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New CNB measures to stimulate credit growth: problems and solutions

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Summary

The paper analyses the new measure implemented by Croatian national bank (CNB). The measure is a decrease in the reserve requirement, but the actual release of funds is contingent on increase in lending to firms. This new measure is significant because for the first time in Croatia there is a measure whose purpose is to affect specifically credit policy of the banks. Although this new measure has good intentions it does not solve the problem of why highly liquid banking system in Croatia is not willing to increase lending. The reason for lack of credit growth lies in two separate problems. The first problem is the willingness of banks to have more credit risk and the second problem is the way monetary policy is conducted in Croatia¹.

Key words: conduct of monetary policy, banks, credit

JEL: E51, E58, G21

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1. Introduction

In November 2013 the Croatian national bank (CNB) has decided to decrease the reserve requirement in Croatia from 13, 5% to 12%. However the decrease in reserve requirement was not straightforward and it is contingent on particular growth of credit in Croatia. This new measure is significant because it departs from the standard behavior of CNB which was always focused on the monetary policy and never on specific credit policy. For the first time CNB has decided to create regulation with sole purpose to stimulate credit growth in a very specific part of banking business.

The importance of regulation is particular significant in the broader context of the economic in Croatia. For last 5 years Croatia has had negative growth rates and 18 out of 20 quarters had decrease in GDP, out of these 20 last 9 quarters were negative. The bad economic situation was also followed by the significant decrease of the lending activity in Croatia. Based on the data, total loans in Croatia increased by 14,1% and loans to firms increased by 13, 6% from December 2008 to September 2013.

However, this measure in itself cannot solve the problem of stagnant credit growth and increase of investments in Croatia. In order to fully understand what are the pros and cons of this measure we have to look at two things: the way monetary policy is conducted in Croatia and what are banks' expectations regarding the future conduct of monetary policy.

This paper is separated into six parts. After introduction there is an brief overview of the conduct of monetary policy in Croatia. Part three analyses the behavior of banks given the conduct of monetary policy. Part four analyses the new CNB measure in depth. Part five tries to determine does the new measure really address the problem of lack of credit in Croatia and part six concludes.

2. Conduct of monetary policy

In order to be able to fully understand the new measure and the potential effects of the new measure on Croatian banks we have to understand how is the monetary policy conducted in Croatia. Understanding of the conduct of monetary policy will give us the ability to determine what the possible effects of the new measure are.

The actual change in the quantity of money in Croatia is through open market operations. However unlike other central bank CNB conducts open market operations only with foreign currency, not with any other asset. This comes for the main position of maintaining the exchange rate stability which should lead to price stability. This position of the CNB has been reiterated many times, one example of the CNB's view of the monetary policy can be found in Rohatinski (2004).

In order to see the effects of the open market operations we can separate the main markets which are affected when there is open market intervention. There are three main financial markets in Croatia which are significantly impacted by the conduct of monetary policy:

- domestic market for foreign currency (FC market)
- domestic market for domestic currency (LC market)
- domestic credit market (DC market)

CNB conducts the monetary policy on domestic market for foreign currency and only on this market. Since CNB does not trade domestic government bonds the change of quantity of money is conditioned on the quantity and flow of foreign currency in Croatia. CNB did conduct fine tuning operations using the repo market, but last repo auction was on 21.10.2009².

² Date taken from <http://www.hnb.hr/monet/hmonet.htm>

The main objective of monetary policy in Croatia is price stability and CNB believes the best way to maintain price stability is through the stability of the exchange rate. CNB has no intention to intervene on other markets nor has there been any intention to expand into other assets. Although CNB has the possibility to intervene on domestic market for domestic currency through the purchases of debt instruments³, CNB has never utilized this possibility for open market purchases. Because of the way monetary policy is conducted all participants in the economy and especially the banks expect that any future conduct of monetary policy will be done through purchases and sales of foreign currency. This assumption comes directly from the credibility of the central bank.

