

# Managing systemic risks in the Croatian economy

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## 1. Introduction

The recent world financial and economic crisis revealed the need for a macroprudential approach to financial system analysis, since it has become obvious that a significant share of risks arises from the system itself, independently of the risks related to individual financial institutions. The previous regulatory framework has shown to be pro-cyclical, which, combined with liberalised financial systems and technological advancement, increased the speed and the intensity of shock propagation. Real output costs of extreme financial crises amount from 3% to 5% of world GDP (Kapp and Vega (2012)), while the social costs considerably exceed those amounts. All of this emphasises the necessity of identifying and monitoring systemic risks in order to better understand the processes of their accumulation and enable the preventive reaction of policy makers, which was partly missing in the “standard” supervision framework.

Up to the escalation of the recent financial crisis, macroprudential policy has been conducted primarily by emerging market countries, while developed countries intensified its use after 2008. Croatia stands out as one of the countries with the most intensive use of macroprudential measures and instruments in the pre-crisis period (Lim et al (2011), Lim et al (2013)). This makes Croatia one of the rare countries with relevant experience in conducting macroprudential policy both in the boom and the bust stages of the cycle. The main goal of this paper is to describe Croatian experience in managing systemic risks from early 2000s to the recent period, with the focus on the post-crisis period when the new regulatory landscape aimed at enhancing systemic risk prevention and building up the resilience of the financial system has been created.

The paper is divided into four sections. After the introduction, the main factors that encouraged the use of macroprudential policy in the pre-crisis period and the most important macroprudential measures are described, while the third section presents the main institutional and regulatory changes introduced since the onset of the crisis. The paper ends with the main conclusions based on the Croatian experience in managing systemic risk.

## 2. Croatian pre-crisis experience in macroprudential policy

The active use of macroprudential policy in Croatia in the pre-crisis period has been encouraged by inherent characteristics of domestic economy such as size, openness, extremely high and persistent deposit and credit euroisation and the insufficient level of domestic deposits for financing credit growth; as well as by global developments

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such as financial liberalisation, convergence process, high global liquidity, low risk aversion and yield hunt in low yield environment, which stimulated strong capital inflows in emerging market countries (Dumičić and Šošić (2014)).

Strong credit growth in some periods prior to the onset of the crisis has been several times faster than the GDP growth, and a non-negligible share of it was financed by foreign borrowing, mainly from parent institutions of domestic banks (Figures 1 and 4). The flipside of strong capital inflows were widening current account deficit and rapidly growing external debt, as increased aggregated demand exceeded short-term domestic supply and encouraged imports (Figure 3). Growing imports at the same time kept inflation relatively stable, but strong pressures on the prices of financial assets such as shares and currencies, as well as of the non-tradable goods, resulted in bubbles in the real estate and stock markets and put significant appreciation pressures on domestic currency (Rohatinski (2009); Figures 5–8).

In addition to high euroisation (Figure 2), manoeuvring space for monetary policy has also been limited by the “Tošovský dilemma”, according to which in situations of strong capital inflows an increase in interest rates would just stimulate them additionally. These limitations combined with the described macroeconomic and financial developments encouraged the Croatian National Bank (CNB) to combine classical monetary policy with measures of the macroprudential characteristics. These measures were targeted at slowing down the accumulation of external imbalances and reducing credit growth rates, as well as on creating buffers against potential shocks.

