



ANNUAL REPORT



2023



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**2023 BUSINESS REPORT
AND FINANCIAL STATEMENTS OF
THE MAGYAR NEMZETI BANK**

2023

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Part A)
2023 Business Report
of the Magyar Nemzeti Bank

1 The Governor's foreword

After a period characterised by particularly difficult and complex problems, trends were clearly improving by 2023. In many ways, 2023 marked a turnaround, and the central bank's ongoing crisis management measures played a significant role in the positive changes. Following the outbreak of the coronavirus pandemic in 2020, the Magyar Nemzeti Bank (MNB) successfully managed the challenges posed by the successive crises, which continued to have a significant impact on the national economy in 2023.

Among the changes, 2023 saw a clear turnaround in inflation. Inflation worldwide was still close to historically high levels at the beginning of the year, but had fallen significantly by the end of the year. The global outlook for growth and inflation was mainly determined by geopolitical tensions, expectations regarding the interest rate paths of the world's leading central banks and developments in energy prices.

After hitting its high early in the year, inflation in Hungary also moved on a downward path and fell rapidly. The consumer price index peaked at 25.7 per cent in January and subsequently eased to 5.5 per cent in December. In a European comparison, Hungary saw the largest fall in inflation over the year, and by the end of the year the rate was the lowest among the countries in the region. Hungary's economic performance declined in the first two quarters and then stagnated in 2023 Q4, following a rebound in Q3. For 2023 as a whole, GDP contracted by 0.9 per cent, mainly due to the high inflation.

The domestic basis for the 2023 inflation turnaround was created by the MNB in October 2022, when it used monetary policy instruments to ensure financial market stability. As a result of the measures taken at the time, capital outflows reversed and confidence in the forint recovered among households and the corporate sector. The steps paid off: the results achieved and the improving risk environment allowed the central bank to gradually lower the overnight deposit quick tender rate to the level of the base rate from May 2023. In doing so, the MNB normalised the exceptional interest rate environment without jeopardising the continuation of disinflation and the stability of domestic financial markets. On 29 September 2023, the MNB announced the last overnight deposit quick tender and monetary policy entered a new phase.

The MNB's objective is to achieve at all times the lowest possible interest rate path that ensures price stability, maintains financial market stability and allows market-based lending to resume. In line with this, the Monetary Council was the first in the region to start cutting interest rates, lowering the central bank rate by a total of 725 basis points at a pace unprecedented in domestic terms. This brought the base rate down to 10.75 per cent by the end of the year. In 2023, the necessary positive turnaround took place not only in inflation and the country's economic performance, but also in interest rates.

The changes were also helped by the fact that the domestic banking system remained stable in 2023. Credit institutions continued to provide the necessary resources to economic agents, thus contributing to the smooth functioning of the economy. Growth in outstanding loans continued, albeit at a slower pace than in previous years. At the end of 2023, the annual growth rate of the corporate loan portfolio reached 6 per cent, while household loans outstanding expanded by 2.7 per cent on an annual basis. The slowdown in household loan dynamics was driven by a tighter monetary environment, an uncertain economic outlook, falling real wages, low consumer confidence and waiting due to changes in home purchase programmes from 2024.

In 2021, the MNB started operating in a carbon-neutral fashion. In its environmental strategy for 2020–2022, the MNB set out the objective of reducing the carbon footprint related to its operating activities by at least 30 per cent by the end of 2022. This target was exceeded almost twice over. The central bank has committed to further reducing its carbon footprint in the period 2023–2025, setting a target of 75 per cent for the end of 2025.

The MNB's activities to support financial innovation and digitalisation continued successfully in 2023. As an example, it is worth highlighting that the renewed Student Safe mobile application became available, which is now able to manage real money. This makes the Student Safe initiative the first central bank digital currency (CBDC) pilot project in the European Union available to retail customers. In line with the MNB's social responsibility strategy, the central bank operates the Hungarian Money Museum and Visitor Centre, which welcomed more than 190,000 visitors by the end of 2023 and received numerous national and international awards and recognitions for its successful operation.

Another important achievement is the addition of new publications to the MNB's series of reference books in 2023. The publication entitled '*Stability and Confidence – The History of Financial Supervision in Hungary*' provides a comprehensive overview of the development and history of financial supervision in Hungary over the past 100 years, with a special focus on the events of the past ten years. A volume of studies entitled '*Geopolitical Awakenings – Building a sustainable future in the emerging Eurasian era*' was published in English and Hungarian, in which renowned experts from several countries analyse the issues related to the growing geopolitical tensions and the fight against the worsening climate change.

As part of its commitment to international central bank cooperation, the MNB launched its Technical Cooperation Programme in 2023. The aim of the initiative is to facilitate knowledge sharing among central banks, providing a platform for professional dialogue and to share the MNB's best practices. In 2023, the 'Stability and Innovation' programme offered four seminars covering both the conventional central banking functions and the technology-driven developments of the financial landscape. The seminars were attended by nearly 100 central bank experts from 21 partner countries. Given the success of the programme, the MNB Technical Cooperation Programme will continue in 2024 with four more seminars.

2 A brief overview of the Magyar Nemzeti Bank

Company name: Magyar Nemzeti Bank

Registered Office: 1013 Budapest, Krisztina körút 55., Hungary

Form of operation: company limited by shares. The form of operation, i.e. the 'company limited by shares' designation or its abbreviation need not be included in the company name of the Magyar Nemzeti Bank.

Year of foundation: 1924

Owner (shareholder): the Hungarian State, represented by the minister in charge of public finances (hereinafter: Minister of Finance)

Scope of activities: as defined by Act CXXXIX of 2013 on the Magyar Nemzeti Bank (hereinafter: MNB Act)

Subscribed capital: HUF 10 billion

2.1 OBJECTIVES, BASIC AND OTHER TASKS OF THE MNB

The Magyar Nemzeti Bank (hereinafter: MNB, the central bank) is a legal entity operating as a special company limited by shares, which conducts its operations in accordance with the provisions of the MNB Act.

In accordance with Article 127 of the Treaty on the Functioning of the European Union, the MNB Act – which contains provisions governing the MNB's primary objectives, basic and other tasks as well as its institutional, operational, personal and financial independence and operation – stipulates that the primary objective of the MNB is to achieve and maintain price stability. Without prejudice to its primary objective, the MNB supports the maintenance of the stability of the system of financial intermediation, the enhancement of its resilience and its sustainable contribution to economic growth, as well as the economic policy of the government using the instruments at its disposal. The secondary mandate of the MNB was expanded with facilitating the government's policies on environmental sustainability.

The MNB Act also stipulates the independence of the central bank in accordance with Article 130 of the Treaty on the Functioning of the European Union. On the basis of central bank independence, the MNB and the members of its bodies

shall be independent in carrying out their tasks and meeting the obligations conferred upon them by the MNB Act, and shall neither seek nor take instructions from the Government, the institutions, bodies and offices of the European Union, the governments of its Member States or any other organisations or political parties, except from the European Central Bank (ECB) and as required based on its membership in the European System of Financial Supervision. The Government or any other organisation shall adhere to this principle and shall not attempt to influence the MNB or any member of its bodies in the course of the performance of their tasks.

The basic tasks of the MNB are as follows:

- it defines and implements monetary policy;
- it has the exclusive right to issue banknotes and coins, including commemorative banknotes and coins, which shall be the legal tender of Hungary;
- it has the exclusive right to hold and manage official foreign exchange and gold reserves, in order to preserve the external stability of the Hungarian economy;
- it has the exclusive right to conduct foreign exchange operations in relation to the management of foreign exchange reserves and the implementation of exchange rate policy;
- it has the exclusive right to oversee payment and securities settlement including overseeing the operation of the system and the operation of the organisation performing central counterparty activities in order to ensure the sound and efficient operation of these systems and the smooth circulation of money, and within the scope of its powers set forth in the MNB Act, it participates in the development of payment and settlement and securities settlement systems;
- it collects and publishes the statistical information required for carrying out its tasks and fulfilling its statistical reporting obligations toward the European Central Bank as defined in Article 5 of Protocol (No 4) on the Statute of the European System of Central Banks and of the European Central Bank attached to the Treaty on the Functioning of the European Union;
- it establishes the macroprudential policy for the stability of the entire system of financial intermediation, with

the objective of enhancing the resilience of the system of financial intermediation and ensuring its sustainable contribution to economic growth. To that end and within the limits specified in the MNB Act, the MNB explores the business and economic risks threatening the system of financial intermediation as a whole, promotes the prevention of the development of systemic risks and the reduction or elimination of evolving systemic risks; furthermore, in the event of disturbances to the credit market, it contributes to the balanced functioning of the system of intermediation in financing the economy by stimulating lending and – in the event of excessive credit outflow – by restraining lending.

Above and beyond its basic tasks, the tasks of the MNB are the following:

- it acts as a resolution authority;
- it acts as the sole supervisor of the financial intermediary system, in order to
- a) ensure the smooth, transparent and efficient functioning of the system of financial intermediation;
- b) facilitate the prudent operation of the persons and organisations comprising the system of financial intermediation and supervise the prudent exercise of owners' rights;
- c) discover undesirable business and economic risks to individual financial organisations or individual sectors thereof, reduce or eliminate specific or sectoral risks which have evolved, and take preventive measures to ensure the prudent operation of individual financial organisations;
- d) protect the interests of users of the services provided by financial organisations, and strengthen public confidence in the system of financial intermediation;
- via the Financial Arbitration Board it administers the out-of-court resolution of disputes related to the establishment and fulfilment of contracts for services established between the consumer and the organisations of the financial intermediary system services.

Any further tasks of the MNB shall be defined by acts and, in relation to the supervision of the system of financial intermediation, by legal regulations adopted pursuant to the authorisation of an act. Such tasks of the MNB shall comply with the basic tasks and responsibilities of the MNB as defined in the MNB Act.

Pursuant to Act CXCV of 2011 on the Economic Stability of Hungary, the Governor of the MNB is a member of the

Fiscal Council (hereinafter: FC), and thus the information and professional expertise available in the MNB supports the work of the FC. The MNB prepares background analyses for the duties of the FC stipulated in the Stability Act and makes such available to the FC.

2.2 BODIES AND MANAGEMENT OF THE MNB

The MNB operates as a legal person functioning in the form of a single-member company limited by shares. The general rules pertaining to companies limited by shares and the relevant provisions of Act on the Civil Code are applicable to the MNB, with the exceptions laid down by the MNB Act.

The Hungarian State as shareholder is represented by the Minister of Finance. The MNB operates without a General Meeting.

The **shareholder** is entitled to adopt decisions, by way of a shareholder's resolution, on the establishment and in the amendment of the Statutes as well as on the appointment, dismissal and remuneration of the auditor.

As a guarantee of independence, in contrast to the practice of other companies limited by shares, the remuneration of the MNB's Governor, Deputy Governors and other members of the Monetary Council as well as the members of the Supervisory Board are determined by the MNB Act rather than by the shareholder.

Likewise, the bodies of the MNB are specified by the MNB Act, such as the Monetary Council, the Financial Stability Council, the Executive Board, and the Supervisory Board.

The MNB's supreme decision-making body is the **Monetary Council**.

The scope of competence of the Monetary Council includes:

- strategic decisions concerning monetary policy, the issue of legal tender, the holding and management of foreign exchange and gold reserves, strategic decisions relating to foreign exchange transactions in the context of foreign exchange reserve management and the implementation of exchange rate policy, as well as strategic decisions concerning statistical tasks, including in particular decisions on the level of the reserve ratio and the interest rate payable on the minimum central bank reserves, and decisions related to the exchange rate regime and determining the central bank base rate;
- in relation to macroprudential tasks, the oversight and the supervision of the financial intermediary system and the MNB's role as a resolution authority, decisions on the strategic

framework within which the Financial Stability Council makes its decisions;

- establishing the rules of procedure;
- decisions on any other matter in the exclusive competence of the Monetary Council as defined by law.

Members of the Monetary Council are: the Governor of the MNB as Chairman of the Monetary Council, the Deputy Governors of the MNB and the members elected by the Parliament for six years. The Monetary Council has at least five and at most nine members.

At the first meeting of each year, the Monetary Council elects a Deputy Chairman from among the Deputy Governors of the MNB, who substitutes for the Chairman in the event of his absence – with the exception of the issuance of decrees. The Monetary Council elected Barnabás Virág, Deputy Governor as Deputy-Chairman in 2023.

In 2023 the members of the Monetary Council were:

- Dr György Matolcsy, Governor of the MNB and Chairman of the Monetary Council since 4 March 2013, reappointed on 4 March 2019,
- Dr Mihály Patai, Deputy Governor from 22 April 2019,
- Dr Csaba Kandrás, Deputy Governor from 2 October 2019,
- Barnabás Virág, Deputy Governor from 22 June 2020,
- Dr Péter Gottfried, from 1 January 2021,
- Dr Kolos Kardkovács, re-elected from 13 September 2022,
- Gyula Pleschinger, re-elected from 5 March 2019,
- Dr Éva Búza, from 6 April 2023,
- Zoltán Kovács, from 27 March 2023.

Concerning the matters falling within the MNB's competence, the **Financial Stability Council** acts on behalf of the MNB within the strategic framework defined by the Monetary Council during the decision-making in relation to oversight, macroprudential tasks and resolution authority duties, as well as the supervision of the system of financial intermediation.

Within this scope of competence, the Financial Stability Council

- continuously monitors the stability of the system of financial intermediation as a whole and of the financial markets, in order to maintain the stability of the system of financial intermediation as a whole;
- takes account of risk factors threatening the system of financial intermediation as a whole;
- analyses the risks related to certain types of institutions or products or to the spread of these which may represent a threat to the system of financial intermediation as a whole;

- monitors developments on international and European markets and risks which may represent a threat to the stability of the system of financial intermediation as a whole, and makes decisions on the necessary measures within the strategic framework defined by the Monetary Council;

- discusses strategic, regulatory and risk-related issues affecting the system of financial intermediation as a whole and issues opinions if necessary;

- in situations threatening the stability of the financial intermediary system it assesses systemic risks and decides on the measures required for the mitigation or elimination of such risks;

- places on its agenda, as necessary, the recommendations, opinions and warnings of the European Systemic Risk Board relevant to the system of financial intermediation as a whole;

- discusses the recommendations and resolutions issued by the European Supervisory Authorities as needed, including decisions addressed to national supervisory authorities calling for specific measures in the event of serious risks to the stability of the European financial system and express its opinion on the tasks arising from such decisions;

- publishes non-binding recommendations for persons and organisations supervised by the MNB describing the basic principles of the legal enforcement practices of the MNB;

- annually defines the priority target areas of the MNB's control activities;

- makes decisions within the framework of performing the MNB's resolution tasks concerning the decisions ordering resolution and applying resolution measures, as well as in administrative proceedings related to performing the resolution tasks under the MNB decree on the detailed rules of exercising of powers relating to certain decisions taken by the Magyar Nemzeti Bank as an authority as well as of the substitution and exclusion of the body that exercises such powers;

- makes decisions in administrative proceedings relating to exercising the supervision of individuals and organisations as well as activities falling under the scope of the acts defined in Articles 39–41 of the MNB Act and the directly applicable legal acts of the European Union, in administrative proceedings related to exercising supervision under the MNB decree on the detailed rules of exercising of powers relating to certain decisions taken by the Magyar Nemzeti Bank as an authority as well as of the substitution and exclusion of the body that exercises such powers; and

- makes decisions in administrative proceedings related to performing the macroprudential tasks under the MNB decree on the detailed rules of exercising of powers relating to certain decisions taken by the Magyar Nemzeti Bank as an authority as well as of the substitution and exclusion of the body that exercises such powers.

Members of the Financial Stability Council:

- the Governor of the MNB as its Chairman;
- the Deputy Governors of the MNB;
- as the executives appointed by the Governor of the MNB for Licensing and Legal Enforcement; Digitalisation (Chief Digital Officer); Monetary Policy Instruments, Financial Stability and Foreign Reserve Management; Prudential and Consumer Protection Supervision of Money Market Institutions; and
- the Director General.

In accordance with the MNB Act, responsibility for implementing the decisions of the Monetary Council and the Financial Stability Council, as well as for managing the operation of the MNB rests with the **Executive Board**.

The scope of competence of the Executive Board includes:

- managing the implementation of the decisions of the Monetary Council and the Financial Stability Council;
- establishing the MNB's accounting report, adopting decisions on the payment of dividends pursuant to Article 166(1a) of the MNB Act, and approving the draft year-by-year forecast of the preliminary level of the equity at the end of the previous year and its expected development;
- approving the draft report to be sent to the shareholder on the management and assets of the MNB;
- approving matters related to the organisation and internal management of the MNB;
- approving the study plans and programmes relating to the operation of the MNB and the performance of its tasks, including the costs of the development and operational plan;
- managing the MNB's internal audit organisation in respect of tasks falling outside the scope of competence of the Supervisory Board, and discussing the findings and plans of the internal audit;

- amending the collective agreement in respect of employment rights and obligations, the exercise and performance of these rights and obligations, and the associated procedures; and
- adopting decisions in respect of the central bank's powers to manage account and other financial and auxiliary financial services, as well as certain auxiliary services supplementing investment service activities.

The members of the Executive Board, which acts as the executive body of the MNB, are the Governor, as the Chairman of the Board, and the Deputy Governors of the MNB.

Provisions relating to the functions and operational procedures of the Monetary Council, the Financial Stability Council and the Executive Board are set forth in the MNB Act, the MNB's Statutes, Organisational and Operational Rules as well as the rules of procedure formulated by these bodies.

The **auditor** of the MNB can be appointed for a maximum of five years. The shareholder decides on the appointment, dismissal and remuneration of the auditor by way of a shareholder resolution. Prior to the appointment or proposal for the dismissal of the MNB's auditor, the Governor of the MNB consults the President of the State Audit Office.

In addition to the auditor appointed by the shareholder, the MNB is also audited by the State Audit Office and the Supervisory Board.

The supervisory competence of the **State Audit Office** over the MNB is set forth in the Act LXVI of 2011 on the State Audit Office. The State Audit Office supervises the financial management of the Magyar Nemzeti Bank and its activities that are not included in its basic tasks. In this regard, the State Audit Office examines if the MNB operates in accordance with the applicable law and its Statutes.

As set forth in the MNB Act, the **Supervisory Board** is the body responsible for the continuous supervision of the MNB on behalf of the owner. The supervisory competence of the Supervisory Board defined by the MNB Act does not cover the supervision of the MNB's performance of its basic tasks, its actions as a resolution authority and its supervisory activity in respect of the financial intermediary system, or the impact of such on the MNB's profit and loss. Accordingly, the Supervisory Board compiles the report on the annual accounts as specified in the Act C of 2000 on Accounting within the above limitations.

The members of the Supervisory Board as defined in the MNB Act are its Chairman elected by the Parliament, three additional members elected by the Parliament, the representative of the

Members of the Executive Board and the Monetary Council of the Magyar Nemzeti Bank



Dr György Matolcsy
Governor,
Chairman of the Monetary Council



Dr Csaba Kandrás
Deputy Governor,
Member of the
Monetary Council



Dr Mihály Patai
Deputy Governor,
Member of the
Monetary Council



Barnabás Virág
Deputy Governor,
Deputy Chairman of the
Monetary Council

Members of the Monetary Council of the Magyar Nemzeti Bank



Dr Éva Búza
Member of the Monetary Council



Dr Péter Gottfried
Member of the Monetary Council



Dr Kolos Kardkovács
Member of the Monetary Council



Zoltán Kovács
Member of the Monetary Council



Gyula Pleschinger
Member of the Monetary Council

Members of the Supervisory Board of the Magyar Nemzeti Bank



Left to right: Viktor József Asztalos, Péter Benő Banai, Dr Ferenc Papcsák, Dr Gábor András Szényei, László Madarász, Dr László Nyikos

Minister of Finance and an expert appointed by the Minister of Finance. The Chairman of the Supervisory Board, who is elected by the Parliament, is nominated by the parliamentary panels of the governing parties, whereas the other members elected by the Parliament are nominated by the parliamentary panels.

Members of the Supervisory Board in 2023:

- Dr Ferenc Papcsák, Chairman,
- László Madarász,
- Dr László Nyikos,
- Dr Gábor András Szényei,
- Péter Benő Banai, and
- Viktor József Asztalos.

