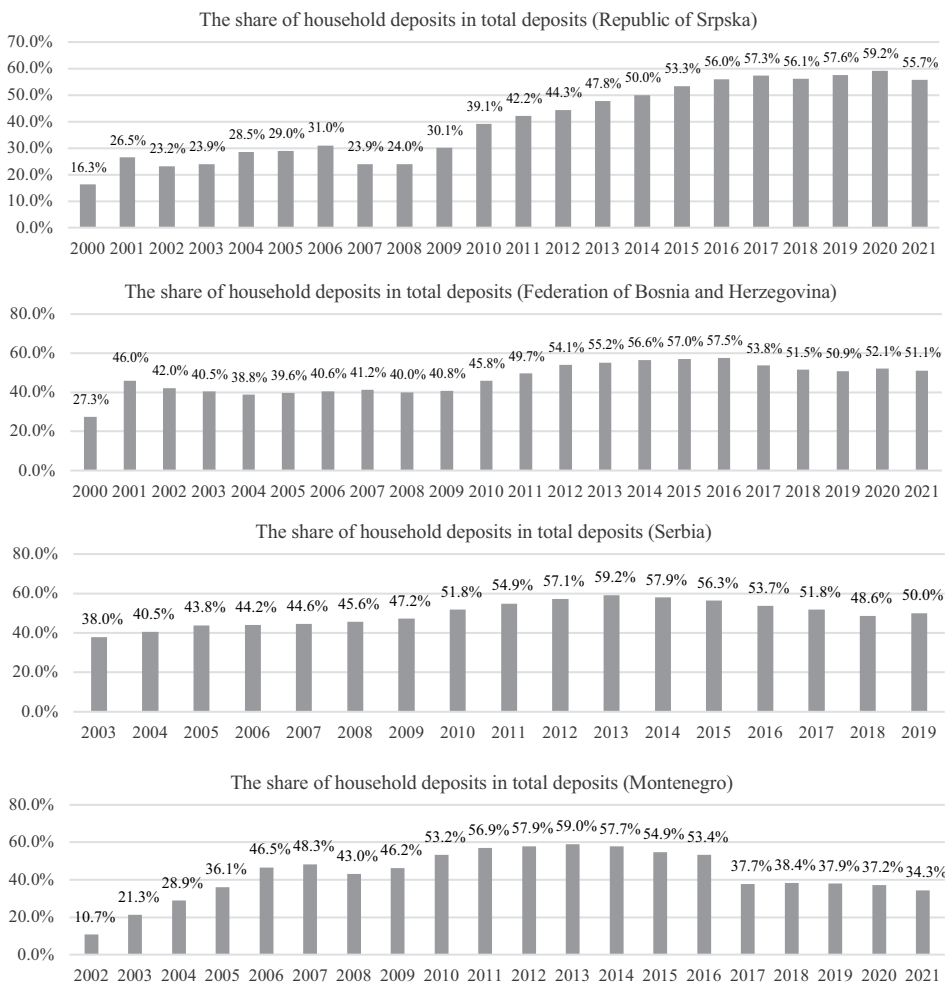
As for the banking sector of Montenegro, more significant changes occurred in 2017, when there was a decrease in the share of household deposits in total deposits (from 53% to 38%). These changes were possibly influenced by the introduction of temporary administration in two banks, which had significant funds deposited by the citizens.<sup>3</sup> After 2017, the share of household deposits in total deposits did not recover its share from previous periods. Excluding the banking sector of Montenegro, in other sectors, it is evident that in recent years, the share of household deposits in total bank deposits has been around 50% or above.

---

2 During 2007, the deposits of government institutions increased by about 5 times or by 1.4 billion BAM and the share of these deposits in the total deposits of the banking sector increased to 39%. At the same time the share of household deposits decreased to 24% as of the end of 2007 in total deposits (Report on the situation in the banking system of Republika Srpska for the period from January 1, 2007 to December 31, 2007).

3 In the annual macroeconomic report of the Central Bank of Montenegro for 2017, the amount of household deposits for 2017 was stated as EUR 1,705, but later in the report from 2018, this data for 2017 was EUR 1,232 (<https://www.cbcbg.me/me/publikacije/redovne-publikacije/makroekonomski-izvjestaj-cbcbg/godisnji-izvjestaj>). The assumption is that the changes were made for the sake of easier data comparison, because in 2018, temporary administration was introduced in two banks in Montenegro, which probably had an impact on a significant decrease in household deposits within the banking system of Montenegro on the observed dates ([www.cbcbg.me/me/javnost-rada/aktuelno/saopstenja/uvodena-privremena-uprava-u-atlas-i-ibm-banci?id=1452](http://www.cbcbg.me/me/javnost-rada/aktuelno/saopstenja/uvodena-privremena-uprava-u-atlas-i-ibm-banci?id=1452)).