The conduct of monetary policy is simple to explain. Once the exchange rate changes above or below desirable level, CNB intervenes on domestic market for foreign currency and either purchase foreign currency or sells foreign currency in order to stabilize the exchange rate. The signal for intervention can be mathematically shown as:

$$f(E) = x^* \begin{cases} x_u^* < y \\ x_l^* > z \end{cases} \quad (1)$$

The equation (1) is telling us the exchange rate x^* is set between two bands the lower and the upper band noted with subscripts u and l. Once the exchange rate moves to levels of y and z the central bank is going to react and through interventions bring back the exchange rate within a predetermined band

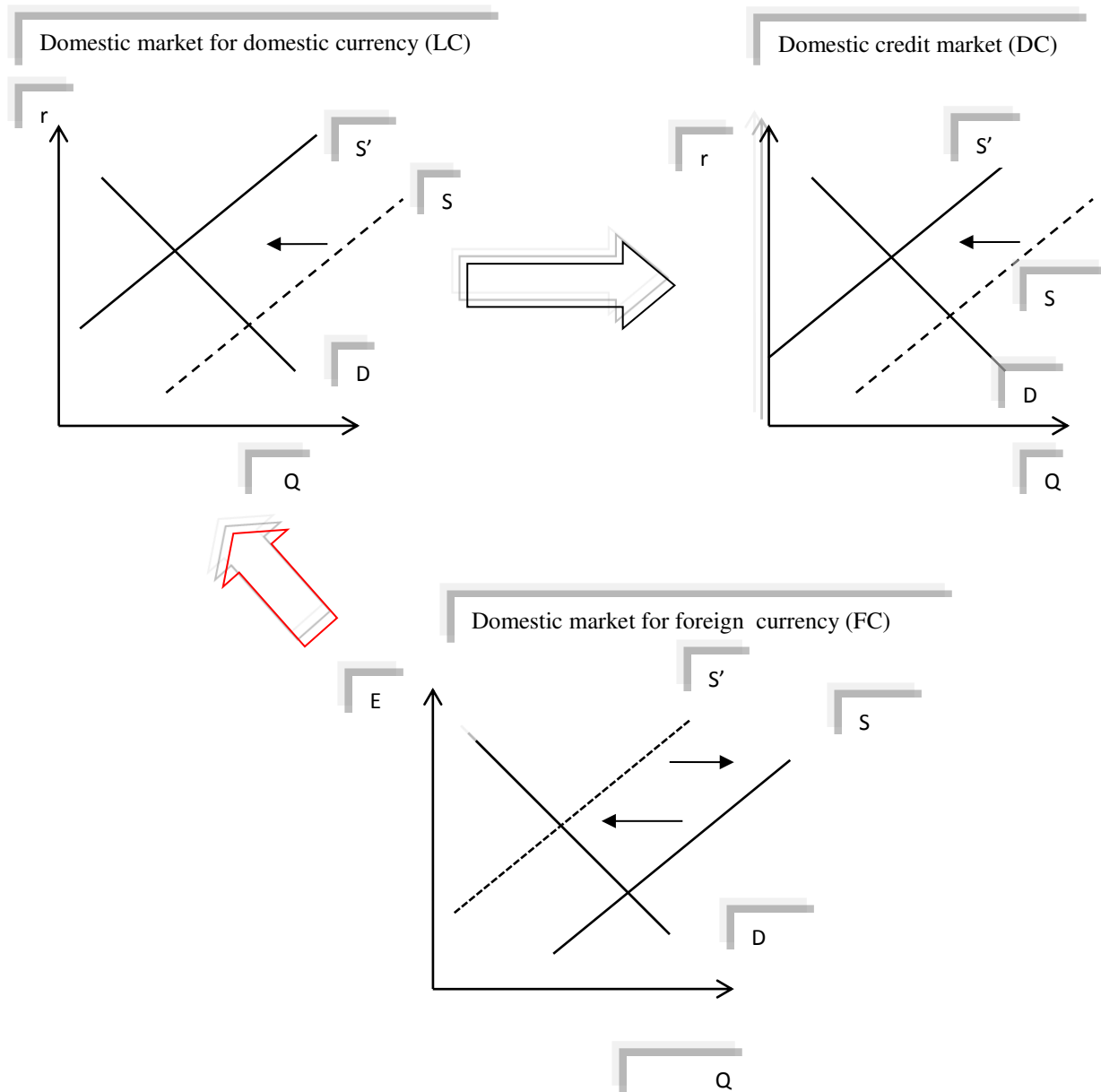
The intervention changes the liquidity of the banking system in Croatian and the intervention affects the domestic market for domestic currency. This change in the liquidity is then transferred to the domestic credit market. The change in the liquidity will be manifested in the change of interest rate.