2.3 ORGANISATION OF THE MNB

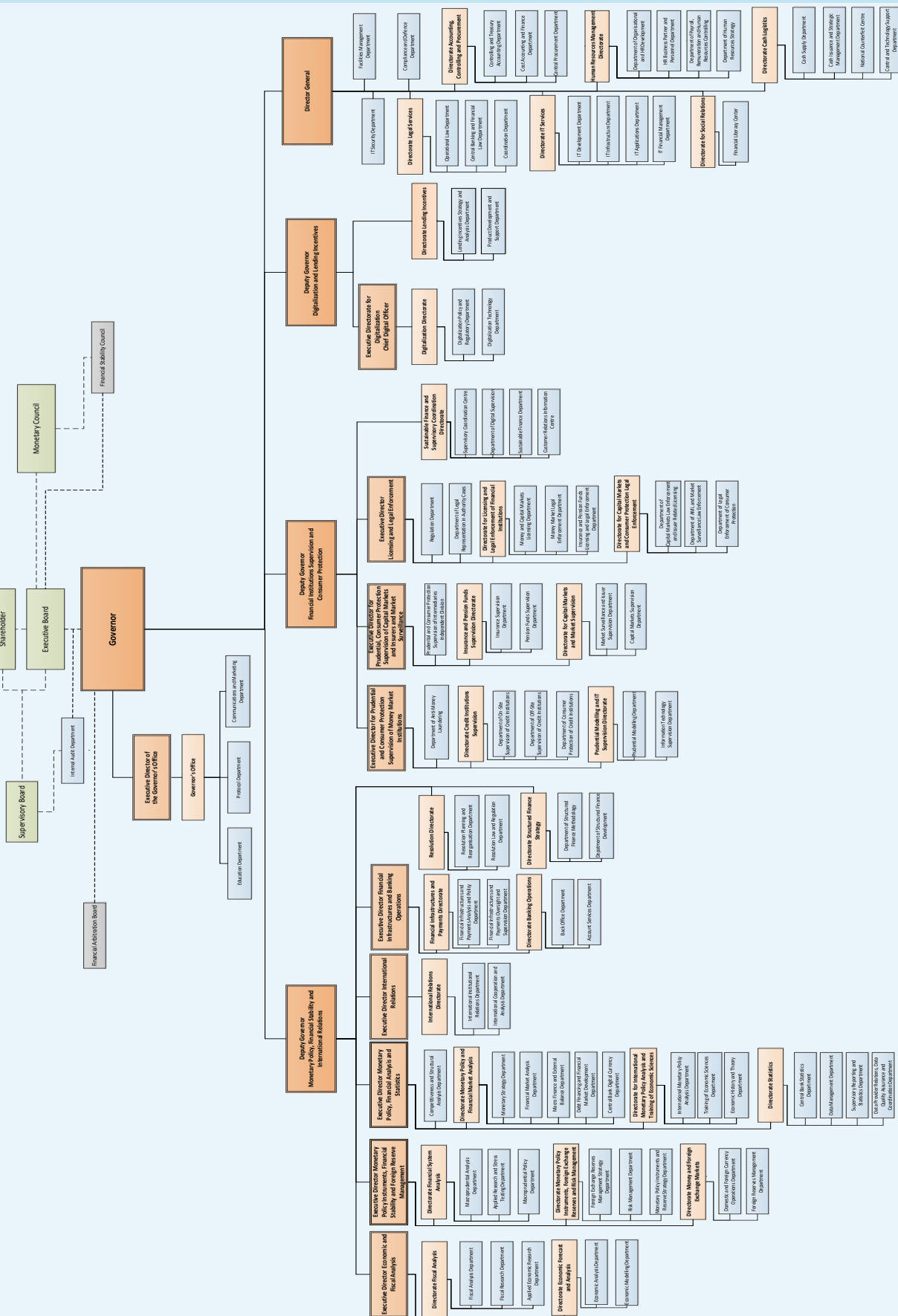
The organisation of the MNB is based on the operating and operational governance model introduced on 1 July 2013 and, in respect of the integrated organisation, on 1 October 2013. Although the organisational structure has changed several

times since then, these changes did not fundamentally alter the organisational structure developed in 2013.

Fulfilment of the statutory and operational tasks of the MNB is controlled and supervised by, in addition to the members of the Executive Board, the Director General, and, in their capacity as the top level executors of the decisions, the executive directors.

In 2023, modifications to the MNB's organisational structure were introduced in relation to areas controlled by the Governor, the Deputy Governor responsible for monetary policy, financial stability and international relations, the Deputy Governor responsible for financial institutions supervision and consumer protection, and the Deputy Governor responsible for digitalisation and lending incentives, as well as the Director General. The primary objective of these changes was to enhance efficiency.

The organisational structure as at 31 December 2023, which emerged as a result of the organisational changes, is presented in the **organisational chart**.



2.4 THE MNB AS A MEMBER OF THE EUROPEAN SYSTEM OF CENTRAL BANKS

Hungary's accession to the European Union also entailed the MNB's membership in the European System of Central Banks (ESCB). The ESCB comprises the ECB, which was established in June 1998 with its registered office in Frankfurt, and the national central banks of the EU Member States. The third decision-making body of the ECB is the General Council, which is responsible for maintaining an institutional relationship between the Eurosystem and the central banks of non-euro area Member States. The General Council holds its meetings quarterly and consists of the President and the Vice-President of the ECB and the governors of the central banks of all EU Member States. The key responsibilities of the General Council include consultancy concerning preparations for accession to the euro area, approval of the convergence reports of the ECB and monitoring the functioning of ERM II. Within the framework of the latter activity, it assesses the sustainability of the bilateral exchange rate of non-euro currencies participating in ERM II against the euro and provides a forum for the alignment of monetary and exchange rate policies and the management of intervention and financing mechanisms in ERM II. In addition, the General Council is involved in verifying whether the central banks of EU Member States and the ECB comply with the prohibition of monetary financing of the budget and privileged access of the public sector to financial institutions. The General Council also participates in the ECB's advisory functions and in the collection of statistical information; it must be consulted in respect of any changes in the rules of accounting and financial data reporting, as well as issues related to the adjustment of the keys for subscriptions to the ECB's capital. The mandate of the General Council will expire on the date when all of the member states of the European Union have adopted the euro.

The number of ESCB members remained unchanged in 2023. Croatia adopted the euro on 1 January 2023 and the Croatian National Bank became a member of the Eurosystem on 1 January 2023.

ESCB members are also owners of the ECB. Their share in the ECB's capital is established on the basis of the respective

EU Member State's share in the total population and GDP of the EU (i.e. on statistical data compiled by the European Commission). Since 1 July 2013, the paid-up capital of the ECB amounts to EUR 10.825 billion.

In 2023, euro area central banks subscribed to 82 per cent of the ECB's capital, while the remaining 18 per cent was divided among the central banks of non-euro area Member States. These latter central banks pay a pre-defined minimum quota of their respective subscriptions to the ECB's capital as a contribution to the operational costs of the ECB which are incurred in connection with their ESCB membership. With effect from 29 December 2010, this contribution was defined as 3.75 per cent of the respective subscriptions (it had previously been 7 per cent). As set forth in the Statute of the ESCB and of the ECB, the capital keys are adjusted every five years, or whenever the number of national central banks contributing to the ECB's capital changes. The last time capital keys were adjusted before 2023 was after the United Kingdom left the EU, and as a result, the capital key of the MNB increased to 1.5488 per cent and the amount of its paid-up capital rose to EUR 6.3 million as of 1 February 2020.¹

The ESCB Committees play an important role in the work of the ECB's decision-making bodies. The basic role of these committees is to prepare decisions and facilitate coordination as per the horizontal division of various central bank duties, covering all areas of central banking operations from monetary policy through communication to statistical data reporting. Experts from the central banks of non-euro area Member States attend those committee meetings where the agenda includes items affecting the ESCB as a whole and which fall within the competence of the General Council. The committees meet and discuss current issues relevant to their professional areas in ESCB composition, 4–5 times a year on average, according to a schedule determined for a year in advance. (For a detailed description of the ESCB Committees and the activities of the various fora assisting them, see Chapter 3.14.)

The senior executives and relevant experts of the MNB continue to play an active role in the activities of these committees and their working groups. In 2023, the ESCB committee work continued to be a useful forum for the exchange of professional experience.

¹ The capital keys were last adjusted on 1 January 2024 as part of the normal five-yearly review. As a result of the correction, the MNB's capital key increased to 1.5819 per cent and the paid-in capital share increased to EUR 6.42 million.

3 Review of the MNB's performance in 2023

3.1 MONETARY POLICY

2023 was a turning point for inflation. At the start of the year, inflation was close to historically high levels around the world, but by the end of the year inflation rates had eased significantly. The global outlook for growth and inflation was mainly determined by geopolitical tensions, expectations regarding the interest rate paths of the world's leading central banks and developments in energy prices. International investor sentiment was volatile during the year.

The international monetary policy environment was characterised by tight conditions. The world's leading central banks continued to raise interest rates from the beginning of the year, reaching the peak of their interest rate trajectories in the second half of the year, based on market pricing. Central banks in the region maintained tight conditions, but the Polish central bank started cutting interest rates in September and the Czech central bank in December.

Inflation in Hungary remained above the central bank's tolerance band throughout the year, before declining from its high at the beginning of the year and declining rapidly. The consumer price index peaked at 25.7 per cent in January and then eased to 5.5 per cent in December. In a European comparison, Hungary saw the largest fall in inflation over the year, and by the end of the year the rate was the lowest among the countries in the region. Hungary's economic performance declined in the first two quarters and then stagnated in 2023 Q4, following a rebound in Q3. For 2023 as a whole, GDP contracted by 0.9 per cent, mainly due to the high inflation.

The central bank successfully ensured financial market stability with the monetary policy instruments introduced in mid-October 2022, which is a key priority for achieving price stability again. As a result of the measures taken, capital outflows reversed and confidence in the forint recovered among households and the corporate sector. The forint strengthened significantly and sustainably after the end of 2022, while long-term yields declined significantly. The stable market environment created the right basis for sustained disinflation, which is an essential condition for sustainable growth. The steps have paid off: the results achieved and the improving risk environment allowed the

central bank to gradually lower the overnight deposit quick tender rate in a series of cautious and careful decisions, in line with market expectations, by a total of 500 basis points to 13 per cent, i.e. the level of the base rate, from May 2023. The MNB thus normalised the exceptional interest rate environment without endangering continued disinflation and the stability of domestic financial markets. Subsequently, on 29 September 2023, it announced the last overnight deposit quick tender and monetary policy entered a new phase.

The MNB's objective is to achieve at all times the lowest possible interest rate path that ensures price stability and maintains financial market stability, which is essential for price stability. Without prejudice to its primary objective, the central bank supports the Government's economic policy and its policy related to environmental sustainability with the instruments at its disposal. In line with this, the Monetary Council continued to cut interest rates in 2023 Q4, but with a cautious approach of 75 basis points, less than previously, in view of the rising external risks. The Council was the first in the region to start cutting interest rates, lowering the effective central bank rate by a total of 725 basis points at a historically unprecedented pace in domestic terms. This brought the base rate down to 10.75 per cent by the end of the year.

The MNB successfully implemented the monetary conditions deemed appropriate by the Monetary Council in the key market segments during 2023, using the central bank's toolkit. In the first months of the year, the instruments used in the last quarter of 2022 – the quick tender for deposits, the FX swap providing foreign exchange liquidity, the central bank discount bond and the long maturity deposit facility – were applied in unchanged form. The Euro Energy Import Facility that was introduced in November 2022 effectively contributed to the stability of the foreign exchange market, and with the decline in energy market prices it was possible to phase out this measure by the end of March 2023.

In view of the improving external economic environment and inflationary developments, the Monetary Council started the gradual normalisation of the extraordinary interest rate environment at its policy decision meeting on 25 April. In the months thereafter, the Monetary Council decided to lower the upper end of the interest rate corridor by 1 percentage point each, taking advantage of the ongoing improvement

in the risk environment. In setting the interest rate at its regular tenders and the optional part of the minimum reserve, the MNB applied the interest rate cuts in line with the Monetary Council's decision, and thus the interest rate on the quick tender for deposits also fell in line with the interest rate cuts.

One key change in the central bank's toolbox was the phased restructuring of the minimum reserve system. The minimum reserve ratio increased to 10 per cent from the second quarter, with an additional optional 5 per cent part remaining. As part of the restructuring, the interest rate has become banded. The MNB does not pay interest on 25 per cent of the 10 per cent minimum reserve ratio, while the base interest rate is applied to the portion above that. For the optional part of the minimum reserve, the MNB paid interest at the same rate as the overnight deposit quick tender rate instead of the base rate. In addition, as part of the changes to the reserve system, it was decided in May 2023 that deposits with the central bank with an original maturity of at least 14 days would count towards the reserve requirement from July up to a limit of 15 per cent. In addition, in order to strengthen the transmission effect of the instrument, the way the reserve base is calculated was also changed: from the beginning of 2024 it is determined on the basis of daily data, instead of the previous end-of-month closing rate, calculated on the basis of the monthly average rate.

After the September rate-setting meeting, the overnight quick tender for deposits rate fell from 14 per cent to 13 per cent, reaching the base rate, which created the opportunity for a review of the implementation framework. The Monetary Council overhauled and simplified the monetary policy toolkit in September. In this context, the central bank pays the base rate on the balance of the reserve account above the minimum reserve from 1 October. Following the interest rate convergence and the restructuring of the interest rate on excess reserves, the function of the quick tender for deposits ceased. The function of the effective short interest rate is performed by the base rate, while the main sterilisation tool is the reserve account. The daily announcement of quick tenders for deposits was discontinued by the MNB on 1 October. It was also decided that the interest rate on the discount bond and the long-term floating rate deposit would be aligned with the base rate, further strengthening the role of the base rate.

Overnight (tomnext) FX swap tenders continued unchanged, with the announced volume of EUR 6 billion increased from the beginning of September, and the pricing of the tenders was set at the bottom of the interest rate corridor, as the central bank had communicated. The monetary policy toolbox was simplified with the suspension of the quick

tender for deposits, while the role of the central bank base rate was strengthened.

Banking system liquidity remained ample throughout 2023, with the overall average amount rising from HUF 11,660 billion in January to over HUF 14,500 billion by the end of the year. In terms of autonomous processes, the Single Treasury Account was the strongest contributor to the expansion of interbank liquidity, while the MNB's operations were mainly expansionary through interest payments.

As in previous years, the MNB used its available tools to smooth out end-quarter volatility in swap market yields and help manage liquidity in the banking system. The MNB provided counterparties with EUR 3.3–6.5 billion in cross-quarter FX swap tenders and bonds with a face value of HUF 1,800–2,900 billion at discount bond auctions.

International financial market developments

In 2023, the global outlook for growth and inflation was shaped by geopolitical tensions, the ongoing Russia-Ukraine war and the escalating conflict in Gaza from early October, as well as expectations for the interest rate paths of the world's leading central banks and energy price developments. The major economies followed different paths in terms of economic growth. While economic growth accelerated in the United States on an annual basis, it slowed in the European Union. In China, a slowdown was registered after the first half-year expansion. Inflation was close to historically high levels in most countries at the beginning of the year, but by the end of the year inflation rates had fallen significantly.

International investor sentiment was volatile during the year. The worsening sentiment in the first quarter was driven by news of the war between Russia and Ukraine and the escalation of market concerns related to certain developed market banks, as well as the debate over raising the US debt ceiling. However, investor sentiment improved from the second quarter onwards as market turbulence subsided. As tensions eased, expectations of interest rate hikes by the world's leading central banks, energy and commodity prices, and incoming macroeconomic data became increasingly important factors. Looking at the months of late summer and early autumn, deteriorating risk appetite caused by market turbulence in some emerging markets, the downgrading of the US debt rating and the slowdown in the Chinese economy had a negative impact on investor sentiment. From the beginning of October, geopolitical tensions were heightened and market sentiment was volatile as a result of the conflict in Gaza.

International monetary policy environment

The world's leading central banks continued to tighten monetary conditions in the first half of the year. At the same time, market pricing suggested that they had reached the apex of their interest rate trajectory by the autumn months and at the end of the year market participants were already expecting rate cuts by 2024. The Federal Reserve (Fed) raised the target range for the policy rate in three steps in its first three meetings of the year, by a total of 75 basis points, left interest rate conditions unchanged in June and then raised them again by 25 basis points in July. Subsequently, decision-makers made further action dependent on the data received, but no further changes were made to the conditions through to the end of the year. The European Central Bank (ECB) raised key policy rates by 50 basis points each at the first two meetings of the year and then continued with slower 25-basis point increases from May. In doing so, it raised the key policy rates by a total of 150 basis points by September. It also stopped reinvesting maturing securities purchased under the APP programme from July. The ECB's assessment following its September rate hike suggested that key policy rates had reached a sufficiently restrictive level that, if maintained for a sufficiently long period, would contribute significantly to a timely return to the inflation target.

Among the central banks in the region, the Bank of Romania raised its policy rate by 25 basis points in January, but did not change its monetary conditions from that point on during the year. The Czech central bank cut interest rates for the first time in December by 25 basis points, in line with market expectations. In addition, in August the central bank officially closed the foreign exchange intervention period announced in May 2022. Poland's central bank cut its base rate twice: by a larger-than-expected 75 basis points in September and by 25 basis points in October, which was in line with market expectations.

Domestic macroeconomic environment

In 2023, consumer prices rose by 17.6 per cent overall. Domestic inflation remained above the central bank's tolerance band throughout the year, but after peaking at the beginning of the year it started to decline and moderated rapidly. The consumer price index peaked at 25.7 per cent in January and then fell to 5.5 per cent in December, making Hungary the country with the largest year-on-year fall in inflation in Europe. The decline in domestic inflation accelerated in the third quarter, and in September the rate of monthly price changes for both inflation and core inflation corresponded to the historical value typical for this period of the year. In December, Hungary had the lowest consumer price index among the countries in the region.

Core inflation fell to 7.6 per cent by the end of the year. The trend slowdown in underlying inflation is indicated by the fact that the annualised three-month change in core inflation was around 3 per cent since September.

The rapid disinflation was supported by both external and internal factors. Lower energy and commodity prices, reduced freight costs, falling global food commodity prices and easing tensions in value chains contributed to the decline in inflation, in addition to the moderating effect of disciplined monetary policy on price increases. Furthermore, the slowdown in global and domestic economic activity and the government's measures to stimulate competition between firms also contributed to the slowdown in price dynamics.

The economic performance of Hungary declined on a quarterly basis in the first two quarters and then stagnated in 2023 Q4 after a rebound in Q3. In 2023 as a whole, GDP contracted by 0.9 per cent. Economic performance declined by 0.9 per cent year-on-year in the first quarter and by 2.4 per cent in the second quarter. Year-on-year, domestic GDP contracted by 0.4 per cent in the third quarter, while it grew by 0.9 per cent compared with the previous quarter. In the fourth quarter, domestic economic activity was subdued. During the year, the performance of industry and construction declined significantly, which was only partly offset by an increase in agricultural output. The decline in economic performance for the year as a whole mainly reflected the high inflation. Household consumption decreased due to the high inflation and increased caution. The high inflation also led to a decline in the purchasing power of financial assets and wages. Consumer confidence remained low, reflected in a rise in savings and a slowdown in household lending. Investment momentum was also restrained by the cancellation of public projects, in addition to an uncertain demand outlook. In 2023, the contribution of net exports to growth was positive. After the trough recorded in 2022, the current account balance improved rapidly and significantly in 2023. The current account-to-GDP ratio improved by more than 8 percentage points over 2023, and accordingly the surplus of the current account also recovered rapidly by historical standards. The sustained improvement in the external position was driven by lower energy prices and the adjustment in energy consumption on the one hand, and by shrinking imports amid waning domestic demand on the other hand.

Monetary policy measures

At the beginning of the year, the turnaround started by the MNB's autumn 2022 measures continued. There was sustained improvement in the stability of domestic financial markets and in the risk perception of Hungary. Through the

monetary policy instruments introduced in mid-October 2022, the central bank successfully ensured financial market stability, which was a key priority for the re-establishment of price stability. As a result of the measures taken, capital outflows reversed and confidence in the forint recovered among households and the corporate sector. The forint strengthened significantly against both the euro and the dollar. Domestic government bond yields moderated, supported by the MNB's measures for market stability, rising expectations of interest rate cuts and a pick-up in risk appetite. The stable market environment created the right basis for sustained disinflation, which is an essential condition for sustainable growth.

The Monetary Council did not change the interest rate conditions at its policy meetings in the first quarter. At the same time, with the reduction in demand for the euro sale instrument for energy imports, announced on 14 October 2022, the Monetary Council phased out the instrument, which had previously been effective in contributing to foreign exchange market stability, from 31 March 2023.

In view of the sustained improvement in domestic risk perceptions, the Monetary Council started a cautious and gradual normalisation of interest rate conditions from 2023 Q2, which were set in mid-October. In April 2023, the Council decided to narrow the interest rate corridor in response to the reduction in the risks of extreme scenarios, lowering the O/N collateralised lending rate, which is the upper bound of the corridor, by 450 basis points to 20.5 per cent.

With international macroeconomic developments, accelerating domestic disinflation, an improving external balance and a sustained favourable domestic risk environment, the normalisation of the extraordinary interest rate environment became possible from May onwards, while the base rate was left unchanged. As the first in the region, the Monetary Council lowered the effective central bank rate, i.e. the overnight deposit quick tender rate, in 100-basis point steps between May and September, for a total of 500 basis points. At the same time, the interest rate on the O/N collateralised credit facility, which represents the upper bound of the interest rate corridor, was reduced in parallel, and the announcement of overnight deposit quick tenders and foreign exchange swaps followed the pace of interest rate cuts. Following the decisions, the Council underlined that it continued to consider it necessary to maintain tight monetary conditions to achieve price stability and that the level of the base rate was appropriate to address the fundamental inflation risks. The MNB successfully implemented the normalisation of the extraordinary interest rate environment without endangering continued disinflation and the stability of domestic financial markets.

With its decision in September, the Monetary Council completed the normalisation of the extraordinary interest rate environment. Following the decision, the base rate of 13 per cent became the effective central bank rate. At the same time, the Council decided to make the central bank's interest rate corridor symmetric, with a band of +/- 100 basis points around the base rate. Monetary policy thus entered a new phase. The revised and simplified central bank toolkit, as decided by the Monetary Council in September, emphasises the prominent role of the base rate.

The central bank's objective is to achieve at all times the lowest possible interest rate path that ensures price stability and maintains financial market stability. In line with this, strong disinflation and a reduction in the country's vulnerability over the rest of the year allowed the MNB to continue to shape monetary conditions by lowering the base rate. At the same time, it considered it appropriate to maintain a cautious approach and to continue lowering interest rates at a slower pace than before, given the rising external risks. In line with this, the Council cut the base rate by 75 basis points each at its meetings in October, November and December. The base rate fell to 10.75 per cent by the end of 2023. At the same time, the lower bound of the interest rate corridor, the O/N deposit rate, was reduced to 9.75 per cent, while the upper bound, the O/N lending rate, was reduced to 11.75 per cent. The central bank lowered the effective interest rate by a total of 725 basis points during the year, a pace historically unprecedented in Hungary. As disinflation accelerated, the real interest rate in the domestic economy moved into the positive range in September.

