Alihodžić, Almir. "Evaluation Factors of Money Supply of Bosnia and Hercegovina Banking Sector*" ACRN Oxford Journal of Finance and Risk Perspectives 5.3 (2016): 61-73.*

EVALUATION FACTORS OF MONEY SUPPLY OF BOSNIA AND HERCEGOVINA BANKING SECTOR

ALMIR ALIHODŽIĆ [1]
[1] Faculty of Economics, University of Zenica

Abstract: *The paper discusses the correlation between changes in monetary aggregates to establish the flow of formation of money regarding the currency board in B&H. Therefore, the primary objective of this study is to determine which independent variables in the regression models have an impact on the amount of money supply in a broad sense. The money supply will be the dependent variable in the study, while the following variables are to be independent: money supply in the narrow sense (M1), the growth rate of foreign deposits in the banking sector (GFD), real GDP growth, the growth rate of domestic deposits (GDD), the rate of increase of domestic loans(GDL), the growth rate of foreign loans (GFL), the consumer price index (CPI) and average reserve requirements (ARR).*

Keywords: *money supply, credit, multiplication, currency board, economic growth*

JEL. E5, E50, E51, E52, E58,

INTRODUCTION

The countries that are faced with high inflation, such as Bulgaria, Lithuania, Estonia, Hong Kong and Argentina have been forced to introduce particular monetary system as a currency board. The experience with currency board in Bosnia and Herzegovina during the two decades of its application has given excellent results regarding the macroeconomic stability of the country. The currency board in B&H has had a direct impact on maintaining inflation at a low level. High inflation, which was linked to the year 1998 when it amounted to 13.3%, which is primarily the result of balancing the price level after leaving numerous currencies that have been in use by the time of introduction of the convertible mark. As a result, there are benefits regarding the consumer price index, which is becoming lower, wherein the period from 2002 to 2004 is between 0.4% and 0.6%. In 2006, the consumer price index in B&H increased to 6.1% as a consequence of the introduction of value added tax. Therefore, the growth of domestic prices in B&H in the implementation of the currency board arrangement is not directly caused by monetary factors as the Central Bank can not influence the growth of domestic demand on its monetary policy, but the impact of the price increases result in imported inflation.

The highest GDP growth in B&H was recorded in 1999, i.e. 10% per capita, and in 2004 and 2007 and to over 6%, and in 2009, recorded a real decrease of 2.7%, as a result of the world recession and decline in economic activities and actions in B&H. The high growth in 1999 can be explained, then the massive influx of foreign aid. Empirical studies show that economic growth in the CBA faster than in countries with alternative systems of the exchange rate (Gosh A. et al. .1999), so it follows that economic growth does not suffer from the rigidity of the CBA. The

impact of CBA was positive because it ensures macroeconomic stability, increases domestic and foreign investment, capital inflows and domestic credit growth and an impressive increase in the volume of domestic savings.

Compared to the first quarter of 2006 the money supply in the first quarter of 2016 increased by more than four times, and despite the fact that in force in B&H currency board system which is rigid in the context of the power of central banks to create money base. This paper discusses the possibility of determining the strength of the relationship between the real and monetary indicators under the currency board in B&H through statistical analysis. Therefore, the objective of the analysis is to determine which indicators have the strongest correlation to the growth of the money supply, and on the other side which indicators have the weakest impact on the money supply.

The representativeness of the model will examine calculation of the co-efficiency of correlation (r), the co-efficiency of determination (R2) and adjusted co-efficiency of determination R2.There is also an analysis of variance (ANOVA), which will test the significance of observed variables in the model, where the null hypothesis is the reason why the independent variables do not significantly affect the dependent:

$H0 \ldots \beta 1 = 0$
$H1 \ldots \beta 1 \neq 0$

The paper was designed in four parts. The first part refers to the primary considerations and macroeconomic variables since the establishment of the CBA. The second part relates to a brief review of the literature and an analysis of factors that influence the creation of money supply. The third part refers to the research methodology, data, and research results. And last fourth part refers to the concluding observations.

