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USE OF TRANSMISSION CANAL OF INTEREST RATES IN MANAGING OFFER AND DEMAND OF MONEY AND INVESTMENT IN BOSNIA AND HERZEGOVINA IN CONDITIONS OF CURRENCY BOARD

ABSTRACT:

Changes in interest rates impact the decisions regarding consumption, savings and investments made by both economy and population. Higher interest rates discourage the borrowing but on the other hand they encourage savings, which again discourages investments. In conditions of low interest rates, economy and population get more into debt and thereby they increase the consumption and stimulate the production. In conducting monetary policy, the transmission channel of interest rates has a special impact since it directly influences prices. Central banks with their policy of reference interest rates influence the change of nominal interest rates which in accordance with inflationary expectations impact long-term interest rates and thus the consumption, investment and saving structure. In the situation in which the monetary policy of Bosnia and Herzegovina is reduced to the role of a currency board, this work researches impact of transmission channels of interest rates on consumption, investments and savings in Bosnia and Herzegovina.

Key words: *Interest rates, reference interest rates, monetary policy, channels of monetary policy*

JEL: *E42; E43; E52*

1. INTRODUCTION

Basic aims of monetary politics, defined through national strategic acts are mostly: high employment rate, high production rate (BDP), controlled inflation, etc. While realizing their aims, central banks intervene through financial markets, whereby monetary politics affects real economy. Monetary politics, conducted by central banks through realization of their tasks, uses monetary instruments like operation on open market, obligatory reserve, credit and deposit allowances and interventions on foreign exchange market.

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In order to realize aims set before it, it intervenes through canals of monetary politics whereby it realizes desired directions of changes in real sector.

Central bank of B&H has proclaimed the following strategic aims: stability of domestic currency, contribution to financial stability, stability of pay systems, complication of qualitative and prompt statistics in accordance with EU and other international standards, maximization of efficacy of business and rational use of resources.²

Monetary politics of Bosnia and Herzegovina is regulated by Law on Central bank of Bosnia and Herzegovina (CB B&H). CB B&H operates under arrangement of currency board with the following characteristics: full cover of monetary passive by foreign currency reserves, it uses obligatory reserve as an instrument of monetary politics along with prohibition of giving loans and operations on open market, foreign currency exchange rate of domestic currency fixed to euro as “anchor currency”.³

The topic of this paper is analysis of possibilities of monetary canals of interest rates for support to savings and investments in regime of currency board.

Mechanism of monetary transmission, term which determines action through canals of monetary politics, enables conduction of monetary politics and thereby impact on economy, i.e. real economic variables.

Monetary politics, in short term, has influence on real variables like consumption, investment, production, employment. In long term, monetary politics does not have or has limited impact on real economy. In long term, monetary politics is “neutral” and has influence only on inflation rate.⁴

In bibliography, there are six basic canals of monetary transmission mechanism: 1) interest rates canal, 2) assets price canal, 3) foreign currency exchange rate canal, 4) credit canal, 5) expectation canal, and 6) risk takeover canal, whereby canal of costs is often set out as a special canal of monetary transmission.⁵

Influence of monetary politics through transmission mechanism is made with changeable speed and intensity. Identification of transmission canals, through which Cen-

2 Central Bank of Bosnia and Herzegovina, 2018.. Strategic plan 2016-2021 Available at: www.cbbh.ba [Accessed on sept. 27, 2018]

3 Law on Central bank of N&H, (“Official journal of B&H“, No.: 1/97, 29/02, 8/03, 13/03, 14/03, 09/05 i 76/06)

4 Moreno, R.: Monetary policy transmission and the long-term interest rate in emerging markets, BIS Papers No 35, Transmission mechanisms for monetary policy in emerging market economies 2008; st.68.

5 Égert, B; MacDonald, R.; Monetary transmission mechanism in Central and eastern europe: surveying the surveyable, Economics department working papers No. 654; Organisation for Economic Co-operation and Development; ECO/WKP(2008)62, str.6.

tral bank shall operate, enable finding most effective collection of instruments of monetary politics as well as defining the time to start its application.

