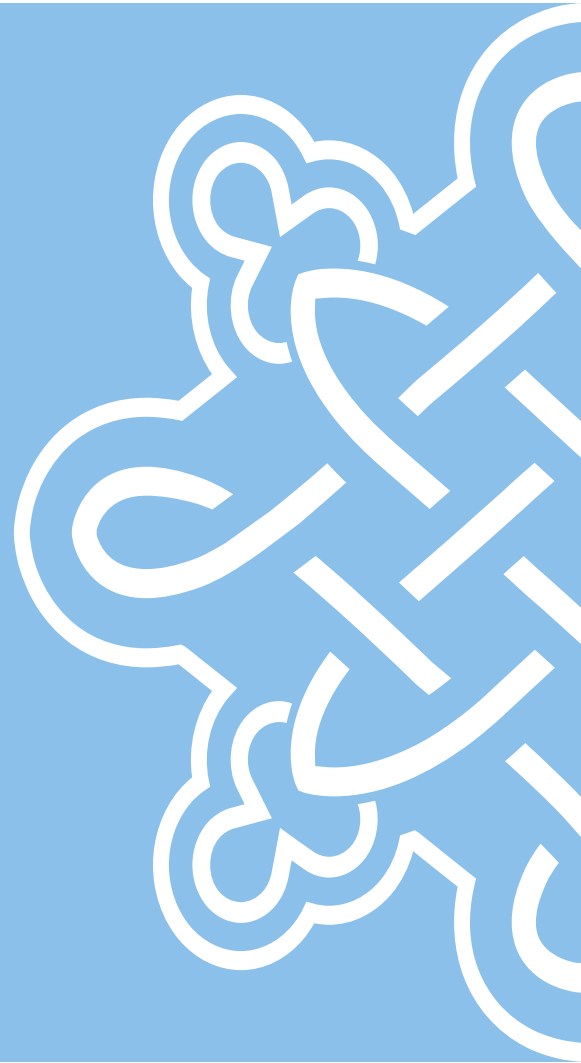




# MACROPRUDENTIAL STRATEGY OF THE MAGYAR NEMZETI BANK



2022





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2022

The Financial Stability Board consented to the revised Macroprudential Strategy on 21 December 2021.

The publication of the strategy has been approved by Gergely Fábián, Executive Director.

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## 1. INTRODUCTION

**The 2008 global financial crisis highlighted the importance of the stability of the financial system for a country's economic viability.** The crisis made it clear that microprudential policy, which ensures the legitimate and stable functioning of individual institutions, is not capable of preventing financial disturbances that give rise to significant real economy costs on its own. It became clear that a systemic focus of prudential intervention in the financial system and macroprudential policy were also essential for this.

**In the European Union, macroprudential policy is realised through conscious, systematic, thorough and harmonised analytical and regulatory processes, but they mostly fall within the competence of the Member States.** The basis of this includes the relevant provisions of the Single Rulebook and the national laws implementing those. An important institution of the EU's macroprudential policy is the European Systemic Risk Board (ESRB), which supports efficient and consistent macroprudential policy by its recommendations, while the implementation takes place at the national level in Member States and in certain cases, in the Banking Union, at the level of the euro area.

**The purpose of this macroprudential strategy is to present the framework for and the cornerstones of the tasks of the Magyar Nemzeti Bank (MNB) related to macroprudential policy.** The Hungarian macroprudential strategy presented below consists of five main parts. First, we describe the vision, mission and strategic objectives of the Magyar Nemzeti Bank in relation to macroprudential policy (i). Then we present the ultimate and intermediate objectives of macroprudential policy (ii), followed by the external environment and legal framework of the Hungarian macroprudential policy and the structure of the institutional system (iii). We describe the process of applying the Hungarian macroprudential instruments (iv), other processes that support the success of regulation (v), and finally we review the principles related to the communication of the Hungarian macroprudential policy (vi).

**The MNB regularly examines whether the strategic framework is adequate for the changing economic environment and for the management of systemic risks, and updates those as necessary, also bearing in mind long-term predictability.** The MNB envisages the development and application of its macroprudential strategy within the framework of a longer development and learning process in a fast-changing environment, and thus it deems necessary to review it regularly.<sup>1</sup> Financial stability must be achieved by adjusting it to the new lessons learnt from the crisis (e.g. crisis caused by the coronavirus pandemic), to the change in the legislative framework and the changing economic environment shaped by new trends (digitalisation, environmental sustainability, etc.) influencing the development of the financial system. In addition, the experiences of pursuing macroprudential policy also facilitate continuous improvement.

## 2. VISION, MISSION AND STRATEGIC OBJECTIVES

### Vision

The financial intermediary system considered desirable by the MNB as a macroprudential authority **lacks systemic financial risks that can give rise to or exacerbate severe financial stress events; its institutions are highly resilient to possible shocks and offer a sustainable contribution to the economic growth of Hungary.**

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<sup>1</sup> The MNB created its macroprudential strategy in 2015 and revised it in 2018. They are available at the following link: <https://www.mnb.hu/en/financial-stability/macroprudential-policy/macroprudential-strategy-of-the-mnb>

## Mission

Without prejudice to its primary objective of price stability, the MNB as a macroprudential authority strives to maintain the stability of the whole financial intermediary system, to enhance the resilience of the financial system and ensure its sustainable contribution to economic growth, and to reduce the pro-cyclicality of the banking system. With that in mind, relying on the expertise of its staff and in close cooperation with market participants and the relevant domestic and international authorities, the MNB implements its macroprudential policy as transparently as possible.

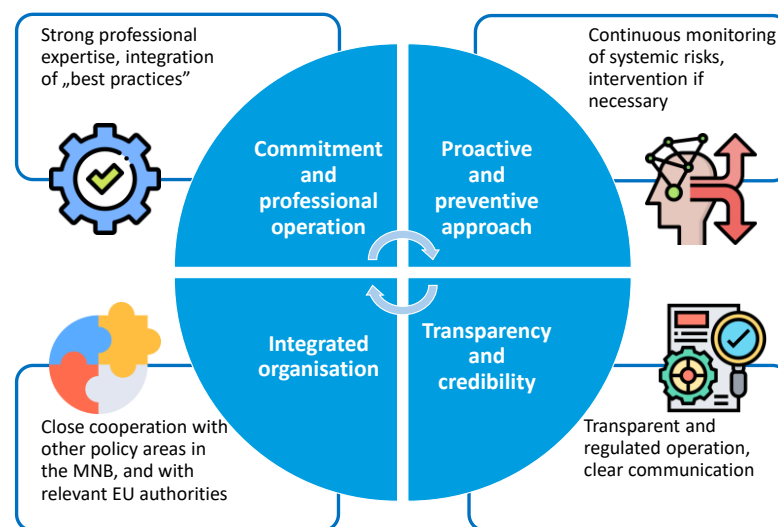
## Strategic objectives

The MNB ensures the fulfilment of its mission as a macroprudential authority through three strategic objectives: They are as follows:

- **Encourage prudent risk-taking:** identify and prevent the development of various forms of excessive risk-taking in the financial intermediary system, curb and restrain excessive risk-taking that is about to unfold, considering market conflicts and market failures that give rise to risk-taking.
- **Strengthen resilience:** reduce the probability of the development of financial crises caused by residual systemic risks under prudent risk-taking and mitigate the severity of those by improving the resilience and shock absorbing capacity of financial actors.
- **A financial sector that supports economic growth in a sustainable manner and strengthens environmental sustainability:** supporting a permanently stable financial system that facilitates economic growth in a sustainable manner by strengthening financial institutions' adequate cost efficiency, competitiveness and flexibility through financial innovations, by ensuring the financing of the non-financial sector in adequate volume and structure. In the ecological dimension of sustainable convergence, contributing to the mitigation of the financial risks of climate change and to this end facilitating green economic transformation that also supports risk management.