THEORETICAL BACKGROUND TO THE STUDY

Certain empirical studies suggest that the degree of liquidity of the economy achieved statistical comparison or correlation between particular categories of liquid assets and the gross domestic product. Therefore, the variables that determine the highest level of liquidity with the gross domestic product in a given period are considered to be the best set out in the definition of money. According to Friedman-Mieselman (1963), the results of their test showed that the definition of money-M2 of the three categories of money supply in the greatest correlation with GDP, where M2 in the reporting period could be considered the most reliable indicator of the American economy. Kaufman (1969), the same tests spread to additional signs of the money supply, i.e. on the M4, which consists of M3, the state savings deposits, and deposits with postal savings. He also introduced the M5, which consists of M4 and government bonds held by non-banking sector with a maturity up to one year.

If the stock market tends to increase this leads to an increase in credit expansion to enterprises which continue to affect the expansion of production and increase in sales and a reflection of all that the higher earnings of the company. This tendency to affect the company paid a dividend which affects the growth in the price of shares. On the other hand, the money supply can be negatively correlated with the prices of shares of the company. For example, the expansion of the money supply has a positive relationship with inflation in the economy, which continues to affect the increase in nominal risk-free rate. The increase in nominal risk-free rate leads to an increase in the discount rate which reflects the decline in the earnings of the company (Fama, 1981).

Feldstein and Stock (1994) investigated the possibility of using the money supply (M2) with the aim of targeting quarterly growth rate of nominal GDP. The study results showed that the Federal Reserve could probably use the M2 to reduce both the long-term average inflation rate and variance relating to the mean annual growth rate of GDP.

A currency board is not completely identical to the fixed exchange rate regime where monetary policy has a certain degree of discretion. Currency board i.e. its fixed exchange rate prevents the monetary authorities to finance the fiscal deficit (Alberola & Molina, 2000). In the example of B&H authorities other than the arrangement with the IMF, nothing else prevents deficits financed through commercial banks and issuing bonds, which in recent years intensified and form.

Money supply is predominantly the result of the endogenous economic process of the industry (Dow C.S. 2006.p.35.). The Central Bank has no direct control of the money supply, and the approach is referred to as accommodationism. According to Kaldor (1982) and Moore (1988), two forces that affect a supply money to the private sector demand for credit and the central bank short-term interest rate. Structuralists take into account the structure of the financial system, including the arrangements of the central bank and market strategies of banks, the demand for credit and liquidity preference as factors require a loan and money (Dow C. S 2006. p.36.). The money is still endogenous supply and demand lead in a fixed exchange regime. Similar models show that, even in a currency board, as long as minimum foreign reserves are fulfilled, interest rate are still under the control of the monetary authorities, thanks to a compensation mechanism that operates through variations in government deposits at central banks (Lavoie, M .2006 p.30.).

Ashutosh Sharma et al. (2010) used a bivariate methodology developed by Lemmen's et output with the help of Granger causality between money supply, prices, and production. They came to the conclusion that in the short term there is a trade-off about money-output, on the other hand in the long run money supply determines the price, not output.

Aroni (2011) investigated the impact of macroeconomic variables on the return on shares in the market of Kenya. The research refers to the period from 2008 to 2010. The results showed that inflation, exchange rates, and interest rates have a significant impact on the market price of the shares. Also, they came to the conclusion that the money supply has an impact but not so necessary at the market price of shares.

According to Monir et al. (2015) on the money supply in the banking system of Bangladesh positive impact had a following macroeconomic variable: nominal interest rate, bank rate, and remittance, while on the other hand, an adverse consequences had the following variable, such as interest rate and deposit inflation.

According to Eric, and Kenyatta (2016) their results showed that the exchange rate of Rwanda, in the long run, had the strongest impact the following variables: money supply (M3) and the trade balance, while the other hand had the weakest influence the variables: the discount rate, the external state debt, and gross domestic product. The research refers from 2000Q1 to 2015Q4.

CHANGES IN THE MONEY SUPPLY IN B&H BANKING SECTOR

During the economic expansion and credit growth, i.e., before the onset of the global financial crisis, the primary source of financing for banks in B&H in predominantly foreign ownership was external debt, which had positive implications for increasing foreign exchange reserves. During the crisis and after the post-crisis period came a period of deleveraging the banks that had an

adverse impact regarding a slight decrease in foreign exchange reserves (CBBH, Annual Report, 2015, p. 37). Maximum coverage of monetary liabilities by net foreign exchange reserve was recorded in the fourth quarter of 2008 (109.90%), the lowest in the third quarter of 2006 (104.85%) and an average of 107.57% (Figure 1).