Monetary politics that countries apply affects changes on money market and financial market. Changes on these markets further affect market of goods and services, and finally aggregate demand, production, and prices. Trade activity and inflation, of course, do reversal action on monetary politics.

2. Basic characteristics of monetary canals

2.1. Interest rates canal

Interest rates canal in developed market economies represents the most important canal of transmission mechanism of monetary politics. It is expressed in the following way: changes of interest rates of Central bank lead to changes of short-term interest rates on money and financial market. Having in mind inflation expectations, nominal short-term interest rate affects real short-term interest rate. Actual and expected real short-term interest rates affect long-term real interest rates. Long-term real interest rates affect the scope and structure of consumption, especially tendency to saving and investments of economic subjects and aggregate demand, in the end.

2.2. Foreign exchange rate canal

Monetary politics with measures through interest rates canal affects foreign exchange rate and thereby net export. Higher interest rates is at the same time reflected through stronger currency, and stronger currency results in reduction of net export demand and production. Principle is valid vice-versa. Lower interest rates weakens domestic currency, and weakening currency affects increase of export and gross domestic product. Changes of foreign currency, thereby, affect prices of imported goods and services, which leads to direct or indirect growth of prices (through increase of costs of imported components contained in domestic products).

2.3. Assets price canal

Changes of market interest rates change market value of different items of assets, at first and the fastest of securities, but also of other assets, too. When interest rates are increased, price is reduced, and vice-versa. Higher interest rates in country have a consequence of appreciation of domestic currency, which, further, leads to increase of demand for it. This then leads to changes of relative prices of domestic and foreign goods and services.

For assets price canal, thus, are important movements in two fields through which monetary politics affects economy: prices of financial assets (shares, bonds, etc.) and prices of real estates.

Changes of prices of these financial assets affect companies and population (households) in several ways. When increasing interest rates, expenses of households are increased for debts, but also another amount of interest rates for savings is gained. This is why available income of savers and debtors is changed, whereby they adapt their decisions on consumption and saving. In accordance with that, value of financial property is changed, which is a result of changes of assets prices. Also, relative prices for goods and services produced in country and abroad are changed.

Thereby, higher interest rates for loans affect postponing decisions on buying real estates or other property, whereby demand for them is reduced, and prices are reduced, too, as a consequence. In such situation, owners are felt less rich, value of collateral for loans is reduced, which hardens new loans. Consumption is reduced because of higher interest rates on other types of loans. Individuals without loans can earn more through savings for interest rates. On the other hand, this may motivate them to save even more, and reduce current consumption.

If a significant part of population's property is in foreign currency, i.e. debts are related to foreign currency, changes of foreign exchange rate will cause significant changes of their wealth. Changes of exchange rate will affect structure of consumption. Appreciation of domestic currency brings to reduction of prices of import goods and services, which may cause bigger interest in products and services produced abroad.

Increase of interest rates increases costs of financing in the field of companies which finance their business with loans and whose interest rates are related to interest rates of money market. That reduces profit and increases price of investments which are postponed. New employment in such situation is usually in stagnation or reduced. On the other hand, in case lower costs of financing, companies increase investments and this is why they will probably need more employees. Companies which do not depend on loans, but rather have money on bank account will realize bigger income. Bigger money means enable new investments and increase number of employees.⁶

2.4. Bank credit canal

This monetary canal has special significance in countries in which banks have significant role within financial system. In such financial systems, in case of expansive monetary politics, there comes about increase of reserves and bank deposits, which

6 European Central Bank, The Monetary policy ECB; European Central Bank, 2011, pg.58-65.

affects growth of scope of bank credits and debts, as well as increase of investments and gross domestic product. In case of restrictive monetary politics, there comes about reduction of bank credits and debts, with contrary action on investments and gross domestic product.

At the same time, balance status of banks and other financial cooperators has significant influence on their credit activity. Fall of assets prices may lead to loss in credit portfolio of banks. It is similar in situation when beneficiaries and applicants for credits, because of their weakness in their balances, have reduced possibility of gaining credit, which directly brings to reduction of value of bank assets. In such cases terms of credit price are increased in order to compensate risk of loss, but offer of bank credits is also reduced.