Among the central bank's monetary policy instruments, the swap instrument providing euro liquidity with maturities extending through the end of the quarter and the central bank discount bond supported financial market stability, while the long maturity deposit tender was effective in absorbing liquidity from the banking system for a longer period and strengthening monetary transmission.

The central bank regularly used the instruments absorbing interbank forint liquidity for long-term tenors – the long-term deposit instrument and the central bank discount bond – throughout the year, while in September it decided to offer the instruments at the base rate in the following period. The Council considers that one-day foreign exchange swap tenders continued to be an important element in strengthening the monetary transmission over the period and that the central bank will continue to use the instrument. From September onwards, the central bank has used the lower bound of the interest rate corridor as a benchmark for the interest rate on the instrument.

Trends in inflation in 2023

As a result of successive waves of inflation, domestic inflation peaked at 25.7 per cent in January 2023, the highest rate in the European Union. Supply and demand frictions following the pandemic, the energy crisis and the Russian-Ukrainian war all had a global impact, while the high energy intensity of the economy and higher dependence on Russian energy imports made the region more vulnerable to cost shocks. Domestic country-specific factors also contributed to the surge in inflation, such as competitiveness gaps and higher cost sensitivity in the food sector, the highest increase in corporate gas and electricity prices in the EU, the strongest profit inflation, fiscal stimulus, negative effects from market distortions, and a weakening exchange rate and stronger exchange rate pass-through.

Among the EU member states, the V4 and the Baltic States had the highest average inflation in 2023. The Harmonised Index of Consumer Prices was the highest in the region in Hungary (17 per cent), while the average rate of increase in 2023 was 12 per cent in the Czech Republic, 11 per cent in Slovakia and 10.9 per cent in Poland.

Domestic inflation fell from a peak of 25.7 per cent in January to 5.5 per cent in December, the lowest in the Visegrad region. The decline of nearly 20 percentage points was the fastest among the EU countries over this period. The consumer price index according to the domestic methodology averaged 17.6 per cent annually in 2023. During the year, the rapid disinflation was supported by both external and internal factors. In conjunction with disciplined monetary policy curbing price increases, energy

and commodity prices, as well as transport costs, fell to levels seen before the outbreak of the Russia-Ukraine war. Global food commodity prices dropped and tensions in value chains also eased. On the demand side, the slowdown in both global and domestic economic activity also curbed inflation. The slowdown in price dynamics was supported by both government actions to stimulate competition between firms and base effects.

Indicators capturing more persistent inflation trends also declined significantly over the year: Core inflation net of indirect taxes, core inflation excluding processed food, and inflation for goods and services with sticky prices also fell steadily after the spring. Both core inflation and core inflation net of indirect taxes eased to 7.6 per cent by the end of the year. Annual average core inflation amounted to 18.2 per cent in 2023.

Disinflation was a broad-based phenomenon, as the pace of price increases dropped substantially in all product groups. According to data from the Hungarian Central Statistical Office (HCSO), the price index for food decreased the most, with the rate of price increases slowing from 44 per cent in January to 4.8 per cent in December. On an annual average, prices for the product group rose by 25.9 per cent. Industrial goods inflation fell from 19 per cent in January to 6.6 per cent in December, with an annual average of 13.9 per cent. Compared to other product groups, the decline in the annualised rate of price increases for market services started later, from June 2023, as a result of retrospective repricing, mainly in the telecom sector and banking services. By December, market services inflation had eased to 12.6 per cent.

Chart 1
Inflation target and developments in inflation since the setting of the continuous target

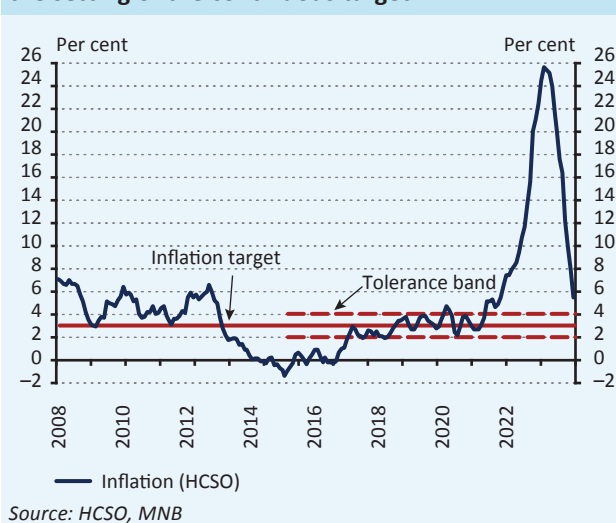


Chart 2
Underlying inflation indicators

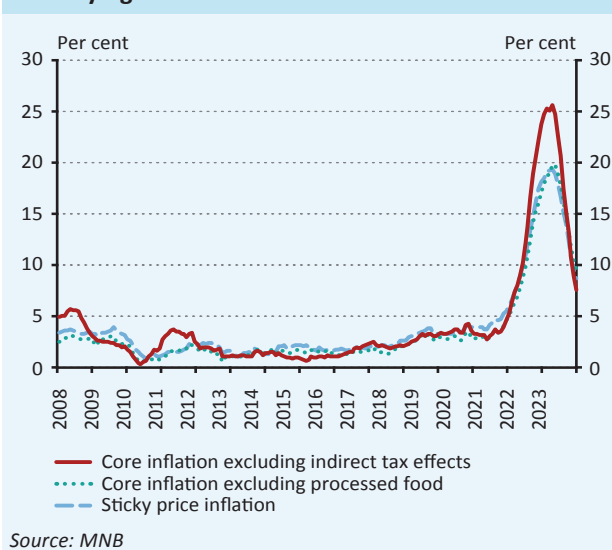


Table 1
Consumer price index and its components

	2021	2022	2023	2023			
				Q1	Q2	Q3	Q4
Core inflation	3.9	15.7	18.2	25.4	22.8	15.2	9.2
Unprocessed food	2.6	24.3	19.9	37.4	24.3	15.1	2.9
Fuel and market energy	20.4	12.2	25.8	34.1	24.4	30.1	14.6
Regulated prices	0.6	9.5	13.0	21.7	19.1	12.2	-0.9
Consumer price index	5.1	14.5	17.6	25.4	21.9	15.4	7.8
Consumer price index at constant tax rates	4.6	14.4	17.0	24.4	20.5	14.8	8.3

Note: Percentage change, year-on-year; in the case of price indices at constant tax rates, the HCSO adjusts the consumer price index for the technical effect of changes in indirect taxes.

Source: HCSO

Changes in monetary policy instruments

In the first months of the year, the Monetary Council did not change the elements of the monetary policy toolkit, and the instruments used in the last quarter of 2022 – the quick tender for deposits, the foreign exchange liquidity swap, the central bank discount bond and the long-term deposit instrument – were applied in unchanged form.

In the first quarter, the need for foreign exchange hedging by energy-importing companies declined significantly in line with the fall in energy prices. In the Monetary Council's assessment, the euro sale instrument linked to energy imports introduced in November 2022 was effective in contributing to stability in the foreign exchange market. Taking into account the purpose of the instrument and the evolution of market developments, the Council decided to suspend the instrument with effect from the end of March 2023.

From the second quarter onwards, the Monetary Council further tightened the impact of minimum reserve placement on liquidity by raising the reserve ratio and restructuring interest rates. The decision increased the compulsory reserve ratio from 5 per cent to 10 per cent with effect from 1 April. In addition to the 10-per cent mandatory component, credit institutions could continue to opt for a higher obligation, up to a maximum of 15 per cent in total, with the optional rate to be met on a monthly average basis, and the 10-per cent requirement to be met also on a daily basis. The Monetary Council also changed the interest rate on the reserve account: from April, the MNB did not pay interest on 2.5 per cent of the reserve base and applied the base rate to the remaining 7.5 per cent as before. It was also decided that the optional reserve would be subject to the interest rate set in the related regulation, which was actually the same as the overnight deposit quick tender rate, instead of the base rate.

On 26 May, the MNB informed credit institutions in a notice that, after allowing sufficient time for preparation, the amount of the minimum reserve would be determined on the basis of monthly average stocks instead of closing stocks on the last calendar day of the reference period of the liabilities included in the reserve base of the credit institutions subject to reserve requirements. In the intermediate period before the changeover, starting with the July 2023 maintenance period, the basis of the minimum reserve was fixed by the MNB on the basis of the statistical balance sheet data for 31 March 2023, and thus the basis of the minimum reserve remained unchanged during that period.

In accordance with the decision of the Monetary Council of 26 May 2023, starting from 1 July 2023, the reserve requirement also included the amount of money that a credit institution subject to reserve requirements committed to the MNB for an original maturity of at least 14 days. The MNB took into account the deposits thus set aside up to a maximum of 15 per cent of the reserve requirement resulting from the 10-per cent reserve ratio. Credit institutions could take advantage of this opportunity by participating in the long deposit tenders announced by the MNB on the days following the Monetary Council's rate-setting meetings. The maturity of the instrument was the day after the next monthly rate-setting meeting.

In response to the favourable inflation developments and the steadily improving risk environment, the Monetary Council started the normalisation of the extraordinary interest rate environment by lowering the O/N covered lending rate to 20.5 per cent at its April rate-setting meeting. In the following months, the Monetary Council decided to lower the upper end of the interest rate corridor by 1 percentage point each time, taking advantage of the sustained improvement in the risk environment. In setting

the interest rate on its regular tenders and the optional part of the minimum reserve, the MNB applied the interest rate cuts in line with the Monetary Council's decision, and accordingly the interest rate on the quick tender for deposits also fell in line with the interest rate cuts. At its meeting on 12 September 2023, the Monetary Council decided that from the October 2023 reserve maintenance period onwards the interest rate on excess reserves would be equal to the base rate.

At its rate-setting meeting on 26 September 2023, the Monetary Council cut the overnight central bank collateralised lending rate by 250 basis points and the overnight deposit rate by 50 basis points, while leaving the base rate unchanged at 13 per cent. In doing so, the MNB locked the base rate and the overnight quick tender for deposits rate and completed the normalisation of the extraordinary interest rate environment. This also created an opportunity to review and adapt the monetary policy toolbox. Restructuring of the framework resulted in a simplified toolbox, while contributing to the effectiveness of monetary policy transmission via a strengthened role for the central bank's base rate. In the framework of the simplified instruments' operations:

- the MNB pays the base rate on both the interest-bearing and optional parts of the reserve account and on excess reserves;
- the optional rate in the minimum reserve system ceased from the beginning of 2024, and the minimum reserve will be calculated on the basis of monthly average bank data – for the first time on the basis of January 2024 data – from March 2024;
- at the end of September 2023, the overnight quick tender for deposits was discontinued;
- the interest rate on the variable rate deposit and the discount bond is adjusted to the base rate;
- the launch of overnight (tomnext) FX swap tenders continues unchanged, with the announced volume of EUR 6 billion increased from the beginning of September, and the pricing of the tenders was set at the bottom of the interest rate corridor, as the central bank had communicated.

The announcement of the quick tender for deposits was discontinued at the end of September. The steps taken in the monetary policy toolbox have simplified its operation, while the role of the central bank base rate has been strengthened.

The central bank has continued to use its tools regularly, in addition to the September adjustments. Its FX swap tenders, which provided euro liquidity, supported monetary transmission in the swap market on a daily basis, while the central bank discount bond was issued in weekly auctions.

In order to smooth market volatility, as in previous periods, the MNB held, in addition to the regular tenders, additional FX swap tenders to provide euro liquidity over the end of the periods, if necessary, and in one case a longer-term discount bond auction was held.

After the September interest rate decision, the overnight deposit facility rate was 12 per cent and the overnight collateralised lending rate was 14 per cent, with the base rate at 13 per cent. In the last quarter, taking into account favourable inflation developments and improving international risk appetite, the base rate was cut in three steps of 75 basis points, with a parallel reduction in the interest rate corridor.

The use of central bank instruments and the evolution of liquidity in the banking system

In 2023, the total forint liquidity of the banking system (the balance of reserve accounts and instant accounts, overnight deposit and overnight lending facility, long deposits, quick deposits, the HUF side of euro providing swaps and the netted value of discount bills) averaged HUF 13,111 billion over the period as a whole. Banking system liquidity was ample throughout the period, with monthly averages rising steadily from nearly HUF 11,600 billion in January to over HUF 13,000 billion by the end of June. In the second half of the year, the monthly average typically fluctuated between HUF 13,000 billion and HUF 14,000 billion, before finally surpassing HUF 14,000 billion from December onwards and closing with a monthly average of over HUF 14,500 billion in the last month.

During the year, both autonomous developments and MNB operations had a significant impact on banking system liquidity; among the autonomous factors, the Single Treasury Account (TSA) had a strong expansionary effect on banking system liquidity, while cash holdings had a moderately contractionary effect; the liquidity expansionary effect of MNB operations was mainly due to interest remuneration. By contrast, liquidity in the banking system was somewhat constrained by the maturity of the fixed-rate collateralised loan transactions with an original maturity of three years applied between March 2020 and July 2021. In all cases, the liquidity tightening and then the expansionary effect of the regular end-of-quarter tenders (in the case of FX swaps, in terms of the HUF side) was significant, but only temporary due to the short maturities.

The aggregate reserve requirement of the banking system – the sum of daily minimum and monthly chosen requirements – ranged from HUF 2,237 billion to HUF 2,341 billion in the first quarter, with a minimum reserve requirement of 5 per cent. In the second quarter, the same value – with the minimum reserve raised to 10 per cent – increased to HUF 4,171–4,405 billion. The aggregate reserve requirement for the third quarter, including the value calculated on the basis of the optional rates, fixed on the basis of the balance sheet at the end of 2023 Q1, amounted to HUF 4,348 billion. The moderately higher figure of HUF 4,391 billion in the last quarter was due to changes in optional rates.

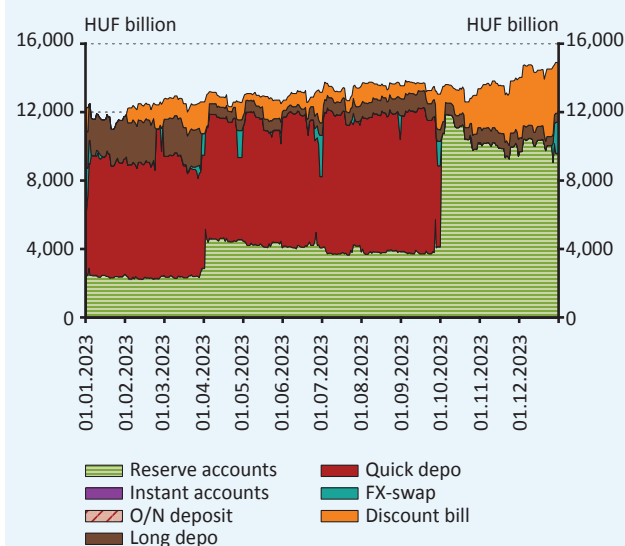
Similar to earlier periods, the reserves actually held exceeded the reserve requirement in all months. The level of accumulated excess reserves varied widely due to changes in reserve rules and the favourable interest rate at the end of the year. Its value ranged from HUF 78 billion to HUF 112 billion in the first quarter, while in the second and third quarters it was somewhat lower at HUF 53–73 billion, with the increased reserve requirement. In the last quarter, the abolition of the quick tender for deposits and the interest rate on excess reserves at base rate led to a predominant flow of excess liquidity from the banking system to reserve accounts. As a result, the monthly cumulative excess reserves fluctuated between HUF 6,076–6,709 billion.

Excess liquidity in the banking system was most heavily concentrated in the overnight quick tender facility due to the possibility of unlimited placement and the favourable interest rate. The MNB held a daily tender until the suspension of the instrument at the end of September and accepted all of the bids submitted. In view of the end of the first quarter, the MNB also held a six-day tender on 31 March, for which bids worth HUF 410 billion were received. The interest rate on the instrument was 18 per cent at the beginning of the period, before declining to 13 per cent by the end of September, following the fall at the upper edge of the interest rate corridor. The monthly average size of the bids accepted per tender ranged from HUF 6,647–6,994 billion until the end of May, and then exceeded HUF 7,000 billion in June. In the following four months, the averages rose moderately further to HUF 7,220–7,622 billion. The highest utilisation of the instrument was reached on 18 September with HUF 8,528 billion, and the last tender at the end of September closed at HUF 4,698 billion.

The stock of daily liquidity in the O/N deposit facility was minimal, averaging around HUF 6 billion over the period. Banks used the O/N secured loan only seven times in the

first quarter. The average stock of borrowing was somewhat higher than in the previous period, at around HUF 23 billion.

Chart 3
Recourse to central bank deposit instruments



Source: MNB

In order to absorb liquidity from the banking system for a longer period, the MNB held four variable rate and eight fixed rate long-term deposit tenders during the period under review. Of the bank offers, amounts ranging between HUF 391–2,457 billion were accepted. At the end of the year, the outstanding stock of assets amounted to HUF 531 billion.

In order to smooth market volatility, as in previous periods, the MNB held, in addition to the regular tenders, additional FX swap tenders to provide liquidity in euro over the end of the quarters, and in one case a longer maturity discount bill auction was held. In the first two quarters, the MNB announced cross-quarter FX swap tenders without quantitative limits, and in March it also held a two-week maturity auction for the discount bill, in addition to a one-week auction. In swap tenders, including regular tenders, the MNB supported bank accommodation at the end of the quarters with approximately EUR 3.3 billion, 6.5 billion, 3.6 billion and 4.8 billion, while in discount bond auctions, bids with a total nominal value of HUF 1,842 billion, 1,769 billion, 2,059 billion and 2,941 billion were accepted. Cross-quarter tenders were of the following lengths of maturity: two-week (announced on 23 March), one-week (22 June and 21 December) and one-day (tomnext, 30 March, 29 June, 29 September and 28 December) for the FX swap instrument and two-week (announced on 21 March) and one-week (30 March, 22 and 28 June, 27 September and 27 December) for the discount bond.

Table 2
Bids accepted in quarter-end FX swap tenders

Tender date	Value date	Maturity date	Accepted bids (EUR million)	Accepted bids (HUF billion)
21 Mar 2023	23 Mar 2023	6 Apr 2023	305	120
30 Mar 2023	31 Mar 2023	3 Apr 2023	2,990	1,139
22 Jun 2023	26 Jun 2023	3 Jul 2023	1,900	703
29 Jun 2023	30 Jun 2023	3 Jul 2023	4,602	1,711
28 Sep 2023	29 Sep 2023	2 Oct 2023	3,615	1,419
21 Dec 2023	27 Dec 2023	3 Jan 2024	2,939	1,129
28 Dec 2023	29 Dec 2023	2 Jan 2024	1,825	697
		Total	18,176	6,918

Source: MNB

In total, the MNB held 254 euro liquidity swap tenders during the year. The maturity of the tenders varied between overnight and two weeks. As in previous quarters, the MNB accepted all the bids received, which on average amounted to EUR 620 million (HUF 240 billion), EUR 1,192 million (HUF 444 billion), EUR 1,306 million (HUF 503 billion) and EUR 1,068 million (HUF 408 billion) per quarter, respectively, in chronological order for days with utilisation. Within this, the MNB accepted bids totalling EUR 3,295 million (HUF 1,259 billion), EUR 6,502 million (HUF 2,414 billion), EUR 3,615 million (HUF 1,419 billion) and EUR 4,764 million (HUF 1,826 billion) in the end-quarter cross-over tenders at the end of the periods.

The discount bill auctions were announced weekly from the beginning of February, with a total of 50 auctions in 2023. Accepting all bids in the auctions, the MNB issued bonds with an average nominal value of HUF 1,347 billion on a maturity of one week (except for the auction on 21 March). Within this, the MNB accepted bids with a nominal value totalling HUF 1,842 billion in March, 1,769 billion in June, 2,059 billion in September and

2,941 billion in December in the end-quarter cross-over tenders.

For the contracts signed under the FGS Green Home Programme (FGS GHP), which was launched on 4 October 2021 as part of the MNB's green toolkit strategy, the actual outstanding loan portfolio – i.e. the loans that have been drawn down but not yet repaid – increased to HUF 252 billion by the end of December 2023. The outstanding debt to the SME sector disbursed in the earlier phases of the Funding for Growth Scheme shrank to HUF 1,566 billion by the end of 2023.

On 14 December 2021, the Monetary Council decided to close the Bond Funding for Growth Scheme (BGS), with the last bond issue and central bank purchase under the programme taking place in April 2022. A total of 89 issuers issued 114 bond series under the BGS, with aggregate issuer fundraising amounting to HUF 2,859 billion, while the total volume of central bank bond purchases was close to HUF 1,550 billion. In 2023, there was no substantial change in the stock of bonds held by the MNB.

Table 3
Bills issued in quarter-end discount bill auctions (nominal value in billion forints)

Issue	Maturity	Identifier	Allotted amount
23 Mar 2023	6 Apr 2023	MNB230406A	383
30 Mar 2023	6 Apr 2023	MNB230406B	1,459
26 Jun 2023	3 Jul 2023	MNB230703	773
29 Jun 2023	6 Jul 2023	MNB230706	997
28 Sep 2023	5 Oct 2023	MNB231005	2,059
28 Dec 2023	4 Jan 2024	MNB240104	2,941
		Total	8,612

Source: MNB

Within the framework of the mortgage bond rollover scheme, since the opening up of this option, the stock of mortgage bonds purchased by the MNB under the scheme amounts to around HUF 64 billion, with an increase of nearly HUF 23 billion in 2023. The stock of mortgage bonds purchased by the MNB under the previous purchase schemes, the green mortgage bond purchase scheme and the mortgage bond rollover scheme, amounted to HUF 553 billion at face value on 31 December 2023.