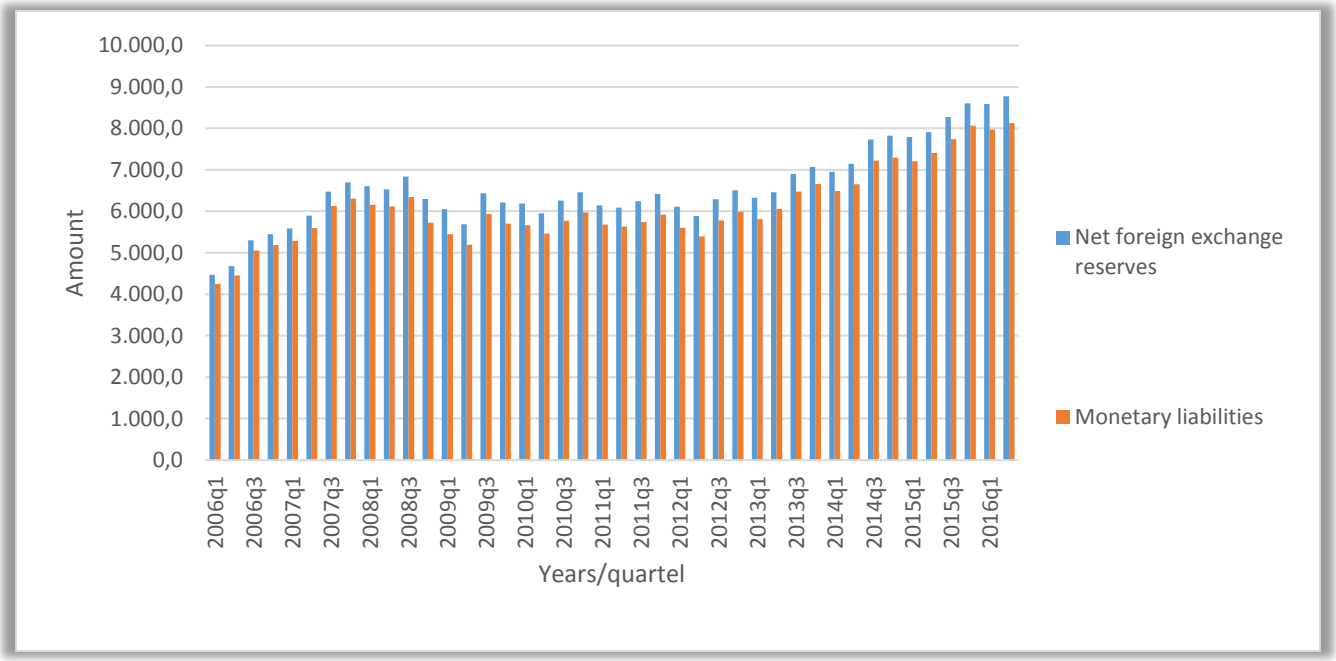

Figure 1. Coverage of monetary liabilities by net foreign reserves for the period: 2006q1 – 2016q1

Source: the calculation made by the author

The amount of money supply in B&H in the model of currency board increases, depending on the credit activity of commercial banks. Therefore, the creation of money or money supply is the typically entirely endogenous character (Gedeon, J.S.2010). Money supply is provided based on the demand of money through bank lending. One of the main characteristics of the euro zone regarding monetary aggregate (M3) at the beginning of 2016 was increased by about 5% compared to the same period last year, and a slight continuation of the trend of growth of loans to households and non-financial companies (The Central Bank of B&H, 2016).