For the last five years during the crises CNB is faced with deprecating pressures on Croatian kuna. Because of this we are only going to focus on the case when the central

³ Central bank Act, article 10.

bank is selling foreign currency from foreign reserves in order to stabilize the exchange rate. Graph 1 shows the mechanism of foreign exchange intervention.

Graph 1: Effects of domestic intervention on FC market



Source: author's illustration

When there is a depreciation of the exchange rate, the central bank intervenes on the domestic market for foreign currency and stabilizes the exchange rate. In order to stabilize the exchange rate the central bank has to sell the foreign currency and buy domestic currency.

This intervention decreases the quantity of domestic money in the economy and increases the interest rates on domestic market for domestic currency. Since the intervention has decreased the liquidity of the banks, the banks have to find another way to obtain liquidity in domestic currency.

From Graph 1 we can see the CNB's intervention has stabilized the FC market since the exchange rate is unchanged. But the decrease of domestic currency has affected the LC market and now the money market or the LC market has higher interest rate. This decrease of the domestic money has also increase the interest rates on loan.

3. Bank's expectations

In order to fully understand the position of the banks in Croatia it is important to note there are three kinds of loans in terms of currency in Croatia, but only two kinds of loans in terms of liquidity. The loans in terms of currency are: domestic currency, foreign currency, loans with foreign currency clause. Both loans in domestic currency and in foreign currency clause are paid in domestic currency.

There is a discrepancy between the exchange rate risk and the liquidity effect since the loans with foreign currency clause have foreign exchange risk for the banks and the clients, but the actual cash flow is in the local currency. Since most loans the Croatian banks have given are in foreign currency clause the banks are in precarious position since there is a difference between the cash flow currency and the exchange rate risk currency. Detailed data can be found in the CNB Bulletin.

Banks' expectations come directly from the way monetary policy is conducted in Croatia. Since most banks and the largest banks in Croatia are foreign owned the issue of foreign currency liquidity is not a major problem for the banks since they can get foreign

currency from their mother companies. However the problem of liquidity in Croatian kuna is another matter. The banks in Croatia know CNB will do whatever it takes to stabilize the exchange rate, the banks prepare of the possible future interventions. The best way to prepare for future interventions is through hoarding of liquidity in domestic currency.

There is also another problem which causes the banks to lose liquidity and that is decrease in quality of loans. For a bank bad loan, not only has P&L effect, but it also decreases future liquidity inflow from repayments of debt. Every bad loan also decreases the future liquidity of the bank. This is a textbook example how the credit risk has direct effect on the liquidity risk. More on the relationship between credit and liquidity risk can be found in Gregurek and Vidaković (2013). The data clearly demonstrates the lethal combination of credit and liquidity y risk for the banks. In the time period from December 2009 to September 2013 the bank's bad loans have increased from 5% of total portfolio to 15,32% of total portfolio.

In order to model bank's expectations of the future intervention of the central bank we can use a simple rational expectations framework which can be found in Blanchard (1983).