3.2 STABILITY OF THE FINANCIAL INTERMEDIARY SYSTEM

In 2023, the Financial Stability Reports, which regularly and comprehensively assess the stability risks of the financial intermediation system, once again provided a detailed description of the risks affecting the functioning of the domestic banking system and the ways in which they could be addressed. While changes in the international environment have had a significant impact on the functioning of the economy, the Hungarian banking system remains robust and its shock resilience is strong, from both in terms of the liquidity position and loss-absorbing capacity. Hungarian banks can consistently provide the necessary funds to economic agents, thereby facilitating the smooth operation of the economy. Outstanding loans continued to grow, albeit at a slower pace than in previous years. The annual growth rate of corporate loans reached 6 per cent at the end of 2023, while the annual growth rate of SME loans reached 3.7 per cent, with a significant contribution from the loan and guarantee schemes of government institutions. The amount of outstanding loans to household grew by 2.7 per cent on an annual basis in 2023. The slowdown in household credit dynamics was driven by the tighter monetary environment intended to curb inflation, an uncertain economic outlook, falling real wages and low consumer confidence, and a wait-and-see attitude due to changes in home purchase programmes from 2024.

The volume of non-performing loans in the banking system was at low levels in both the corporate and the household segments, although it rose somewhat from its historic lows in the months after the general moratorium was lifted. However, credit growth and banks' portfolio cleaning mitigated the rise in the non-performing loan ratio. The domestic credit institutions sector achieved an exceptionally high after-tax profit of HUF 1,441 billion in 2023, an increase of HUF 952 billion compared to the previous year, based on individual non-consolidated data. The increase in profit was mainly due to a surge in interest income from interest received on liquidity deposited with the central bank, and

secondly by lower provisioning for impairment losses, while the result was reduced by higher operating costs, bank taxes and interest rate freeze measures. All credit institutions complied with regulatory capital requirements, but the distribution of free capital buffers within the sector remained concentrated.

The focus of the MNB's macroprudential activity in 2023 was on monitoring and, if necessary addressing the impact on financial sector stability of the adverse macroeconomic environment, high inflation, the monetary policy measures to contain it, the slowdown in lending, the easing of the housing market overheating and mounting risks related to the commercial real estate market. In order to ensure the efficiency of the lending process and the smooth application of the debt brake rules, the MNB conducted an annual review of the debt brake rules in 2023 again. Given the uncertain macroeconomic environment and the easing of cyclical risks in the housing and credit markets, the MNB postponed activation of the 0.5-per cent countercyclical capital buffer rate by one year. The MNB also decided to revise and reactivate the systemic risk capital buffer from 1 July 2024, due to mounting risks in the commercial real estate market. The capital position of systemically important banks remains sufficient to build up the capital buffers required from 2024. Therefore, from 1 January 2024, the buffer rate requirements increased by one half of the final rate. To support young first-time home buyers' access to housing loans, the MNB set a lower minimum own contribution requirement for first-time home buyers starting from 1 January 2024. In October 2023, the MNB decided to extend the preparation period for the Mortgage Funding Adequacy Ratio (JMM) requirement for green FX funds issuance by one year, which will therefore enter into force on 1 October 2024.

The MNB's activities to support financial innovation and digitalisation continued successfully in 2023. The MNB published its fourth FinTech and Digitalisation Report and closely monitored the implementation of the banking sector's digitalisation strategies. In 2023, the renewed Student Safe mobile app supporting digital financial inclusion became available, and this app is now able to manage real money. This makes the Student Safe initiative the first central bank digital currency (CBDC) pilot project in the European Union available to retail customers. In the framework of the MIT REAP programme, the MNB identified common characteristics of domestic innovative enterprises and coordinated the creation of the country's first inter-university (BME, METU, John von Neumann University) 'startup management' course to promote innovation and business development among students.

Key developments in the financial system

Pursuant to the MNB Act, the primary objective of the MNB is to achieve and maintain price stability. Without prejudice to its primary objective, the MNB supports the maintenance of the stability of the financial intermediary system, the enhancement of its resilience and its sustainable contribution to economic growth, as well as the economic and environmental sustainability policy of the government using the instruments at its disposal. In addition, based on its mandate linked to its membership in the European System of Financial Supervision, the MNB performs the tasks imposed on it, originating from the competence of the European Banking Authority, the European Insurance and Occupational Pensions Authority, the European Securities and Markets Authority and the European Systemic Risk Board, supervises the Hungarian financial intermediary system and also acts as a resolution authority.

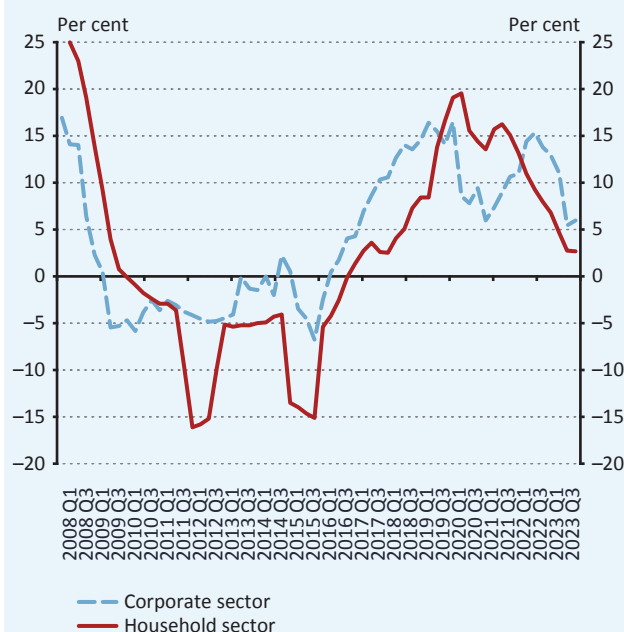
The MNB publication *Trends in Lending* provides a detailed overview of the development of domestic lending. The annual growth rate of the stock of loans to households slowed significantly in 2023 and has stagnated at roughly 3 per cent since August. Up until October 2023, the growth rate of corporate lending also continued to decelerate, despite the expansion of the stock being supported by various subsidised lending programmes (Széchenyi Card Programme, Baross Gábor Reindustrialisation Loan Programme).

Credit institutions' household loans expanded by 2.7 per cent year-on-year in nominal terms, reflecting both disbursements and repayments (Chart 4). The volume of new lending in the fourth quarter amounted to HUF 483 billion, representing a 10-per cent increase compared to the same prior-year period. In addition to the lower base, falling inflation and falling lending rates also contributed to the recovery in lending. In 2023, consumer credit lending remained unaffected by the downturn, with personal loans being used to smooth consumption, while discretionary mortgages were mainly used for investment purposes during a transitional period. The disbursement of prenatal baby support loans fell by 41 per cent, but by the end of the year the stock exceeded HUF 2,075 billion, which represents 20 per cent of the total stock of household loans. Subsidised loans linked to family protection and home purchase programmes (Home Purchase Subsidy Scheme for Families (CSOK), rural CSOK and prenatal baby support) accounted for 24 per cent of the volume of loans issued in 2023, compared to 38 per cent one year earlier. The volume of new housing loan contracts of HUF 595 billion in 2023 was 50 per cent below the previous year's issuance,

while December loan disbursements showed a 54-per cent increase compared to the same period of the previous year. Certified Consumer-Friendly Housing Loans (CCFHLs) reached 43 per cent in 2023, still representing a significant share of housing loans. Within the personal loans category, the share of Certified Consumer-Friendly Personal Loans amounted to 22 per cent at the end of the year.

The annual growth rate of corporate loans reached 6 per cent at the end of 2023, while the expansion rate of the SME segment was 3.7 per cent. Transaction growth of corporate loans in 2023 amounted to almost HUF 720 billion, which is significantly lower than in the previous year. The loan and guarantee programmes of government institutions helped to sustain nominal stock growth. Despite the fragile growth outlook and the high interest rate environment, demand in the corporate credit market only declined moderately, with credit institutions signing about HUF 3,860 billion of new non-overdraft credit contracts in 2023, which was just 2 per cent lower than in 2022. However, there was a shift in the structure of loan demand, with demand for short-term loans and foreign currency loans picking up to some extent, while demand for long-term loans, typically for investment purposes, dropped substantially. In 2023, subsidised loans accounted for 37 per cent of total non-current account type corporate lending, up from 28 per cent in the previous year.

Chart 4
Annual growth rate of outstanding corporate and household loans



Note: Credit institutions.

Source: MNB

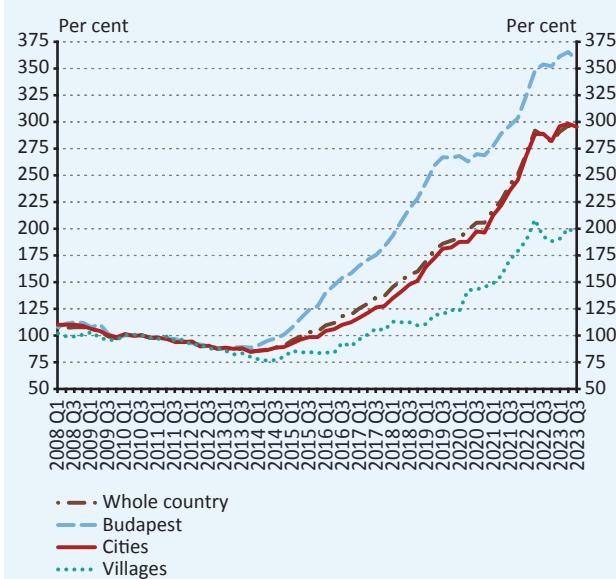
The *Housing Market Report* and the *Commercial Real Estate Market Report* provide a comprehensive overview of developments in the domestic property market twice a year. In 2023 H1, house prices continued to rise moderately in the face of low market activity, following a significant fall in demand and a moderate decline in house prices in the second half of the previous year, but then fell by 1.7 per cent on a quarterly basis on a national average in 2023 Q3 (Chart 5). On an annual basis, nominal house price dynamics slowed to around 1–2 per cent in all settlement types, essentially stagnating, but in real terms house prices fell by 12 per cent on average across the country. The MNB estimates that house prices exceeded the level justified by macroeconomic fundamentals by 9 per cent in 2023 Q3, and thus the rate of overvaluation declined significantly nationwide compared to the 17-per cent figure estimated for the same period of the previous year.

In 2023, 18,600 new dwellings were completed, reflecting a year-on-year decrease of 9 per cent. The number of dwellings built in the capital was 4 per cent lower than in the same period of the previous year, and 12 per cent lower in rural areas. The number of new building permits issued in 2023 fell sharply by 39 per cent in year-on-year terms. In 2023, the MNB estimates that 124,000 housing market transactions were completed by individuals nationwide, of which 30,000 were in the capital, representing a decrease of 20 per cent and 15 per cent, respectively, versus 2022. The last time there were fewer transactions nationally was in 2013. In 2023, borrowing transactions accounted for less than one third of all sales, and around 6 per cent of new housing loans were close to the MNB's regulatory limits for both loan-to-value (LTV) and debt-service-to-income ratios (DSTI) (DSTI above 40 per cent and LTV above 70 per cent) in 2023 Q4.

In line with the macroeconomic environment, the commercial property market was characterised by considerable uncertainty in 2023. During this period, the vacancy rate in the Budapest office market increased by 2 percentage points to 13.3 per cent. At the same time, in the industrial logistics market this indicator rose significantly, from 3.9 per cent at the end of 2022 to 8.6 per cent at the end of December 2023. These vacancy rates are not considered very high historically, but given the expected new completions and moderate demand, office market vacancy is expected to rise further and could exceed 14 per cent by the end of 2024. The risks were mitigated by the absence of any significant speculative new developments in the office market in 2023 (without any substantial pre-leasing) and a decline in the quarterly volume of industrial-logistics project starts. Investment turnover in the commercial real estate market in 2023 fell by 38 per

cent year-on-year, and prime yields in all segments rose by 25–75 basis points in the same period. Based on the increase in prime office yields and prime rents, in the year to the end of December 2023 the value of these properties in Budapest fell by around 9 per cent, and as compared to the end of 2022 Q2, which is also considered the turning point of the market cycle, the decline already amounted to almost 21 per cent. At the same time, the exposure of domestic credit institutions to the commercial real estate market as a share of own funds in 2023 was about one half of the level seen after the 2008 crisis. At the same time, the MNB will continue to closely monitor current developments in changes in real estate values. In 2023, the volume of CRE-backed project loans was 42 per cent lower than in the previous year; new issuances decreased for all property types except hotels and residential complexes. According to the MNB's January 2024 *Lending Survey*, almost one fifth of banks have tightened the terms of business-purpose real estate loans, and more than one quarter of institutions expected further tightening in 2024 H1.

Chart 5
MNB's nominal house price index by type of settlement (2010 = 100 per cent)



Note: Based on data available at the end of January 2024.

Source: MNB

In 2023, upside risks to portfolio quality diminished as the economic environment stabilised and inflation and interest rates declined. In 2023, the stock of loans overdue by more than 90 days increased by HUF 19 billion for companies and remained unchanged for households, while the stock of loans not overdue by more than 90 days but classified as non-performing by banks decreased by HUF 54 billion for the corporate sector and by HUF 139 billion for the household segment. The stock of non-performing loans in

the two segments amounted to HUF 480 billion and HUF 294 billion, respectively, at the end of 2023. As a result of the reclassification of former moratorium customers back to ‘performing’ status, the expansion of lending and the banks’ portfolio cleaning activities, the non-performing loan ratio (NPL ratio) was 3.8 per cent in the corporate segment and 2.8 per cent in the household segment, compared to 3.4 per cent in the private sector as a whole at the end of 2023.

The credit institutions sector achieved an exceptionally high profit after tax of HUF 1,441 billion in 2023, HUF 952 billion more than in the previous year, based on individual non-consolidated data. The increase in profit after tax is mainly explained by interest income, a significant part of which is interest received on liquidity deposited with the central bank, and secondly by a significant reduction in provisioning compared to the previous year, the positive effect of which was partly offset by higher operating costs. Government measures (bank taxes, interest rate freeze) also reduced the profitability of the sector in 2023. In addition to the strong growth in nominal profits, the sector’s return on equity (RoE) increased from 8.9 per cent at the end of 2022 to 23.8 per cent, and its return on assets (RoA) rose from 0.7 per cent to 1.9 per cent.

The banking system’s consolidated capital adequacy ratio (CAR) increased by 0.4 percentage point in 2023 to 19.3 per cent at the end of Q4, while the CET1² ratio declined moderately by 0.2 percentage point to 16.7 per cent. Taking profit into account, the CAR increased even more, rising by 185 basis points to 21.4 per cent by the end of the fourth quarter. The improvement in capital adequacy was mainly driven by an increase in the profit and loss reserve. The sector’s free capital above the total capital adequacy ratio advanced by HUF 192 billion to nearly HUF 2,000 billion, equivalent to 4.9 per cent of total risk exposure (TREA), while the leverage ratio (LR) of the banking system rose by 0.4 percentage point to 8.5 per cent in 2023. The 3-per cent leverage requirement was met by all members of the sector.

The MNB conducted its 16th *Market Intelligence Survey* in 2023 H1, contacting eight Hungarian commercial banks in order to study credit institutions’ business ideas for 2023, their views on the macroeconomic environment and the outlook for the sector as well as the risks they perceive as most important. The banking sector’s risk map was dominated by fears of a slowdown in domestic

economic growth and an increase in geopolitical risks, but deteriorating customer solvency and the need to adapt to tightening capital and liquidity rules were also significant risks in 2023, according to the banks’ responses.

Macprudential activity of the MNB

In 2023, the MNB closely monitored the evolution of systemic risks related to high inflation and the resulting high interest rate environment, the slowdown in lending, the easing of overheating in the housing market and the commercial real estate market. In autumn 2023, the central bank also published its *Macprudential Report*, which provides a comprehensive overview of its macroprudential activities.

In order to ensure the efficiency of the lending process and the smooth application of the debt brake rules, the MNB also conducted an annual review of the debt brake rules in 2023. In this context, the income threshold for higher income borrowers was raised from HUF 500,000 to HUF 600,000 starting from 1 July 2023, and the *de minimis* threshold for exemption from the income assessment was raised from HUF 300,000 to HUF 450,000, in view of high inflation and nominal wage growth. The MNB also decided to apply a higher, 90-per cent loan collateral limit for young first-time homebuyers from 1 January 2024, given the rapidly rising minimum own contribution requirement due to the rise in house prices in recent years, the potentially lower credit risk of first-time homebuyers and international regulatory practices. The amendment reduces the minimum own contribution required by the central bank for young first-time homebuyers to obtain a mortgage loan from 20 per cent to 10 per cent, which could shorten the savings period needed to accumulate the own contribution by some years.

In 2023 Q2, the MNB postponed the planned activation of the 0.5-per cent Countercyclical Capital Buffer (CCyB) rate for domestic exposures from 1 July 2023 to 1 July 2024. The move was justified by easing cyclical systemic risks, which are expected to moderate further in the short term. However, in the medium term, the recovery of economic activity and the return of real wage growth may have the effect of increasing systemic risks again, and therefore the extent of the CCyB structure was not modified. The MNB continues to monitor the cyclical systemic risks in the banking sector and may require the creation of additional capital buffers depending on the evolution of such.

² The ratio of Common Equity Tier 1 instruments to risk-weighted instruments.

In June 2023, the central bank decided to reactivate the Systemic Risk Buffer (SyRB), which was suspended in the wake of the outbreak of the coronavirus, as a preventive measure against the specific systemic risks observable in the commercial real estate market globally and which are expected to increase in the medium term in the domestic market. Accordingly, the MNB will set the capital buffer rate to be imposed on the institutions concerned based on the ratio of the weighted amount of each institution's targeted project loan holdings to the relevant bank's Pillar I capital requirement. Based on March 2024 data, the capital requirement to be determined in the second quarter will be created by providing items of core Tier 1 capital (CET1) from 1 July 2024. In view of the preventive nature of the instrument, it is not expected to require a material capital buffer in 2024. The MNB reviews the established SyRB rates on an annual basis.

As in the previous year, the MNB's 2023 review identified seven groups of banks as systemically important. The MNB expected the capital buffers for Other Systemically Important Institutions (O-SIIs), which were lifted in the wake of the extraordinary economic circumstances that unfolded as a result of the coronavirus epidemic, to start gradually being rebuilt from 2022 until 2024. The capital position of systemically important banks remains sufficient to build up the capital buffers required from 2024. From 1 January 2024, the buffer rate requirements will be increased by one half of the final rate. The increase in capital buffers helps to preserve the stability of the financial intermediary system in a turbulent economic environment, and its gradual nature has supported the maintenance of lending to the real economy in recent years.

In October 2023, the MNB decided to extend the preparation period for the Mortgage Funding Adequacy Ratio (JMM) requirement for green FX mortgage bond issuance by one year, and it will therefore enter into force on 1 October 2024. From 1 July 2022, foreign currency-denominated mortgage-backed funds could be counted towards the MFAR, but only funds financing 'green' (energy-efficient) properties would have been eligible for foreign currency mortgage bonds issued from 1 October 2023 to support the achievement of sustainability targets. However, in the current market conditions, given the significant maturing mortgage bond holdings and the downturn in mortgage lending, and the parallel slow build-up of green collateral for issuance, it was justified to waive the green requirements.

The MNB's activities promoting financial innovation and digitalisation

The MNB monitors and analyses the digitalisation of the financial sector and uses its available tools to support the spread of innovative solutions among domestic players, thereby also promoting competitiveness. Since 2019, the MNB has conducted an annual comprehensive review of the digitalisation of the domestic banking system and, since 2020, of the insurance sector. The results are published in the *FinTech and Digitalisation Report*, which also includes an analysis of the domestic and international FinTech sector. The publicly available 2023 edition of this Report was published in July.

In 2021, in a unique international move to encourage the digital transformation of credit institutions, the central bank issued a recommendation (MNB Recommendation No 4/2021) requiring domestic banks to develop digital transformation strategies. The MNB annually reviews these strategies covering both customer relations and the digitisation of internal processes. In 2023, the MNB continued the personal, bilateral consultations on the implementation of the domestic banks' digitalisation strategy and new plans.

One of the MNB's priorities is to support education. In May 2023, the MNB launched a renewed version of the Student Safe mobile app, which has been available since 2020, to promote digital financial awareness. The app provides financial, digitalisation and sustainability education for 8–14 year olds and their parents, and supports digital financial inclusion of the target group by using real money. The mobile application, developed in cooperation with the Money Compass Foundation and with the involvement of commercial banking partners and Hungarian FinTech companies, serves another important purpose for the central bank: to provide practical knowledge about central bank digital currency (CBDC). The Student Safe is the first CBDC pilot project in the European Union in which the central bank involves retail users to gain experience.

The cooperation with higher education institutions in the field of digitalisation continued successfully in 2023. As part of this, the joint teams of the MNB and the BME participated in the Project Rosalind international innovation competition related to central bank digital currency (CBDC). The BME-MNB partnership entered the techsprint competition, which was announced in early 2023, with two

teams: both made it to the 22-team semi-finals and one of them to the 12-team final, where they competed against teams from major international technology companies.