By using mentioned canals, depending on characteristics of economic and financial system, it is possible to influence on certain macroeconomic sizes, but first of all on movements which are proclaimed as aims of economic politics of countries. So, in case when interest rate canal instrument is initiated, further reactions in system should be born in mind, like:

First, official decisions on interest rates affect market interest rates in different degree. At the same time, these decisions affect expectations regarding future movement of economic courses, and thereby prices and foreign currency exchange rate.

Second, these changes reversibly affect consumption, saving, and investment behavior of individuals and companies. In that way, changes in official interest rate affect demand for goods and services produced in country.

Third, level of demand in comparison to domestic capacities, on market of goods and services, affects domestic inflation pressure (if demand for work for example overpasses available offer, pressures on increase of salaries are increased, which is transferred to higher price for consumers).

Fourth, movements of domestic exchange rate currency has direct influence on domestic prices of import of goods and services and indirect impact on prices of goods and services competed with import and thus become component of overall imported inflation.⁷

Changes of monetary politics affect real activity in short or medium term. In the end, depending on monetary politics strategy, interventions used for acting in short and medium period can be directed to action on long-term rates and, in the end, to assets prices. Changes in official interest rate, also, affect market value of securities and

7 Bank for International Settlements; Transmission mechanisms for monetary policy in emerging market economies; BIS Papers No 35, 2008.

shares. Other forms of property then get importance. Reduction of mentioned securities increases interest in other forms of property and demand for them increases.

Mentioned movements indicate different importance of monetary canals that monetary authorities can use for directing movements in economy. This sophisticated mechanism requests high precision and precaution in acting because of effects of used canals and instruments are uncertain in short terms, and after accepted on market they bring about significant changes whose corrections take longer time.

Change of exchange rate of monetary politics affects expectations about future status of economy. These expectations firstly affect behavior of transactor on financial market, as well as on other markets. There comes about changes of expectation regarding employment, salaries, sale, profit, etc. Directions in which these expectations act are hardly predictable, which depends on characteristics of foreign environment, "mood" of market, regime of monetary politics.⁸

Basic transmission monetary canals have various significance and influence in single economies. With time, there comes about changes in significance and strength of influence and possible influence of some canals. There are many factors which give advantage to some canals in different countries in respect to other canals, so that central banks, on the basis of environment in which they conduct their monetary politics, must evaluate which canals will give best possibility of influence on realization of some strategic aims which country and its monetary authority sets before itself.

Within the canal of interest rates, establishment of referential interest rate is one of frequently used approaches. Central banks in countries, as basic aim, have maintenance of price and financial stability and conduction of monetary and economic politics. The task of central banks is finding measures to be applied in order to resolve problems and stimulate faster development of the country. These aims are realized using canals of monetary politics and available instruments.

Among other measures, referential interest rates represent precondition for good functioning of financial market. Referential interest rates serve as referential value in contracts in which changeable interest rates are applied. Apart from this, referential interest rates are a landmark for evaluation of balance positions, without what application of monetary interest rates is hindered.

In situation in which economic activity is weak and when it needs stimuli, logic activity of monetary authorities is reducing referential interest rates and maintaining high liquidity in a certain period in order to stimulate production. Low interest rates do not mean only positive trend because their low level reflects on banks, and espe-

8 Angeloni I., Kashyap A., Mojon B., Terlizzese D.: Monetary Transmission In The Euro area: Where do we Stand? European Central Bank, 2001, ECB Working Paper No 114 January 2002

cially, investment and pension funds which, ensuring income for their clients, ensure concentration of capital. Low interest rates affect relationship between saving and investing.⁹

3. Monetary politics in regime of currency board

Introducing currency boards is mostly motivated by solving problems of macroeconomic balance, removal of monetary and currency instability, opening economy and solving consequences of war, like is the case in Bosnia and Herzegovina.

Although there is no standard regarding duration of currency board regime, it is logical to expect that, after initial stabilization of monetary politics and reaching first positive effects of its application, one gradually transfers to active monetary politics based on realizing established stabilization aims.

