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Adapting macro-prudential instruments to achieve monetary policy objectives

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Abstract

Monetary policy is used by governments to adjust financial market conditions to the needs of economic growth. But its application has certain limits, the biggest one being the interest rate limit on monetary policy instruments, which cannot be lesser than zero (although, at least in the euro area, this is already the case). Can monetary authorities use other instruments under these conditions? Currently, in the context of the COVID-19 crisis, most countries have injected huge sums of money into the financial market to maintain the consumption capacity of the population. Can macro-prudential policy instruments manage the existence of money supply to prevent it from entering the financial speculation market and inflate speculative bubbles / this article aims to analyze the behavior of macro-prudential policy, which can be used to achieve monetary policy objectives. The research is theoretical and contains reflections on the need for efficient use of macro-prudential policy instruments in optimizing monetary policy.

1. Introduction

Monetary policy starts from the quantitative approach to the needs of money in the economy and the ability to stimulate aggregate demand by impacting the volume of money supply (Friedman, 1998). The instruments it can use depend on the available transmission channels and have the effect of reducing or enlarging the available money supply. One of these instruments - required money reserves or split reserves, comes from the prudential approach of banking activities and can serve as an example of the takeover of regulatory instruments by monetary authorities. Thus, some central banks in the early stages of their creation required commercial banks to keep part of the deposits drawn from their clients to ensure their reimbursements (Kindleberger, 2007). Later, the Mandatory Reserve Requirements (MRR) become the traditional instrument of monetary policy, currently used in countries where qualitative channels of transmission of monetary policy do not work, especially in economies with emerging and developing markets. An increase in the MRR rate slows down the mechanism of money multiplication. It makes the money multiplier smaller (lesser) and vice versa. However, in the last two decades, several central banks in advanced economies have abandoned, de jure or de facto, this instrument.

Regulation in the banking and financial sector can have a similar, albeit sometimes less direct impact on the money multiplier. Most regulatory requirements limit the ability of banks to lend and respectively to create the monetary mass. An example of such limitations may be the liquidity coverage requirement (LCR) and the capital adequacy rate (CAR). If supervisory authorities increase the LCR limits, banks are obliged to maintain a higher volume of liquidity in accounts. In the case of fractional reserves, this requirement has a negative effect on the money multiplier and the broad creation of money. The CAR growth can also reduce the money multiplier at least in the short term, as the need to increase the capital and reduce risky assets will affect banks' lending capacity and reduce the monetary mass.

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The way of defining different regulatory standards can also affect the changes in the money multiplier. This refers, for example, to the methods of calculating risk-weighted assets introduced by the Basel II agreement, which restricts lending activity and limits the ability to create money based on economic cycles, (Repullo and Suarez, 2008) and has a pro-cyclical impact on the money multiplier and the money supply.

Finally, the size of the money multiplier also depends on a bank's liquidity and capital adequacy preferences according to the bank's risk appetite. At a time of financial difficulty and market uncertainty, commercial banks may operate a more prudent business model. They will prefer to keep additional liquidity and capital margins above those required by macro-prudential requirements. In terms of monetary policy, this means a smaller multiplier than when banks are working at their maximum lending capacity in times of economic upturn.

Macro-prudential policies also have a certain impact on money demand. Stricter banking regulation increases the costs of financial intermediation and can increase the demand for cash. Unfortunately, policymakers do not always understand the impact of changes in the regulatory regimes in the banking sector on the money supply and demand. As a result, they are rarely taken into account in monetary policy-making and regulatory policies (Boeckx and overs, 2015).

2. Adapting the objectives of monetary and macroprudential policy

Monetary and macro-prudential policies are primarily defined by their objectives (Smets, 2013). The key objective of monetary policy is to ensure and maintain price stability in the medium term. It can be defined as a situation where price increases are sufficiently low and stable so that they do not exert a significant influence on the economic decisions of the company.

Macro-prudential policy, in turn, is oriented towards financial stability, which, as part of the prudential oversight function in the Eurozone, is defined by the ECB as "a condition under which the financial system, represented by intermediaries, markets and market infrastructures, can withstand shocks to major disruptions in financial intermediation or the actual allocation of productive investment savings." (ECB, 2011)

Although both monetary and macro-prudential policies operate with different instruments to achieve specific objectives, they interact closely to the extent that their instruments affect both the general and specific volume (Shin, 2015). Cost-conditions of money and their effects are spread simultaneously across the financial system. In this context, three types of transmission channels can be distinguished – the monetary channel, credit and risk-taking channels, and those related to the scope and range of macro-prudential instruments.