When implementing these strategic objectives, the MNB relies on four cornerstones: 1) commitment and professional operation, 2) proactive and preventive approach, 3) transparency and credibility, 4) advantages stemming from the integrated organisation (*Chart 1*).

**Chart 1: The main cornerstones of the MNB's macroprudential strategy designed to serve its strategic objectives**

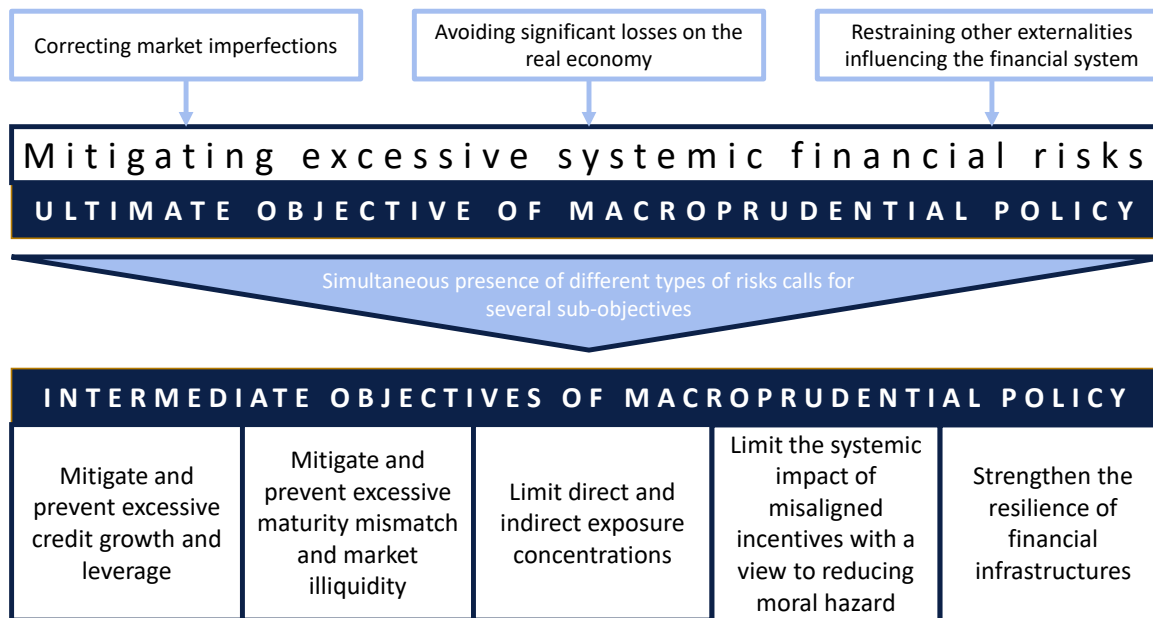


### 3. ULTIMATE AND INTERMEDIATE OBJECTIVES

#### Ultimate objective of macroprudential policy

The ultimate objective of macroprudential policy is to mitigate excessive systemic financial risks. This means that it should strive to prevent severe financial crises and minimise their effects on the real economy if they nevertheless arise. The set of objectives of macroprudential policy are summarised in *Chart 2*.

Chart 2: Set of objectives of macroprudential policy



**Systemic risk, in general, is the threat of such potentially severe disturbances of the financial intermediary system that impairs the functioning of the entire economy.** Without macroprudential interventions, market frictions and market failures may exacerbate systemic financial risks. The excessive degree of those should be mitigated by macroprudential policy instruments. Successful and efficient macroprudential policy **improves the position of a broad range of economic actors and boosts the competitiveness of the economy, while its social benefits greatly outweigh its social costs.**

**The operationalisation of the macroprudential policy objectives necessitates an in-depth exploration of systemic financial risks.** These systemic risks can be rather diverse due to the simultaneous presence of different market frictions and market failures in the financial system. This calls for the definition of several intermediate policy objectives with the assignment of various instruments to serve individual objectives. Accordingly, macroprudential policy typically implies a regulatory regime of “multiple objectives - multiple instruments”.

#### Intermediate objectives of macroprudential policy

**To address the relevant market problems, macroprudential policy needs to rely on different instruments.** In accordance with the ESRB’s recommendation, the MNB pursues the following five intermediate objectives during its macroprudential interventions (*Chart 2*).

- **Mitigate and prevent excessive credit growth and leverage:** Excessive credit expansion is a cyclical systemic risk factor that makes financial market participants particularly vulnerable to the losses arising from non-performing loans and increasing leverage. The containment of this risk and the strengthening



of financial actors' resilience are of key importance. *Macroprudential policy can achieve the first by borrower-based measures and the latter mainly by prescribing the building of adequate capital buffers.*

- **Mitigate and prevent excessive maturity mismatch and market illiquidity:** During the cyclical build-up of maturity mismatches, financial institutions fund long-term assets with short-term liabilities more and more. Macroprudential policy may directly limit the asset-liability maturity mismatch, foster the development of a sufficiently stable funding structure and strengthen the liquidity position of market participants. *A typical choice for addressing maturity mismatches is to require banks to finance their non-liquid assets with stable funding and to hold a sufficient portfolio of liquid assets, for which EU and national instruments are available.*
- **Limit direct and indirect exposure concentrations:** A systemically critical group of financial institutions may lead to risk exposures that are excessively concentrated, i.e., exuberant compared to their loss-absorption capacity vis-à-vis either certain industries of the non-financial sector, other financial institutions or to other investments with strong a co-movement in pricing. It is important, therefore, that macroprudential policy can limit large exposures for specific groups of financial intermediaries and/or for certain groups of their customers. *In this respect, primarily the application of the systemic risk buffer and the indirect capital requirement modifiable for macroprudential purposes (risk weights, LGD minimums) may be expedient.*
- **Limit the systemic impact of misaligned incentives with a view to reducing moral hazard:** Expectations regarding state interventions in times of financial crisis (e.g. emergency liquidity assistance, bank recapitalisation, resolution, liquidation) should not weaken financial institutions' pre-crisis incentives for prudent operation and distort the allocation of financial sources to the benefit of the largest institutions. *One of the strongest instruments of limiting this risk in macroprudential terms is the additional capital requirement applicable to systemically important institutions.*
- **Strengthening the resilience of financial infrastructures:** This intermediate objective is intended to address externalities within the financial system's infrastructure and correct the moral hazard effects that could arise from the legal systems, credit rating agencies and deposit guarantee schemes.