Advantages of currency board are in low inflation, currency stability, low interest rates, while deficiencies are firstly impossibility of full use of monetary instruments in case of more significant economic disturbances. In macroeconomic sense, on the other hand, currency board regime does not enable countries, in which this model of monetary politics is applied, use of measures of monetary politics in realizing macroeconomic aims, but for this purpose only measures of fiscal politics are used.¹⁰

Along with positive sides of currency board system in the context of situation in which it is established, currency board boards express some deficiencies. In fix systems of foreign exchange rate, currency boards do not allow the government to determine its interest rates. This means that, in cases when domestic inflation is bigger than inflation in foreign currency used as anchor, currency of that country is endangered by too high value, which may cause being non-competitive.

Functioning of currency board, namely, is based on respecting three rules: (1) fixed foreign currency rate in regards to foreign referential currency; (2) obligation that broadcasted currency can be freely and integrally converted into that “reversible currency”; (3) obligation that currency board on the side of assets of balance sheet maintains the scope of foreign currency reserves which are at least equal to the scope

9 Bernanke, B. (2015., 2015-04-01). Why are interest rates so low, part 3: The Global Savings Glut. Retrieved from <http://www.brookings.edu/blogs/ben-bernanke/posts/2015/04/01-why-interest-rates-low-global-savings-glut>

10 Organization for Economic Co-operation and Development; Monetary Transmission Mechanism in Central and eastern Europe; Surveying the Surveyable; Economics Department; Working papers, No. 654 ECO/WKP(2008)62

of broadcasted currency (money in circulation and bank reserves).¹¹

Currency board broadcasts domestic currency, whose value is fixed in regards to currency of its reserve currency, and is covered with assets denominated in foreign currency. Foreign currency exchange rate, among the currency accepted by currency board and its reserve currency, is fix. Currency board, therefore, can broadcast new currency only in counter-value of needed amount of foreign currencies.

Currency board, thus, broadcasts and redeems base money at request in regards to reserve currency for determined in advance prescribed conversion rate, but does not do active interventions on foreign market depending on situation on market and needs of conducting aims of monetary politics.

4. Currency board in Bosnia and Herzegovina

Functioning of currency board in Bosnia and Herzegovina is a frequent topic of discussions with a series of non-reasoned conclusions regarding management of foreign currency reserves over to proposal of its demolishing through engagement of foreign currency reserves for the purpose of resolving issues of public debt.

Currency board applied in Bosnia and Herzegovina represents specific strategy of monetary politics. Leading monetary politics in currency board faces significantly narrowed area. Transmission monetary mechanism in currency board is based on fixed variant of foreign currency exchange rate with protection from inflation.

Currency board in Bosnia and Herzegovina is based on legally determined rules, regarding the mode of putting money in circulation and retreating money from circulation. Pursuant to article 31 of the Law on central bank of Bosnia and Herzegovina (hereinafter: Law)¹² it is established as follows: "Central bank is obliged to ensure that total amount of its money liabilities never overpasses equivalent amount (expressed in B&H currency) of its net foreign currency reserves."¹³

Central bank, pursuant to article 67 of the Law has prohibition of performing the following activities:

11 Hanke, S.H. and Schuler, K. (1994), *Currency Boards for Developing Countries: A Handbook*, San Francisco: Institute for Contemporary Studies Press

12 Law on Central bank of B&H; "Official journal of B&H", No.: 1/97, 29/02, 8/03, 13/03, 14/03, 09/05 and 76/06)

13 Pursuant to Article 32 of the Law it is established as follows: "Official foreign currency exchange rate for B&H currency is one convertible mark for 0,511292 EUR, i.e. one EUR amounts 1,955830 convertible marks" and pursuant to article 33 "Guarantees convertibility of B&H currency" is established.