CNB has started using countercyclical macroprudential policy already in 2003<sup>3</sup> (Figures 11 and 12). The most important pre-crisis measures included:

- a high level of the general reserve requirement ratio which increased overall resilience of the banking sector (23.5% in early 2000 and 12.0% at the end of 2015);
- foreign currency interventions primarily aimed at alleviating strong appreciation pressures;
- quantitative restrictions on lending (annual credit growth ceiling set at 16% in 2003 and at 12% from 2007 to 2009) which obliged banks whose annual placement growth exceeded the limit to purchase compulsory CNB bills;
- the minimum required foreign currency claims which served as the foreign exchange liquidity buffer (introduced in 2003 with the initial rate of 32%, afterwards gradually reduced to 17%);
- the marginal reserve requirement ratio (from August 2004 to July 2006, it has been gradually increasing from 24% to 55%) aimed at slowing down the accumulation of external imbalances and strong loan growth by making foreign borrowing more costly;
- the special reserve requirement ratio (set at 55% in March 2006) that served as additional reserve requirements on banks' liabilities arising from issued securities;

<sup>3</sup> For more details about the macroprudential policy of the CNB in the pre-crisis and crisis period please see Dumičić (2015) and Dumičić and Šošić (2014).

- increased risk weights for foreign currency and foreign currency-indexed loans to unhedged borrowers from 50% to 75% and from 100% to 125% in June 2006, respectively, and from 75% to 100% and from 125% to 150% in March 2008, respectively<sup>4</sup>; and
- increased capital adequacy requirement from 10% to 12% in March 2010, which partially substituted the removal of higher risk weights for currency-induced credit risk due to harmonisation of domestic legislation with Basel II.

The main results of these measures were slower accumulation of systemic risk and strengthened resilience of the financial system through more prudent risk management and increased liquidity and capital buffers of the banking sector as they encouraged banks' recapitalisation (Figure 9) and ensured the adequate level of both domestic and foreign currency reserves against potential shocks. Nevertheless, it should be noted that the efficiency of macroprudential measures was partially reduced due to their circumvention through the less regulated parts of financial system or by transferring operations from daughter banks to parent banks.

After the onset of the crisis and a significant deterioration in financing conditions in international markets, CNB started gradually releasing the system reserves accumulated in the preceding period by removing the marginal and special reserve requirements, lowering the general reserve requirement ratio, reducing the minimum required foreign currency claims and abolishing credit growth limit (Rohatinski (2010)). By the end of 2012, CNB released EUR 6.1 billion, or more than 14% of GDP. Such measures significantly improved the liquidity of the banking system, ensured smooth servicing of the government's liabilities to foreign creditors and preserved the stability of domestic currency against euro, which has been the key prerequisite for maintaining the overall financial stability (Dumičić (2015)).

### 3. New institutional and regulatory changes in the macroprudential landscape

The post-crisis period has been marked by several important changes on the national and global levels that have created a new landscape for approaching and managing systemic risks. The most important ones were the introduction of the Basel III and the establishment of the European Systemic Risk Board (ESRB) responsible for the macroprudential oversight of the EU financial system. With its recommendations the ESRB supports the development of institutions and instruments for the implementation of macroprudential policy. Most important recommendations from the Croatian perspective refer to establishing the national macroprudential mandate, mitigating systemic risks related to foreign currency lending and intermediate macroprudential objectives. Apart from these global developments, in July 2013 Croatia entered the EU, which also induced some regulatory modifications.

<sup>4</sup> The direct impact of this measure was the decrease of the capital adequacy ratio by more than 3.0 percentage points, which spurred capital raising by the banks and made it more costly to the banks, in terms of the needed capital, to extend loans denominated in the foreign currency and helped to modestly reduce the euroisation level of the banking system.

### 3.1 Institutional changes

Despite the fact that the CNB has continuously focused on preserving financial stability, this task has not been formally allocated to the central bank. This encouraged the amendment of the Act on the Croatian National Bank in 2013 with an explicit task of contributing to the stability of the financial system.

Apart from that, the recent financial crisis clearly pointed to the negative effects caused by the lack of coordination among the regulatory institutions. The ESRB therefore initiated the formation of macroprudential bodies whose primary task is to coordinate macroprudential supervision among different regulators within the country and on the EU level. Stimulated by this, but also by practical experience with problems arising from the insufficient coordination between institutions that might affect financial stability in the pre-crisis period, in January 2014 the Financial Stability Council (FSC) has been established. This inter-institutional body comprises representatives of the CNB, the Croatian Financial Services Supervisory Agency, the Ministry of Finance and the State Agency for Deposit Insurance and Bank Rehabilitation. Its main tasks are to identify, assess and address systemic risks, and to ensure cooperation and exchange of information between the competent authorities.