**Due to the significantly important role of banks in the financial intermediation in Hungary, the MNB's macroprudential policy primarily focuses on the banking sector.** This focus of macroprudential policy is justified by practical rather than theoretical reasons. Firstly, in Hungary, the banking sector is materially larger than the other sectors pursuing important financial activities, and thus systemic financial risks may typically be concentrated there. On the other hand, the activity of non-bank financial organisations (financial enterprises, mutual funds, investment firms, insurance companies and various voluntary funds) differs, in several respects, from the activity of banks' (and from each other). Accordingly, these sectors require a special systemic risk monitoring system and macroprudential interventions. Thirdly, banks had a key role in recent financial crises, and thus the international macroprudential framework is elaborated to the highest degree also in the case of the banking sector. On the other hand, the MNB believes that it is also necessary to enhance the macroprudential policy framework related to the management of non-bank systemic risks on a continuous basis.

**The appropriateness of intermediate policy objectives – including the contents and employable tools of those – should be assessed periodically and adjusted in view of the current information to ensure that they are always able to serve the ultimate objective of macroprudential policy in the best possible way.** The adjustment may be justified by new experience gained in operating the macroprudential policy framework, structural developments in the financial system and the emergence of new types of systemic risks.

## 4. LEGISLATIVE AND INSTITUTIONAL ENVIRONMENT

### Legislative environment

**The functioning of Hungarian macroprudential policy is determined by the legislative environment of both the European Union and Hungary.** The prevailing EU bank regulation system is based on the Single Rulebook, and particularly on the regulation on prudential requirements for credit institutions and investment firms (Capital Requirements Regulation - CRR), and on the directive on the prudential supervision of these institutions (Capital Requirements Directive - CRD). As most of the common rules are directly applicable to banks and investment firms, there is very limited scope for the consideration of domestic market and institutional particularities through the exercise of national discretion. With respect to addressing special risks arising at the level of Member States and to individual responses to the different phases of financial cycles, actual room for manoeuvre is provided by the macroprudential instruments remaining under national competence. In addition to the CRR/CRD regulatory package, the operation of the Hungarian macroprudential authority is also influenced by the EU delegated legal acts adopted by the European Commission and the implementing measures as well as by the recommendations and opinions issued by various EU organisations.

**The acts constituting the legal basis of Hungarian macroprudential regulation are rooted in these European Union foundations.** The basis of the Hungarian legislation comprises two pillars: (1) the Act on Credit Institutions and Financial Enterprises (Credit Institutions Act<sup>2</sup>) along with the Act on Investment Firms (Investment Firms Act<sup>3</sup>) laying down the prudential and supervisory requirements for the implementation of CRD, and (2) the Act on the Magyar Nemzeti Bank (MNB Act<sup>4</sup>) enshrining the macroprudential regulatory mandate and specifying the application method of the relevant instruments. These acts establish a strong and clear mandate for the central bank, in its capacity as the Hungarian macroprudential regulatory authority, and define the institutional frameworks of macroprudential policy; moreover, they specify the tools available and the method of their application.

**However, it should be emphasised that, despite the strong mandate, the competence of macroprudential policy is limited.** On the one hand, its instruments can only influence already identified risk types. On the other hand, even though they may carry severe risks, non-banking financial intermediaries can be regulated only indirectly by means of macroprudential instruments.

### The macroprudential institutional system

#### The institutional framework of the European Union

**The institutions of the European Union play an important role not only with respect to the legislation they can apply, but also in terms of external control.**

- *European Commission:* The Commission has assumed a dual role regarding macroprudential policy: it undertakes important tasks both as a legislator and as a guardian of harmonisation and hence, competitive neutrality. The Commission fulfils a key role in crafting EU level legislation on the management of systemic risks and their appropriate application.
- *European Systemic Risk Board (ESRB):* The ESRB is responsible for coordinating the supervision of systemic risks across the EU. The ESRB continuously monitors and analyses existing risks in the financial

<sup>2</sup> Act CCXXXVII of 2013 on Credit Institutions and Financial Enterprises

<sup>3</sup> Act CXXXVIII of 2007 on Investment Firms and Commodity Dealers, and on the Regulations Governing their Activities

<sup>4</sup> Act CXXXIX of 2013 on the Magyar Nemzeti Bank

intermediary system and issues assessments, warnings, or recommendations for action in this regard. In the context of its recommendations, the ESRB develops both methodological guidelines and opinions related to the Single Rulebook. The ESRB appears in a dual role vis-à-vis individual Member States. On the one hand, it coordinates the establishment of the macroprudential institutional system of Member States in the form of recommendations; on the other hand, it fosters the professional preparation of the national macroprudential decisions of individual countries and the transparent communication of the decisions.

- *European Central Bank (ECB)*: The ECB appears in four important roles in the European macroprudential institutional framework: (1) through its own analyses, it continuously monitors the processes in the financial intermediary system, and provides the analytical and reporting base for the preparation of ESRB's reports; (2) the ECB issues recommendations both for EU institutions and the national institutions of Member States; (3) initiates mandatory public consultations; (4) the ECB, as the central institution of the Single Supervisory Mechanism (SSM), may prescribe more stringent macroprudential requirements than those laid down by the Member States in order to foster financial stability within the banking union.
- *European Banking Authority (EBA)*: In addition to the financial stability objectives, EBA – as an institution operating with a supervisory focus – pays attention to the integrity, efficiency and regular operation of the banking sector. In addition, the EBA is entitled to issue an opinion in certain cases.

**Apart from the institutions of the European Union, national authorities themselves make an important contribution to the establishment of harmonised regulations.** Since participants of the EU intermediary system are interconnected with each other in a vast number of ways, isolated regulation may be detrimental to the whole system. Accordingly, it is essential to have reciprocity between the Member States, i.e., to ensure the application of the instruments introduced by the other Member States to the institutions falling within the jurisdiction of the respective country. In the absence of reciprocity, regulatory arbitrage will create unequal conditions and undermines the efficiency of regulations. While in the case of certain instruments Member States are legally bound to accept the macroprudential instruments of each other and to guarantee reciprocity, in most cases, reciprocation of the measures depends on the discretionary decisions of Member States.