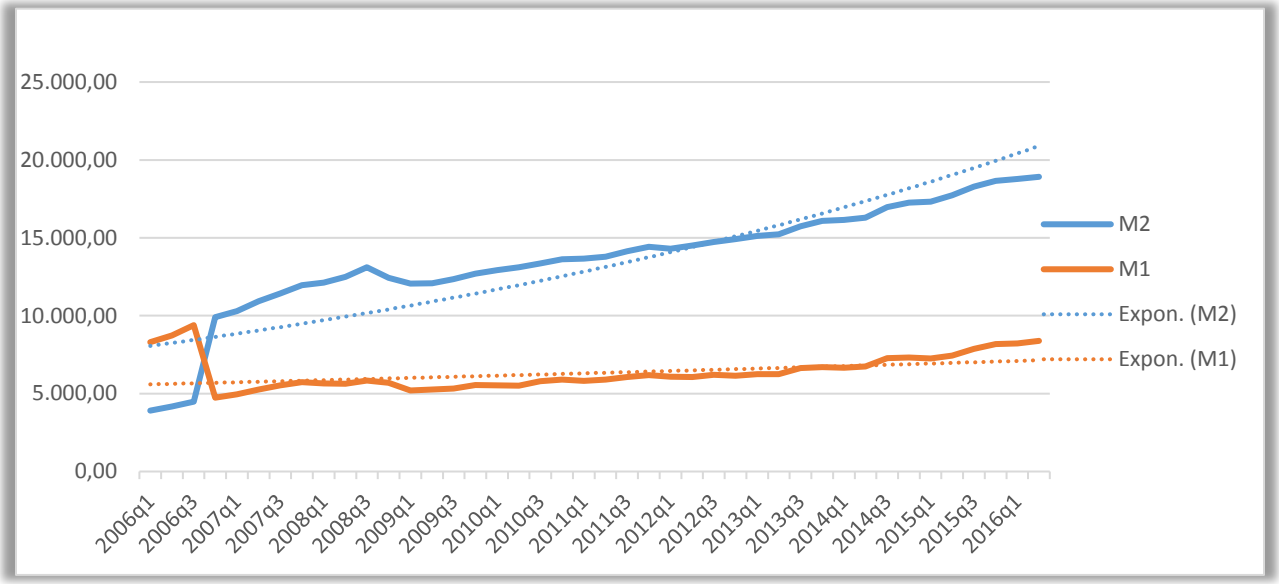

Figure 2. Trends in money supply (M2, M1) for the period: 2006Q1 - 2016q1

Source: the calculation made by the author

The previous figure illustrating the trend growth of money supply in the broad and narrow sense of period: 2006Q1 - 2016q1. As you can notice slight advantage regarding growth belongs to the money supply in the broad. This increase leads to three conclusions. First that the currency board system, the creation of monetary base depends on the autonomous factors such as foreign exchange inflows into the country on various grounds, i.e. creation of domestic currency in which the foreign currency converted, and that the amount of money depends on the resources of commercial banks through deposit credit operations create money. As a second conclusion states that the process of multiplication of deposits and loans was very intense in the last few years which is directly related to the system of credit growth in banks. And as the third conclusion states that the increase in money supply affects the growth of deposits in the national currency to the fullest extent, the fact that the increase of deposits of the household sector refers in part to the payment of old foreign exchange savings (CBBH, 2015, p. 29). The level of financial intermediation and the linear trend of the share of the total banking assets in the gross domestic product is the result of an increased credit expansion that has become the only source of financing in the financial system in B&H (Alihodžić, 2014, p. 700).

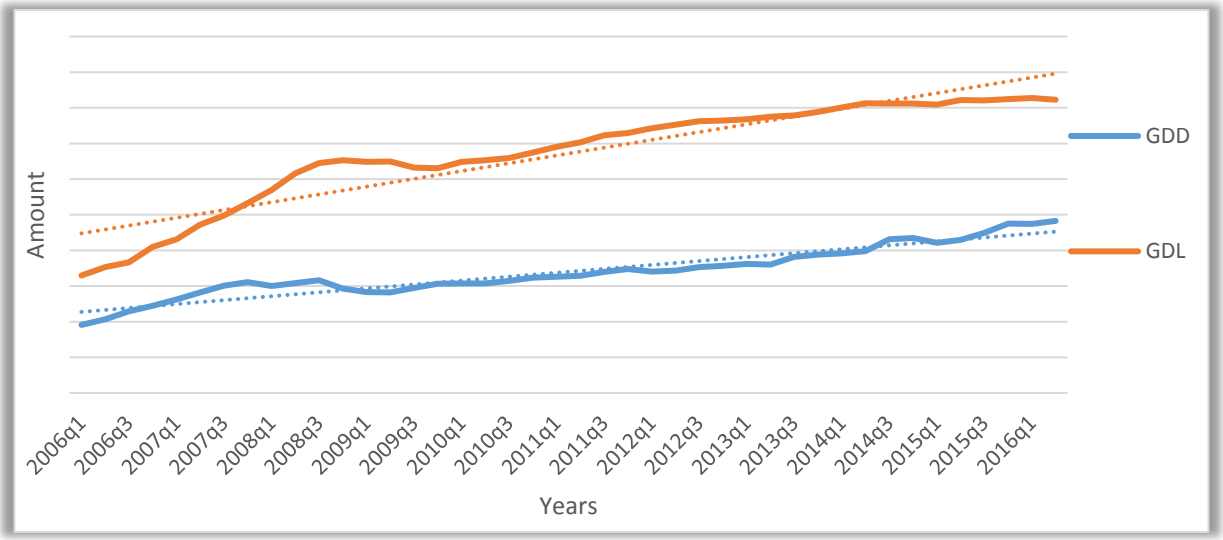

Figure 3. Analysis of the domestic deposit and loans of banks in B&H for the period: 2006q1 – 2016q1