The MNB aims to be at the forefront of innovative central banking and therefore seeks to gain first-hand experience in implementing modern technologies. In this spirit, in May 2022, it launched the Money Museum mobile application to test blockchain technology, which was successfully operating in 2023 and more than 590,000 NFTs were issued on the platform.

The MNB Innovation Hub, established to support the stimulation and development of the domestic FinTech sector, continued to receive enquiries from financial innovators, providing answers to questions on legal interpretation, including financial regulatory aspects.

In order to learn about and implement international best practices in encouraging innovation-driven entrepreneurship, the MNB participated in the MIT Regional Entrepreneurship Acceleration Programme (MIT REAP). The first cross-university startup management course in the country was launched in autumn 2023 with the participation of students from three universities, BME, METU and NJE. The course provides professional support and expert assistance to students' entrepreneurship and innovative ideas, and closely monitors the implementation of their ideas, thus supporting the innovation-based, sustainable development of the economy. In addition, the central bank actively participated in the preparation of legislation for the domestic implementation of the convertible note and the Employee Stock Ownership Plan (ESOP).

To strengthen the international role of the central bank and the country, MNB staff regularly participate in innovation forums of global importance. The MNB co-organised the second Point Zero Forum in June 2023 and was represented by a high-level delegation. The conference in Zurich was attended by financial and technology companies and international regulators, and focused on analysing the impact of the latest technologies on finance and exploring ways to support innovation with appropriate controls. A special edition of Elevandi Insights was also published on the MNB's self-organised roundtable discussion, which explored the environmental impact of crypto assets and how to steer them towards a more environmentally friendly path.

3.3 SUPERVISION AND CONSUMER PROTECTION

The domestic banking system and non-bank institutional investors remain resilient amid the recent international banking crises, inflation risks and uncertainties caused by the protracted war between Russia and Ukraine. Banks' lending capacity is adequate and their capital and liquidity situation is robust. The share of non-performing loans is low, but looking ahead banks are also prepared for a possible increase in defaults, thanks to loan loss provisioning. The MNB conducts intensive monitoring and, where necessary, supervisory dialogue with individual institutions to ensure that the Hungarian banking system remains sound. The supervision of international banking groups is carried out in an international cooperative framework, with a consistent approach, also focusing on market or regulatory effects that may affect the banking groups as a whole or their individual members.

The MNB closely monitored the process of the merger of MKB Bank Nyrt. and Takarékbank Zrt. and the creation of MBH Bank Nyrt. Preparations for the merger were on schedule, and once completed, customers will have access to the network and services of the second largest bank in the country. Throughout the process, the protection of customers' interests and financial stability were a priority for the central bank. The MNB also requires this of the bank created by the merger.

By the end of 2023, 13 out of 14 insurers in the housing insurance sector had obtained the Certified Consumer Friendly Home Insurance (MFO) certification and more MFO products are expected to enter the insurance market. This means that almost the entire insurance market – 98 per cent of the market in terms of market share – is committed to a consumer-friendly approach. At the end of November 2023, the number of consumer-friendly home insurance policies was nearly 50,000, and through these policies, insured customers now protect more than HUF 2,300 billion in movable and immovable assets.

In the investment services sector, the MNB is conducting a thematic inquiry into the sale of derivative products involving a total of eight institutions. The focus of the investigation is to verify the daily risk management practices related to derivative client positions, to check compliance with consumer protection rules related to the

sale of complex products and to verify the statements of the balance of derivative positions provided to clients.

Among the market surveillance cases closed in 2023, the Falcon, SAFIS and Primus Trust market surveillance proceedings were noteworthy. Through these, the MNB saved a significant amount of investor money and provided the investigating authority with information obtained during market surveillance procedures. In its final decisions, the MNB imposed market surveillance fines of nearly HUF 2.5 billion, in addition to bans on activities and website blocking. The MNB ordered the delisting of the ordinary shares of OTT-ONE Nyrt. from the product list of the Budapest Stock Exchange. The cancellation is due to the issuer's failure to publish its annual reports for 2019, 2020 and 2022, and its half-yearly report for the first half of 2022 in the legally required form, which it has stated it will not be able to comply with in the future either. In addition, in the case of SET GROUP Nyrt., the MNB ordered the delisting of the SET GROUP shares from the exchange product list, due to the violations found, as the issuer did not comply with the legal obligation to publish its reports for the last four financial years and the first half of the 2022 financial year.

Based on the data from 31 December 2023, the MNB was responsible for the full prudential supervision³ of 1,215 institutions. The MNB's supervisory activities reflect a highly complex form of supervision – full or partial prudential, consumer protection, anti-money laundering and issuer supervision, depending on the characteristics of the different market participants – and therefore it makes sense to mention here not only the institutions falling under prudential supervision but also those operating under other forms of supervisory activities. According to this approach, the MNB exercised some form of supervision over more than 1,000 institutions in addition to the prudentially supervised institutions. While these institutions do not fall under the MNB's prudential (financial) supervision, or only partly so, the MNB does exercise supervision over them in another form, with a narrower scope, in particular concerning consumer protection, money laundering and issuer supervision.

In 2023, a total of 87 prudential and 356 consumer protection investigations, 37 market surveillance procedures, 5 issuer supervision target investigations and 7 anti-money laundering investigations were completed. As part of its supervisory and consumer protection activities, the MNB imposed a total of HUF 3,698.87 million in fines in 2023. Out of this, the

penalties imposed during measures related to prudential supervision amounted to HUF 828.5 million, consumer protection penalties totalled HUF 198.4 million, market surveillance penalties amounted to HUF 2,476.2 million and issuer supervision penalties totalled HUF 64.3 million, while anti-money laundering penalties amounted to HUF 108.27 million, and administrative and licensing penalties totalled HUF 23.2 million.

Financial market supervision

The MNB carries out its statutory duties of comprehensive examination, risk identification and assessment, and expert activities to support ongoing supervision. As part of this, it monitored in particular the risks arising in the areas identified by the focus points for 2023, including the processes established for monitoring and handling problematic transactions, the review of collateral management, valuation, documentation practices and recording, review of the proper functioning of internal lines of defence, in particular compliance and fraud, the application of the debt cap and CCIS rules, the review of the application of IFRS 9 impairment rules, and the review of the adequacy of impairment models.

A total of 26 prudential inspections were closed in 2023. In the area of credit risk, the institutions continue to have a high number of findings in relation to collateral management processes, the recording and revaluation of collateral, and weaknesses identified in relation to the transmission of statutory data to the KHR. Other typical weaknesses include inconsistencies between the institutions' rules and practices, and certain data reporting and recording errors, which are essentially manual.

The MNB imposed a HUF 45 million fine on O.F.SZ. Országos Fizetési Szolgáltató Zrt. for irregularities in the areas of corporate governance, supervisory data reporting, risk analysis and management, capital calculation, accounting, liquidity and IT, among others. The investigation found that the payment service provider had been operating without a supervisory board for some time. Internal audit resources were not sufficient to adequately control all areas, and its rules had not been adapted to changes in the organisation and internal processes for a long time. The independence of the compliance area was not ensured and the position responsible for this area was vacant for a long period. O.F.SZ. did not keep up-to-date records and did not report its outsourcing contracts to the central bank,

³ These institutions are under the MNB's full (prudential, consumer protection, issuer, etc.) supervision.

and its outsourcing rules did not comply with the MNB's requirements. The institution's risk management policy did not fully regulate its risk analysis and management processes and incorrectly included in its core Tier 1 capital its issued premium dividend preference shares and did not base its capital requirement on the corresponding year's payment turnover.

The MNB imposed fines totalling HUF 25.8 million on MagNet Bank Zrt. in 2023. Of this amount, a fine of HUF 19 million was imposed in the context of a comprehensive investigation for deficiencies in credit risk, impairment accounting, deposit insurance, data reporting and corporate governance. The MNB found that the bank did not adequately manage credit risks and did not operate an appropriate credit risk management culture and structure and control system in line with the size and activities of the credit institution. The Board of Directors did not exercise effective control over the management of credit risks and did not do its utmost to put into practice the implementation of the credit risk strategy and policy and to ensure the necessary conditions for its implementation. The assessment also identified weaknesses in the area of credit risk in relation to impairment models and in the regulation of restructuring. A further HUF 6.8 million fine was imposed in the framework of a targeted investigation for failure to fully comply with the legal requirements for the transfer of data to the Central Credit Information System (CIR). Shortcomings were found in data transmission, maintenance, customer information and the correction of faulty transactions.

Following a comprehensive investigation, the MNB imposed a fine of HUF 87 million on MKB Nyrt., audited as the predecessor of MBH Bank Nyrt., for deficiencies in corporate governance, risk management, IT security, capital adequacy, impairment and data reporting, among others. The problems identified at the bank do not jeopardise its sound operation, but the central bank has required that the violations be remedied as soon as possible. The audit found, among other things, delays in the adoption of group-wide policies by subsidiaries and incomplete recording of outsourced and non-outsourced activities. There was no full monitoring and annual risk assessment of outsourced activities (critical and important functions) at the bank and the savings bank. The bank's fraud management policy is incomplete and not in line with fraud management practices. There is no uniform banking methodology for identifying suspected fraudulent transactions, and the practice of reporting suspected fraud is not comprehensive. The credit institution's group governance arrangements are not in line with the structure of the banking group, its

group-wide investment policy is not updated and its single, transparent group-wide conflict of interest register is also incomplete. The bank's individual and group-level client group registers are incomplete, and its internal policies for identifying, collating and reviewing client groups were not found to be adequate, and all of this does not support effective monitoring processes. The bank did not always carry out an annual review of corporate client ratings. There are many errors or omissions in the basic systems of bank collateral registers, the calculation of collateral value is not uniform, and the monitoring process for registered real estate collateral is not suitable for checking the insurance and mortgage entries on it. In addition, it did not carry out a full forward value review of commercial real estate collateral. The bank's information security operations organisation is understaffed and its IT security risk analysis is not adapted to the group's operations. In addition, the credit institution needs to improve the quality of its supervisory reporting in a number of areas by strengthening its related control processes, including improving the IT support for the reporting service.

Following a comprehensive investigation, the MNB imposed a total fine of HUF 68 million on the CIB Bank Group. In the case of CIB Bank, due to deficiencies in areas such as corporate governance, credit risk, capital adequacy and impairment provisioning, IT security and data reporting, among others. The supervisory inspection identified weaknesses in the late reporting and record-keeping of outsourced activities, the activities of the internal control area and the regulation and recording of fraud prevention processes, among others. It also found that CIB Bank's internal regulatory framework at group level was not in line with actual practice, with excessive fragmentation in certain areas. The bank's internal rules on credit risk monitoring are not always transparent and effective monitoring of risks is not always ensured. The problematic case management included delays in the submission and approval of recovery strategies for corporate clients and a lack of tender and review of the selection of external debt managers on the retail side. The bank's internal rules on the definition of customer groups needed clarification and the customer groups were not always defined in accordance with the legislation. The bank violated the rules on the debt-service-to-income ratio (DSTI) for certain personal loans and also submitted data late to the Central Credit Information System. CIB Bank applied incorrect risk weightings to certain exposures in its capital requirement calculations, there were weaknesses in impairment provisioning and in several cases the credit limits were not consistently weighted. The regulation of credit institutions in relation to credit assessment and IFRS 9 valuation is fragmented and

sometimes contradictory. The MNB also found that some supervisory data were incorrectly or incompletely compiled. The bank used several outdated vendor-supported information technology (IT) systems and software.

The MNB carried out an investigation at UniCredit Bank Hungary Zrt., the main objective of which was to verify the regularity and practice of disbursement control processes in corporate lending and the reporting practices of the loan-to-value ratio in retail lending. The central bank found that the bank's corporate credit control instructions were incomplete and contradictory. The bank did not apply a sufficiently prudent methodology in the area of amount-based segmentation, and in the area of disbursement conditionality checks, not all types of transactions were subject to independent business area controls and were not documented and recorded in a consistent manner. The MNB found that in some of the loan transactions under review, the institution did not carry out adequate checks on the pre-disbursement conditions. The credit institution's post-disbursement control process was also found to be deficient. At the time under review, the bank reported incorrect interest rate data in some cases in its reporting of certain data on credit transactions (HITREG), and inadequately disclosed certain categories of customers and specific lending type exposures. The Supervisory Authority also imposed a total supervisory fine of HUF 13 million on the credit institution for the violations.

In addition to inspections, the MNB supervises the financial market sector through the continuous assessment of data and information provided by supervised institutions to the MNB, using the tools of so-called continuous supervision. The risk assessments at the institutional level carried out in the course of ongoing supervision are built upon analyses based on supervisory, mainly statistical, data. Important components of these analyses are the assessments of the agendas, proposals and decisions of the various corporate governance committees required for each institution under the extraordinary disclosure decision, as well as the dialogues with the senior managers of the supervised institutions.

As regards the adequacy of impairment calculations, the MNB identified shortcomings in the compilation and parameterisation of the models used for group impairment calculations, on the one hand, and in the specific methodology, on the other. No significant capital problems were identified, with minor weaknesses in the eligibility

of certain elements of own funds and in the sectoral classification of the calculation of the capital requirement for credit risk and the application of preferential weighting.

On fraud management, in June 2023 the MNB issued a so-called 'fraud recommendation'⁴ on the prevention, detection, prevention and treatment of fraudulent payment services, which it expects industry participants to implement in a phased manner. The MNB recommendation on the management of project loans for residential property development was recently amended to take account of feedback from the sector.⁵ Following the market consultation, the MNB published the final recommendation on 26 June 2023 and expects the relevant financial institutions to apply it from 1 August 2023.

Following the payment moratorium period, monitoring and reviewing the monitoring and problematic case management processes, resources and IT support of institutions was a priority in 2021 and 2022 in order to minimise the risks arising from possible increased payment difficulties of customers or defaulting portfolios. Based on the monitoring and the investigation experience of the past period, it has become necessary to present a uniform, separate MNB recommendation for a defined set of financial institutions on the management of problematic portfolios and the recovery/workout processes of the related departments, both for retail and corporate business. The new MNB recommendation was finalised in 2023 Q3 and its external peer review was carried out. Based on the comments received, the new MNB recommendation is being finalised and the MNB expects institutions to apply it from 1 July 2024.

The legal merger of MKB Bank Nyrt. and Takarékbank Zrt. took place on 30 April 2023, and the merged bank has been operating under the name MBH Bank Nyrt. since 1 May 2023. With its decision of 15 September 2023, the MNB authorised MBH Bank Nyrt. to acquire a 98.46-per cent stake in Duna Takarékbank Zrt. (DTB). The transaction was closed on 29 September and DTB became a member of the MBH Group. On 10 November 2023, MBH Bank Nyrt. announced that it had signed a share purchase agreement for the acquisition of a total 76.35-per cent stake in Fundamenta-Lakáskassza Lakástakarékpénztár Zrt.

The initial capital of domestic financial enterprises had to reach HUF 75 million by 31 December 2023 at the latest, and HUF 100 million by 31 December 2026. If a financial

⁴ Recommendation No 5/2023 (VI.23.) of the MNB on the prevention, detection, avoidance and management of fraud through payment services.

⁵ Recommendation No 6/2023 (VI.23.) of the MNB on the management of project loans for housing development.

enterprise is also authorised to grant credit and money lending, it must have increased its initial capital to at least HUF 100 million by the end of 2023 and HUF 150 million by the end of 2026. The MNB monitored and facilitated the process (by repeatedly drawing the attention of institutions to the change in various ways), followed up on the actions taken by institutions (including in response to the Management Circular) and will continue to pay particular attention to ongoing capital adequacy.

The MNB revoked the business licences of AB Financial Team Zrt., ÁHPV Faktoring és Pénzügyi Szolgáltató Zrt., Global Faktor Zrt. and ONEY Magyarország Zrt., based on the company's application in the case of Oney Magyarország Zrt. The number of payment institutions was increased by four participants (OTP Mobil Kft., PricewaterhouseCoopers Könyvvizsgáló Kft., HunFedezetkezelő Zrt., IBANFIRST S.A.'s Hungarian branch). In parallel, two licences in the payment institutions sector were withdrawn and cancelled during the year, with ONEY Kft. and KOIN Europe Kft., an account information service provider (AISP), both ceasing their activities and withdrawing from the market.

In 2023, the MNB closed 265 consumer protection investigations concerning credit institutions and bank group and non-bank group financial enterprises. According to the amendment to the Consumer Credit Act, as of 10 March 2021, if a retail customer indicates his/her intention to repay early, the creditor must provide the information on the early repayment within 5 working days and must also settle the amount of the early repayment received within 5 working days. The MNB reviewed the practices of 16 credit institutions in 2022–2023. It found no shortcomings in two institutions, but found infringements of varying nature and seriousness at the other market participants. In several cases, the MNB identified practices that limited the consumer's early repayment options in time, because notifications of their intention to do so were only accepted during a certain period. The central bank found that a number of institutions did not always comply with the legal deadline of 5 working days for providing information to customers on early repayment, quantification of the consequences thereof and related assumptions. In many cases, early repayments were not settled within 5 working days. Some credit institutions exceeded the legal timeframe in only a few cases, while many market players did not settle on time because they had imposed some kind of restriction on consumers' right to early repayment. The content of information on early repayment was often

inadequate. The central bank also identified significant problems affecting a wide range of consumers regarding certain market participants, as a result of which it imposed fines totalling HUF 27 million on four institutions (Erste Bank Hungary Zrt.; MBH Bank Nyrt.; Takarékbank Zrt.; Takarékbank Jelzálogbank Nyrt.) in five resolutions at the end of 2022 and in 2023.

Supervision of the insurance market

In the case of the inspection procedures launched during the supervision of the insurance market, special attention was paid in 2023 to the complete implementation of the requirements of the IDD,⁶ in particular those related to the product oversight and governance system. Increased attention will continue to be paid to the transition of insurers to IFRS17⁷ and to the actuarial soundness of compulsory motor third party liability (MTPL) premium calculations in the light of claims inflation and foreign exchange rates.

In the course of its investigation, the MNB imposed a fine of HUF 28.2 million (prudential and consumer protection) on Magyar Posta Életbiztosító Zrt. for, among other things, deficiencies in internal regulations, IT security, fraud prevention, outsourcing, recording of damage claims and irregularities in customer information. In April, the MNB imposed a fine of HUF 150 million (HUF 100 million supervisory fine, HUF 50 million consumer protection fine) on UNIQA Biztosító Zrt. for deficiencies in the management of its portfolio of MTPL insurance and unit-linked life insurance contracts, products-related product sales processes, IT security, motor claims settlement, the contractual terms and conditions of certain products, complaints handling and customer information, among others. Aggravating circumstances included the fact that in several cases the deficiencies in the recording and control systems led to unlawful practices and insufficient communication with clients, and that problems in the management of MTPL stocks (due to the related data reporting) could have had an impact on the entire MTPL market in Hungary. The problems with complaints handling affected the fundamental right of customers to redress. As a result of the MNB's action, UNIQA Insurance compensated 289 of its customers, in the value of approximately HUF 116 million. The Insurer compensated the affected customers for financial losses caused by life insurance policies caused to be reconcluded by certain intermediaries until 15 December 2023, as required by the management

⁶ IDD (Insurance Distribution Directive): Directive (EU) 2016/97 of the European Parliament and of the Council on insurance distribution.

⁷ IFRS 17 – Insurance contracts standard.

letter of the comprehensive investigation concluded in 2023.

During its investigation, the MNB found shortcomings in the portfolio management of K&H Biztosító Zrt.'s MTPL insurance contracts, including the conclusion of contracts, the sending of premium payment reminder letters and the content of information letters sent out when contracts were technically restarted. In addition, during the period under review, K&H Insurance Company did not transfer the changes made to the MTPL product to the MTPL product plan, so that it does not fully comply with the relevant legislation. The MNB identified several breaches of the law in relation to the mandatory and optional content elements of the insurance contract terms and conditions and the information provided to customers for some of the life and non-life insurance products under investigation. As regards corporate governance, the supervisor found that the independence of the actuarial function is not fully ensured at present, despite the binding provision in an earlier resolution of the MNB. The insurance company inadequately regulated the operation of the internal control area as well, and in addition, it failed to review several of its policies at intervals specified by the legal requirements.

In the course of a comprehensive investigation of NN Biztosító Zrt., the MNB imposed a fine of HUF 19 million for incomplete customer information on life insurance policies, the contractual terms of certain life insurance products and incomplete compliance in IT security. In several respects, NN Insurance did not comply with the legal provisions on the protection of the information system, and in the case of asset funds offered for unit-linked life insurance products, it deviated from the investment policy in an irregular manner. The MNB also identified shortcomings in the provisions on the information to be provided to clients on value tracking and on the annual information to be provided to clients in the case of unit-linked life insurance policies, as well as in the provisions on the content elements of the key information document.

The MNB imposed a supervisory fine of HUF 15 million on UNION Biztosító Zrt. during a follow-up investigation, as it found that the company did not fully comply with the requirements of its previous investigation. The MNB repeatedly identified shortcomings in the IT system, in the information provided to customers on the termination of unit-linked life insurance, in the provision of data on MTPL and in the respect of claims settlement deadlines.

In the case of Wáberer Hungária Biztosító Zrt., the MNB found that in relation to MTPL, in several cases the

insurer failed to inform the policy and claims registry body and/or the operator in due time (e.g. in relation to the establishment and termination of the contract, and the notification of the customer in the event of premium arrears). The damage registers did not always contain complete, real and up-to-date information, and injured parties did not always receive a duly substantiated compensation proposal or response to their claim in a timely manner. Its information technology (IT) security system lacked risk-proportionate virus protection, adequate alert management and a full roll-out of unsupported systems. The internal auditor function was not adequately resourced, the position of compliance manager was vacant for some time and there were weaknesses in internal regulations. The MNB also found that Wáberer Biztosító's MTPL premium calculation did not include all mandatory elements, and the characteristics of the partner surcharge charged were not properly described. In handling customer complaints, verbal complaints were not always properly recorded, some complaints were not fully answered, and consumers were not always provided with adequate information about redress options when complaints were rejected.