Monetary channels influence the behavior of non-financial agents through price adjustments between the supply of the currency generated by the central bank and demand for financial and real assets. These adjustments are reflected in:

- the cost of capital has a direct effect on the real return on investment,
- interest rates on both bank placements and resources attracted, affecting the decision to substitute the current consumption with that of savings consumption,
- prices of assets, in the broad sense, through portfolio effects.

Financing decisions taken by the non-financial sector are based on estimates of the real interest rate, which also include inflationary expectations. Thus, through the cost channel, the central bank not only manages inflation but also gets information about the efficiency of the promoted monetary policy.

Another monetary policy instrument is the volume adjustments of the monetary mass through credit channels (Bernanke and Gertler, 1995). These channels are possible to be operated because the real sector does not have sufficient own funds to finance investments with banks willing to lend in the form of a loan. The Central Bank, in this case, can influence the amount of money that banks are willing to make available to companies and the public by means of compulsory booking or open-market operations, limiting the volume of money. At the same time, the imperfections in the credit markets, and information asymmetry in particular, but also the need to protect depositors, allow the central bank to intervene. It is setting the maximum amount of credit that may be granted, the degree of its cover by pledge the requirements for the creditworthiness of the debtor. Thus, the ability of the central bank to influence bank lending conditions, as well as the net amount of debtors and thereby the risk premium, ensures the transmission of monetary policy by adjusting the banks' credit conditions (rates and other conditions governing new loans and/or the amount of additional credit). This influence of monetary policy on credit terms, as well as on the price of assets used as collateral by borrowers, leads to side effects that extend and improve the initial monetary stimulus.

At the same time, the effects of monetary policies on bank financing decisions trigger another channel – the risk-taking one, which can act in the opposite direction to central bank expectations. A lax monetary policy does not necessarily stimulate the increase of the volume of credit in the economy, but may have a different purpose. Thus, too much confidence behind an excessively free monetary policy and a summary economic environment encourages financial and non-financial investors to take more risks and create excessive debt. In addition, a prolonged period of low interest rates could trigger a search for higher return assets from financial institutions and lead them to engage in higher risks than would be desirable for the central bank as a last resort creditor.

Macro-prudential instruments directly affecting the balance sheets of financial institutions, in particular those of banks. They are used to address excessive risks stored by banks during periods of relaxed monetary policy. These instruments aim to make them less vulnerable to adverse shocks and to reduce systemic risk. The submission of macro-prudential measures takes the form of adjustments in the behavior of financial institutions in response to the balance sheet restrictions at which they are imposed. Capital restrictions, in particular those relating to its reporting to risk-weighted assets, of which loans are part, and the need to maintain a reasonable level of liquidity, limit the ability of banks to lend and influence their supply by reducing the volume, acting in the same direction as monetary policy, which uses quantitative instruments. Risk restrictions increase credit management costs, enhancing interest rates, and reducing the number of projects that are eligible to be financed at higher rates. At the same time, the requirements for debtors' solvency, which are indirectly manifested by the need to maintain an acceptable level of asset quality, limit quite severely the number of bank customers able to lend, particularly in times of economic stagnation. Thus also having the same impact on the volume of credit in the economy. In this way, monetary and macro-prudential policies can be complementary. The macro-prudential policy, by ensuring the stability of the banking system, creates necessary conditions for the promotion of monetary policies. In this case, more capitalized financial institutions can ensure a smoother transmission of monetary impulses through interest rate and credit channels. Also, by reducing the probability of systemic stress, the macro-prudential framework supports monetary policy as it reduces the chances of the latter facing the lower limit, while financial institutions are highly vulnerable and poorly functioning markets pose risks to price stability. Instead, financial stability may benefit from a decision to implement monetary policy instruments in response to financial developments considered to be significant risks to price stability in the medium term. Interactions between monetary and macro-prudential policies are thereby beneficial for both sets of objectives. However, the 2008 financial crisis has shown that negative spillover effects cannot be excluded (Benigno and others, 2012).