#### Hungarian institutional framework

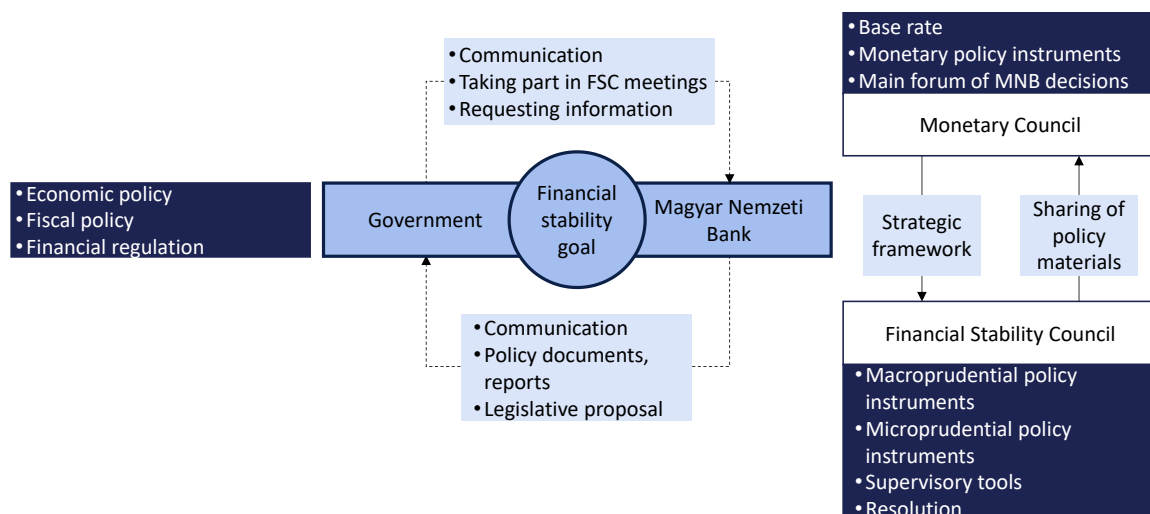
**Maintaining the stability of the financial system is the joint responsibility of the legislator, as well as the authorities performing supervisory, crisis management and central bank functions.** Within this cooperation framework, however, it is essential to avoid overlaps and conflicts among individual responsibilities: it is necessary to identify and provide with a clear mandate the authority responsible for the identification and management of systemic risks and the prevention of market failures, and this mandate should be matched by sufficient powers and specific instruments.

**In Hungary, the MNB was provided with a clear and strong macroprudential mandate.** The primary objective of the MNB is to achieve and maintain price stability, which is realised by monetary policy instruments. Without prejudice to this primary objective, the MNB maintains the stability of the financial intermediary system and assists in enhancing the resilience of the financial system and in ensuring its sustainable contribution to economic growth, and supports the Government's environmental sustainability policy with the instruments available to it. Accordingly, the MNB develops a macroprudential policy related to the stability of the financial intermediary system as a whole. Within the organisation of the MNB, the Monetary Council (MC) establishes the strategic framework regarding macroprudential policy objectives, while within this framework the Financial Stability Council (FSC) is responsible for the definition and achievement of specific macroprudential policy objectives. In addition to macroprudential analytical and regulatory tasks, the FSC is responsible for tasks related to microprudential policy and consumer protection, and for decisions relating to the supervisory and resolution authorities. Moreover, the FSC provides, as appropriate, the tripartite forum composed of the central bank, the

supervision and the ministry in charge of the regulation of the capital and insurance markets, where preparations for and – if needed – the management of crises is conducted (*Chart 3*).

**An integrated institutional model vested with a broad mandate has numerous benefits.** Obvious synergies emerge by virtue of the location of different areas and functions within the same institution. The free flow of information among the various areas significantly improves the efficiency of individual areas, both in the phase of risk analysis and identification and in the phase of assessment and follow-up. Moreover, a macroprudential authority integrated into the central bank can utilise the expertise and experience available in any central bank for the performance of its core tasks, in particular, with respect to monetary, the money market and the payment system. Coordination between the areas – also including the management of any difference of opinion that may arise – also becomes much more efficient due to the mandates belonging to a single organisation.

**Chart 3: The Hungarian institutional system for financial stability**



#### External control of macroprudential policy

**Due to the independence and the strong statutory mandate, it is also necessary to provide an opportunity for external feedback and the accountability of macroprudential authority.** The possibility of formal external control over macroprudential policy is ensured, on the one hand, by the external control over the whole MNB as defined in the MNB Act, and, on the other hand, by the EU regulations aimed at the coordination of macroprudential policies across the EU.

**According to the MNB Act, the MNB provides information through a variety of channels.** Concerning its operation, the MNB is primarily obliged to provide information to the Government, while it has reporting obligation to the Parliament. The governor of the MNB shall report and provide information to Parliament.<sup>5</sup> At the request of the Speaker of the Parliament or the chairman of the Parliament's standing committee for economic affairs, the governor of the MNB may also be subject to an extraordinary reporting obligation.<sup>6</sup>

**The organisations of the European Union, in particular, the European Commission, the ESRB and the ECB, can exercise additional informal control over macroprudential policy.** The European Commission mainly enforces the legal principles defined at the European level; however, it also has direct authorisation powers over certain macroprudential measures. In its recommendations, the ESRB provides methodological guidance to national

<sup>5</sup> Fundamental Law, Article 41 (4); MNB Act, Article 2, MNB Act, Article 131 (21)

<sup>6</sup> MNB Act, Article 131 (3)

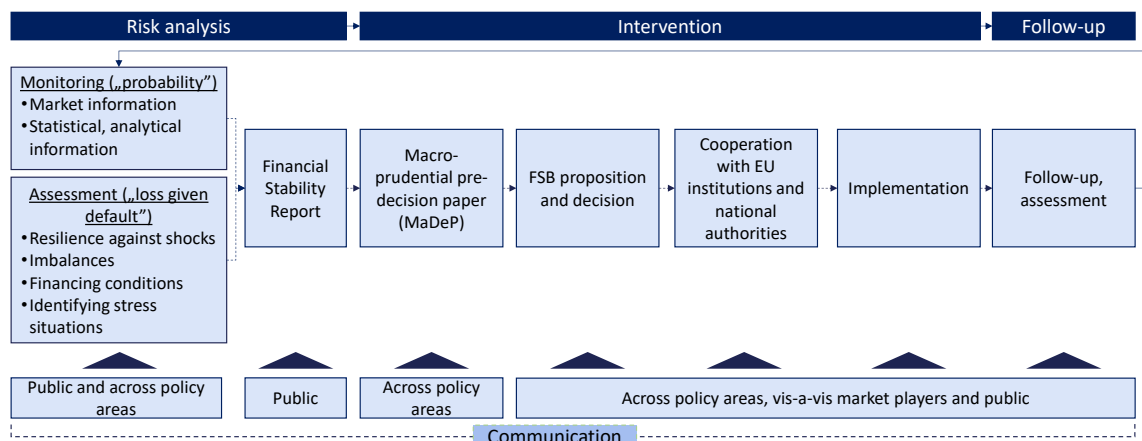
macroprudential authorities, including the MNB; it holds consultations on the fulfilment of those with national authorities; and finally, it publishes the methodological details developed by the national authorities. In addition, it may issue warnings and proposals for specific intervention in the form of non-binding recommendations (“comply-or- explain”). The ECB also issues recommendations to the national macroprudential authorities and expects the national authorities to hold mandatory, public consultations regarding the introduction of macroprudential instruments on a statutory basis.