In 2023, 60 consumer protection procedures were opened on request and 60 procedures under continuous surveillance were closed. In most of these cases, the MNB found shortcomings in complaint handling and customer information, and in some cases identified unfair commercial practices. In 2023, the MNB issued a total of six consumer protection warnings to four insurers regarding the insurance market, to ensure that insurers take the best interests of consumers into account to a maximum extent at all times. In line with the MNB's requirements, the insurers took the necessary measures by the deadline.

In 2023, an ex-officio consumer protection targeted investigation at Europ Assistance S.A. Irish Branch was concluded with a decision. The investigation into the cross-border service provider resulted in several findings of misleading sales practices by its group assistance service (Otthon SOS Gas Service), as well as serious shortcomings and infringements in its complaint handling activities.

In addition to inspections, the MNB carries out continuous supervision of the insurance sector in a preventive supervisory approach. This is underpinned by the institutions' data reporting systems, supervisory support procedures, examination manuals and risk and baseline monitoring systems. All of these are used to produce a quarterly risk-based assessment of the institutions. The solvency ratio of the insurance sector was 197 per cent based on 2023 Q2 data, with only one insurer in the market

whose capital adequacy was to a minimum extent below the 150 per cent value required by MNB Recommendation No 6/2016 (VI.14.) on the maintenance of a volatility capital buffer to ensure continuous capital adequacy. The insurer concerned has since made provision for the capital increase.

Since 2021, on a quarterly basis the MNB has published its MTPL Premium and Claim Index, using the data from the Central Itemised MTPL Database⁸ operated by the MNB based on insurers' reporting. Based on the first quarter data, claims expenditure increased by 12 per cent year-on-year due to higher service and parts costs, but this growth rate slowed to 10 per cent in the second quarter. The average MTPL yearly premium of passenger cars increased by 9 per cent in the first quarter and 12 per cent in the second quarter to reach HUF 52,000 compared to the same period last year. Other vehicle categories also show an increase in almost all categories. However, on a quarterly basis, the fact that the average yearly premium was 7 per cent higher in the first quarter and only 3 per cent higher in the second quarter compared to the previous quarter may already indicate a slowdown in the growth rate.

The MNB accepted the application of Magyar Posta Biztosító Zrt., which submitted a tender for the Certified Consumer-Friendly Home Insurance⁹ (MFO) rating system. By the end of 2023, 13 out of the 14 insurers in the home insurance sector had obtained MFO certification and more MFO products are expected to enter the insurance market. This means that almost the whole insurance market – 98 per cent of the market in terms of market share – is committed to a consumer-friendly approach. At the end of 2023, the number of consumer-friendly home insurance policies was nearly 50,000, and through these policies, insured customers now protect more than HUF 2,300 billion in movable and immovable assets.

The MNB withdrew the activity licence of the Hungarian Farmers' Mutual Insurance Association. The institution did not have the minimum own funds necessary to continue its operations and had no intention of replenishing its capital. The association, which was active in the field of crop insurance, including drought risks, settled its claims payments, except in a limited number of disputed cases, and had no live contracts at the time of the withdrawal of its licence.

On 16 August 2023, the MNB terminated the appointment of the supervisory commissioner at the Bodrogköz Nonprofit

Mutual Plant Insurance Association and the Bodrogköz Horticulture Nonprofit Mutual Plant Insurance Association. The control of both associations was then returned to the associations' management bodies. At the same time, the MNB continues to closely monitor the full-scale operation of the associations, ordered exceptional data reporting and launched a comprehensive investigation, which is ongoing. As a matter of priority, the MNB will monitor the implementation by the associations of the decision of the supervisory commissioner to reduce services with a view to ensuring that injured parties receive a proportionate share of the compensation payments. Therefore, farmers who received the full amount of damage compensation before the crisis situation arose must pay back a fixed, proportional part of the total amount in order to compensate the other claimants proportionally.

During the year 2023, there were significant changes in the ownership of domestic insurers (Alfa, Union, Wáberer, D.A.S. and Magyar Posta Biztosítók). Together, these insurers account for one quarter of the market. Among other things, the MNB authorised Generali Biztosító Zrt. to carry out a demerger (spin-off by merger) and Groupama Biztosító and UNION Vienna Insurance Group Zrt. to commence activities directly related to insurance activities.

Supervision of the funds market

In the course of the supervision of the fund market, the MNB's attention was focused on the environmental sustainability of investments and operations, the long-term sustainability of fund operations, with particular attention to the ability to respond to external environmental impacts, and the compliance of the funds available for operations with the MNB's prudential requirements.

The investigations which were closed in 2023 typically found breaches of the legal requirements concerning the activities of the audit committee, IT security, the existence of up-to-date analytical records to support the allocation of assets to funds, the accounts relating to the termination of membership, and the information and complaints handling of members.

During the year, nine comprehensive, three target and one ex-post audits were closed. In the course of these, the MNB imposed HUF 20.55 million in institutional fines in total, including HUF 18.35 million in supervisory fines and HUF 2.2 million in consumer protection fines. In the

⁸ <https://kgfb.mnb.hu> (in Hungarian only).

⁹ <https://www.mnb.hu/mfo> (in Hungarian only)

second half of the year, a comprehensive investigation of the market leader OTP National Health and Assistance Fund was completed, with a decision to impose supervisory fines of HUF 7.9 million and consumer protection fines of HUF 1.6 million, and a comprehensive investigation of another market leader, MBH-Gondoskodás Health and Assistance Fund, was launched.

In October 2023, the MNB published on its website a summary analysis of the 2022 fee charge ratios for voluntary pension funds, the adjusted fee charge ratio and the valuation of the fund's TCI. The cost ratios for voluntary pension funds in 2022 changed little, with a classic fee charge ratio of 0.72 per cent and an adjusted fee charge ratio of 0.73 per cent. The investment expense ratio was reduced for several funds by unpaid success fees due to negative returns. The operating cost component was increased by the deduction of yields to make up for the loss of income from non-paying members. Voluntary pension funds continue to offer one of the most competitive schemes compared to other self-care offers.

Capital market supervision

The protection of customer claims remains a top priority in the examination of investment service providers and has been strongly integrated into the MNB's ongoing supervisory toolbox. The overall and thematic reviews continue to focus on compliance with the MiFID II¹⁰/MiFIR¹¹ regulatory environment. In line with international practice and market developments, the examination of investment fund managers focused mainly on liquidity management and asset valuation, given the turbulence that the Russian-Ukrainian conflict has caused on the capital markets. In this context, particular attention was paid to investment decision-making, order management and net asset value calculation.

Among the closed investigations, the comprehensive investigations conducted against HOLD Fund Manager and ADALFA Fund Manager deserve to be highlighted: among other measures, a supervisory fine of HUF 17.4 million was imposed on HOLD Fund Manager and a supervisory fine of HUF 12.3 million was imposed on ADALFA Fund Manager in the course of investigations – among others – due to the deficiencies detected in the area of compliance with

remuneration regulations, with particular attention to the dividends paid to the employees who are shareholders in the fund managers and qualifying as variable remuneration. Also noteworthy is the decision to close the comprehensive investigation of Erste Fund Manager, in which the MNB imposed a fine for deficiencies in the management of information security risks and the risk management function areas. In the course of a comprehensive investigation of Raiffeisen Bank as an investment service provider, the MNB found, among other things, violations of data reporting, information requirements in relation to portfolio management and remuneration regulations.

As in previous years, the success fee models for investment funds were reviewed. As a result, the funds apply threshold yields that are appropriate to the current market environment and take into account the impact of the inflation and interest rate environment.

As part of its ongoing consumer protection supervision, the MNB participates in the joint supervisory surveillance coordinated by ESMA¹² (CSA¹³) from 2023 Q3, which includes the monitoring of the marketing activities of 14 investment service providers. Following the previous CSAs, the MNB has also started revising its recommendations on the ex-ante assessment of suitability and appropriateness of financial instruments to be sold by investment service providers, based on the guidelines issued by ESMA.

In the investment services sector, the MNB is conducting a thematic inquiry into the sale of derivative products involving a total of eight institutions. The focus of the investigation is to verify the daily risk management practices related to derivative client positions, to check compliance with consumer protection rules related to the sale of complex products and to verify the statements of the balance of derivative positions provided to clients.

In 2023, six new venture capital fund managers were licensed and the transfer of investment services portfolio of MBH Bank Nyrt. was approved at the request of MBH Bank Nyrt. as the transferor and MBH Befektetési Bank Zrt. as the transferee. A licence to acquire qualifying holdings in investment companies (Equilor Befektetési Zrt., HOLD Alapforgalmazó Zrt.) and investment fund managers (VIG Befektetési Alapkezelő Magyarország Zrt., Hold Alapkezelő

¹⁰ Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU.

¹¹ Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012.

¹² European Securities and Markets Authority.

¹³ Common Supervisory Action.

Befektetési Alapkezelő Zrt., Accorde Alapkezelő Zrt.) was also issued. As a result of the change in the tax law on trusts, the number of procedures for registering non-commercial scale trusts increased sharply and was several times higher than in the same period in the past.

The MNB issued a renewed recommendation¹⁴ on the remuneration policies and practices of investment service providers in relation to product sales. The MNB expects investment firms, credit institutions providing investment services, fund managers and their domestic branches domiciled in Hungary to apply the recommendation from 1 January 2024. It is essential that remuneration for the sale of investment products does not encourage the sellers or the institution concerned to put their own (financial) interests first in a way that is incompatible with the needs of their clients. Remuneration and other incentives should not be based solely or predominantly on quantitative business criteria, i.e. on the volume of products sold. In addition, quality criteria should be developed to ensure that the best interests of consumers are served by, for example, complying with regulatory requirements, internal procedures, reviewing the suitability of the assets to be sold, treating customers fairly and ensuring their satisfaction. The MNB expects institutions to apply and document clearly defined qualitative criteria in their remuneration policies and practices, and not to use them to implicitly impose quantitative trading criteria that could disadvantage customers. Qualitative targets that allow the institution to reward sales volume or to put pressure on sellers to offer only certain products that offer them a higher commission (thereby circumventing the fact that no such quantitative commercial criteria were set in the remuneration policy) are to be avoided.

Supervisory activities related to the prevention and combating of money laundering and terrorist financing as well as the implementation of asset- and finance-related restrictive measures

Investigations related to the prevention of money laundering and terrorist financing (AML/CFT¹⁵) and the enforcement of asset and financial freezing measures, as well as continuous surveillance and other official tasks related to this issue, will continue to be a priority. According to the methodology developed, the MNB identifies the money laundering and terrorist financing risks

of supervised institutions, taking into account qualitative and quantitative risk factors that are continuously updated and expanded, and analyses and assesses them together with other available information. The purpose and timing of supervisory procedures are determined by the central bank on the basis of the supervisory risk assessment.

The purpose of AML/CFT inspections is to identify shortcomings and vulnerabilities on the one hand and assess the actual threat to institutions to quantify expected reputation risks on the other hand. Other important aspects include examining efficiency, and the identification and understanding of the potential sources of risk. AML/CFT investigations also cover why a particular breach of law or series of violations occurred, or whether a particular breach may be indicative of wider systemic or internal control weaknesses. Significant attention is given to informing the managers of supervised institutions about the AML/CFT risks identified during investigations.

In 2023, seven investigations related to the prevention of money laundering were completed, of which the target investigations against Kereskedelmi és Hitelbank Zrt. and OTP Bank Nyrt. deserve special mention. The MNB identified shortcomings in the case of Kereskedelmi és Hitelbank Zrt. in the areas of failure to promptly make and report notifications, failure to comply with beneficial ownership requirements, failure to apply the enhanced procedure, failure to obtain information on the source of funds, failure to implement mandatory screening criteria, delayed processing of alerts, management approval, record-keeping requirements, inadequate risk assessment practices, and deficiencies in the screening system procedures. The MNB also found deficiencies at OTP Bank Nyrt. in its reporting practices, the operation of its internal control and information systems, monitoring activities, internal risk assessment, customer due diligence practices, internal regulations and money laundering prevention training. Taking into account the deficiencies identified, the MNB issued a warning, an obligation and an extraordinary data reporting obligation, and imposed a supervisory fine of HUF 20.437 million on Kereskedelmi és Hitelbank Zrt. and HUF 49.375 million on OTP Bank Nyrt.

In addition to AML/CFT inspections, continuous surveillance also plays an important role in AML/CFT surveillance activities. The MNB, through the continuous analysis and assessment of the data and information provided to

¹⁴ Recommendation No 11/2023 (XI.15.) of the MNB on the application of remuneration policies and practices in relation to the provision of investment services.

¹⁵ Anti-Money Laundering and Countering the Financing of Terrorism.

it, ensures that identified risks can be addressed as soon as possible, and the results of continuous monitoring effectively support investigations and the updating of supervisory risk assessment.

The Russian-Ukrainian conflict led to the introduction of sanctions and restrictions with different contents, which substantially affected the supervisory activities of the MNB and imposed additional obligations on service providers. The MNB therefore considered it necessary to assess the 'sanctions exposure' of the financial intermediary system in relation to the domestic customer base, and thus issued a decision imposing an exceptional reporting obligation on a total of 94 institutions.

IT supervision

The MNB's series of thematic investigation on the use of machine learning and artificial intelligence was ongoing. In the case of two insurance companies and one bank, the investigations have already been completed, which did not reveal any risks or deficiencies indicating non-compliance with any of the relevant sectoral legal requirements. In addition, intensive work started in the expert groups set up to develop the detailed rules of the DORA regulation.¹⁶

Between 29 September and 3 October 2023 the migration of the corporate client portfolio of the former Budapest Bank Zrt. to the IT system of the former (pre-merger) MKB Bank took place in MBH Bank Nyrt. The MNB closely monitored the process of preparing and implementing the changeover.

The CyberShield financial education campaign and cooperation initiative was given a new impetus. In 2023, the Ministry of Justice, the Ministry of Economic Development (currently: the Ministry of National Economy), the Hungarian State Treasury and the Supervisory Authority for Regulatory Affairs joined the project and an intensive poster campaign was launched. In the third quarter, the website of CyberShield website was renewed and now offers expanded content and a simplified structure for those interested. In addition, preparations were also made for presentations at several professional conferences, such as the Information Technology Security Day (ITBN). In addition, coordination and knowledge-sharing between project members started to prepare a so-called 'hot-line' linking between banks and the police, and to examine the issues raised by the reporting of phishing to the authorities.

Issuer supervision and market surveillance procedures

Among the market surveillance cases closed in 2023, the Falcon, SAFIS and Primus Trust market surveillance proceedings were noteworthy. In the procedure initiated to investigate the activities of Falcon Kereskedőház Kft., Falcon Benefit Kft. and the natural persons involved in their operation, the MNB already applied all possible elements of the available supervisory toolkit during the procedure for investor protection reasons. It notified the investigating authority, published a warning on its website, banned the companies and the natural person concerned from carrying out any activity subject to authorisation or notification by the central bank with immediate effect, blocked the companies' websites, and blocked several bank accounts related to the activity under investigation and froze the cash received by the companies. The MNB saved around HUF 2.3 billion of investors' money and handed it over to the investigating authority in the course of the market surveillance procedure. In the course of the procedure, the MNB found that the companies had concluded so-called 'voucher purchase contracts' and 'programme contracts' of various designations with around 4,400 investors, amounting jointly to an amount in the billions. In these, they undertook that if investors did not use the vouchers they had bought at half price, they would pay back – typically after 3 months – their face value, i.e. twice the amount transferred by the investors. The reference to vouchers was only a cover for unauthorised fundraising. In its decision closing the proceedings, the MNB imposed a total of more than HUF 1.5 billion in market surveillance fines due to the infringements, the largest ever fine imposed by the MNB.

The MNB conducted a market surveillance procedure to investigate the activities of SAFIS EVO Inc., during which it found that the seven '*investment companies*' owned by SAFIS EVO Inc. had concluded so-called '*Profit Sharing Right Acquisition and Participation Agreements*' with investors in the amount of at least HUF 1.6 billion in more than 2,000 transactions since January 2019, which can be assessed as collective investment securities. According to said agreements, the '*investment companies*' managed by SAFIS EVO Inc. raised investor capital in the form of asset contributions in order to provide capital increase to the '*project companies*' under the agreements, and accordingly the investment companies would qualify as collective investment forms that can be considered '*quasi venture capital funds*'. In view of the above, the MNB found

¹⁶ Regulation of the European Parliament and of the Council on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014 and (EU) No 909/2014.

that SAFIS EVO Inc. was engaged in the investment fund management activity of ‘*collective investment securities distribution*’ in Hungary in violation of the law, without the relevant licence, and therefore imposed a market surveillance fine of HUF 320 million on the company and HUF 32 million on the natural person who substantially contributed to the activities, in addition to a ban on the company’s activities and the blocking of its website.

The market surveillance procedure initiated to investigate the activities of Primus Trust Bizalmi Vagyonkezelő Zrt. found that Primus Trust, which also manages several trusts, had granted loans to several companies and individuals in the five years preceding the supervisory procedure, in the amount of tens of billions of forints as trustee of each trust, not falling within its authorised activity. In its decision closing the market surveillance procedure, the MNB imposed a market surveillance fine of HUF 300 million on the company. Primus Trust Bizalmi Vagyonkezelő Zrt. notified the MNB that it would withdraw its operating licence with effect from 31 December 2023.

OTT-ONE Nyrt. and SET GROUP Nyrt. were fined for missing annual reports for 2022. The MNB had already suspended trading in the shares of these two issuers in previous years, and had had them repeatedly issue statements and required them to provide data in the context of restoring legal operations. As a consequence of the above, the MNB decided to delist from the exchange product list the shares of SET-GROUP Nyrt. with its decision of 21 July 2023 and OTT-ONE Nyrt. with its decision of 26 September 2023. The delisting date of SET-GROUP Nyrt. shares was 31 July 2023, while the delisting date of OTT-ONE Nyrt. shares from the exchange product list was 2 October 2023.

On 14 June 2023, SunDell Nyrt. and on 15 June 2023 WINGHOLDING Zrt. published an extraordinary announcement on the withdrawal by the auditor of their auditor’s reports on their financial statements for the financial year 2022. The MNB decided to suspend trading in these two issuers due to the subsequently withdrawn audit reports and thus incomplete annual reports. WINGHOLDING Zrt. published its annual report with new audit reports on 22 June 2023 and SunDell Nyrt. on 10 August 2023, and thus the MNB reinstated the trading of securities from the beginning of trading hours on 26 June 2023 for WINGHOLDING Zrt. and on 14 August 2023 for SunDell Nyrt.

Customer service activity

In total, the MNB’s Customer Service received 24,175 enquiries and requests in 2023. The breakdown of the

queries and requests by sector did not change substantially from earlier periods, as most customer interactions concerned the financial market, followed by the insurance market. Customers most frequently contacted the MNB Customer Service with questions related to non-life insurance, lending, payment services, debt collection and debt management.

Since the end of 2022, the number of customer complaints reporting bank-related phishing attacks has increased significantly. The number of cases reported to the MNB increased from an average of 20 cases per month in 2022 to an average of 100 cases per month in 2023 Q1, an average of 117 cases per month in Q2, and an average of 147 cases per month in Q3 and 103 cases per month in Q4. During 2023, the amount of losses reported by customers – taking into account only those affecting HUF bank accounts – was estimated to exceed HUF 1.8 billion.

Typical cyberfraud offences include sending phishing messages and e-mails misusing the name of a parcel delivery service (347 in 2023, of which 223 customer alerts were received in H2) and fake bank phone calls (189 in 2023, of which 127 in H2).

Within cyberfraud, the number of cases of misuse of the MNB’s name showed an increasing trend in 2023. During the year, 156 customer alerts were received, of which 93 were received in the second half of the year. In addition to misusing the MNB’s name, fraudsters were also reported to be committing fraud by copying the MNB’s public telephone numbers, such as those of the customer service or the retail cashier’s office.

3.4 RESOLUTION

The MNB’s resolution planning and resolvability assessment activities focused on monitoring the status of institutions’ compliance with the Guidelines for institutions and resolution authorities on improving resolvability published by EBA in 2023, in order to ensure that the institutions under the MNB’s jurisdiction are at an appropriate level of resolvability readiness.

It is important to underline that the institutions concerned had to fully build up the stock of instruments needed to comply with the MREL requirements by 1 January 2024, and in this context the MNB has placed great emphasis on setting and reviewing the MREL-requirements and monitoring the expansion of the stock of instruments needed to comply with the MREL requirement. Based on the data reporting submitted, all institutions required to comply with

the fully-fledged MREL-requirements from 1 January 2024 complied with the MREL requirement applicable to them in 2023. The institutions concerned successfully implemented their planned issuances. In 2023, in order to meet the MREL requirements, the MNB also granted requests for general prior permission to call, redeem, repay or repurchase certain liabilities eligible for meeting the MREL requirements.

The MNB has developed and, after market consultation and careful consideration of institutional comments, published its detailed resolution-related expectations for management information systems, with the aim of enabling institutions to provide the resolution authority with the data required in the context of any resolution proceedings, in particular data requirements arising from asset valuations, within a short timeframe.