Table 1. The graphs of the share of household deposits in total deposits



Source: Author’s analysis<sup>4</sup>

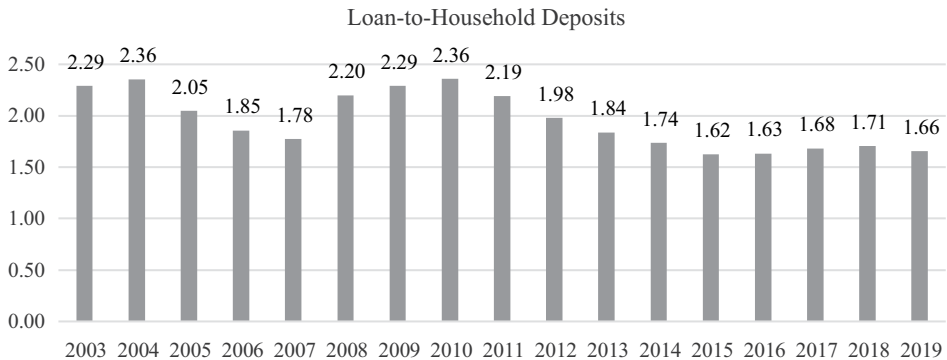
Considering that household deposits as a source of financing banking activities have a significant share in total bank deposits in the observed banking sectors and that they form a safe deposit basis, this research analyses the impact of

4 Source: The reports on the situation in the banking system of the Republika Srpska (<https://abrs.ba/izvjestaji/>), Information on subjects of the banking system of the Federation of Bosnia and Herzegovina (<https://www.fba.ba/bs/publikacije-subjekti-bankarskog-sistema-federacije-bosne-i-hercegovine>), The reports of the banking sector in Serbia (<https://nbs.rs/sr/finansijske-institucije/banke/izvestaji-i-analize/>), Macroeconomic reports of the Central Bank of Montenegro (<https://www.cbeg.me/me/publikacije/redovne-publikacije/makroekonomski-izvestaj-cbeg>).

household deposits on credit activities. A regression analysis was performed for household deposits and total loans in banks in selected banking sectors of the Western Balkan countries.<sup>5</sup>

#### 4.1 The impact of household deposits on the level of total loans in the banking sector in Serbia

Graph 1 shows how the relationship between loans and household deposits in the banking sector of Serbia moved over a sixteen-year period. During 2008 (last quarter), when household deposits were significantly withdrawn from banks, the loan-to-household deposits ratio increased sharply. There was a growth trend in the ratio between 2008 and 2010, after which it decreased and, after a few years, returned to the level before the financial crisis.

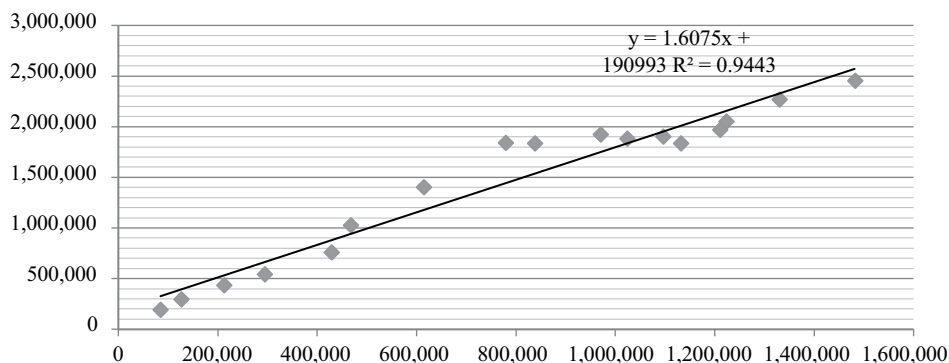


Graph 1. The relationship between loans and household deposits (Serbia)  
Source: Author's analysis<sup>6</sup>

The extent to which household deposits determine loans is shown through the results of regression analysis, which suggests that in the banking sector of Serbia, 94% of changes in loans in banks are explained by changes in the level of household deposits ( $r^2 = 0.944$ ). At the same time, the coefficient for the independent variable shows that an increase/decrease in the level of household deposits by one observed unit leads to an increase/decrease in the level of total loans in banks in Serbia by 1.61 units. The regression equation of household deposits and total bank loans is shown in Graph 2.

<sup>5</sup> The choice of banking sectors of the Western Balkan that are included in this research was influenced by the availability of comparable data.

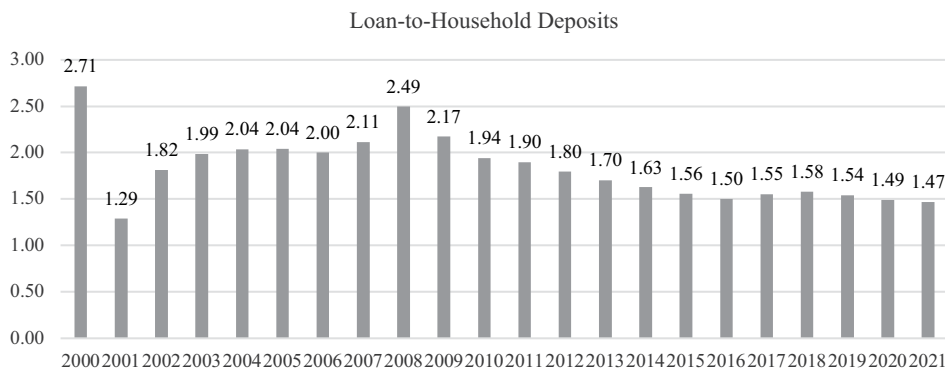
<sup>6</sup> Source: The reports of the banking sector in Serbia (<https://nbs.rs/sr/finansijske-institucije/banke/izvestaji-i-analize/>).