We shall assume the banks are forward looking the future expectations about the interventions can be shown as:

$$p_t = \alpha + \beta E_{t+1} [p | \Omega_t] + \varepsilon \quad (2)$$

There p is the quantity of the CNB's next intervention. Parameter Ω is the available data/information set at time t . Moving the above equation one period in time forward we get

$$p_{t+1}^e = \alpha + \beta p_{t+2}^e + \varepsilon \quad (3)$$

Substituting the equations (3) into equation (2) we can move we get

$$p_t = \alpha + \beta(\alpha + \beta p_{t+2}^e) + 2\varepsilon \quad (4)$$

Doing this repeatedly and then taking the expectations we can come up with the solution to the above equation as

$$p_t = \alpha + \beta p^* \quad (5)$$

With

$$p^* = \frac{\alpha}{1 - \beta} \quad (6)$$

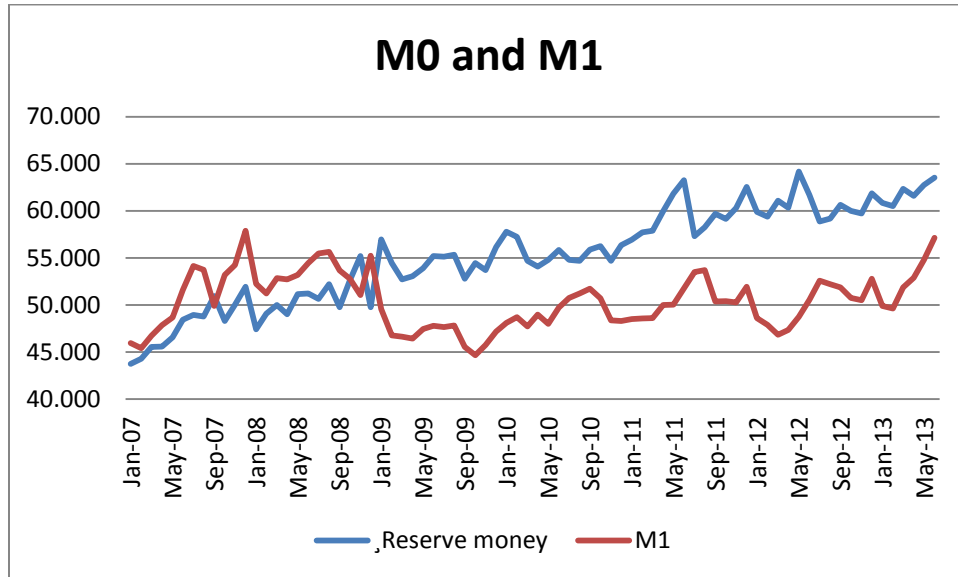
The solution in equation (6) comes from the main assumption of rational expectations and that is that in the steady state $p_t \equiv p_t^e \equiv p_t^*$. Using this simple model we can now explain the behavior of the banks in last 5 years.

From the perspective of liquidity the banks are squeezed on two fronts: central bank operations and decrease in the quality of loans. On one hand the banks are losing liquidity since the central bank is decreasing the quantity of money in the economy and on the other hand the banks are losing liquidity from bad loans. Both of these are affecting the liquidity of the banks in domestic currency since loans with foreign currency clause have cash flow in domestic currency.

Because of this double whammy the banks are forced to protect their liquidity in the local currency. The expectations of banks about future liquidity and future conducts of monetary policy are clearly manifested in the data through two important facts.

The first comes from the quantity of liquidity the banks have. This can be measured with M0 and M1. As it can be clearly see from the graph, from the start of crisis in September of 2008 reserve money of M0 has constantly been higher than M1; indicating the surplus of liquidity for the banking sector. So from the this data we can clearly see the banks are trying to protect their liquidity in domestic currency.