“Unless otherwise prescribed by this Law, Central bank shall not:

- give any loan under any circumstances;
- hold deposit expressed or payable in B&H currency or resident of B&H, or give money or financial gifts;
- deal with trade, purchase of shares of any corporation or company, including shares of any financial institution, or have any interest of ownership in financial, trade, agricultural, industrial or other company;
- gain through purchase, rent, or in another way rights to real estates, unless it deems it necessary in order to ensure premises for its proper administration and business or for accommodation of its official clerks, i.e. for similar needs related to performance of its functions according to provisions of this law.

Having in mind provisions which, actually, define rules of currency board, then it is clear that Central bank of B&H has clearly narrowed possibilities of using transmission monetary canals except from instruments of obligatory reserve of banks, described under article 36 of the Law.

5. Money offer and demand

As different from central banks functioning in conditions of active monetary politics, currency boards which also function through Central bank cannot, among the rest, function as loaner in later case, which means that in case of bank panic, currency board cannot loan money at the bank in a significant way. Money on market of Bosnia and Herzegovina is created pursuant to provisions of the Law on central bank of B&H (article 31). Increase and reduction of money quantity in circulation is a result of change of bonds of foreign reserves: foreign currency in cash; deposit at foreign banks, investments in debtor securities, and monetary gold, special rights of pulling into MMF.¹⁴ From mentioned cover there have been created monetary liabilities, money in circulation, dominantly composed of: cash money in circulation, bank deposits, deposits of government, and duties towards non-residents. According to provisions of the Law on Central bank B&H, position of monetary liabilities (money in circulation) must not overpass the scope of foreign reserves.

According to the structure of obligatory reserves, it is obvious that in regime of currency board in which creation of money is autonomous, without impact of measures and instruments of monetary politics, managing money quantity in circulation is dedicated to other measures of economic politics, firstly to measures of financial politics.

14 Central Bank of Bosnia and Herzegovina, 2018.. Arrangement of currency board, Available at: www.cbbh.ba [Accessed on sept. 27, 2018]

Table 1. shows movement of monetary liabilities from 31/12/2010 to 31/7/2018 and cover by foreign reserves and finally, net foreign liabilities which represents certain reserve for emission of money. During the mentioned period, provisions of article 31 of the Law on central bank and cover of monetary liabilities by foreign reserves were respected. According to mentioned indicators, movement of quantity of money in circulation is stable during the whole period, without significant rates of growth or fall, which is a reflection of bonds of foreign reserves depending on movement of a series of exogenous factors that economic politics of B&H has no possibility to significantly impacts on.

Table 1. Engagement of currency board (in mil. BAM) ¹⁵

Year	Foreign reserves of CBB&H	Monetary liabilities	Net foreign assets	Rate of growth
31.12.2010.	6.456,3	5.969,6	486,8	
31.12.2011.	6.422,5	5.915,1	507,4	-1,0
31.12.2012.	6.507,4	5.987,0	520,4	+1,2
31.12.2013.	7.067,3	6.659,2	408,1	+11,2
31.12.2014.	7.824,5	7.293,1	531,4	+9,5
31.12.2015.	8.605,0	8.064,6	540,4	+10,6
31.12.2016.	9.529,0	8.926,3	602,6	+10,7
31.12.2017.	10.557,1	9.977,0	578,0	+11,8
31.7.2018.	11.193,4	10.585,7	605,9	..

At the same time, Central bank in regime of currency board, does not set certain aim regarding interest rate, does not create referential interest rate, but interest rates are adapted according to arbitrage conditions present on markets. Price adjustments in canal of assets price are also dedicated to market. In such created system, offer of money is based exclusively on internal factors, adapting to money demand.

In currency board system, applied in Bosnia and Herzegovina, as the only available instrument of monetary politics, appears an instrument of obligatory reserve. The very fact that in structure of financial institutions a bank sector represents a dominant financial sector, to the limit of theoretical negligence of importance of other financial institutions, obligatory reserves can be considered an instrument with which one can partially influence on monetary interventions in case of need, and thereby to a certain point affect amount of interest rate.¹⁶

¹⁵ Central Bank of Bosnia and Herzegovina, 2017 Engagement of currency board on 31/12/2015-31/7/2018 Available at: www.cbbh.ba [Accessed on sept. 27, 2018]

¹⁶ Value of property of financial sector: banks 87,8 %; leasing companies 1,48 %; MCO 2,34 %; investment funds 2,81; insurance companies 5,56 %; Report on financial stability in 2016.; Central Bank B&H 2016, pg 46.