This Act also defines the main and intermediate goals of macroprudential policy, which are in line with the *ESRB Recommendation on intermediate objectives and instruments of macroprudential policy*. Concurrent examination of the relation between systemic risks, intermediate objectives and the appropriate response of macroprudential instruments in practice has been ensured by newly developed framework for monitoring financial stability which supplements the regular CNB analysis. This macro-level approach is based on a simplified standardisation of systemic risk indicators and the relation between structural vulnerabilities and short-term developments in the financial and non-financial sectors (CNB (2015)). The chosen indicators are in line with the identified main and intermediate objectives of macroprudential policy, but they also include the specific indicators, vulnerabilities and measures based on monetary, macroeconomic and financial characteristics of domestic economy.

### 3.2 New policies and measures

#### New capital requirements

The introduction of Basel III presented new and stricter international standards for capital and liquidity risk management. Until then, regulators have used measures of macroprudential characteristics in discretionary ways without specifically defined rules or frameworks, while the new regulation harmonises and to a certain degree pre-defines the use and the calibration of some instruments.

For most of the EU countries, Basel III implied policy tightening and an increase in the required capital ratio, but Croatia and some other CEE countries have used them mostly to preserve the existing capital buffers and substitute previously used comparable measures. The main change was the definition of the obligation to maintain the required capital buffers. Up to 2014, the minimum required capital adequacy ratio in Croatia was set at 12%, which was higher than in other EU countries. At the end of 2015, the minimum capital adequacy ratio for small banks was set at 12.0%, while for banks designated as systemically important, it amounted to 13.5%

According to the new regulation, the minimum proscribed capital adequacy ratio is 8% and comprises common equity Tier 1 capital (4.5%), additional Tier 1 capital (1.5%) and Tier 2 capital (2%), while capital conservation buffer was set at 2.5% of the total amount of risk exposure in the form of the common equity Tier 1.

As of April 2014, credit institutions are obliged to maintain structural systemic risk buffer in the amount of 1.5% of the total amount of risk exposure in the form of the common equity Tier 1 for all banks, and additional 1.5% for large banks, depending on the size and complexity of their operations. Decision on the application of this buffer was based on the following systemic risk indicators:

- elevated structural macroeconomic imbalances that define the probability and intensity of a potential shock to the financial system;
- a high level of market concentration that increases the vulnerability of the financial system;
- low liquidity of real estate markets, complicating a fast and efficient exercise of collateral; and
- the operation of domestic systemically important financial institutions.

Structural systemic risk buffer of additional 1.5% for large banks was used as a temporal substitute for the buffer for other systemically important institutions (O-SII).

As of 2015, the CNB also formally traces cyclical risk related to credit activity. Due to the ongoing deleveraging of the households and corporate sector, the buffer rate is currently set at 0%.

### Measures aimed at risks related to lending in foreign currencies

Beside many actions taken in order to mitigate risks related to high credit euroisation and aimed at informing and warning bank clients about potential risks, as well as at enhancing the management of these risks in banks by defining specific procedures and by increasing the costs of such lending for banks, in 2015 the CNB expanded the existing toolkit for dealing with these risks in the area of consumer information and obliged banks to illustrate the impact of potential currency and interest rate shocks to monthly annuity or instalments. For loans denominated in foreign currency, banks should also provide the comparable offer for domestic currency loans or refer the customer to an informative list of banks offering such loans.