**As a macroprudential authority, the MNB attaches key importance to transparent operations beyond its statutory obligations.** Among the public documents summarising the results of the decision supporting work, detailed later, the most important regular publications intended for the professional public are the semi-annually revised Financial Stability Report and the annually published Macroprudential Report. In addition, several publicly available studies, reports and recommendations provide assistance to the professional or broader public to gain the necessary insight into the stance and activity of the MNB with respect to systemic financial risks. Apart from the materials intended for the public, the oral provision of information to market participants and consultation opportunities are also given an important role.

## 5. INTERVENTION PROCESS

The process of managing systemic risks essentially consists of three main phases, namely **risk analysis, intervention and assessment (Chart 4)**. The first step in the regulatory cycle is risk analysis. As part of this process, the MNB identifies existing and potential systemic risks. The analysis is followed by the identification of the potential intervention instruments and, as appropriate, regulatory steps: a response will be selected from the “preliminary”, “warning” and “intervention” types of possible policy responses. In the next phase, the policy responses are to be assessed taking into consideration both internal and external information. A communication process also takes place in parallel with the risk management cycle.

**Chart 4: Phases of the macroprudential regulatory cycle**



### Risk analysis and identification of systemic risks

**In the MNB’s view, for proactive action against risks and for adequate risk management, it is indispensable to regularly monitor risks and evaluate them relying on the analytical expertise, and communicate the assessed risks as broadly and as frequently as possible.** The MNB continuously monitors the stability of financial markets and the system of financial intermediation as a whole, and assesses systemic risks by following the steps described below:

- **Risk identification:** The probability of the occurrence of any market event with adverse consequences is determined based on early warning indicators, macroprudential indices, market intelligence and credit surveys, and other market information.
- **Risk assessment:** For the assessment of risks the MNB draws on both indicator-based and cross-sectional analytical methods, macro stress tests (both on the capital side and on the liquidity side), and models exploring the threats posed by interlinking and contagion risks between the institutions.

With a view to covering the full spectrum of systemic risks, the FSC relies on several elements upon making its decisions regarding possible intervention measures.

- **Directly defined indicators:** In the case of a few instruments, facilitating the efficiency of monitoring and the timely recognition of risks, the decision is based on reference indicators that can be properly defined in advance. For identifying the phases of cyclical systemic risks and for confirming the necessity of intervention, a methodology is developed for signalling the activation and deactivation periods based on the indicators applied.
- **Professional evaluation:** In many cases, systemic risks cannot be measured with such pre-defined indicators, or the thresholds measuring their severity cannot be determined ex ante due to the different origins and realisation methods of potential crises. Therefore, in addition to existing analytical expertise within the MNB, continuous communication and cooperation with market participants and various policy areas are important factors for the efficient recognition of risks and the selection of the appropriate instrument.
- **External risk assessments:** Assessments prepared by international organisations and the authorities of other Member States may also shed light on potential cross-border sources of contagion or risks evolving in the Hungarian financial intermediary system.

**Professional and adequately integrated operation is of utmost significance during the process of risk assessment as well.** To acquire the best international practices, in addition to direct domestic risks, the MNB monitors risk assessments pertaining to the European and international markets, as well as local market developments and the build-up of risks. Owing to direct communication across policy areas, not only data, but also expert-level assessments and experience may ensure the inclusion of valuable information in the decision-making process.

As a result of monitoring and model-based analyses, the following pre-decision materials help the FSC upon making its decisions (*Chart 4*):

- **Financial Stability Report:** The publicly available summary of risk assessments is communicated to the public and all other stakeholders. If considerable risks have been identified, the Financial Stability Report may itself outline possible intervention scenarios.
- **Macroprudential pre-decision paper (MaDeP):** The pre-decision non-public policy paper prepared for the FSC is based on the Financial Stability Report; it discusses alternatives regarding new macroprudential instruments to be adopted if necessary, and makes proposals for the potential amendment of already applied instruments.
- **Pre-intervention proposition:** A detailed proposition presenting the effects of a specific macroprudential policy decision can be drawn up depending on the decision made by the FSC based on risk assessment and, according to this proposition and following the required coordination steps, an FSC resolution can be passed.

Analytical areas inform the FSC on a continuous basis of any risks that may have emerged. Its procedures allow the FSC to make rapid decisions based on thorough and frequent risk assessments.

### Intervention, management of systemic risks

The framework for the application of regulatory instruments

**Based on the result of risk assessment, the FSC may decide on a variety of measures.** Based on the information gathered during the risk assessment process, in situations threatening the stability of the system of financial intermediation, the FSC evaluates systemic risks and decides on the measures necessary for the continued close monitoring of those, the prevention of their build-up, mitigation or elimination. When making macroprudential interventions a proper combination of rule-based decision-making and discretion is needed to ensure consistent but sufficiently flexible intervention.

**When policy action is taken, timing is of key importance.** Owing to the comprehensive systemic risk analysis and the discretionary tools allowing for wide-ranging intervention, the FSC can act in a preventive and timely manner when significant systemic risks arise.

Upon making its policy decision based on the results of the risk analysis process, the FSC always considers the following factors:

- **Necessity:** Based on previously established inputs, the FSC considers and decides whether the identified systemic risks indeed need intervention.
- **Efficiency:** As far as possible, the selected instrument should have low costs and, in particular, entail minimum negative externalities, which calls for an adequate focus of the instrument as well as its calibration to avoid regulatory arbitrage.
- **Proportionality:** Instruments should impose obligations on individual institutions in proportion to their contribution to the systemic risks.
- **Transparency:** With the aim of transparency and predictability in mind, attention should be paid to ensuring that market expectations are properly addressed when introducing and reviewing policy actions, an important element of which is the timely provision of information to market participants.

### Intervention options available to the MNB

**As a macroprudential authority, the MNB can enhance the shock resilience of the financial system and to address or prevent the build-up of systemic risks not only by the introduction of concrete policy instruments.**

The options available to MNB can be divided into three groups depending on the direct impact they exert on the financial intermediary system.

- **“Ex ante” measures:** These measures are primarily aimed at the dissemination of information, the notification of the public, market participants, other policy stakeholders and international organisations regarding the conclusions of the MNB’s analyses on the processes of the financial intermediary system. This includes the risk alerts published in various periodicals, reports, working papers, analyses and, in particular, in the Financial Stability Report, which highlight the necessity of addressing individual problems and – depending on their development – the likelihood and manner of policy action.
- **“Warning” tools:** Remaining at the level of communication, these instruments call stakeholders’ attention to the emergence of specific risks, the need for addressing the risks, and the necessity and possibility of policy intervention. This category includes notices, resolutions more directly affecting the financial intermediary system, individual warnings sent to market participants, calls for risk



management (mainly in the form of management circulars, personal oral consultations and information documents).