However, since obligatory reserve is not predicted for active management of monetary politics, and since this isolated instrument is not strong enough for certain changes in economic politics and realization of their aims, its role should be maintained on creation of sufficient liquidity for financial sector.

Namely, obligatory reserves are firstly directed to reduction of credit means of banks, and this implies lower level of liquidity and crediting. Thereby influence on aggregate consumption and inflation is made. Higher market interest rates stimulate banks to reduce their costs, which weakens inflation pressures. Canals with which ratio of obligatory reserves is adapted send certain market signals, but not dominantly signals of monetary characteristics. Changes of rate of obligatory reserve send signals about status on financial market and relationship between offer and demand, which might reflect on interest rate and other costs of banks. On the other hand, changes in rates of obligatory reserve signalize level of risk of crediting and potential of banks (considering their position in financial systems).¹⁷

Table 2. shows, apart from height of consolidated balances of commercial banks in Bosnia and Herzegovina, movement of obligatory reserves of banks in Bosnia and Herzegovina, with special focus on fact that in case of lack of sufficient demand of real sector for credit products, there is an excess of obligatory reserve above prescribed rates which represent additional protection for business banks, although for that additional protection they pay negative interest rate. On the other hand, feedback is gained about lack of qualitative programs, lower credit capacity of bank clients, and generally lower demand for credits. The mentioned situation obviously for realization of strategic macroeconomic aims demands more complex monetary moves for what a rigid system of currency board does not represent an adequate solution.

In regime of currency board of monetary politics they do not act through canal of interest rates or mechanism of referential interest rate.

17 European Central Bank, The Monetary policy ECB; European Central Bank, 2011.,str.58-65.

Table 2. Consolidated balance of banks in B&H, in mil. BAM

Year	Consolidated balance of banks in B&H in mil. BAM ¹⁸	Foreign assets ¹⁹	Average obligatory reserves in mil BAM ²⁰	Excess of obligatory reserve in mil BAM ²¹
31.12.2010.	15.745,6	2.814,2	1.625	1.530
31.12.2011.	16.170,5	2.724,5	1.324	1.635
31.12.2012.	16.064,8	2.507,8	1.258	1.453
31.12.2013.	16.713,1	2.637,3	1.291	1.813
31.12.2014.	17.382,0	2.626,3	1.370	2.208
31.12.2015.	18.096,3	2.473,8	1.433	2.338
31.12.2016.	19.282,3	2.640,0	1.734	2.324
31.12.2017.	18.545,0	2.791,1	2.122	2.181

Having this in mind, Central bank with designed national economic strategies must dedicate most attention to creation of stimulation development projects which would absorb increased liquidity of banking system.

This is indicated by Table 3, which shows movement on credit market. During observed annual data for the period of 7 years, consolidated balances of banks have increased for 35, 9 % while share of credit in non-financial private companies has increased for 19, 9 %. With mentioned, during the same period, banks have increased scope of “excess of obligatory reserve” for %. The mentioned indicators clearly speak for high liquidity of banking sector (dominant financial institutions), but this liquidity does not support economic growth because of insufficient credit capacity of real sector as well as because of lack of stimulation measures of economic politics.

18 Central Bank of Bosnia and Herzegovina, 2017.. Bulletin 4 T 12 Available at: www.cbbh.ba [Accessed on sept. 27, 2018]T 12

19 Foreign assets of commercial banks includes: foreign currency in treasuries, transmissible and other deposits in foreign currency at non-residents, credits for non-residents, securities of non-residents in foreign currency and other demands from non-residents, Central Bank B&H Bilten 4, 2017, T 12