The MNB calculated the regular annual contributions for 2023 for the member institutions of the Resolution Fund, participated in the work of the Board of Directors of the Resolution Fund and the National Deposit Insurance Fund, and fulfilled its duties arising from the exercise of the ownership rights of MSZVK Zrt. as a resolution asset management vehicle. In the framework of the latter, a new medium-term business plan for the MSZVK group was adopted in 2023.

The MNB expressed a detailed view on the European Commission's legislative proposal (Crisis Management and Deposit Insurance framework) to revise the Bank Recovery and Resolution Directive, published in April 2023, indicating that, although the MNB considers that the majority of the revisions to the relevant provisions are justified, the proposed amendments require further reflection.

MNB experts contributed to the work of the EBA, ESMA working groups and EU legislative bodies to build a resolution framework for insurers. In addition, the MNB made available to the EBA non-institution-specific information on its resolution authority practices in the context of the EREP programme on the convergence of resolution planning and execution activities of resolution authorities.

Resolution planning, resolvability assessment and setting the MREL requirement

In 2023, the MNB's resolution planning and resolvability assessment tasks focused on monitoring the status of

institutions' compliance with the EBA Guidelines¹⁷ for institutions and resolution authorities on improving resolvability, in order to ensure that the institutions under the MNB's jurisdiction are at an appropriate level of resolution readiness, i.e. that resolution proceedings can be smoothly implemented without disruption in relation to them in a crisis situation.

In addition, as in previous years, the MNB set and revised the MREL requirements for the institutions concerned. The MNB, as the group resolution authority, carried out the resolvability assessment proceedings for the Hungarian-based banking group with significant cross-border activities in accordance with its annual schedule, including the review of the group resolution plan and concurrently therewith, the consolidated and individual MREL requirements. The assessment of resolvability was not only carried out for the group's domestic institutions, but also for subsidiaries in a coordinated assessment with the involvement of the resolution authorities of the country concerned. The resolution plan, the outcome of the assessment of resolvability and the MREL requirements were adopted by the resolution authorities concerned in the form of joint decisions.

With the participation of the MNB in the resolution colleges chaired by the Single Resolution Board (SRB), as the resolution authority responsible for the most significant banking union-based institutions and banking groups, the MNB, as the resolution authority responsible for the Hungarian subsidiaries of banking union parent companies, conducted resolvability assessments for several subsidiaries, developed and provided the SRB with its reasoned proposals on the MREL requirements of the Hungarian subsidiaries concerned, and adopted the relevant group resolution plans and the consolidated and individual MREL requirements in the form of joint decisions. Based on the joint decisions, MNB required the institutions concerned to comply with the agreed MREL requirements.

In addition, the review of the resolution plans of institutions subject to simplified obligations for resolution planning purposes was completed for the year 2023.

The build-up of the MREL-eligible stock by institutions in Hungary has already reached a stage where the MNB, in order to meet the MREL requirement granted requests for general prior permission to withdraw, redeem, repay or repurchase certain liabilities eligible for meeting the MREL requirements as was the case in 2022 and in 2023 as well.

¹⁷ EBA/GL/2022/01 13 January 2022 Guidelines for institutions and resolution authorities on improving resolvability.

It is important to underline that the institutions concerned had to fully build up the stock of instruments needed to comply with the MREL requirements by 1 January 2024, and in this context the MNB placed great emphasis on monitoring the expansion of the stock of the MREL-eligible instruments, in addition to setting and reviewing the MREL requirements. Based on the data provided, all institutions required to comply with the fully-fledged MREL requirements from 1 January 2024 complied with the requirement applicable to them in 2023 and the need to issue securities to meet the fully-fledged requirements on 1 January 2024 was significantly reduced. The institutions concerned successfully implemented their planned issuances.

Regulatory requirements for management information systems of the institutions

In line with EU requirements, the MNB expects institutions' management information systems to allow for the rapid generation of high-quality data and information in a crisis situation, in order to allow for the rapid valuation of assets on which a resolution proceedings could be based. The MNB developed and, after market consultation and careful consideration of institutional comments, published its detailed expectations for management information systems for resolution purposes.

Tasks related to collective funds, the regular annual contributions of the Resolution Fund's member institutions

In the first half of the year, the MNB, as the national resolution authority, calculated the regular annual contributions to be paid by member institutions to the Resolution Fund in accordance with the provisions of the relevant Commission Delegated Regulation¹⁸ and the Resolution Act, and notified both the member institutions and the Resolution Fund. As a result of regular annual contributions, the capitalisation of the Resolution Fund is increasing as scheduled. The goal is to reach the target level specified in the Resolution Act (1 per cent of the covered deposits below the coverage level of all credit institutions licensed in Hungary), thereby strengthening the financial stability safety net. Furthermore, the MNB's representatives continued to actively participate in the work of the Board of Directors of the Resolution Fund and the National Deposit Insurance Fund.

Tasks related to the resolution asset management vehicle

The ownership rights over MSZVK Zrt. are exercised by the MNB based on the Resolution Act, under which a new medium-term business plan for the Group was adopted in 2023.

International cooperation, participation in shaping the European Union's regulatory environment

In response to the call from the Hungarian authorities participating in the EU working groups, the MNB has expressed a detailed position on the European Commission's proposal (Crisis Management and Deposit Insurance framework) for – among others – a revision of Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms, published in April 2023, indicating that, although the MNB considers the revision of the majority of the relevant provisions to be justified, the proposed amendments require further reflection.

MNB experts will continue to participate in the EBA's Resolution Planning and EWorking Groups, ESMA's Resolution Working Group and contribute to the work of EU legislative bodies to build a framework for the resolution of insurers, drawing on their experience in the field of bank resolution. In addition, the MNB made available to the EBA non-institution-specific information on its resolution authority practices in the context of the EREP programme on the convergence of resolution planning and execution activities of resolution authorities.

3.5 PAYMENT AND SECURITIES SETTLEMENT SYSTEMS

In 2023, the MNB continued to monitor the reliable and secure operation of payment infrastructures, to supervise payment service providers and to develop domestic electronic payment methods. In the framework of the latter, the MNB amended MNB Decree No 35/2017 (XII. 14.) on Payment Services Activities, as a result of which payment service providers are obliged to receive payment requests from 1 April 2024, and to provide for the initiation of instant transfer orders using a single data entry solution from 1 September 2024.

¹⁸ Commission Delegated Regulation (EU) 2015/63 of 21 October 2014 supplementing Directive 2014/59/EU of the European Parliament and of the Council with regard to ex ante contributions to resolution financing arrangements.

In order to reduce the number of fraudulent transactions, which increased sharply in 2023, the MNB and Giro Zrt. started to implement the Central Fraud Monitoring System in close cooperation, which will use artificial intelligence to assess the fraud risks of transactions for credit institutions in real time from 2025. In addition, during its payment inspections the MNB also examined the effectiveness of the systems put in place by payment service providers to curb frauds. The MNB is also playing an active role in the preparation of the Payment Services Regulation (PSR), which will enter into force in a few years' time at the EU level and will also place a strong emphasis on reducing financial fraud in the online space.

In 2023, review of the EMIR Regulation, the main regulatory framework for European CCPs, continued. The developed proposals tie in with other EU policies and ongoing initiatives and aim to develop the Capital Markets Union, strengthen the EU's open strategic autonomy and enhance the efficiency and effectiveness of EU-wide supervision. The new regulation could enter into force as early as 2024 H1.

Development of the instant payment ecosystem

Following the successful launch of instant payments on 2 March 2020, the MNB aims to create simple and consumer-friendly payment services based on the central infrastructure, which can be used by anyone at low cost. In 2022, the MNB developed a comprehensive set of proposals for the provision of single data entry solutions for instant transfer orders, which resulted in the amendment of MNB Decree No 35/2017 (XII.14.) on Payment Services Activities (hereinafter: MNBr.) in December 2022.

In the autumn of 2023, the MNB initiated bilateral consultations with the largest payment service providers and with GIRO Zrt., the operator of the domestic payment system, which is responsible for the clearing and settlement of instant credit transfers. Based on the feedback received, the MNB considered it appropriate to develop further regulatory proposals. In the autumn, the MNB finalised a package of proposals for the amendment of MNBr., which was sent to all payment service participants covered by the Decree for formal consultation. In addition to the feedback received in autumn 2023, the proposal for the amendment of MNBr. also incorporated the proposals for amendments received from market participants through other channels. Following the consultation, the text of the Decree was finalised, and on 15 December 2023, MNB Decree No 65/2023 (XII.15.) amending MNB Decree No 35/2017 (XII. 14.) on Payment Services Activities was

announced. Among other things, the amendment of the Decree clarifies the rules on information on the execution and rejection of instant transfers initiated using the single data entry solution and initiated by a payment request, and defines the concept of a portable multifunction device also at the Decree-level. In addition, as a result of the amendment, from 1 January 2025, customers will be able to register their secondary account identifiers with their account manager through third party service providers (e.g. utility companies).

Taking into account that the widespread provision of instant transfers via the single data entry solution and the receiving and sending of payment request requires significant developments by payment market participants and the operator of central infrastructure, the date of entry into force of the MNBr. provision on the mandatory receiving of payment requests was changed to 1 April 2024, and the date of entry into force of the MNBr. provision on the mandatory initiation of instant transfers via the single data entry solution to 1 September 2024. In order to ensure that customers may immediately recognise where they can use payment solutions based on single data entry solution and payment requests, the MNB developed standardised design elements and set out requirements for their usage in the framework of the regulation.

Payment resolutions

In the course of the year, the central bank issued 23 legal interpretations and expert opinions about payments based on queries from credit institutions, other legal entities and natural persons, mainly concerning the interpretation of certain stipulations in the Payments Act and other payment legislation.

In addition, the MNB published on its website, on two occasions, at the 'Instant payment – Frequently asked questions and answers' page, answers to questions sent by market participants, which help to interpret the provisions of MNBr. on instant payments and payment requests.

Central Fraud Monitoring System

In the framework of close cooperation between the MNB and GIRO Zrt., the implementation of a central fraud monitoring system was commenced, which will use artificial intelligence to assess the fraud risk of transactions in real time, and will also send real-time feedback to credit institutions. In order to ensure that the system can be launched on 1 July 2025 in accordance with the legal requirements, GIRO Zrt. started the tender procedure for

the implementation of the project following continuous consultations with the MNB and the joint development of the system specification. Final application materials were received in December 2023 and were evaluated by 16 February 2024. The MNB and GIRO Zrt. are continuously consulting with project stakeholders, including credit institutions, in order to ensure that the recent surge in banking fraud is successfully curbed.

KELER CCP Annual College Meeting

On 10 October 2023, the Supervisory College of KELER CCP Ltd., composed of international supervisory authorities and the ESMA,¹⁹ held its annual meeting in a hybrid format. In the first phase of the meeting, the supervisory and oversight activities of the MNB from 2023, the results of the comprehensive supervisory inspection concluded in 2023, KELER CCP's risk management and IT operations as well as the supervisory and oversight tasks planned for 2024 were presented and discussed in detail. In the second phase of the meeting, the most important events affecting KELER CCP were presented, along with the key strategic objectives and plans of the central counterparty. During the meeting, college members assessed the MNB's supervisory and oversight activities as well as the operation of KELER CCP.

International committees on securities clearing and settlement systems

ESMA's CCP Supervisory Committee (CCPSC) is responsible for facilitating supervisory convergence and analysing, monitoring and mitigating the systemic risks of CCPs. The Committee discusses and adopts, *inter alia*, methodological changes initiated by central counterparties, which are validated by ESMA. In 2023, one of the Committee's main tasks was to monitor the impact of the war between Russia and Ukraine. As a result, the concession on the eligibility of bank guarantees as collateral, which was agreed in

2022 for a transitional period, was extended to ease the liquidity burden for market participants. The Committee coordinates the ESMA EU CCP Stress Test exercise, which is organised every two years with the involvement of CCPs. In 2023, a fifth test was launched to comprehensively assess the performance and resilience of the European CCPs' guarantee systems.

ESMA's Post-Trading Working Group (hereinafter: PTWG)²⁰ deals with post-trading processes and regulation, including central securities depositories, securities settlement systems, etc. In 2023, the PTWG focused on the development of the methodology for the analysis of failed settlements resulting from the SDR²¹ regulation that entered into force on 1 February 2022. A more sophisticated analytical methodology will allow the effectiveness of settlements to be assessed at the EU level as well. In 2023, a major theme was that in May 2024 the US organised securities market will move to a t+1 day settlement cycle, which could even be seen as a precursor to t+0 day trading. As a result of the changeover, the functioning of the US and European stock markets is expected to differ (t+1 and t+2 days): The necessary harmonisation measures were analysed, which are likely to be feasible only in the longer term. The reason for this is that European capital markets, which are more fragmented than those in the US, will need more time to move to a shorter settlement cycle, if this is decided at the EU level. To assess this, ESMA held a series of Consultative Working Group workshops during the year to better understand the market's views and conducted a public consultation in mid-December 2023 to start a cost-benefit analysis. This means that the latest amendment to the CSDR regulation did not yet provide for a change to the t+2 day settlement cycle.²² In 2024, both priority themes will continue, and the development of implementing regulations and guidelines resulting from the amendments to the CSDR Regulation will also be implemented.

¹⁹ European Securities and Markets Authority (ESMA).

²⁰ On 1 January 2023 the PTSC merged into the ESMA Secondary Markets Standing Committee (SMSC) to form the ESMA Markets Standing Committee (MSC). The MSC also includes four ESMA working groups, out of which the so-called Post-Trading Working Group will be the only one besides the MSC to be concerned with post-trading processes, especially the OTC as defined in EMIR, and central securities depositories and securities settlement systems pursuant to the CSDR.

²¹ Commission Delegated Regulation (EU) 2018/1229 of 25 May 2018 supplementing Regulation (EU) No 909/2014 of the European Parliament and of the Council with regard to regulatory technical standards on settlement discipline.

²² Article 5(2) CSDR: "As regards transactions [...] which are executed on trading venues the intended settlement date shall be no later than on the second business day after the trading takes place [...]"

EMIR Regulation Review (EMIR 3.0)

In 2023, review of the EMIR Regulation, the main regulatory framework for European CCPs, continued. The proposed amendments tie in with other EU policies and ongoing initiatives and aim to develop the capital markets union, strengthen the EU's open strategic autonomy and enhance the efficiency and effectiveness of EU-wide supervision. Having a secure and competitive settlement regime within the EU is vital for developing the capital markets union, and the proposed legislative amendments, including the further bolstering of the supervisory framework, will promote a more efficient and secure post-trading environment. A strong central settlement system mitigates the risks arising from the heavy dependence on a third-country central counterparty and supervisory authority. The recent developments in energy markets have shown that the EMIR needs to be modified further to continue reducing the risks jeopardising the financial stability of the EU. The negotiations are scheduled to be concluded in spring 2024, so that the new regulation can enter into force in 2024 H1.

The CSDR Regulation governing the operation of European CSDs has been amended

The update of the CSDR Regulation (CSDR Refit) was completed, and on 27 December 2023 the amendment was published in the Official Journal of the European Union,²³ which entered into force on the 20th day after the CSDR Refit, on 16 January 2024. The main changes to the CSDR regulation are: (1) passporting for cross-border services will no longer be subject to notification by the home member state to the host member state; (2) supervisory colleges should be established for materiality and group-holding central securities depositories (CSDs); (3) CSDs providing banking ancillary services may provide certain banking type ancillary services to CSDs that are not licensed for such activities; (4) further modification of the rules on settlement discipline, in particular regarding penalty and mandatory buy-ins; (5) the rules on third-country CSDs would be modified by removing the grandfathering clause; and (6) the minimum frequency of comprehensive supervisory reviews under the CSDR is set at three years. ESMA was mandated

by the European Commission to work out the details of the main changes, most of which should enter into force within a year. The MNB is also involved in the preparation of the amendments to the implementing regulations at expert level through the ESMA Post-Trading Working Group.²⁴

Evaluation of the standardised availability methodology for financial infrastructures

In 2022, the MNB developed a single availability methodology for supervised financial infrastructures, which was implemented in early 2023. After one year of operation, at the end of 2023, the Overseers evaluated the experience with the new methodology and agreed its findings with the representatives of the infrastructures. The experience of operators has been positive, with measured results reflecting expectations at the time of implementation. The results of the new methodology continue to confirm that the availability of financial infrastructures under surveillance meets high expectations.

MNB prioritises successful domestic implementation of open banking as required by PSD regulation

In order to ensure the proper functioning of open banking in Hungary, the MNB continued the series of roundtables with the Banking Association and market participants in 2023, in addition to the payments surveys. The event was successful in promoting dialogue between the payment service providers concerned and in reconciling the problems encountered. As a result of the successful API roundtable discussion, the MNB published on its website the data of payment service providers and third-party service providers related to open banking in 2023 Q3. The purpose of the website page created by the MNB is to provide payment service providers participating in open banking with up-to-date information and contact details on the APIs created by the payment service providers. The MNB is committed to open banking as required by the PSD2 regulation, which includes the creation of this website page, and will pay particular attention to the enforcement of open banking rules in its payment controls, thus ensuring innovation and competition in payment services.

²³ <https://eur-lex.europa.eu/oj/daily-view/L-series/default.html?&ojDate=27122023>

²⁴ The work of the ESMA Post-Trading Standing Committee was taken over by the Post-Trading Working Group (hereinafter: PTWG) as of 1 January 2023, which was essentially an organisational restructuring, with no change in the scope of tasks. The PTWG is part of the ESMA Markets Standing Committee: <https://www.esma.europa.eu/about-esma/governance-structure/standing-committees>

PSD3, PSR and Open Finance renewal and participation in MiCA Regulation working groups on payments

In order to develop a well-founded Hungarian position, the MNB participated in the drafting of the proposal for the Proposal for a Regulation on payment services in the internal market and amending Regulation (EU) No 1093/2010 published in June 2023 (PSR), the Proposal for a Regulation on a framework for Financial Data Access and amending Regulations (EU) No 1093/2010, (EU) No 1094/2010, (EU) No 1095/2010 and (EU) 2022/2554 (Open finance), and the Proposal for a Directive on payment services and electronic money services in the Internal Market amending Directive 98/26/EC and repealing Directives 2015/2366/EU and 2009/110/EC (PSD3), and formulated a number of clarifying questions and suggestions. In the summer of 2023, the Regulation on markets in cryptoassets (MiCA) was published in the Official Journal of the EU, in the preparation of which the MNB was involved, with a particular focus on the licensing and supervision of asset-based tokens and electronic money tokens, or e-money tokens.

DORA – Regulation on the digital operational resilience of the financial sector

Regulation (EU) 2022/2554 of the European Parliament and of the Council of 14 December 2022 on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014,

(EU) No 909/2014 and (EU) 2016/1011 was published in the Official Journal of the EU on 27 December 2022. The DORA regulation sets out detailed requirements for the financial sector on information and communication technology (ICT) risk management, incident reporting, management and oversight of third party ICT service providers and the framework for Threat-Led Penetration Testing (TLPT) in the financial sector. The MNB also presented DORA's main objectives and tools to further improve the security of the financial sector at the CyberShield Knowledge Sharing Event on 23 May 2023. The ECB's Secpay working group meetings, with the participation of the MNB, also focused on incident-related data reporting. Detailed rules for reporting incidents under DORA will be published in July 2024.

Payment inspections

In 2023, the MNB launched six payment authority control procedures, four for banks and two for EEA branches of credit institutions (hereinafter: branch). In terms of the scope of the inspections, these inspections can be classified into two main types. In the case of three banks and two branches, the inspections concerned the general inspection considerations as published on the MNB's website. At one bank, the lack of a dedicated interface, based on data obtained in the framework of the continuous monitoring, led to an unplanned inspection. During the year, the types of infringements detected in the MNB's payment control authority procedures ranged across a wide spectrum (see Table 4).