- **“Intervention”**: This category comprises policy interventions in the context of which, pursuant to its mandate received from the Parliament, the MNB, as a macroprudential authority, creates rules and regulations binding on market participants in the form of decrees or decisions. This may include developing specific rules for the mandatory instruments prescribed for all Member States in the EU legislative framework, ordering the implementation of the instruments, the application of those within national competence or additional discretionary measures.

#### Available instruments

**The MNB’s duties connected to the individual instruments vary depending on whether the instrument in question is regulated uniformly at EU level or at the level of the Member States.** As regards the first, the MNB’s duty, in its capacity as macroprudential authority, is to fine-tune the instruments based on the developments in the domestic systemic risks and market trends. For excessive credit outflows, systemic liquidity risks and risks jeopardising the financial infrastructure, the MNB is entitled, as a national authority, to issue decrees aimed at the mitigation of risks, irrespective of EU legislation.

**Although the MNB has a strong mandate with respect to the management of systemic risks, its legal competence does not cover the management of all unforeseeable risks.** With respect to the risks that cannot be managed by the instruments available to the MNB, in accordance with its statutory mandate, the MNB notifies the government on the necessity of risk management. The central bank, in its capacity as macroprudential authority, within the framework of the procedure set forth in the MNB Act (the “comply-or-explain” process), makes a proposal to the government regarding the codification or amendment of law.

**Table 1: Main categories and features of the macroprudential policy instruments applied by the MNB**

Groups of instruments	Features
<b>Capital instruments</b>	<ul style="list-style-type: none"> <li>• They improve the institutions’ resilience through additional capital requirements.</li> <li>• There are separate instruments to manage structural and cyclical risks.</li> </ul>
<b>Borrower-based instruments</b>	<ul style="list-style-type: none"> <li>• They contribute to the stable operation of the banking sector by improving borrowers’ debt service capacity and reducing lenders’ loss given default.</li> <li>• They constitute widely usable instruments that can be well-differentiated to manage a variety of credit market risks.</li> </ul>
<b>Liquidity and funding instruments</b>	<ul style="list-style-type: none"> <li>• Requirements that encourage the maintenance of prudent liquidity and funding positions in the short and longer run.</li> <li>• Designed to mitigate maturity and currency mismatches and other specific funding risks.</li> </ul>

**Macroprudential policy must dynamically adjust to the rapidly changing economic environment and the new trends that determine the financial system.** In recent years several challenges, entailing long-term consequences, appeared, which the financial system needs to cope with, and thus these also have a bearing on the management of systemic risks. On the one hand, as part of the “green turn”, green sustainability objectives must be enforced in the financial intermediary activities. On the other hand, rapid digitalisation poses new challenges to the actors of the financial system in terms of customers, competitors and operational processes. Due to the foregoing, larger emphasis than ever before must be placed on fostering sound competition and



improving the efficiency of financial institutions, which can strengthen institutions' adjustment and resilience, thereby further enhancing the stability of the financial system. Accordingly, macroprudential policy should take these into consideration both in the risk analysis and in the intervention processes, encouraging appropriate adjustment where necessary, without losing sight of the objective to ensure financial stability. Moreover, the coronavirus pandemic highlighted the significance of unexpected shocks from outside the financial system and the economy. Macroprudential policy must be prepared to take the counteractions necessary in such situations as rapidly and efficiently as possible.

**The financing of economic activities exposed to and causing severe and long-term environmental damages pose systemic risks to financial institutions, while environmental sustainability mitigates such risks.** The absence of efficient reduction of global warming and other severe natural damages caused by human activity may jeopardise the performance and productivity of several real economy activities and the preservation of the value of economic assets. The green turn that ensures sustainability inevitably entails economic restructuring, with the global community being the winner, but it will also force certain industries and social groups to make costly adjustments. The financial system, financing the real economy corporations and households exposed to physical damage caused by the climate change and to the costs of the transition to green technology, is also impacted by these environmental risks. When identifying and managing systemic risks, the macroprudential authority also needs to consider economic vulnerabilities affecting the financial system caused by climate change. To support its risk management objectives, it also strives to support the financial system in the financing of green transition, which facilitates the mitigation of climate change.

**The decrease in the risks related to digitalisation, which steadily grow in the financial system, generates new tasks for macroprudential policy.** Within this, it may be necessary – among other things – to mitigate systemic risks caused by the increased cyber security challenges attributable to the changing banking procedures or obsolete IT systems, thereby increasing the resilience of financial institutions and the faith in them.

#### Evaluation and follow-up

**After applying the instruments, the FSC monitors the effect of the interventions on a regular basis and may pass decisions on further interventions or the modification or phase-out of existing regulations.** In its Macroprudential Report, the MNB annually reviews the effects of the introduced macroprudential instruments, and the market adjustment realised. The Macroprudential Report reviews the conduct of macroprudential policy along three main dimensions:

- It analyses in detail how the adjustment of market participants progresses, and through what channels in what time the adjustment was made in the case of each macroprudential instrument.
- It reviews to what extent the applied instruments managed to achieve the intermediate macroprudential objectives, examining the effects of the individual interventions by intermediary objectives and groups of instruments determined based on those as well as the impacts of those on the financial intermediary system and through that on the economy, measurable by the continuously enhanced methodology.
- In a broader context, the fulfilment of the ultimate goals and the mission of macroprudential policy is also back-tested; the Report therefore overviews both the resilience of the financial intermediary system against shocks and its sustainable contribution to economic growth. The FSC uses the results of the impact analysis not only in a follow-up manner, but also as inputs necessary for future interventions, i.e., as complementary information that accompanies risk analysis.

## 6. OTHER PROCESSES ENHANCING THE EFFICIENCY OF THE INTERVENTION

### Analytics supporting macroprudential policy and monitoring

**The availability of transaction-level data facilitates the more sophisticated identification of risks and in-depth analysis as well as a more adequate development of the necessary interventions adapted to the identified risks as much as possible.** In recent years the MNB enhanced and improved the availability of data necessary for the analysis in several areas. Thus, relying on the more detailed data collection, it can identify several risk levels, which largely supports the calibration of individual instruments. This is particularly important in areas such as the mitigation of credit risks, where systemic risks may occur in numerous dimensions (e.g., customer, currency, interest rates, loan purpose). The as-wide-as-possible availability of data is of utmost importance, particularly in areas of new challenges (e.g., the green transition). Accordingly, in the future special attention must be paid to the proper collection and availability of market and public data assets.