Graph 2. The regression equation of household deposits and total loans (Serbia)  
Source: Author’s analysis<sup>7</sup>

#### 4.2 The impact of household deposits on the level of total loans in the banking sector in the Federation of Bosnia and Herzegovina

During 2008 (last quarter), the withdrawal of household deposits from banks led to an increase in the loan-to-household deposit ratio in the banking sector of the Federation of Bosnia and Herzegovina. After 2008, the ratio of the observed variables gradually decreased and, in the short term, returned to the period before the financial crisis (Graph 3).



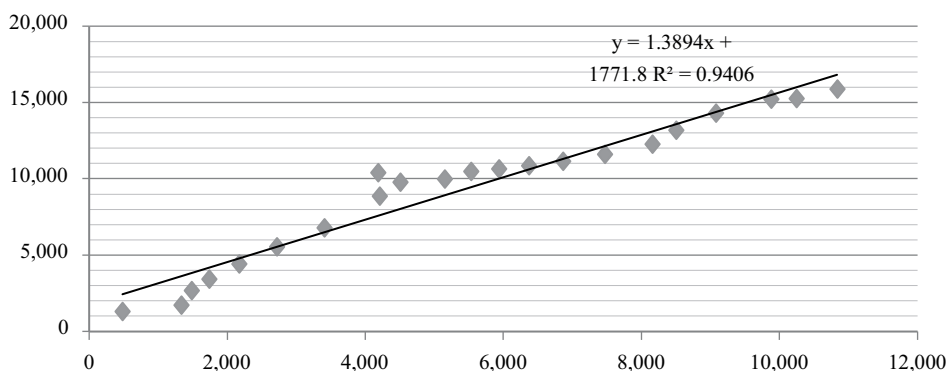
Graph 3. The relationship between loans and household deposits  
(Federation of Bosnia and Herzegovina)

Source: Author’s analysis<sup>8</sup>

<sup>7</sup> Ibid

<sup>8</sup> Source: Information on subjects of the banking system of the Federation of Bosnia and Herzegovina (<https://www.fba.ba/bs/publikacije-subjekti-bankarskog-sistema-federacije-bosne-i-hercegovine>).

The regression analysis results show the similarity of the banking sectors of Serbia and the Federation of Bosnia and Herzegovina when analysing the dependence of loans on household deposits. The coefficient of determination of 94% ( $r^2=0.941$ ) for the banking sector of the Federation of Bosnia and Herzegovina is almost equal to the coefficient of determination in the banking sector of Serbia. The coefficient for the independent variable shows that an increase/decrease in the level of household deposits for one observed unit leads to an increase/decrease in the level of total loans in banks in the Federation of Bosnia and Herzegovina by 1.39 units, which is lower compared to the banking sector in Serbia (Graph 4).



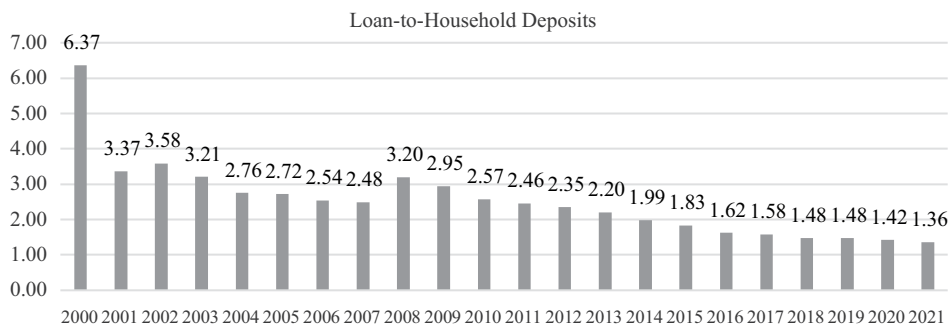
Graph 4. The regression equation of household deposits and total loans (Federation of Bosnia and Herzegovina)

Source: Author's analysis<sup>9</sup>

### 4.3 The impact of household deposits on the level of total loans in the banking sector in the Republika Srpska

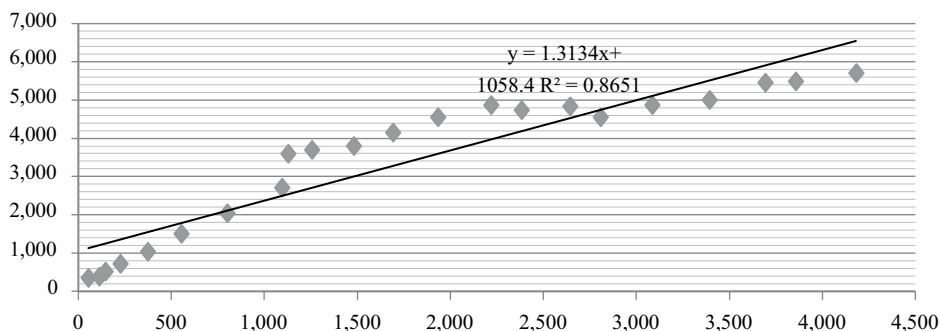
In the case of the banking sector of Republika Srpska the loan-to-household deposit ratio was significantly higher than the ratio in the banking sectors of Serbia and the Federation of Bosnia and Herzegovina, in previously observed years. In the banking sector of Republika Srpska in 2008, there was a significant increase in the loan-to-household deposit ratio conditioned by the withdrawal of the deposits mentioned above from the banking sector in last quarter 2008 (Graph 5).