### Tightened provisioning standards

In order to deal with seizure of collateral and procedures which present obstacles to efficient unwinding of non-performing loans, in 2013 the CNB tightened provisioning standards (Figure 10). According to the new rules, if a bank does not adequately tackle the loan resolution process, regardless of collateral it has to increase the provisioning level progressively over time. They should account provisions, even if the loan is fully collateralised for at least 30% of loan value two years after delinquency, and then 5% subsequently every six months (Vujčić (2015)). This should work as an incentive to clean up the balance sheet in order to dispose of non-performing loans.

### Special rules for risk weights for residential real estate

In 2014, the CNB extended the use of stricter criteria for application of risk weight of 35% to the exposures fully and completely secured by mortgages on residential property.

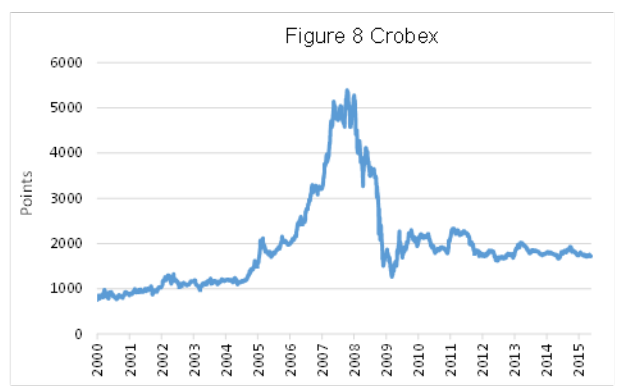
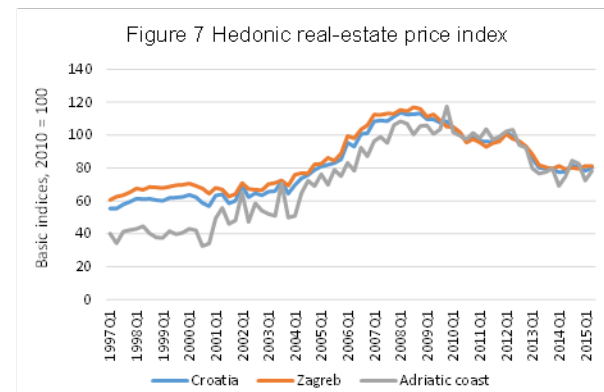
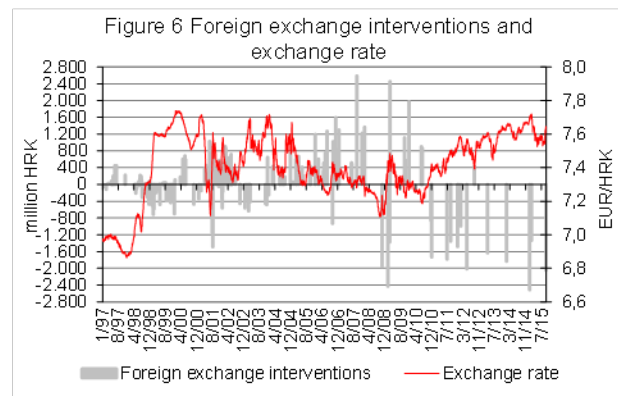
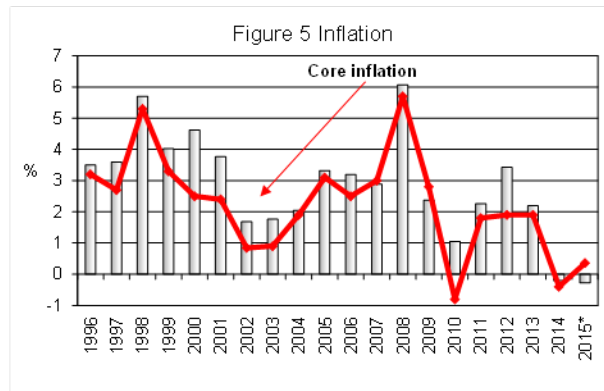
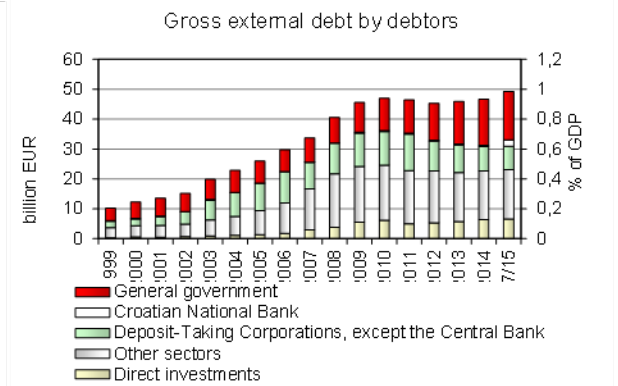
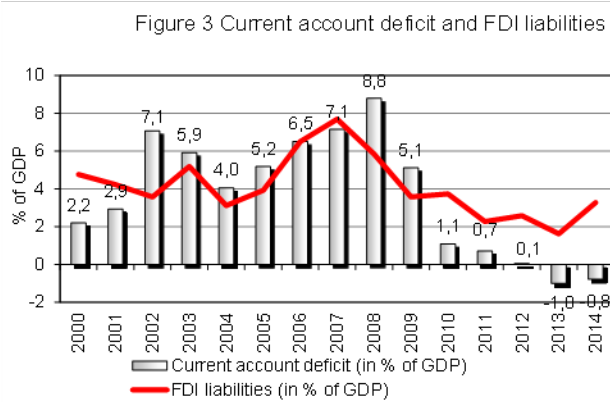
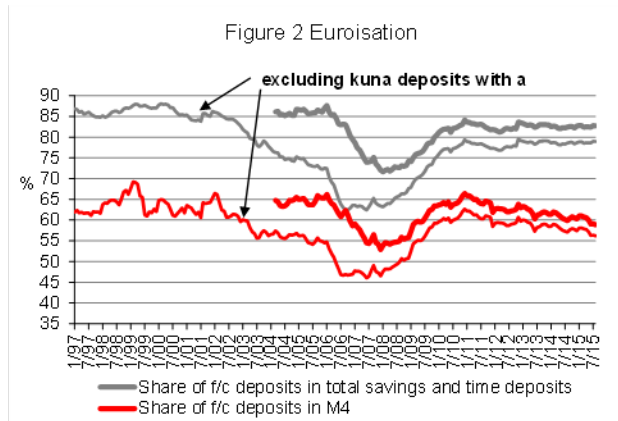
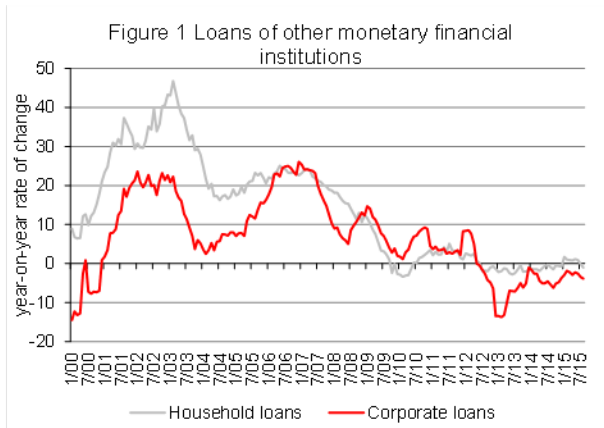
## Recommendation related to the risk weights for commercial real estate

Considering the fact that the commercial real estate market in Croatia has been rather illiquid, the CNB recommended in 2014 that credit institutions should not apply a 50% risk weight to exposures secured by commercial real estate, until the market becomes more liquid and the effectiveness of the process of forced collection is satisfactorily improved.