20 Central Bank of Bosnia and Herzegovina, 2017.. Bulletin 4 T 26 Available at: www.cbbh.ba [Accessed on sept. 27, 2018]

21 Central Bank of Bosnia and Herzegovina, 2017.. Bulletin 4 T 26 Available at: www.cbbh.ba [Accessed on sept. 27, 2018]

Table 3. Table 3. Consolidated balance of banks and credits for private sector²²

Year	Consolidated balance of banks	Demand from non-financial private companies	BDP	% credits/BDP	Excess of obligatory reserve	% excess/BDP
31.12.2010.	20.779,3	6.965,5	25.365	27,5	1.530	6,0
31.12.2011.	21.488,9	7.166,9	26.231	27,3	1.635	6,2
31.12.2012.	21.925,4	7.473,1	26.223	28,5	1.453	5,5
31.12.2013.	23.067,7	7.556,4	26.779	28,2	1.813	6,8
31.12.2014.	24.054,3	7.452,0	27.359	27,2	2.208	8,2
31.12.2015.	24.948,5	7.452,6	28.586	26,0	2.338	8,2
31.12.2016.	26.097,7	7.743,9	29.990	25,8	2.324	7,7
31.12.2017.	28.242,7	8.354,5	31.332 ⁵	26,6	2.181	6,9

Through the action of mechanism of automatic adjustment of money offer, through regime of currency board, deficit of current account or reflux of capital is directly reflected on reduction of domestic liquidity, which leads to increase of interest rates on domestic money market. Changes of domestic interest rates are reflected on economic activity through usual transmission canals and these changes should bring about reduction of current account deficit. In conditions of fix foreign currency exchange rate, increase of domestic interest rates shall lead to influx of capital and vice-versa, reduction of interest rates shall result in reflux of capital. Mentioned changes lead to balancing of pay balance, while level of domestic interest rates shall converge to the level of the world (anchor currency) interest rates. In conditions of small economies, like B&H economy, the scope of economy presented by BDP height, through statistic data confirms that the system of interest rates more follows happenings in countries which apply “anchor currency” then the very oscillation of quantity of money in circulation. Namely, in system of fix foreign currency exchange rate, domestic interest rates are related to interest rates in country of reserve currency and their movements can significantly reflect on movements in country with currency board. To what extent movements of interest rates shall be transferred to interest rates in country of currency board depends on other characteristics and construction of total economic system, development of banking system, money market, and capital. In any case, money offer is automatically adapted to demand of money when applied. In currency board, thus, there is no change of money offer or change of interest rates which come out from activity of monetary politics. Interest rates are automatically adjusted, having in mind demand for credits, money offer, scope of foreign reserves, scope of obligatory reserve.

22 Central Bank of Bosnia and Herzegovina, 2018.. Monthly economic overview Available at: www.cbbh.ba [Accessed on sept. 27, 2018]

When investors turn to domestic currency, into currency for which it is connected, in our case EUR, this reduces supply with domestic currency, increasing interest rates, and vice versa.²³

Table 4. shows that, in observed period from 2010-2017, and average interest rate for credits in economy and population had coordinated trend of movement with movement of interest rates in the region of EUR, with present reserve of safety coming out from a series of risks characteristic for the market of Bosnia and Herzegovina. The fact that reserve of safety significantly increases interest rates on domestic market confirms a thesis that, in this phase, a country can reach much bigger effects with well-planned measures of economic, especially fiscal politics then through potential, autonomous monetary politics.

Table 4. Average interest rates in period from 2015-2017 B&H/ EU

Year	Interest rates for credits in BAM B&H	Interest rates for credits in BAM with currency clause	Interest rates for credits EUR ⁶
31.12.2015.	4,988	5,902	2,10-2,45
31.12.2016.	4,623	4,448	2,10-2,81
31.12.2017.	3,507	3,772	1,71-81

6. Interest rates and investment

Lower interest rates affect additional investment consumption, which strengthens economy in times of slow economic growth. Management of interest rates is effectively conducted through canals of interest rates by measured of autonomous monetary politics.