<sup>9</sup> Ibid



Graph 5. The relationship between loans and household deposits (Republika Srpska)  
 Source: Author’s analysis<sup>10</sup>

Regression analysis shows that in the banking sector of Republika Srpska the degree of dependence of loan changes in response to changes in household deposits is lower ( $r^2 = 0.87$ ) than in the case of the banking sectors of Serbia and the Federation of Bosnia and Herzegovina. The coefficient for the independent variable shows that an increase/decrease in the level of household deposits for one observed unit leads to an increase/decrease in the amount of total loans in banks in Republika Srpska by 1.31 units (Graph 6).



Graph 6. The regression equation of household deposits and total loans (Republika Srpska)  
 Source: Author’s analysis<sup>11</sup>

In the case of the banking sector of Republika Srpska, a lower degree of dependence of changes in loans with respect to changes in household deposits can be found in the way the Investment Development Bank of Republika Srpska

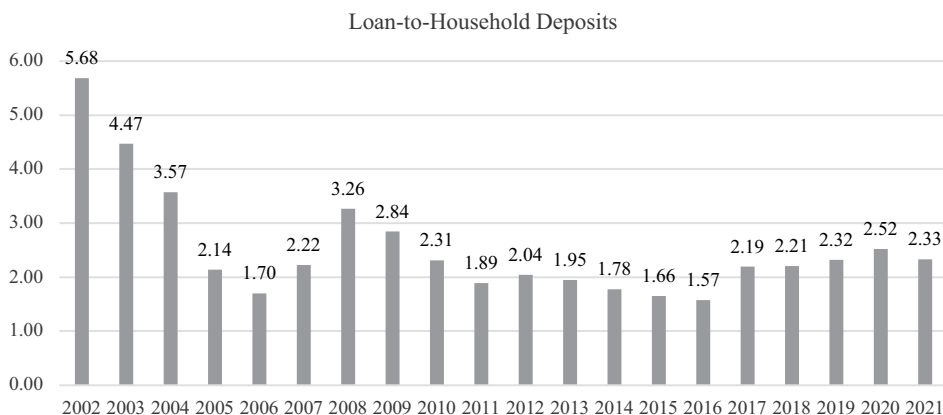
<sup>10</sup> Source: The reports on the situation in the banking system of Republika Srpska (<https://abrs.ba/izvjestaji/>)

<sup>11</sup> Ibid

operates (IDBRS). IDBRS is a state development bank that partly invests its own funds through banks as financial intermediaries in Republika Srpska. Such a relationship between IDBRS and banks leads to the creation of obligations of banks for loans taken from IDBRS as a significant source of bank credit activities.<sup>12</sup>

#### 4.4 The impact of household deposits on the level of total loans in the banking sector in Montenegro

In the banking sector in Montenegro, there was a sudden increase in the loan-to-household deposit ratio in 2008, which resulted from a significant withdrawal of household deposits in the last quarter of 2008. What distinguishes the sector in Montenegro from the previously analysed banking sectors is that after 2016, there was a significant increase in the loan-to-household deposit ratio, which remained at such a high level in the following years (Graph 7). The earlier mentioned temporary administration in two banks and the exclusion of household deposits of those banks from the system could have impacted the above. Nevertheless, the retention of the loan-to-household deposit ratio at a high level even after the mentioned period indicates that banks did not manage to restore the ratio to the level sustained before 2017 and that their activities are financed to a significant extent from sources other than household deposits.



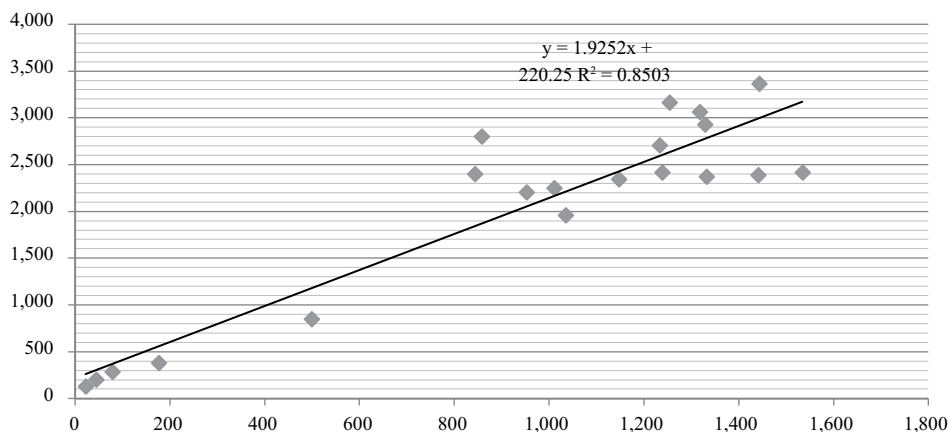
Graph 7. The relationship between loans and household deposits (Montenegro)

Source: Aauthor's analysis<sup>13</sup>

<sup>12</sup> The reports on the situation in the banking system of Republika Srpska (<https://abrs.ba/izvjestaji/>).