**Detailed data collection must be accompanied by the enhancement of data analysis methods.** Since the volume of data to be analysed significantly increases in parallel with the data collections' increased level of details, those can be processed thoroughly only by applying state-of-the-art data analysis methods. Accordingly, macroprudential policy is not only responsible for risk assessment, but also for the continuous monitoring and integration of the increasingly efficient data analysis methods (i.e. deep learning algorithms using artificial intelligence, neural networks) in the analytical processes.

### Cooperation with relevant authorities

**The MNB places particular emphasis on communication and the efficient coordination of tasks across policy areas, and among internal and external institutions and experts.**

- **Cooperation with monetary policy:** The FSC needs to achieve the financial stability objective without prejudice to the price stability objective set by the Monetary Council, within the strategic frameworks determined by the Monetary Council. While the direct management of risks arising in financial intermediation is primarily served by macroprudential policy instruments, monetary policy also has and may have a bearing on financial stability. However, by default, the scope of monetary policy is far too broad for the achievement of financial stability objectives; moreover, the consideration of financial stability objectives may deviate the contribution of monetary policy to economic growth from its optimal level. However, as the last line of defence, monetary policy may also be suitable for supporting financial stability objectives, in addition to the monetary policy objectives, by using monetary policy instruments, in addition to the policy rate, in crisis situations. Since in addition to this macroprudential policy also impacts lending and other financial conditions, which influence the monetary policy transmission, the two areas must cooperate to achieve the two separate objectives efficiently.
- **Cooperation with the microprudential, consumer protection areas:** Cooperation with the microprudential and consumer protection areas in the planning of policy decisions related to the financial intermediary system helps to harness both analytical and decision-making synergies within the institution. In addition, it is also important to cooperate when systemic risks arise that not necessarily can be directly influenced by the set of macroprudential instruments available to the MNB or the application of microprudential instruments with a macroprudential approach could be considered to supplement it.
- **Cooperation with the resolution area:** The integrated institutional model of the MNB realises the efficient cooperation of the two areas in the planning of the decisions on resolution measures, during resolution planning and implementation, and ensures adequate consistency in the identification of

systemically important institutions and their critical functions and in the design of macroprudential policies and resolution strategies applied to them.

- **Cooperation with the deposit insurance system:** Through the protection of depositors, the obligatory deposit insurance scheme may strengthen banks' excessive risk appetite, as banks do not need to worry about one of the strongest coercive weapons of depositors, i.e. mass withdrawal of funds. To minimise this unintended side-effect of the deposit insurance system, the individual sums of the obligatory and regular contributions paid by banks to the deposit insurance fund should be calibrated in proportion to banks' individual risk levels and their institution-specific contribution to systemic risk. In respect of the latter, the MNB helps to determine the appropriate level of deposit insurance premiums by providing the necessary information.
- **Cooperation with the government:** Operations independent of the government ensure independent risk assessment and intervention; however, cooperation with governmental areas is an important pre-requisite of efficient macroprudential policy since numerous regulatory and crisis prevention instruments fall within the competence of the government. For this reason, the representative of the minister responsible for the regulation of the money, capital and insurance markets and at times external attendees invited by the governor of the MNB are entitled to participate in the meetings of the FSC with the right of discussion when items affecting macroprudential policy are on the agenda.
- **Cooperation with international organisations and national authorities of other countries:** The MNB works in close cooperation with European institutions at several levels. A significant element of this cooperation is the communication sent to the European Commission, the ECB, the ESRB and the EBA prior to the introduction, review or phase-out of policy instruments. Another important function of European organisations is the preparation of reports monitored by the MNB, often compiled with expert contribution by the MNB, the issue of recommendations relevant to national authorities, and the formulation of specific technical rules connected to European legislation. An essential element of the cooperation with other national authorities is the principle of reciprocity, addressing regulatory challenges stemming from cross-border operation, and the notification of national authorities on the cases where institutions under their jurisdiction become subject to Hungarian regulations.

#### Assessment and management of cross-border spillover effects

**Macroprudential measures may entail major cross-border effects, and thus it is important to develop methods that are suitable for the measurement and assessment of those.** Ideally, the financial stability of a Member State realised through macroprudential instruments has a positive impact on the financial stability of the EU as a whole. However, the macroprudential policy of the individual Member States may have unintended negative impacts on other Member States. With a view to ensuring the efficiency and competitive neutrality of the measures, it is important to adequately assess their effects on the internal markets of the European Union and on the economies of other member states. When necessary, the reciprocity decisions, ensuring the efficiency and consistency of the member states' measures, may be based on these impact analyses.

**In the European Union, the recommendation of the ESRB harmonised the framework of cross-border impact analysis of macroprudential measures and the voluntary reciprocity scheme.** In the case of certain measures, the provision of reciprocity up to the degree prescribed by the law may be enforced by the affected home authorities, while in the case of other instruments it is only recommended (Table 2).

**Table 2: Status of individual member states' tasks related to the two pillars of ESRB Recommendation 2015/2 and of macroprudential instruments in terms of the reciprocity legislation**

Pillar I Assessment of cross-border effects	Pillar II Framework of voluntary reciprocity	Reciprocity status of other macroprudential instruments
<ul style="list-style-type: none"> <li>• Before adopting macroprudential measures their expected cross-border impact should be assessed (<i>ex ante</i>)</li> <li>• At least once a year the potential and realized impact of macroprudential measures should be assessed (<i>ex post</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• The prescription of measures requested to be reciprocated by host authorities is recommended for direct and indirect exposures</li> <li>• In case of non-material exposures the home authorities may refrain from providing reciprocity (<i>de minimis principle</i>)</li> </ul> <p>Instruments under voluntary reciprocity</p> <ul style="list-style-type: none"> <li>• Systemic Risk Buffer (SyRB)</li> <li>• Managing Member State specific systemic risks (CRR 458. cikk)</li> </ul>	<p>Reciprocity prescribed by the law</p> <ul style="list-style-type: none"> <li>• Anticyclical Capital Buffer</li> <li>• Risk Weights under CRR Art. 124</li> <li>• LGD Minimum under CRR Art. 164</li> </ul> <p>Geographic scope realizes reciprocity</p> <ul style="list-style-type: none"> <li>• Debt cap rules (LTV, PTI)</li> </ul> <p>Reciprocity has not been applied so far</p> <ul style="list-style-type: none"> <li>• Capital Buffer of Systemically Important Institutions</li> </ul>

**Due to the present structure of the Hungarian financial system and the degree of its integration, the efficiency of the MNB's regulations depends to a lesser degree on the decisions of foreign authorities related to the provision of reciprocity.** For the time being, the foreign branches perform no such systemically important activity with macroprudential relevance in the Hungarian banking sector, the risk of which would justify for the MNB to request the home authorities that they should comply with the respective macroprudential instruments within the framework of voluntary reciprocity. At present, this is also not necessitated by the provisions of direct cross-border financial services by foreign banks.