The problem of distortions between monetary policy objectives and the stability of the financial system is different from the goals set by the central bank as a promoter of this policy, and commercial banks as intermediaries transmit their impulses to the real economy (Borio and overs, 2012). If price stability is to be sought at the macroeconomic level, profit maximization is sought at the level of the financial institution. So decisions to finance non-bank clients are taken from a cost-effectiveness perspective. As a result, some channels of transmission of monetary policy may generate instability in the financial markets. Their effects are analyzed below:

1. *Excess operation of the credit channel*. Higher interest rates, formed as a result of a reduction in the financial resources supply, are accepted only by businesses with a higher risk or speculative profile. This inevitably leads to a worsening of the portfolio of banking assets quality and increases the systemic risk.
2. *Low-rate policies*. The decline in the profitability of traditional credit operations is pushing banks into speculative financial markets, which are characterized by a higher level of risk. As a result of a policy that is relaxed in these circumstances, it will not be to stimulate the economy, but a speculative bubble, to which the banking system contributes from cheap resources.
3. *Asset prices*. Low interest rates may help to increase the prices of assets, including those used as collateral. As a result, the ratio between the credit balance and the value of its insurance increases in a disproportionate manner, and bank clients are willing to increase their debts in their accounts. If the pledge, in a market-growing situation, becomes overvalued, the bank balance sheet is increased by rather small amounts of uninsured or secured loans and the next crisis becomes deeper. On the other hand, high interest rates lead to a fall in asset prices, leading to a tightening of bank pledge requirements or low-cost sales.
4. *Increase in basic interest* rates. In an open economy any decision to change the interest reference rate results in an inflow of capital and an increase in foreign currency credit, which will have a disastrous defect in the period immediately following the decrease in the value of

the national currency. Thus, the risk of default of loans is exacerbated by foreign exchange risk and can lead to a systemic crisis in the banking market.

Thus, in cases where monetary policy inconsistencies harm the financial system, there is a conflict between the objective of price stability and the maintenance of financial stability. This conflict can be mitigated by the application of macro-prudential policies by applying the following instruments:

1. *The debt*-to-income ratio restriction (DTI) in a situation of rising interest rates, this restriction reduces the volume of loans granted at higher rates and then reduces the number of loans not repaid.
2. *The restriction on* the ratio between the amount of debt and the value of the pledged asset (LTV) can prevent the formation of speculative bubbles in mortgage markets as a result of the increase in the volume of loans granted during the low-interest rates period.
3. *Increasing the level of capital adequacy* by introducing various buffers to reduce leverage in periods of low interest rates and discourage banks from engaging in risky investments.
4. *Liquidity restriction* - setting the required minimum liquidity rates to encourage banks to seek long-term resources in more stable financial markets. Banks' fixed-term availabilities will protect them in times of tightening monetary policy, reducing the negative effect on the brokerage margin and, consequently, on profits
5. *Restrictions on foreign currency financing* may considerably reduce banks' financial problems in periods of the volatility of the national currency rate. These restrictions may be complemented by the requirement to maintain a proportion of the foreign currency reserve requirement (in the case of Romania, the Republic of Moldova) or taxes on foreign currency liabilities (in the case of South Korea).

3. Choosing the right monetary policy instruments

The correct application of macro-prudential policy instruments can mitigate the negative effects of monetary policy, generating synergy effects by responding to the real sector's impulses. Thus, each of the macro-prudential policy instruments analyzed above can amplify the expected results, requiring a lower central bank involvement in monetary policies (Table 1):

1. The restriction of the amount of credit in relation to the income of the borrower or the cost of the pledged asset mitigates price increases in the real estate market and reduces demand for the credit, as well as its volume. This, while reducing the indebtedness of bank customers, allows the central bank to activate the credit transmission channel more slowly. Research into the effects of macro-prudential policy on reducing systemic risks on the real sector has shown that the reduction in investment in the economy is taking place at a much slower pace, allowing the central bank to abandon the zero-interest-rate area earlier (Antipa and Matheron, 2014) The conflict between monetary and macro-prudential policy only manifests itself a few years after the crisis, and its negative effects are less than the benefits of applying the instruments of both policies during the crisis.
2. Increasing the level of capital adequacy through the introduction of various buffers during the period of economic growth does not affect the banking system, which slightly complements them from current profits. Critical situations can occur when capital growth requirements are suddenly introduced and banks are unable to satisfy them from the profit reserve account and exit to the capital market is impossible or costly. In this case, the negative effects of the application of macro-prudential requirements can be offset by softening monetary policy.
3. The restrictions on the required level of liquidity do not directly affect monetary policy, but complicate its implementation and slow down the process itself due to the banks abandoning the interbank money market. Thus, central banks should consider other monetary policy instruments, which activate the interest channel, such as open-market or REPO, assessing not only the size of operations but also their impact on banks' balance sheets. Otherwise, the banking system will remain overliquid, affecting the lending level of the real economy.
4. Restrictions on foreign currency financing allow the central bank to save resources in the management of currency volatility to mitigate its impact on residents' foreign currency credit balances. Research into this phenomenon in Hungary (Balog and overs, 2015) has shown that the application of an exposure limit to foreign currency risk (the ratio of foreign currency

liabilities to foreign currency assets must exceed 0,65) has allowed the central bank to pursue a softer monetary policy, without fear of the negative impact on the exchange rate of forints and, consequently, on the banking sector.