Source: the calculation made by the author

The previous figure illustrating the trend of movement of domestic credit and bank deposits in B&H for the period: 2006q1 - 2016q1. As can be seen, and loans and deposits had a linear growth trend, i.e. increased growth trend until the end of 2008, where due to the impact of the global economic crisis and slow economic activity leads to a slight decline, and after 2009 constant growth. Credit growth is mainly related to the growth of loans granted to the household sector, while on the other hand, lending to the non-financial sector declined as a consequence of an increase in toxic loans and prudence of banks in granting loans. In recent years the process of multiplication of deposits and loans has been very intense which is a direct correlation expressed trend of credit growth in banks (Alihoddžić & Plakalović, 2016). Since the Central Bank as the only instrument available to use required reserves under the currency board, has made a decision on the introduction of negative interest rates on excess funds above the necessary reserves to increase lending activities due to the risk of deleveraging and weak credit demand (Financial Stability Report, 2015, p. 89).

RESEARCH METHODOLOGY

Econometric analysis to be carried out in this paper is based in part on the application of the Ordinary Least Squares – OLS method and the application of multiple regression analysis. As a dependent variable in this paper will be used money supply in the broad sense - M2, while the use the following as independent variables: money supply - M1, the growth rate of foreign deposits - GFD, the growth rate of gross domestic product - RGDPG, the rate of growth in domestic deposits - GDD, the growth rate of domestic credit - GDL, the growth rate of foreign loans - GFL, consumer price index - CPI and average reserve requirements - ARR. This study covers the period from 2006q1 to 2016q2.

Econometric analysis to be carried out in this paper is based in part on the application of the Ordinary Least Squares – OLS method and the application of multiple regression analysis. As a dependent variable in this paper will be used money supply in the broad sense - M2, while the use

the following as independent variables: money supply - M1, the growth rate of foreign deposits - GFD, the growth rate of gross domestic product - RGDPG, the rate of growth in domestic deposits - GDD, the growth rate of domestic credit - GDL, the growth rate of foreign loans - GFL, consumer price index - CPI and average reserve requirements - ARR. This study covers the period from 2006q1 to 2016q2.

Table 1. Abbreviations and description of indicators

M2	**The measure of money supply, M1 includes all the elements closer and money. Therefore, in addition to M1 includes QM, time and savings deposits in local and foreign currency and demand deposits in foreign currency**
M1	The money supply in the narrow sense. Includes currency outside banks requires deposits of the non-banking sector with banks.
GFD	The growth rate of foreign deposits in the banking sector
RGDPG	The growth rate of real GDP
GDD	The rate of growth in domestic deposits
GDL	The growth rate of domestic credit
GFL	The growth rate of foreign loans
CPI	Consumer price index
ARR	Average reserve requirements

A simple linear regression model expresses a relationship between two parameters as follows:

$$Y_i = \alpha + \beta X_i + \varepsilon_i \qquad i = 1, 2, \dots \dots n, \tag{1}$$

where:

$Y -$ dependent variable,
$\alpha \; i \; \beta$ - unknown parameters that need estimate, and
$\varepsilon_i -$ stochastic variable (error distances)

To analyze the determinants of money supply in banking sector of Bosnia and Herzegovina, the below stated linear regression model that will be estimated:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + U_t \tag{2}$$

Where:

t – refers to quarter; Y_t – is a dependent variable and refers to money supply (M2) in a particular period (quarter) t, the β_0 represents the intercept; X represents the selected determinants of the money supply; β_1 and β_2 are coefficients, and U_t represents the error term.