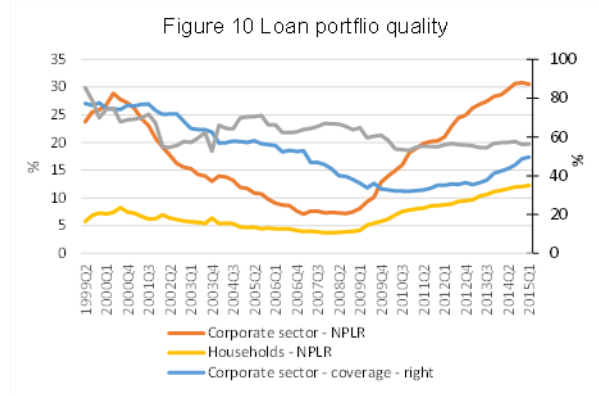
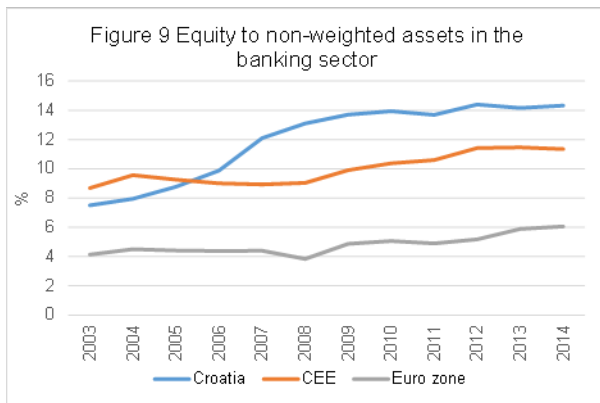
## 4. Conclusion

The recognised need for establishing an effective framework for managing macroprudential policy that will enable the prevention, mitigation and avoidance of systemic risks and the strengthening of system resilience to financial shocks has resulted in many regulatory and institutional changes on the global level. Prior to these reforms, the CNB was in the forefront even in global terms in the timely creation of adequate systemic risk buffers and the countercyclical conduct of macroprudential policy. The new regulation has provided a new set of instruments at its disposal, which should enable a more effective implementation of macroprudential policy. Nevertheless, despite the efforts to make handbooks for managing different types of systemic risks, Croatian experience shows that the policymakers should not focus only on “prescribed” tools and policy options but should also keep their eyes and minds open, as it is the only way to increase the chances of successfully managing systemic risks.

# Figures

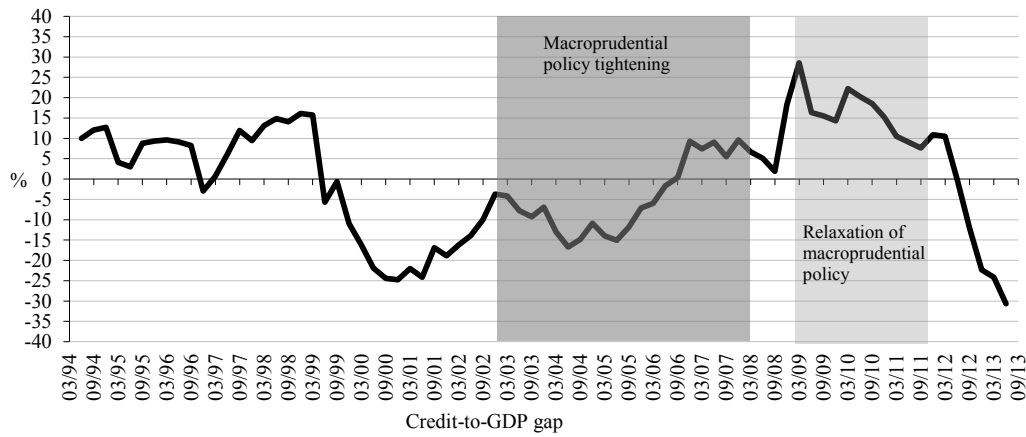


Sources: Croatian National Bank; Zagreb Stock Exchange.