<sup>13</sup> Source: Macroeconomic reports of the Central Bank of Montenegro (<https://www.cbcbg.me/me/publikacije/redovne-publikacije/makroekonomski-izvjestaj-cbcbg>)

The regression analysis results show a lower degree of dependence of loans in relation to household deposits ( $r^2=0.85$ ) in the banking sector of Montenegro in relation to banking sectors in Serbia and the Federation of Bosnia and Herzegovina (Graph 8).



Graph 8. The regression equation of household deposits and total loans (Montenegro)  
Source: Author’s analysis<sup>14</sup>

## 5. DISCUSSIONS

Modern times are characterised by doing business in an environment full of uncertainties. The risks are high, making bank operations in such conditions difficult. Inadequate risk management can lead not only to the deterioration of the quality of the banking sector but also to the scenario of bank failure and the negative consequences of such events on the entire economic development of countries.

For instance, the global financial crisis of 2007 and 2008 led to significant losses in the banking sector, bank failures, and macroeconomic problems such as recession in certain countries. The crisis also led to the deterioration of global liquidity conditions and the problem of the lack of sources of funding for banks. The lack of appropriate sources of financing prevented the necessary level of credit activities and caused additional negative consequences for the country’s economic development.

On the one hand, there are different types of sources of bank financing, such as deposits, loans taken, securities issued and bank capital. On the other hand, the

14 Ibid

bank assets financed from the mentioned above sources can also take different forms, such as liquid assets, loans, securities, tangible and intangible assets, and other types of assets.

Traditional banking is usually explained as bank credit activities and their financing from deposit potential. The percentage of lending from deposits can differ significantly both between banking sectors in individual countries and between banks themselves. Research has shown that the average loan-to-deposit ratio in 10 European countries in the period 2008-2019 is 1.23, with significant differences across countries. The largest loan-to-deposit ratio is in the banking sectors of the Scandinavian countries, exceeding 2 (Bejjer, 2020).

Comparing the observed countries of the region, we can see that these amounts are significantly lower compared to the European average, especially compared to the Scandinavian countries. In the observed periods for Serbia, Republika Srpska, the Federation of Bosnia and Herzegovina and Montenegro, the average loan-to-deposit ratio was 0.96, 0.88, 0.84 and 0.98, respectively<sup>15</sup>. The above indicators confirm that the observed banking sectors of the Western Balkan countries finance their credit activities for the most part from the deposit potential.

Furthermore, it is important to note that household deposits represent a significant part of the total bank deposit base in the observed countries of the Western Balkan, which suggests the importance of these deposits as a source of financing for banks. Therefore, this paper additionally researched the correlation between household deposits and total loans in the banking sectors of the Western Balkan countries.

Previous research on the banking sector of Bosnia and Herzegovina has shown that two key elements are crucial for citizens when deciding to invest funds in a bank. These elements relate to the reputation of the bank and the interest rate. Another important factor, which also represents a certain type of macroeconomic measure, is the existence of deposit insurance (Krunić, 2016). The factors that can also affect the growth of household deposits in banks refer to the trust that depositors have in banks, but also in institutions that are members of the financial safety net responsible for preserving financial stability.

---

<sup>15</sup> Source: The reports on the situation in the banking system of Republika Srpska (<https://abrs.ba/izvjestaji/>), Information on subjects of the banking system of the Federation of Bosnia and Herzegovina (<https://www.fba.ba/bs/publikacije-subjekti-bankarskog-sistema-federacije-bosne-i-hercegovine>), The reports of the banking sector in Serbia (<https://nbs.rs/sr/finansijske-institucije/banke/izvestaji-i-analize/>), Macroeconomic reports of the Central Bank of Montenegro (<https://www.cbeg.me/me/publikacije/redovne-publikacije/makroekonomski-izvjestaj-cbeg>).

This study also points to future research directions regarding the intensity of the effect of interest rates on household deposits, as well as the conditionality of the growth of household deposits by the level of insured deposits in the banking sector.

The growth of the state's wealth observed through the growth of the gross domestic product can be a factor in the growth of household deposits in the banking sectors, and the degree of this dependence is also an area for further research.

## 6. CONCLUSIONS

Financial intermediation is one of the basic activities of banks. This activity implies that banks collect funds from those who have surplus funds and distribute them to those who need these funds. Funds collected from those who have surpluses are bank financing sources, and in countries where financial markets are not developed, they usually appear in the form of deposits. On the other hand, placement of funds to those who need these funds most often appears in the form of loans.

This paper studies the relationship between household deposits as a source of bank financing and loans as a form of bank placements in the banking sectors of some Western Balkan countries. The research confirmed a significant correlation between household deposits and total loans in the mentioned banking sectors. This dependence is higher in the banking sector of Serbia and the Federation of Bosnia and Herzegovina but less so in the banking sectors of Republika Srpska and Montenegro. The lower dependence between household deposits and loans in the banking sector of Republika Srpska is explained by the fact that loans in the banking sector of Republika Srpska are partially financed from the funds of the Investment Development Bank of Republika Srpska.

The correlation between household deposits and loans in the banking sectors is particularly important for research since the last decade has been characterised by a significant share of household deposits in the total deposits of the banking sectors of the Western Balkan countries.

From a long-term perspective, household deposits are, by their very nature, a stable source of financing banking activities, which is why it is important to strengthen the factors that lead to the growth of these deposits.