The equation which is adjusted regression model in this paper can be expressed as follows:

$$M2 = \beta_0 + \beta_1 M1_t + \beta_2 GFD_t + \beta_3 RGDPG_t + \beta_4 GDD_t + \beta_5 GDL_t + \beta_6 GFL_t + \beta_7 CPI_t + \beta_8 ARR_t + U_t \quad (3)$$

The paper will test the model significance in terms of calculation of the coefficient of correlation, the coefficient of determination and adjusted coefficient of determination. Also, the impact of independent variables on the dependent variable will be analyzed, i.e. to examine the significance of the observed variables.

Table 2. Descriptive statistics on the independent and dependent variable in the model for the period from 01 March 2006 to 30 June 2016

Variable	Obs	Mean	Std. Dev.	Min	Max
M2	42	13631.13	3529.897	3908.683	18915.84
M1	42	6408.486	1121.392	4739.76	9394.727
GFD	42	5972.074	932.4286	3365	7046.3
GDP	42	6248553	741809.8	3850500	7725249
GDD	42	6800.942	1410.029	3820.051	9654.155
GDL	42	13438.01	2858.905	6591.669	16551.45
GFL	42	568.0841	313.2108	217.503	1095.784
CPI	42	108.1602	5.228458	102.4	119.7
ARR	42	1672.993	511.6659	1245.66	3246.969

Source: the calculation made by the author (STATA IC 13.0)

The table above illustrates the results of descriptive statistics of selected variables in the model. As you can notice most pronounced volatility for the given period is recorded in the gross domestic product of 741.809% and money supply (M2) of 3.529%. The highest real growth rate of GDP is achieved in 2007 (5.7%), while on the other hand, the lowest value recorded in 2009 (-2.9%), followed in 2012 (-0.9) and average value period: 2005 - 2015 of about 2.1%. Therefore, as a result of the fluctuating trend of gross domestic product may indicate the impact of the global economic crisis, a contraction of the market as a consequence of the crisis and the drop in personal consumption and investment. During 2015 there was a slight stabilization of economic activity, where the rate of real GDP growth reached a value of about 3% annually. Among other variables volatility show - M2 (3.529%) and home loans (2.858%). Category M1 money understandably does not have a high rate volatility (1.121%).

Table 3. Diki-Fuller test (constant and trend)

Variable	**Level/Title series**		
	Tau-statistic	Tau-critical	Stationary
M2	-3.989	-3.60	No
M1	-4.078	-3.60	No
GFD	-3.111	-3.60	Yes
GDP	-2.764	-3.60	Yes
GDD	-3.003	-3.60	Yes
GDL	-3.199	-3.60	Yes
GFL	-0.310	-3.60	Yes
CPI	-2.031	-3.60	Yes
ARR	-0.851	-3.60	Yes

Source: the calculation made by the author

If the calculated absolute value of the test is less than the total size of the critical value, then the results are significant, or otherwise accept the null hypothesis, i.e. there are unit roots, and the variable is not stationary. Conversely, if the calculated absolute value of the test magnitude greater than the total critical value, then the null hypothesis is rejected, there is no unit roots and the variable is stationed. Stationary data referred to data series whose characteristics, such as arithmetic mean, variance and held constant over time. By comparing the absolute value of the total size of critical test value as the non-stationary variables proved to be the series variable M2 and M1. Differentiating were stationed on the revised level.

Table 4. Correlation analysis between the independent and dependent variable in the model for the period from 01 March 2006 to 30 June 2016

	M2	M1	GFD	GDP	GDD	GDL	GFL	CPI	ARR
M2	1.0000								
M1	0.0592	1.0000							
GFD	0.9233	-0.0143	1.0000						
GDP	0.8056	0.1171	0.8209	1.0000					
GDD	0.9468	0.3614	0.8443	0.7695	1.0000				
GDL	0.9475	0.1259	0.9100	0.8363	0.8958	1.0000			
GFL	-0.6236	-0.3592	-0.3917	-0.4827	-0.6867	-0.6567	1.0000		
CPI	0.2871	-0.5287	-0.0445	-0.2061	-0.4498	-0.2736	0.6818	1.0000	
ARR	-0.3132	-0.3185	-0.1005	-0.2428	-0.3603	-0.4349	0.7052	0.5058	1.0000

Source: the calculation made by the author (STATA IC 13.0)

The table above shows the correlation matrix between the observed variables that the maximum negative value was observed between the growth rates of foreign loans and money supply (-0.62), and between the money supply in the broad sense of the word and the average required reserve (- 0:31). Central Bank used the mechanism of required reserves for the purpose of short-term regulation of credit potential of commercial banks. Therefore, between the money supply and the average required reserve is present reversed proportionality, because single by increasing the required reserve rate the Central Bank influences the reduction of money in circulation, and vice versa, reducing the required reserve rate has a direct impact on increasing the quantity of money in circulation.