Fluctuation of interest rates may have significant influence on money market activities, inflation, and total economy. In conditions of regime of currency board, as previously explained, interest rates are formed according to market conditions, which is slower was than intervention through monetary instruments in systems in which monetary politics completely functions. Intensity of effects oscillates depending on a series of macroeconomic and market indicators, but in systems of full application of monetary politics the time of reaction to measures is significantly shorter than in system of autonomous creation of interest rate.

Changes of interest rates affect demand of public for goods and services, and thereby total investment consumption. Reduction of interest rates reduces costs of debt, which stimulates companies to increase investment consumption. Lower interest rates, also, give banks more stimuli for crediting companies and population, enabling them to spend more.

²³ Gigineishvili N.- Determinants of Interest Rate Pass-Through: Do Macroeconomic Conditions and Financial Market Structure Matter?; IMF Working Paper, WP/11/176, 2011.

Table 5. shows data about absolute amounts of investments and rate of its growth. According to the rate of growth or fall, investments, shown according to its structure, do not contribute to development of country according to the scope and to the structure. What is especially worrying is the fact that total investments are dominantly directed to construction of facilities, while technology and human resources are neglected.

Table 5. Investments 2010-2017²⁴ (in mil BAM)

Year	Investments in construction facilities and premises	Investments in machines and equipment	Investments in other	Total	Index
2010.	2.276	1.770	220	4.267	
2011.	2.036	2.027	218	4.281	100,3
2012.	2.015	2.103	424	4.541	106
2013.	2.379	1.982	305	4.666	102,7
2014.	2.844	2.082	270	5.196	111,4
2015.	2.090	2.151	243	4.484	86
2016.	1.908	1.897	217	4.023	90
2017.	1.890	2.053	245	4.187	104

7. Conclusion

Monetary politics based on principles of currency board, introduced in Bosnia and Herzegovina in 1997, has fulfilled basic aims set by decision on introduction, has ensured stability of exchange rate, stopped inflation and introduced social peace. It realizes its basic tasks still today, but represents limitation for quicker development. Loss of real sovereignty over monetary politics does not mean impossibility to transfer, apparently positive financial movements in country into designed stimulus to economic development.

Namely, high liquidity of financial system based on banks as dominant institutions, may through financial stimuli, be directed to development. High liquidity, at the moment, is going over mainstream of banks into smaller risk placements, which is a justified economic approach. High level of liquidity can, through stimuli and Law on income tax and excise, with designed politics of obligatory reserve, stimulate higher demand for credits in profit sector. Thereby, in system of currency board, an increase of export and foreign investment can be stimulated, which through increase of export and foreign reserves may generate into new offer of money and its synergic effect.

²⁴ Agency for statistics B&H, Investments in Permanent Means in B&H, 2007-2015, Communication I, 4/8/2017, Sarajevo

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KORIŠTENJE TRANSMISIONOG KANALA KAMATNIH STOPA U UPRAVLJANJU PONUDOM I TRAŽNJOM NOVCA I INVESTICIJAMA U BOSNI I HERCEGOVINI U USLOVIMA VALUTNOG ODBORA

SAŽETAK:

Promjene u kamatnim stopama utiču na potrošnju, štednju i investicione odluke kako privrede tako i stanovništva. Više kamatne stope destimulišu uzimanje kredita a stimulišu štednju što destimuliše ulaganja i investicije. U uslovima nižih kamatnih stopa privreda i stanovništvo više se zadužuju povećavajući time potrošnju stimulišući i proizvodnju. U provođenju monetarne politike transmisioni kanal kamatne stope ima poseban značaj jer direktno utiče i na cijene. Centralne banke politikom referentne kamatne stope utiču na promjene nominalnih kamatnih stopa koje u skladu sa inflatornim očekivanjima utiču na dugoročne kamatne stope a time i na strukturu potrošnje, investicije i štednju. U situaciji u kojoj je monetarna politika Bosne i Hercegovine svedena na ulogu valutnog odbora ovaj rad istražuje način nivo uticaja transakcionih kanala kamatne stope na potrošnju, investicije i štednju u Bosni i Hercegovini.

Ključne riječi: kamatne stope, referentne kamatne stope, monetarna politika, kanali monetarne politike-

JEL: E42; E43; E52