The main results of this research confirmed that changes in household deposits significantly condition changes in total loans. Such results suggest that

policymakers should conduct further research regarding the type and significance of factors that can contribute to the growth of household deposits and, thus, greater credit activities.

### Conflict of interests

The author declares there is no conflict of interest.

## REFERENCES

- Banking Agency of Republic Srpska. (n.d.). [www.abrs.ba](http://www.abrs.ba)
- Banking Agency of Republic Srpska. (2008). Report on the situation in the banking system of the Republika Srpska for the period from January 1, 2007 to December 31, 2007. <https://abrs.ba/izvjestaji/>
- Banking Agency of the FBiH. (n.d.). [www.fba.ba](http://www.fba.ba)
- Bašić, D. (2012). *Savremeno bankarstvo*. Univerzitet u Banjoj Luci Ekonomski fakultet. Grafomark Laktaši.
- Beck, T., Büyükkarabacak, B., Rioja, F. K., & Valev, N. T. (2012). Who gets the credit? And does it matter? Household vs. firm lending across countries. *The BE Journal of Macroeconomics*, 12(1). <https://doi.org/10.1515/1935-1690.2262>
- Beijer, D. (2020). *Loan/Deposit Ratios of European Banks*. Ghent University, Faculty of economics and business administration. [Master's Dissertation, Ghent University, Faculty of economics and business administration]. [https://libstore.ugent.be/fulltxt/RUG01/002/837/961/RUG01-002837961\\_2020\\_0001\\_AC.pdf](https://libstore.ugent.be/fulltxt/RUG01/002/837/961/RUG01-002837961_2020_0001_AC.pdf)
- Beltratti, A., & Stulz, R. M. (2012). The credit crisis around the globe: Why did some banks perform better? *Journal of financial economics*, 105(1), 1-17. <https://doi.org/10.1016/j.jfineco.2011.12.005>
- Berg, S. A. (2012). *The Declining Deposit to Loan Ratio-What Can the Banks Do?* (No. 28/2012). Staff Memo <https://www.econstor.eu/handle/10419/210266>
- Berlin, M., & Mester, L. J. (1999). Deposits and relationship lending. *The Review of Financial Studies*, 12(3), 579-607. <https://doi.org/10.1093/revfin/12.3.0579>
- Carletti, E., De Marco, F., Ioannidou, V., & Sette, E. (2021). Banks as patient lenders: Evidence from a tax reform. *Journal of Financial Economics*, 141(1), 6-26. <https://doi.org/10.1016/j.jfineco.2020.07.021>
- Çekrezi, A. V. (2022). Determinants of bank deposits in Albania. *International Journal of Economics and Finance Studies*, 14(2), 101-121. <https://doi.org/10.34109/ijefs.20220026>
- Central Bank of Montenegro. (n.d.). [www.cbcbg.me](http://www.cbcbg.me)
- Chun, S. H., & Ardaaragchaa, N. (2024). Analysis of Factors Affecting the Loan Growth of Banks with a Focus on Non-Performing Loans. *Journal of Risk and Financial Management*, 17(5), 203. <https://doi.org/10.3390/jrfm17050203>

- Ćurić, P., Popović, S., & Bašić, D. (2021). Borrowing of the Real Sector in the Function of Economic Development of the Republic of Srpska. *Acta Economica*, 19(35), 161-177. <https://doi.org/10.7251/ACE2135161CUDC>
- Demirgüç-Kunt, A., & Huizinga, H. (2010). Bank activity and funding strategies: The impact on risk and returns. *Journal of Financial Economics*, 98(3), 626-650. <https://doi.org/10.1016/j.jfineco.2010.06.004>
- Disalvo, J., & Johnston, R. (2017). The rise in loan-to-deposit ratios: Is 80 the new 60. *Economic Insights*, 2(3), 18-23. <https://www.philadelphiafed.org/-/media/frbp/assets/economy/articles/economic-insights/2017/q3/bt-rise-in-loan-to-deposit-ratios.pdf>
- Disyatat, P. (2011). The bank lending channel revisited. *Journal of Money, Credit and Banking*, 43(4), 711-734. <https://doi.org/10.1111/j.1538-4616.2011.00394.x>
- Dubyna, M., Tarasenko, O., Popova, L., Kalchenko, O., Safonov, Y., & Lozychenko, O. (2022). Econometric analysis of the formation of deposit resources of households and their role in ensuring financial security of the state. *International Journal of Safety and Security Engineering*, 12(3), 269-277. <https://doi.org/10.18280/ijss.120301>
- Fredriksson, C., & Staal, K. (2021). Determinants of household savings: A cross-country analysis. *International Advances in Economic Research*, 27(4), 257-272. <https://doi.org/10.1007/s11294-022-09842-x>
- Freixas, X.; Rochet, C.J. (2008). *Microeconomics of Banking*. Second Edition. The MIT Press Cambridge, Massachusetts, London.
- Gobat, J. (2012). Banks: at the heart of the matter. *Finance & Development*. <https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Banks>
- Han, R., & Melecky, M. (2013). Financial inclusion for financial stability: Access to bank deposits and the growth of deposits in the global financial crisis. *World Bank Policy Research Working Paper*, 6577. <https://ssrn.com/abstract=2312982>
- Ivakhnenkov, S., Hlushchenko, S., & Sverenko, K. (2021). Macroeconomic factors that influence the bank loans rate in international and Ukrainian practice. *Business Perspectives*, 19(4), 35-47. [http://dx.doi.org/10.21511/ed.19\(4\).2020.04](http://dx.doi.org/10.21511/ed.19(4).2020.04)
- Jessica, T., & Chalid, D. A. (2021, May). Determinants of bank loans in Indonesia. In *Asia-Pacific Research in Social Sciences and Humanities Universitas Indonesia Conference (APRISH 2019)* (pp. 505-512). Atlantis Press. <https://doi.org/10.2991/assehr.k.210531.064>
- Jurman, A. (2009). Financijski potencijal hrvatskih banaka, obilježja i projekcija rasta. *Economic research-Ekonomska istraživanja*, 22(1), 60-80. <https://hrcak.srce.hr/38198>
- Kassim, S., & Majid, S. (2009). The Role of Bank Loans and Deposits in the Monetary Transmission Mechanism in Malaysia. *International Journal of Banking and Finance*, 6(2). <https://e-journal.uum.edu.my/index.php/ijbf/article/view/8388>
- Kichurchak, M. (2021). Structural Changes in the Market of Bank Deposits of Households in Ukraine. *Finanse i Prawo Finansowe*, 1(29), 61-78. <https://www.ceeol.com/search/article-detail?id=978102>