Source: Croatian National Bank; European Central Bank.

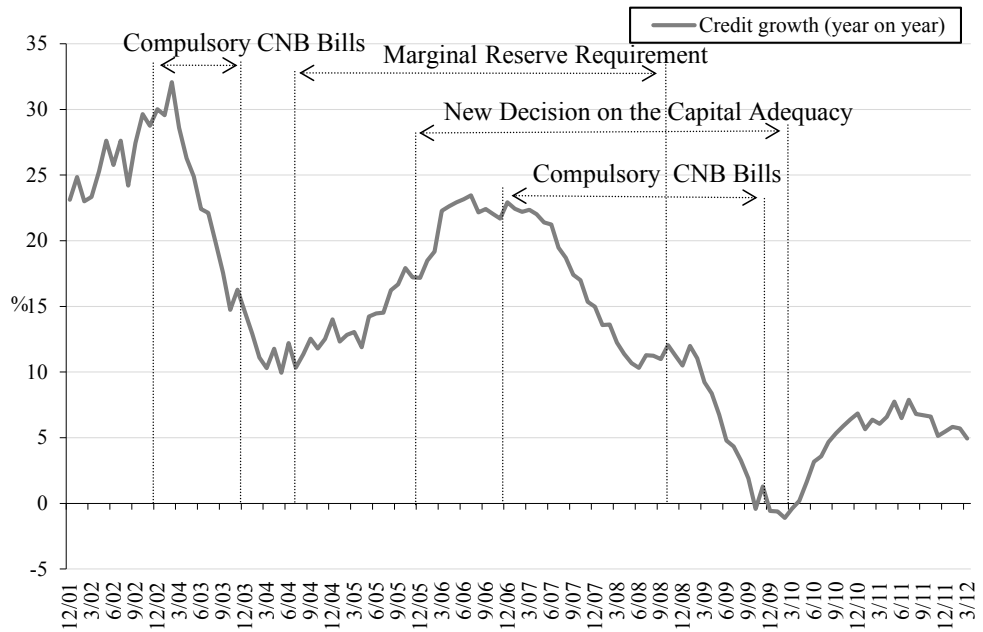
Figure 11 Credit-to-GDP gap and the countercyclical implementation of CNB's macroprudential policy



Source: Croatian National Bank.

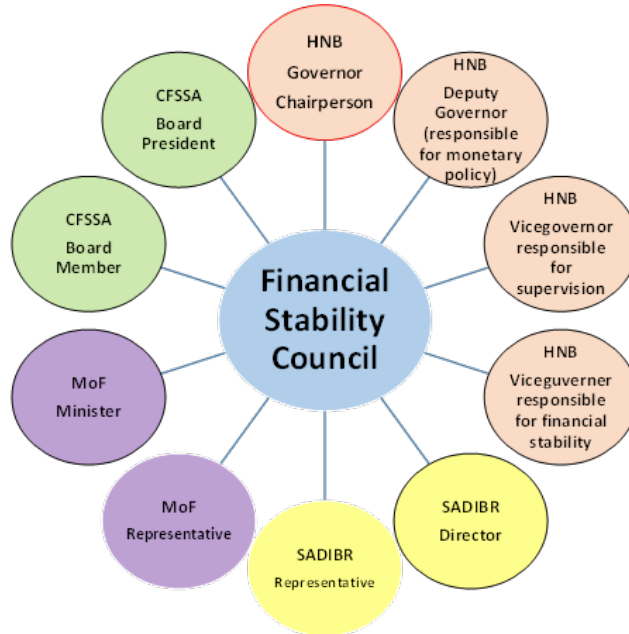


Figure 12 Selected macroprudential measures and credit growth



Source: Croatian National Bank.

Figure 13 Members of the Financial Stability Council



Note: The line around a circle denotes a voting right.

Source: Financial Stability Council.

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