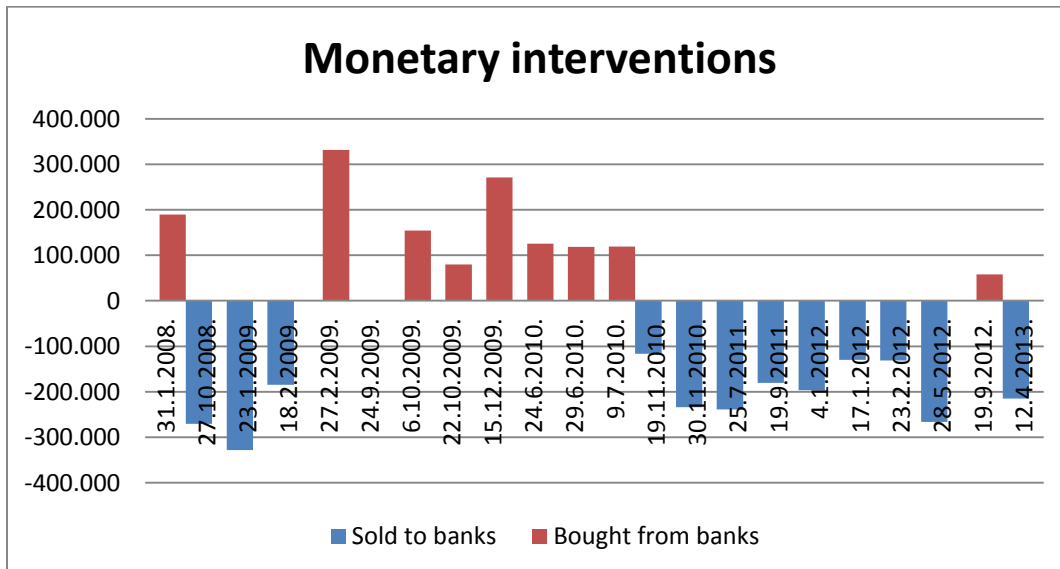
Graph 2: M0 and M1 monetary aggregates 2007 - 2012



Source: CNB

This data of monetary aggregates goes hand in hand with the central bank conduct of monetary policy:

Graph 3: Monetary interventions January 2008 – November 2013



Source: CNB

Since the start of the crisis the central bank has sold 2,5 bln Euros from its portfolio and it has bought 1,5 bln euros. However if we look at the data from 2010 onwards the situation is different: CNB sold to banks 1,7 bln and it bought from banks 421 mln. This behavior is also parallel with the situation in the gap between the M0 and M1, clearly indicating the banks expect foreign currency interventions in the future.

The data from Graph 3 can be used to calculate future intervention. In the equation (2) there is parameter defined as the information at time t, today the expectations about future interventions can be created based on the data from Graph 3.

4. CNB measure

Now we can move and investigate this new CNB measure. The measure as it was announced on 28th November 2013 is described as:

The CNB Council reduced the reserve requirement calculation rate from 13.5% to 12% in order to boost the already high liquidity and enable banks to finance the economic recovery.

However, the governor's decision, enacted today, requires banks to purchase three-year compulsory CNB bills for the total amount of the released reserve requirements. No interest will be charged on these bills and they will be non-transferrable, that is, banks will not be able to sell them to other persons, pledge them, etc., but they will be able to offer them, prior to maturity, at each month-end, for redemption by the central bank. The amount offered is to equal 50% of the increase in certain placements to domestic non-financial enterprises in the previous month.

Specifically, the CNB will enable the first redemption of these bills to be made on 31 December 2013, in the amount of 50% of the increase in certain placements to domestic non-financial enterprises on 30 November relative to 31 October. There will be no limitations as regards the interest rate and the currency of denomination of these placements, but the required maturity is not to be lower than three months.

If the total released amount of the kuna reserve requirement component is used, lending to the economy will increase by approximately HRK 7.8 bn. Should this be the case, the CNB will be ready to provide the banking system with required liquidity⁴.

As we can see from the description of the measure the central bank is willing to decrease the reserve requirement in order to fund lending to corporations. The measure

⁴ PRESS RELEASE, 28 November 2013 CNB Council www.hnb.hr

in itself is very well designed since it sends a clear message to the banks: if you increase the lending to corporations you will be rewarded with lower cost of funds and fresh liquidity for the increase in lending.

This is the first time the CNB has set up regulation and measure with clear purpose to affect the credit policy of banks. In the past there was regulation whose purpose was to limit the total credit growth, but the central bank has never undertaken any specific credit targeting. As a matter of fact former governor Željko Rohatinski specifically rejected this possibility⁵. For the overview of the measures taken by the central bank there is an excellent overview in Galac (2010).