- Komić, J. (2000). *Metodi statističke analize kroz primjere: zbirka zadatka*. Ekonomski fakultet Univerziteta u Banjoj Luci.
- Krunić, G. (2016). Moralni hazard u bankarskom sektoru Republike Srpske. *Acta Economica*, 14(25), 89-109. <https://doi.org/10.7251/ACE1625089K>
- Kumhof, M., & Wang, X. (2021). Banks, money, and the zero lower bound on deposit rates. *Journal of Economic Dynamics and Control*, 132, 104208. <https://doi.org/10.1016/j.jedc.2021.104208>
- Lovrić, M., Komić, J., Stević, S., Zečević, T., Žižić, M., & Kočović, J. (2006). *Statistička analiza: metodi i primjena*. Ekonomski fakultet Univerziteta u Banjoj Luci.
- Mikliński, M. (2021). The origins and evolution of deposit banking activities-analysis of the literature. *Financial Law Review*, 22(3). <http://dx.doi.org/10.4467/22996834FLR.21.025.14445>
- National Bank of Serbia. (n.d.). [www.nbs.rs](http://www.nbs.rs)
- Nguyen, T., Tripe, D., & Ngo, T. (2018). Operational Efficiency of Bank Loans and Deposits: A Case study of Vietnamese Banking System. *International Journal of Financial Studies*, 6(1), 1-13. <https://doi.org/10.3390/ijfs6010014>
- Ozen, E., Vurur, N.S., & Grima, S. (2018). Investigation of Causality between Interest Rate and Deposit Investor's Behaviour. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 9(4), 177-185. <https://lumenpublishing.com/journals/index.php/brain/article/view/2064>
- Pitoňáková, R. (2016). Determinants of household bank deposits: Evidence from Slovakia. *Journal of Economics, Business and Management*, 4(9), 528-533. <https://doi.org/10.18178/joebm.2016.4.9.447>
- Saleh, M., Jawabreh, O., Jaber, J., Garaibeh, A., Ali, B., & Ali, A. (2023). The impact of financial determinants on bank deposits using ARDL model. *Journal of Statistics Applications & Probability*, 12(2), 441-452. <http://dx.doi.org/10.18576/jsap/120210>
- Teshome, F. (2017). *Determinants of commercial banks deposit in Ethiopia*. [Degree of Master Thesis, Addis Ababa University]. <https://www.semanticscholar.org/paper/Determinants-of-Commercial-Banks-Deposit-in-Bekele/55fc96878bdfd5df5cd3c0fda8bab25af01b3bd6>
- Vladišić, Lj. (2010). *Štednja i ekonomski rast u Bosni i Hercegovini*. Prvo izdanje. Centar za izdavačku djelatnost Ekonomskog fakulteta Istočno Sarajevo, Pale, Univerzitet u Istočnom Sarajevu. Eurografika Zvornik
- Vyhovska, N., Lysenok, O., Hranovska, V., & Krykunova, V. (2021). Stimulators of credit activity of banking institutions. <https://dspace.nuft.edu.ua/handle/123456789/35002>
- Zufikar, H. (2024). The effect of current accounts, savings and time deposits on banking credit: a case study of Regional Development Banks (RDB) in Indonesia. *Journal of International Business, Economics and Entrepreneurship (JIBE)*, 9(1), 24-37. <https://ir.uitm.edu.my/id/eprint/101614/>

## APPENDIX

APPENDIX 1: Household deposits and total bank loans<sup>16</sup>

Republika Srpska (in thousands of BAM)

	HOUSEHOLD DEPOSITS (X)	LOANS (Y)	Y/X
2000	54	344	6.37
2001	112	377	3.37
2002	146	523	3.58
2003	227	728	3.21
2004	374	1,033	2.76
2005	554	1,509	2.72
2006	801	2,036	2.54
2007	1,095	2,720	2.48
2008	1,128	3,606	3.20
2009	1,254	3,700	2.95
2010	1,479	3,805	2.57
2011	1,690	4,149	2.46
2012	1,932	4,547	2.35
2013	2,217	4,876	2.20
2014	2,381	4,733	1.99
2015	2,643	4,847	1.83
2016	2,806	4,559	1.62
2017	3,083	4,870	1.58
2018	3,393	5,006	1.48
2019	3,690	5,463	1.48
2020	3,856	5,494	1.42
2021	4,180	5,705	1.36