#### Macroprudential policy beyond the banking sector in Hungary

**Due to nature of the Hungarian financial intermediation, the MNB's macroprudential policy primarily focuses on the banking sector.** The financial intermediation by the banking sector, primarily the volume of the loans granted by the banks, as well as the assets managed by them and the deposit products used for the financing of the first, together with the turnover of the related payment and transaction services, often create much more extensive and tighter financial interconnectedness than that of other financial sectors, also pursuing important financial activity. At present, the system of intermediate objectives has been elaborated across the EU in respect of the systemic risks of the banking sector and the institutions of the financial infrastructure. Along with the possible amplification of potential systemic risks of the non-bank financial institutions in Hungary and with the international development of the macroprudential regulatory framework in the future, it may be worth supplementing the intermediate objectives to cover non-bank financial systemic risks in full. In addition, the MNB's analysis of systemic approach may also be supplemented by the enhancement of monitoring and the policy instruments, as necessary. Until such time as a set of instruments with direct scope is elaborated, the management of systemic risks in this segment may take place through the application of the microprudential or supervisory instruments based on a comprehensive approach.

**It is a declared objective of the MNB, in its capacity as macroprudential authority, to strengthen the stability and adaptability of the financial infrastructure.** Within the scope of its oversight activity and in its capacity as the owner of a substantial part of the Hungarian financial infrastructure, the MNB strengthens its stability. Oversight of the financial infrastructure is a statutory core duty of the MNB, performed by the MNB based on its risk-based oversight framework, developed in line with the international recommendations and laws, and reformed in 2014. To this end, the MNB's macroprudential area coordinates its activity with the MNB's oversight area, and it communicates its observations of a macroprudential nature in relation to the issues arising at domestic and international forums.

## 7. COMMUNICATION

In each phase of the regulatory cycle of macroprudential policy, the MNB gives high priority to the communication of risks and their management. The role of communication in the process of macroprudential regulation may appear as follows (Table 3):

- **Risk assessment:** In this phase, the main purpose of communication is to shape expectations. The MNB informs stakeholders (including market participants and the public) of the nature of systemic risks and the possible options to address them in the form of numerous reports (most importantly, the Financial Stability Report), studies and policy articles.
- **Regulatory intervention:** In this phase, besides informative methods, direct communication between the stakeholders plays a prominent role, as the *ex ante* feedback of market participants considerably improves the efficiency of regulation.
- **Follow-up and evaluation:** The main role of communication in this phase is to further facilitate adjustment to the regulation and to ensure transparency. The MNB facilitates the technical implementation of the adjustment by way of oral consultations, circulars and recommendations and, also taking market feedback into consideration, it adjusts the details of regulation as appropriate. The results and conclusions of the follow-up phase are summarised for all stakeholders in the yearly Macroprudential Report.
- **Education:** Apart from the directly affected market participants, the communication of macroprudential policy may be important for the mitigation of system risks through a variety of educational channels. This may be realised through trainings focusing on macroprudential policy, school education, public awareness campaigns, social media publications or even by providing easy to understand information on the MNB's website. This may foster the acceptance and application of macroprudential measures by the broader, non-professional public.

In each phase, communication forms can be classified based on two dimensions:

- **Timing:** With respect to timing, we distinguish between regular communication forms and *ad hoc* communication forms applied at undetermined times. Regular forms typically include reports and periodical analyses and play a prominent role in ensuring the uninterrupted flow of information, in the shaping of expectations, and in demonstrating the MNB's commitment to risk management. However, communication forms other than periodical communication need to be applied as well, especially in the intervention phase, with a view to facilitating adequate adjustment and transparent regulation crafting.
- **Publicity:** It is important to ensure broad publicity for the presentation of the identified risks and for the evaluation of the result of regulatory activity; therefore, the publicity of the Financial Stability Report, the Macroprudential Report and other risk detection materials play an important role in transparency. However, information relevant to certain institutions often require confidentiality and accordingly, pre-decision propositions, the MaDeP and other analyses and assessments affecting individual institutions can only be prepared non- publicly.

Table 3: The communication tools applied by the MNB

	Communication tools		
	Communication across regulatory areas	Communication with external stakeholders	
		Public	Non-public
<b>Risk assessment</b>	<ul style="list-style-type: none"> <li>• Data and information exchange with other areas</li> <li>• MaDeP</li> <li>• Submission of FSC agenda items to the Monetary Council</li> <li>• Public communication forms accessible to other external stakeholders</li> <li>• Non-public statements submitted to the government</li> </ul>	<ul style="list-style-type: none"> <li>• Financial Stability Report, MNB reports</li> <li>• Studies, analyses, professional articles</li> <li>• Resolutions alerting to risks, press releases</li> </ul>	<ul style="list-style-type: none"> <li>• Consultation with market participants, information gathering, enhancing market intelligence</li> </ul>
<b>Intervention</b>	<ul style="list-style-type: none"> <li>• Proposal for intervention submitted to the government</li> <li>• Consultation with international organisations</li> <li>• Consultation with other policy areas regarding the formulation of the intervention method and the expected effects</li> <li>• Submission of FSC agenda items to the Monetary Council</li> </ul>	<ul style="list-style-type: none"> <li>• Financial Stability Report, MNB reports</li> <li>• Summary of the publicly accessible details of certain decisions of the FSC according to the FSC's decision</li> <li>• Description of the methodology and operation of the adopted instruments</li> <li>• Press releases</li> </ul>	<ul style="list-style-type: none"> <li>• Consultation with and dissemination of information to market participants: developing independent risk management of market participants, precise information on the process of the intervention</li> </ul>
<b>Evaluation and follow-up</b>	<ul style="list-style-type: none"> <li>• Collection of direct information and data from other professional areas</li> <li>• Report submitted to the General Assembly on the activity of the MNB</li> <li>• Submission of FSC agenda items to the Monetary Council and informing the MC of decisions</li> <li>• Macroprudential Report</li> </ul>	<ul style="list-style-type: none"> <li>• Executive circular</li> <li>• Recommendation regarding legal interpretation</li> <li>• Information in relation to statutory obligation</li> <li>• Methodological manual</li> <li>• Standard regulation</li> <li>• Technical clarifications and resolutions in "Questions and answers" format</li> <li>• Financial Stability Report, Macroprudential Report, working papers, analyses, policy articles</li> </ul>	<ul style="list-style-type: none"> <li>• Consultation with market participants, feedbacks</li> <li>• Proposals for modification, technical clarifications</li> </ul>
<b>Education</b>	<ul style="list-style-type: none"> <li>• Inclusion of macroprudential aspects in comprehensive trainings and education</li> <li>• Highlighting functional synergies</li> </ul>	<ul style="list-style-type: none"> <li>• Courses in school education</li> <li>• Public awareness campaigns</li> <li>• Publications in the social media</li> <li>• Easy to understand information on the MNB website</li> </ul>	-

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