The fact CNB has decided to impact the credit policy of banks is a major change in the approach to monetary policy in Croatia. Up to this point CNB has only focused on the conduct of the monetary policy and stability of the exchange rate. This new approach does come late (5 years into the crisis), but it represent major change in the purpose of the monetary policy in Croatia for what objectives can monetary measures be used.

However the main problem lies in the measure itself. The measure is well conceived and executed but the effects of the measure will be minor. The problem with the measure itself is detected in the CNB's press release: "*in order to boost the already high liquidity*". The banking system is already highly liquid, so the new measure cannot provide liquidity to the banks and stimulate lending since the banks are already highly liquid.

From the data we see there is the link between the high liquidity of the system and the expectations regarding the conduct of monetary policy.

5. The real problem

As we can see from the data and the way the monetary policy is conducted the problem is not the liquidity of the banking system. The problem can be separated into two equally significant parts. The first part is the problem of risk preference of the banks and the second part of the problem is the way the monetary policy is conducted.

⁵ <http://www.hnb.hr/govori-intervjui/govori/hgovor-rohatinski-7-11-2008.pdf>

The banks in Croatia have more than enough money to fund significant increase in lending. This can be clearly seen in the M0 and M1 data. The problem lies in the fact the banks are not willing to take on more credit risk. In light of this the solution to the problem of risk preferences cannot be to increase the liquidity of the banking system. Higher liquidity will not by itself push banks towards lending and funding investments, even if this higher liquidity is caused by decrease in cost of funding. The banks have been highly liquid for last 5 years and still there is no significant increase in credit, so the liquidity of the banks was never related with the bank's willingness to increase credit.

The question remains: what can be done to simulate credit growth? The idea of decreasing the cost of funding is in the right direction, but it is not sufficient. There are additional measures the central bank should pursue like capital adequacy regulation. CNB could decrease capital requirements in order to stimulate lending or it could change credit provisioning for particular types of loans.

The second part of the problem is high liquidity of the banking system. This liquidity is producing very small or no income at all for the banks. The obvious solution to this excess of liquidity would be to pay out dividends or to repay foreign debt. However the banks have not done that. The question is why and this brings us to the main reason why are the banks in Croatia so liquid?.

The reason why the banks are so liquid is the fact the banks know they will need the liquidity in order to accommodate foreign currency interventions by the central bank. In case there is depreciation of the exchange rate CNB will conduct open market purchases of foreign currency and the banks do not want to have another episode where overnight interest rates go to 35%, like they did in February 2009. This is why the banks have maintained such large liquidity buffer. In this paper there is a clear connection between the theory and the actual data.

For the banks to change their approach to hoarding liquidity the central bank has to create new venues to regulate the exchange rate and create new ways to conduct monetary policy. Once the banks realize they do not need such light liquidity buffers and under other positive circumstances, a portion of this liquidity surplus could be moved towards increase in lending. But if the central bank does not change the way monetary

policy is conducted the banks will keep high liquidity buffers expecting future monetary policy interventions. Bank's behavior as we have presented in this paper is clearly connected with the monetary policy conduct and not with the quantity of liquidity in the economy.

6. Conclusion

For the bank's credit policy to change several things have to be done. First, the economic climate has to change and the banks have to be willing to take on credit risk. This is a complex problem and it borderlines the economic problem since there is a significant judicial, legislative and political risk involved. These three risks have to be addressed before any economic measure can be undertaken and implemented successfully. Second, the banks have to know they can lend and not have problem with future needs for liquidity because of foreign currency interventions by the central bank.

The solution to the first problem is beyond the scope of the central bank and monetary policy; however the second problem is within the domain of the central bank since it directly involved the way the monetary policy is conducted. This problem could be solved if the central bank chose to pursue alternate venues to conduct monetary policy.

In from simple theoretical framework of this paper it is clear the solution can be theoretically found in the rational expectations theory. As long as the banks have expectations when their future liquidity is conditioned on the central bank's intervention the banks will hold off lending and hoard liquidity. Therefore the only solution is the actual change in the bank's expectations.

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