Concerning positive conditionality strongest positive correlation with the money supply had the following variables: the rate of growth of domestic credit (0.947), the rate of increase of domestic deposits (0.946), the rate of growth of foreign deposits (0.923) and the rate of growth of gross domestic product (0805). The growth rate of foreign deposits in the banking sector in B&H, as well as international remittances, had a significant impact until the end of 2014 as a basis for the creation of loans. To illustrate foreign deposits in banks in Bosnia and Herzegovina from March 2006 to December 2014 were increased by some 112% In late 2015 and early 2016 there is a gradual withdrawal of foreign deposits to compensate for domestic deposits and to the fullest extent of the household sector.

Table 5. The basic model of regression analysis between the independent and dependent variable for the period from 01 March 2006 to 30 June 2016

Source	SS	df	MS	Number of obs =	42
Model	509165079	8	63645634.9	F(8,34) =	1234.07
Residual	1701934.04	34	51573.7588	Prob > F =	0.0000
Total	510867013	42	12460171.1	R-squared =	0.9967
				Adj R-squared =	0.9959
				Root MSE =	227.1

M2	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
M1	-.8549622	.0457581	-18.68	0.000	-.9480577	-.7618666
GFD	-.0817931	.1956766	-0.42	0.679	-.4799001	.316314
GDP	.0000115	.0000919	0.13	0.901	.0001984	.0001753
GDD	2.161472	.0968832	22.31	0.000	1.964362	2.358583
GDL	.2969363	.0630933	4.71	0.000	.168572	.4253007
GFL	.125941	.2592469	0.49	0.630	-.4015007	.6533827
CPI	10.61292	11.6065	0.91	0.367	-13.00068	34.22653
ARR	-.0181225	.1294724	-0.14	0.890	-.2815361	.2452911
_cons	-208.6911	1280.721	-0.16	0.872	-2814.337	2396.955

Source: the calculation made by the author (STATA IC 13.0)

The table above shows the results of econometric analysis based on the underlying model. As significant variables taken are as follows: GDP, GDD, GDL, ARR and CPI. The strongest positive correlation was recorded between variables M2 and CPI (10.61). The second most positive sign of the strength of the variable M2 belongs variables GDD (2.16), which can be explained in a way that with the increase in domestic deposits in the system creates the precondition for the creation of money supply and credit expansion. The testing the null hypothesis of significance obtained statistically significant data indicating that there is the great influence of individual independent variables at a significance level of α=5% and that the empirical F-ratio is (1.234,07). As for this study, the value of the practical F-ratio (1.234,07) is greater than the theoretical value of F-ratio (2.23) for the 8-degree of freedom in the numerator and 34 in the denominator, then we come to the conclusion to reject the null hypothesis that the independent variables have a significant impact on the dependent variable.

Total deposits in the B&H banking system in the second quarter of 2016, increased by about 59% compared to January 2006. This increase mainly relates to deposits of the household sector,

but on the other hand, cannot be interpreted as an indicator of better living standards, but as a result of uncertainty regarding future economic conditions in the country, where they preferred savings compared to consumption. Also, the growth of deposits of the household sector is a reflection of confidence in the banking system and selection of safer vision investment compared to investment in securities. Thus, the system of money creation in Bosnia and Herzegovina under the currency board includes full character creation process endogeneity of money, because the Central Bank does not approve any loans and does not affect the growth of monetary base.

CONCLUSION

Research results obtained suggest that the currency board system in B&H shows good results regarding providing conditions for macroeconomic stability. Therefore, the price level has maintained its stability. It is also important to stress that monetary policy did not have inflationary effects on the economy. Given the characteristics of the currency board in B&H has been found that the amount of money basis of independent factors, i.e. the inflow and outflow of foreign exchange into the country. Money supply in B&H has an endogenous character because the money supply is almost entirely provided by the depository credit activities of banks.

The null hypothesis was rejected because it was not shown that the independent variables affect the dependent variable. The positive balance of capital inflows, in particular through the banking sector was affected by the constant growth of money supply and all its categories.