Table 1. Simultaneous effects of macro-prudential policy

Tool	Financial Stability Effects	Monetary Policy Effects
Limits on the debt-to-income ratio	- Risk decreasing by reducing the credit volume.	- Decrease in the need to apply quantitative instruments.
limite privind raportul dintre suma datoriei și activul gajat	- Prevention of speculative bubbles.	- Faster abandonment of the null interest area in periods of crisis.
Increasing the level of capital adequacy	- The systemic risk mitigation; - The too sudden application may lead to the decapitalization of banks	- The necessity to relax the monetary policy to allow the banks to increase their capital from cheaper resources
Liquidity limits	- Increasing of banking system liquidity; - The systemic risk mitigation;	- Slows down the application process; - It is necessary to use with care the alternative instruments that activate the interest channel in the absence of an active interbank market.
Limits on foreign currency financing	- Decreasing credit risk in foreign currency.	- reducing the costs of managing the volatility of the national currency rate

Source: Elaborated by the author

4. Conclusions

The simultaneous implementation of monetary and macro-prudential policies causes tensions mainly arising from the fact that both types of policies have overlapping transmission mechanisms, acting through the financial system. Tensions between both types of policies could become more pronounced in times of crisis when monetary policy runs out of instruments. Once the lower nominal interest limit has been reached, monetary policy remains with non-standard instruments, whether it is credit facilitation, quantitative easing, or an influence on the risk premium, which can make credit operations more attractive to banks. Thus, by their very nature, they can achieve objectives that conflict with macro-prudential policy at some point, as monetary policy that seeks to boost credit in the recovery phase conflicts with countercyclical macro-prudential policies, which, once implemented, mechanically cancel some of the credit growth.

Monetary and macro-prudential policies thus influence each other and central banks, which do not take into account the extent of the synergy effects of the instruments applied, risk losing both the resources allocated to maintaining price or banking stability and the very objectives.

References

Antipa P., Matheron J. Interactions between monetary and macroprudential policies. Bank of France, Financial Stability Review 18, 2014.

Balog, A., Csortos O., Tõrös Á., Zsigo M. Interaction between Monetary and Macroprudential Policies in Practice — A Hungarian Example. BIS Paper No. 83j, 2015.

Benigno, G., Chen, H., Otrok, C. Financial crises and macro-prudential policies //Journal of International Economics. №6. 2012.

Bernanke B. and Gertler M. "Inside the black box: the credit channel of monetary policy transmission", Journal of Economic Perspectives, 9(4), 1995.

Boeckx, J, Ilbas, P. Kasongo Kashama, M de Sola Perea M. , Van Nieuwenhuyze Ch. Interactions between monetary and macroprudential policies, National Bank of Belgium Working Paper 2015

Borio, C., Zhu, H, Capital regulation, risk-taking and monetary policy: A missing link in the transmission mechanism?, Journal of Financial Stability, 8(4), 2012.

European Central Bank (2011), The Monetary Policy of the ECB, ECB Published.

Friedman M. Quantity Theory of Money", in J. Eatwell, M. Milgate, P. Newman, eds., The New Palgrave (1998)

Gelain, P., Ilbas, P., Monetary and macro-prudential policies in an estimated model with financial intermediation, National Bank of Belgium Working Paper, 2014.

Kindleberger, Ch. A Financial History of Western Europe (Economic History (Routledge), 2007

Repullo, R. Suarez, J, The Procyclical Effects of Basel II, Working Papers, CEMFI. 2008, https://www.cemfi.es/ftp/wp/0809.pdf

Shin H.S., Macroprudential tools, their limits and their connection with monetary policy, Panel Remark at IMF Spring Meeting event "Rethinking macro policy III: progress or confusion", 15 April, Washington DC. 2015

Smets F. Financial Stability and Monetary Policy: How Closely Interlinked? Sveriges Riksbank. Economic Review. 2013