<sup>16</sup> The reports on the situation in the banking system of Republika Srpska (<https://abrs.ba/izvjestaji/>), Information on subjects of the banking system of the Federation of Bosnia and Herzegovina (<https://www.fba.ba/bs/publikacije-subjekti-bankarskog-sistema-federacije-bosne-i-hercegovine>), The reports of the banking sector in Serbia (<https://nbs.rs/sr/finansijske-institucije/banke/izvestaji-i-analize/>), Macroeconomic reports of the Central Bank of Montenegro (<https://www.cbcg.me/me/publikacije/redovne-publikacije/makroekonomski-izvjestaj-cbcg>).

## Federation of Bosnia and Herzegovina (in thousands of BAM)

	HOUSEHOLD DEPOSITS (X)	LOANS (Y)	Y/X
2000	482	1,308	2.71
2001	1,334	1,724	1.29
2002	1,482	2,691	1.82
2003	1,737	3,450	1.99
2004	2,173	4,423	2.04
2005	2,717	5,545	2.04
2006	3,403	6,820	2.00
2007	4,202	8,875	2.11
2008	4,182	10,434	2.49
2009	4,507	9,797	2.17
2010	5,145	9,982	1.94
2011	5,531	10,488	1.90
2012	5,933	10,666	1.80
2013	6,366	10,852	1.70
2014	6,863	11,170	1.63
2015	7,465	11,611	1.56
2016	8,155	12,270	1.50
2017	8,501	13,179	1.55
2018	9,071	14,326	1.58
2019	9,877	15,221	1.54
2020	10,237	15,255	1.49
2021	10,833	15,891	1.47

## Serbia (in millions of RSD)

	HOUSEHOLD DEPOSITS (X)	LOANS (Y)	Y/X
2003	84,795	194,295	2.29
2004	126,687	298,497	2.36
2005	212,293	434,527	2.05
2006	294,269	545,481	1.85
2007	428,220	760,905	1.78
2008	466,956	1,027,581	2.20
2009	614,700	1,406,600	2.29
2010	779,100	1,840,600	2.36
2011	837,600	1,837,100	2.19
2012	969,900	1,923,100	1.98
2013	1,023,000	1,880,700	1.84
2014	1,095,500	1,902,155	1.74
2015	1,131,500	1,836,685	1.62
2016	1,209,800	1,972,815	1.63
2017	1,223,000	2,053,649	1.68
2018	1,329,100	2,267,162	1.71
2019	1,481,200	2,456,884	1.66

## Montenegro (in thousands of EUR)

	HOUSEHOLD DEPOSITS (X)	LOANS (Y)	Y/X
2002	22	125	5.68
2003	45	201	4.47
2004	79	282	3.57
2005	176	376	2.14
2006	499	847	1.70
2007	1,010	2,246	2.22
2008	857	2,798	3.26
2009	843	2,398	2.84
2010	952	2,200	2.31
2011	1,034	1,956	1.89
2012	1,147	2,342	2.04
2013	1,238	2,414	1.95
2014	1,332	2,367	1.78
2015	1,440	2,386	1.66
2016	1,534	2,416	1.57
2017	1,232	2,701	2.19
2018	1,328	2,929	2.21
2019	1,317	3,062	2.32
2020	1,254	3,159	2.52
2021	1,443	3,360	2.33

**УТИЦАЈ ДЕПОЗИТА СТАНОВНИШТВА НА КРЕДИТНЕ  
АКТИВНОСТИ БАНАКА: ДОКАЗИ ИЗ ОДАБРАНИХ  
ЗЕМАЉА ЗАПАДНОГ БАЛКАНА**

1 Горана Крунић, Агенција за осигурање депозита Босне и Херцеговине, Босна и Херцеговина

**САЖЕТАК**

Кредитне активности банака су значајно условљене нивоом банкарских депозита као основног извора финансирања, поготову код банака које послују у недовољно развијеним финансијским тржиштима. Посебно значајан дио депозитне основе банака чине депозити становништва који у банкарским секторима држава Западног Балкана имају значајан удио у укупним депозитима. Предмет овог истраживања је утврђивање зависности

кредитних активности банака у односу на депозите становништва у банкарским секторима држава Западног Балкана. Истраживање је спроведено за период 2000-2021. године за банкарске секторе у Републици Српској и Федерацији Босне и Херцеговине, за период 2002-2021. године за банкарски сектор у Црној Гори и за период 2003-2019. године за банкарски сектор у Србији. Ниво укупних кредита у банкама је одређен као зависна варијабла, док су депозити становништва у посматраним банкарским секторима одређени као независна варијабла. Ово истраживање је отворило и неке нове правце истраживачког рада у погледу интензитета дјеловања фактора који могу да допринесу расту депозита становништва као извора финансирања кредитних активности банака у државама Западног Балкана.

**Кључне ријечи:** *банкарски депозити, банкарски депозити становништва, банкарске кредитне активности.*