Regression analysis showed the strongest correlation between variables of money supply in the broad sense and the growth of domestic deposits, indicating the full endogenous formation of the money supply in the economy of B&H. Also, the analysis showed a high correlation between the money supply and domestic credit growth. Therefore, in the model of currency board money provided by the bank based on the inflow of foreign exchange through their bank or credit activity in the credit and deposit multiplication. The inverse correlation was also expressed between the money supply and the average level of required reserves, and growth of reserves serve to decrease the money supply. The currency board system, the necessary reserve ratio is shown as a crucial instrument for controlling the quantity of bank reserves and the liquidity of the banking sector, that is, control the amount of money.

REFERENCES

Alberola, E. Molina, L.(2000). Fiscal Discipline and Exchange Rate Regimes-Case for Currency Boards?, *Banco de Espana-Servicio de Estudios*, Documento de Trabajo, No.0006.

Alihodžić, A. (2014). Profitability of Determinants of BH Banking Sector in Circumstances of Slower Economic Growth*", FRAP: International Research Conference on Finance, Risk and Accounting Perspectives*, Oxford, ISBN 978-3-9503518-2-8, 697-709.

Alihodžić, A., Plakalović, N. (2016). Assessment of Credit Growth of Corporate Sector in Bosnia and Herzegovina, *Risk Management: Perspectives And Open Issues – A Multi- Disciplinary Approach, McGraw Hill Education, International Conference: RISK MANAGEMENT, UNIVERSITA DEGLI STUDI DI TORINO*, Turin, Italy, May 5-6, 21-32.

Aroni J.M. (2011). Factors Influencing Stock Prices for Firms limited in Nairobi Stock exchange, *International Journal of Business and Social Science.*, 2(20), pp. 303-311.

Dornbusch, R. Giavazzi, F. (1999). *Hard Currency and Sound Credit: A Financial Agenda for Central Europe*, NBER.

Dow, C.S.(2006). Endogeneous money, structuralist, in Arestis P.,Sawyer M. A (ed.) *Handbook of Alternative Monetary Economics*, Edward Elgar Cheltnham,UU, Northampton, MA, USA.

Đukić, Đ. (2011). *Risk Management And Capital In Banks*, Publishing Center of the Faculty of Economics in Belgrade.

Eric, S., Kenyatta, J. (2016). Empirical Analysis of Exchange Rate Determinants in Rwanda, *Journal of Economics And Sustainable Development*, Vol. 7., No. 18, pp. 169-184.

Fama, E.F. (1981). Stock returns, real Activity, Inflation, and Money, *The* American *Economic Review*, 71(4), pp. 545-565.

Feldstein, M., Stock, J. H. (1994). The Use of a Monetary Aggregate to Target Nominal GDP *National Bureauof Economic Research* pp. 7-69.

Friedman-Mieselman (1963). The Relative Stability of Monetary Velocity and the Investment Multiplier in the United States, 1897 – 1958 *in Stabilization policies, Englewood Cliffs.*

Gedeon, J.S.(2010). The Political Economy of Currency Board: Case of Bosnia and Herzegovina, *SEE Journal.*

Lavoie, M. (2006). Endogenous money: accommodationist, in Arestis P.,Sawyer M. A (ed.) *Handbook of Alternative Monetary Economics*, Edward Elgar Cheltnham,UU, Northampton, MA, USA.

Mishkin, F. (2007). *Monetary Policy Strategy*, Massachusetts Institute of Technology, Cambridge.

Mishkin, F.(1999). International Experiences with Different Monetary Regimes, *NBER Working Paper* Series, WP, 6965.

Monir, U.A., Moniruzzaman, M., Subrata, S. (2015). The Money Supply Process in Bangladesh: An Econometric Analysis, *Global Disclosure of Economics And Business,* Vol. 4, No. 2/2015, pp. 137-142.

Sharma, A., Kumar, A., Hatekar, N. (2010). Causality between rices, Output and Money in India: An Empirical Investigation in the Frequency Domain, *Discussion Paper 3*, Center for Computational Social Sciences, University of Mumbai, January.

The Central Bank of Bosnia And Herzegovina (2015). Annual Report, Retrieved from: http://www.cbbih.ba

The Central Bank of Bosnia And Herzegovina (2015). Financial Stability Report, Retrieved from: http://www.cbbh.ba/Content/Archive/575

The Central Bank of Bosnia And Herzegovina (2016). Bulletin, No.1., p.20, Retrieved from: http: www.cbbh.ba