Table 4
Number of infringements by type detected by payments controls in 2023 (number of pieces)

LXXXV. of 2009 on the provision of payment services law concerning:		
III. Framework contract	information prior to the conclusion of the framework agreement, as well as the form and content requirements of the framework agreement [8. § (2), § 10 (1), § 13 and § 14 (1)]	7
	amendment and termination of the framework agreement [17. § (6)]	1
IV. Opening of a payment account, disposal of a payment account	opening the payment account [18. § (1)]	3
V. Payment order based on a framework agreement	subsequent information [23. § (1) and (2), § 24 (2) and § 26 (1)]	3
VII. Special rules for conducting the payment service	providing free cash withdrawals [36/A. § (2)]	1
IX. Correction of payment operations, liability and damages rules	fulfillment of the immediate reimbursement obligation and restoration of the payment account to the state before debiting [44. § (1), § 49 (3) and § 52]	3
IX/A. Operational and security risks, authentication	operational and security risks, authentication [55/C. § (1)]	2
XII. Queuing up	the queuing rules of the official transfer [60. § (1) and § 62 (3)]	2
35/2017 on the handling of cash flows (XII. 14.) in relation to the MNB decree:		
II. Payment account identification and authentication table	secondary account identifier [4. § (paragraph 12)]	1

III. General rules for conducting the payment operation	the start and end time of the working day, as well as the final submission deadline [6. (1) and (9)]	2
	acceptance and identification of the payment order, refusal of the execution of the payment order or payment operation between payment service providers [7. §. Paragraphs (4), (8) and (9); § (8)]	3
	rejection of the payment order [9. § (9) and (11)]	2
	queuing up the payment order, partial fulfillment [10. Paragraphs (1) and (4) of § Section 11 (4)]	2
IV. Amounts transferred and made available, deadline and value date	execution of the payment order between payment service providers [17. § (1)-(3)]	8
	crediting the payment transaction amount [21. § (1), § 23 and § 24 (1)];	17
VI. Detailed rules for each payment method	the general rules of the money transfer [30. § (1)]	1
	special rules of money transfer [34. Section (4); § 35, subsections (7) and (8)]	3
144/2018 on certain issues of information on fees related to payment accounts maintained for consumers. (VIII. 13.) Government decree (hereinafter: Fdtr.) and implementation technical standards regarding the unified format and unified symbol of the fee statement in relation to Commission Implementing Regulation (EU) 2018/33 of September 28, 2017 (hereinafter: Fee statement regulation.):		
3. Statement of fees	detailed statement of the fees paid for the invoice [Fdtr. Paragraph (1) of § 6 and the Fee Statement regulation Article 10, paragraphs (1), (3)-(5).	4
	additional information [Fdtr. Paragraph (1) of § 6 and the Fee Statement regulation. Article 16(1)]	2
Directive (EU) 2015/2366 of the European Parliament and of the Council on strong customer authentication and common and secure open communication(EU) 2018/389 of November 27, 2017 on the addition of regulatory technical standards for standards in relation to the delegated commission regulation:		
I. General regulations	general authentication requirements [Article 2(1)]	1
	review of security measures [Article 3(1)]	2
II. Security requirements for the application of strong client authentication	authentication code [Article 4(3) and (4)]	2
Exceptions to strong customer authentication	payment account information [Article 10(1)]	1
	reliable beneficiaries [Article 13(1)]	1
	calculation of fraud rates [Article 19(2)]	1
The confidentiality and integrity of your personal credentials of Payment service users	general requirements [Article 22(1)]	1
	association with the financial service user [Article 24(2)]	1
Common and secure open communication standards	general obligations regarding access interfaces [Article 30(1)-(5)]	5
	the obligations relating to the interface assigned to the target [Article 32(2),(3) and (4)]	10
	extraordinary measures for the interface assigned to the target [Article 33(1),(2) and (3)]	8
	data exchange [Article 36(1)]	1
in relation to Regulation (EU) 2021/1230 of the European Parliament and of the Council of 14 July 2021 on cross-border payments in the Union:		
Currency conversion fees related to transfers	information on the total estimated amount of the transfer [Article 5(2)]	1

2023 saw the conclusion of nine inspection procedures, launched against six banks, two payment institutions and one EEA credit institution branch. In six of these cases, the decision on the required measures also included penalties amounting to a total HUF 86 million. The cross-year impact of the procedures is illustrated by the fact that four of the audit procedures started in the current year will be decided

in 2024, while seven of the closed audit procedures were opened in the previous year.

A decision was issued in 2023 for all four banks under review in relation to the PSD2 open banking APIs (open banking interfaces) audit. The vast majority of the commitments in the decisions were verified by the account-holding payment

service providers during 2023, and where this was not achieved in 2023, a grace period was granted on request.

In addition, due to partial failure to comply with the deadlines set out in the MNB's previous decision, one case of a repeat obligation was imposed in 2023, and a fine of HUF 3 million was (again) applied.

Publications related to payments and payment systems, conferences, professional lectures, consultations and press conferences

In March 2023, the MNB published a technical article²⁵ and a press release,²⁶ and in August 2023 another technical article²⁷ for customer information purposes and to draw customers' attention to the role and importance of the annual statement of fees received from their payment service provider. The press release and articles demonstrated through some outstanding cost elements that significant cost savings could be achieved by choosing the right bank account and related services that fits the customers' needs and using them consciously as well. The MNB continuously monitors and analyses the changes in payment charges paid by bank customers. This shows that there are significant differences between banks and account packages, and that the fees paid can vary widely, even from year to year. It can also be established that a conscious choice of account package can significantly reduce customers' costs. The annual statement of fees received by customers helps them with decision-making by containing detailed breakdown of all relevant charges related to their bank account. Based on this information, the MNB's updated the Account Selector²⁸ programme makes it possible for everyone to find the account package that best suits their payment habits.

In May, the MNB published its new electronic payments strategy entitled Payments 2030²⁹ at a press conference.³⁰ The development of electronic payments in Hungary over the past decade has made the renewal of the payment strategy necessary. In the new strategy, the MNB identified the areas where further intervention is needed to improve payments and set measurable targets. The payment infrastructure is already well developed, and in practice it

is possible to pay electronically in every payment situation in addition to cash payments; therefore, in the upcoming period, the focus should be on promoting cashless payment solutions. The main strategic goal is to reach a 60-per cent ratio of electronic transactions in the overall economy by 2030 via the broad, general encouragement of using electronic payments, and taking additional purposeful actions to reach a two-thirds ratio of electronic transactions over all transactions. In order to identify areas for intervention and to measure and assess achievement of the targets, the MNB introduced the Payments Development Indicator Set, which defines 18 indicators for the overall development of payments, for the end-user side and the supply side. The new electronic payment strategy and the Payments Development Indicator Set were presented by the MNB in the September issue of the Financial and Economic Review³¹ and in a related podcast.³²

In June, the MNB published the Payment System Report 2023,³³ which provides an overview of the main developments in domestic payment services and the payment and securities settlement systems. The report also presents the main current issues in domestic payments, including the MNB's new electronic payments strategy until 2030, the handling of fraudulent electronic payments, recent developments in instant payments, amendments of regulations of payment infrastructures and the strengthening of IT security at financial institutions. In addition to the report, which is primarily aimed at a professional audience, as a novelty, the MNB also published the key messages in a separate publication for a broader audience of readers who are interested in the financial sector.

3.6 MANAGING INTERNATIONAL RESERVES

The MNB's international reserves increased by around EUR 2.7 billion in 2023 to EUR 41.4 billion at the end of December 2023, the highest level since the statistics were first published. During the year, the level of foreign exchange reserves was boosted by the ÁKK's foreign currency bond issuances and inflows of EU transfers from the European Commission. However, it was reduced by debt repayment by the government and the foreign currency expenses of the Treasury.

²⁵ nemecske-istvan-tudatos-szamlavalasztassal-evi-tobb-ezer-forint-is-megtakarithato.pdf (mnb.hu) (in Hungarian only)

²⁶ Can an account package be wallet-friendly (mnb.hu)

²⁷ <https://www.mnb.hu/letoltes/nemecske-istvan-penzugyi-tudatossaggal-az-aremelesek-ellen.pdf> (in Hungarian only)

²⁸ Calculator (mnb.hu) (in Hungarian only)

²⁹ Payments 2030 (mnb.hu) (in Hungarian only)

³⁰ Payments 2030 Strategy – Press view – YouTube (in Hungarian only)

³¹ <https://hitelintezetiszemle.mnb.hu/letoltes/hsz-22-3-szc1-deak-takacs.pdf> (in Hungarian only)

³² https://soundcloud.com/magyar_nemzeti_bank/hogyan-valtozik-a-penzforgalom-hitelintezeti-szemle-podcast (in Hungarian only)

³³ Payments system report 2023 (mnb.hu)

Purposes of holding reserves

Similar to other central banks, one of the MNB's core tasks, as laid down in the MNB Act, is to manage the country's foreign exchange reserves. The MNB holds foreign exchange reserves for the purpose of fulfilling several functions:

- to ensure the level of reserves expected by market participants ('international collateral');
- to support monetary and exchange rate policy (providing intervention capacity);
- to provide foreign currency liquidity for the banking sector;
- and to meet the state's transaction-related foreign currency needs.

The MNB regularly reviews the desirable level of reserves and, if necessary, takes measures – within the permitted limits – to reach the adequate level.

Throughout 2023, the stock of the MNB's international reserves exceeded the reserve ratios that are monitored by the central bank and most investors. Of these, the MNB pays particular attention to the Guidotti-Greenspan rule to ensure that the reserves safely exceed the level of short-term external debt.

Among the transaction goals, supporting public debt management and covering the continued foreign exchange needs of fiscal bodies remained the most important in 2023. Transfers from the European Union also flow in through the MNB and are a source of foreign exchange reserves in recent and coming years. The transaction targets set forth above were also met in 2023.

Reserve size

The level of Hungary's international reserves rose by nearly EUR 2.7 billion in 2023 and amounted to EUR 41.4 billion at the end of the year.

The level of reserves was modified first and foremost by the debt repayment items of the Government Debt Management Agency (ÁKK), including the issuance of 5-year and 10-year bonds with a face value of USD 1.5 billion each, the issuance of a 30-year bond with a face value of USD 1.25 billion and the USD 1 billion bond redemption in January, the maturing bond in February with an original face value of USD 2 billion, the private tap of bonds in March, the issuance of a 10-year euro bond and in the framework of the ECP (Euro Commercial Paper) Programme in USD in September, the maturing bond with a face value of JPY 22.7 billion in September and the

maturing bond with a face value of USD 2 billion in November, and another USD bond tap.

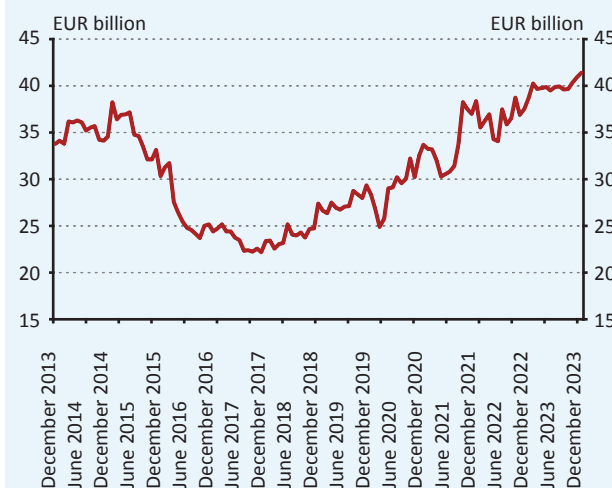
A net transfer of around EUR 3.3 billion arrived from the European Commission during the year, and EUR 779.5 million from EU recovery funds was received at the end of December.

The foreign currency expenses of the Hungarian State Treasury (MÁK) reduced the reserve (by around EUR 2.5 billion).

A change of almost EUR 240 million in the volume of deposits held by commercial banks and the revaluation of assets denominated in currencies other than the euro, which amounted to around EUR 110 million, also caused a further decline.

Moreover, in order to meet the FX financing requirement related to energy imports, the MNB conducted conditional EUR/HUF foreign exchange transactions starting from 7 November 2022. Taking into account the purpose of the instrument and market developments, the Monetary Council decided that the instrument was available until 31 March 2023.

Chart 6
Developments in the amount of foreign exchange reserves



Financial performance and risks of foreign exchange reserves

The MNB is necessarily exposed to financial risks in the performance of its core tasks as set out in the MNB Act and, in particular, in the management of the country's international reserves. The basic principle followed by the central bank is that the degree of the assumed risks should be aligned with the objectives of the core activity, the size

of the risks should be known and risk assumption should be conscious and limited, in accordance with the institution's risk-taking capacity. In the course of foreign exchange reserve management, the threefold objective of liquidity, security and yield must be satisfied, meaning that the MNB strives to achieve the highest possible yield level while continuously keeping the risks at a pre-defined low level and maintaining the necessary liquidity. Without compromising the primary objectives of reserve management, the MNB is also considering the possibility of integrating climate risk principles into reserve management activities.

Similarly to the core duties of the central bank, the Monetary Council of the MNB is also the supreme decision-making body in respect of foreign exchange reserve management: it defines the objectives and requirements related to the foreign exchange reserves, such as the level and liquidity of the reserves, and decides on the currency used for optimisation, the risk strategy and the most important quantitative strategic parameters of reserve investment. The operative decision-making powers are exercised and the foreign exchange reserve management strategy is implemented by the Executive Board of the MNB, within the framework stipulated by the Monetary Council. The Executive Board approves the limit system serving as a framework for risk-taking: the permitted maximum deviation of the reserve portfolios from the benchmarks, the counterparty limits and the range of investment instruments permitted in the field of reserve management.

The benchmark system and the limit system comprise the two main pillars of reserve management. Independent performance measurement is an important element of the risk-taking policy. In order to measure the success of portfolio management, the performance of each reserve portfolio is compared to that of a reference portfolio (the benchmark portfolio). Benchmark portfolios show the yield produced by a passively managed portfolio representing a wide market segment if the investment parameters were the same. The performance of the foreign exchange management activity is reported in the context of these reference portfolios. The benchmarks reflecting the risk-return preference of the MNB and serving the performance measurement of the portfolios are maintained by the risk management unit, independently of portfolio management.

The most important risk categories related to foreign exchange reserve management are market risk, liquidity risk and credit risk (settlement risk and counterparty risk). The MNB applies limits to mitigate the financial risks related to the management of foreign exchange reserves. In accordance with the conservative reserve portfolio management characteristics of central banks, the MNB

applies a strict limit system, which considers market and other indicators, in addition to the expected high level of credit ratings. In the course of reserve management, the MNB also considers the foreign currency liquidity requirement of the monetary policy instruments. When assessing and limiting the risk exposure of foreign exchange reserves, the MNB also takes into account climate risk aspects in addition to the traditional risk categories.

In the course of foreign exchange reserve management, the MNB employs a variety of risk-minimising techniques to ensure that the assumed risks correspond to the MNB's risk tolerance. In the case of derivative instruments, the MNB concluded ISDA (International Swaps and Derivatives Association) and related CSA (Credit Support Annex) agreements with its counterparties, which keep the credit risk exposure potentially arising in respect of the counterparty at a low level through the margin arrangement. In the case of repo transactions regulated by GMRA (Global Master Repurchase Agreement), the prescribed margin also helps to limit the risks. In the case of foreign exchange transactions, in accordance with the international best practices the MNB settles its transactions in the CLS system, thereby minimising its settlement risks.

In 2023, several events had a significant impact on financial markets, yields and exchange rates, which were also relevant for reserve management. In the first half of the year, the payment difficulties of several US regional banks caused turbulence in global financial markets and spilled over into the European banking system. In addition to the war between Russia and Ukraine, other geopolitical risks materialised, notably in the Middle East. Inflationary pressures peaked in both the USA and Europe during the year, before easing somewhat, with inflation data showing a downward trend. The middle of the year was dominated by expectations of central bank base rates potentially remaining at elevated levels, which pushed long yields to highs unseen for decades in many markets. Falling inflation in the second half of the year led to a revision of market expectations, while long yields also fell, with market pricing suggesting that the major central banks were expected to take easing measures by 2024. However, for the major central banks, 2023 was essentially about tightening. The Fed raised interest rates in four steps in 2023, increasing the target range for the policy rate to 5.25–5.50 per cent by the end of the year from 4.25–4.50 per cent at the beginning of the year. The ECB increased its key policy rates six times during the year, bringing the rate on its main refinancing operations from 2.5 per cent at the end of 2022 to 4.5 per cent. Quantitative tightening also started: reinvestments under the APP programme were completed during the year,

and securities maturing under the PEPP programme will be reinvested by the central bank until the end of 2024.

As a result of market developments, the majority of markets relevant for reserve management saw a substantial rise in short-term yields, an inversion of curves and an increase in associated volatility in 2023. Rising yields impair the performance of bond portfolios in the short term, but improve performance in the medium term. This can also be seen in the case of the MNB's portfolios, where high expected returns were the basis for positive performance by bond portfolios in 2023. In the euro area, the yield curve shifted significantly upwards by 60–160 basis points in the under-2-year segment during the reporting period, while longer maturities saw a decline of 30–60 basis points. Yields of US government issuances rose by 10–100 basis points on short maturities and fell by 10–20 basis points on longer maturities, making the already inverted 2022 government bond market yield curve even more inverted. Australian dollar and British pound sterling yields, which are also relevant for reserve management, were also characterised by a substantial rise in short yields and an inversion of the curve. A decline in yields was seen in the Central and Eastern European and Chinese markets.

The price of gold in US dollar rose from USD 1,820 to USD 2,063 over the year, driven by geopolitical tensions (e.g. Russian-Ukrainian war, Gaza conflict), central bank actions (especially by the Fed), global inflationary pressures and bond yields. In 2023, the EUR/USD exchange rate followed a volatile path, with the euro remaining mainly unchanged against the US dollar by the end of the year, strengthening from EUR/USD 1.07 at the beginning of the period to EUR/USD 1.10 at the end of the year.

In 2023, the MNB remained prepared to deal with geopolitical risks and the high degree of uncertainty in an elevated inflation environment. The level of FX reserves significantly exceeded the value of relevant benchmarks. The international safety net, consisting of bilateral swap and repo agreements, previously established and continuously renewed, provides additional FX liquidity (FX liquidity can quickly be increased by EUR 10 billion) and increases the MNB's room for manoeuvre while the safe level of international reserves is preserved, thereby reducing external and internal vulnerabilities. The MNB's international safety net of bilateral swap and repo agreements has the following elements:

- Repo contracts with the European Central Bank and the Bank for International Settlements (BIS);
- Access to the repo facility announced by the Federal Reserve;

- Currency swap agreement concluded with the People's Bank of China (PBoC).

Continuously monitoring developments representing a risk to the level and liquidity of reserves, the MNB – similarly to most central banks – regularly revises the reserve investment framework.

In terms of reserve management, the MNB continues to take a conservative approach: the liquidity limits are tight, the interest rate risk of FX reserves is relatively low and the credit quality of reserve portfolios remains high.

In 2023, the MNB essentially managed foreign exchange reserves in eight currencies (EUR, USD, JPY, GBP, AUD, RMB, PLN, CZK), in a variety of portfolios. The MNB assumes exchange rate exposure basically in euro: it hedges the other currency/euro cross rate risks via derivative instruments. The holding of foreign currency instruments denominated in currencies other than euro is justified by the higher diversification and, in the case of the US dollar, the higher liquidity available. The MNB actively manages a total of seven portfolios in euro, US dollars, British pound sterling and Australian dollars. The MNB manages its portfolios of Japanese yen, Czech koruna, Polish zloty and renminbi, containing predominantly government securities, as index-linked portfolios, in strict adherence to the benchmark. Furthermore, from end-2012, the MNB incorporated US Agency Mortgage-Backed Securities (MBS instruments) into its investment strategy in the form of a mandate given to an external asset manager and a custodian. The strategic average duration (target duration) of the reserve portfolios remained stable at around 1 year, while the duration of the green bond and MBS exposures was the highest duration of the year at, 4.5–6.5 years. The liquidity allocated for the attainment of the monetary policy objectives was continuously available during the year, and credit risk events that would have had an adverse effect on the MNB were avoided.

The euro risk-free portfolio represents the backbone of the foreign exchange reserves and may only include highly rated government securities, government guaranteed securities and the issues of (supranational) international institutions. Highly-rated corporate and bank issues, and covered securities may be purchased for the euro investment portfolio, and for the investment portfolios in general; this portfolio typically includes government securities only for the purpose of adjusting the maturity structure. After the euro exposure, the combined share of the US dollar portfolios represents the most substantial item in the reserves, where – along with the investment portfolio – the considerable proportion of the agency MBS exposure deserves special mention.

In 2023, the MNB took further steps to understand climate risks and to take account of them in reserve management. For 2023, it also published its TCFD report, a report on the institution's climate exposure, which includes an analysis of the climate risks of the reserves. The MNB aims to provide guidance to banks through the publication of the report, which is published every year and is continuously improved. In addition, at the end of 2023, the MNB published its Sustainable and Responsible Investment Charter, which expresses the central bank's commitment to making reserve management more environmentally sustainable and sets medium- and long-term targets for greening reserve management without compromising the traditional objectives of reserve maintenance. In line with this, the MNB decided to double the size of the dedicated green bond portfolio to EUR 500 million. The risk-return characteristics of the green bond portfolio are broadly similar to those of the other reserve items, differing from those of the other bond-type investments in the foreign exchange reserves in terms of interest rate risk due to the longer time horizon of green investments. In addition to the green classification, traditional risk-return considerations are paramount in investment decisions.

In 2023, the MNB achieved a return of 3.47 per cent on gold and foreign exchange reserves. In terms of their respective currencies, the performance of the bond portfolios exceeded the benchmark by 32 basis points.

As regards the future performance of the foreign exchange reserves, the volatility of yields remains a risk, with a rise in the short term resulting in a revaluation loss due to the devaluation of existing bonds, which impairs reserve performance. At the same time, the impact of the increase in yields on the result is positive in the medium term due to the short duration of the reserves, as the reinvestment of maturing reserve items can be realised at a higher yield level. In addition to gold's status as a safe haven asset, it is worth noting its price volatility, which may affect reserve performance in the short term.

3.7 CASH LOGISTICS ACTIVITY

On 31 December 2023, the total value of currency in circulation amounted to HUF 8,069.8 billion, representing

a decrease of 1.9 per cent compared to the end of the previous year. The decrease occurred in the first months of the year, after which the stock value increased moderately again from August onwards, or stagnated. The decline in cash in circulation was caused by a sustained fall in income and consumption, as well as a fall in stocks held by credit institutions and in transaction demand for cash. Demand for cash for savings and precautionary purposes continued to be driven by persistently high levels of uncertainty and rising prices for financial services during the year.

The amount of currency in circulation has been declining for three years relative to GDP and households' consumption expenditure, amounting to 10.5 per cent of GDP and 22 per cent of consumption at the end of 2023.

In line with previous years' trends, the degree of counterfeiting of forint banknotes remained low, and the number of counterfeit forint notes removed from circulation was only 450 in 2023.

In order to curb the shrinkage of the domestic cash infrastructure and to ensure a nationwide uniformity of access to retail cash, a new MNB decree on the processing, distribution and technical tasks related to the protection of banknotes against counterfeiting, amending the previous regulation in several respects, entered into force on 1 February 2023³⁴ (hereinafter: Banknote Regulation). Among the new provisions of the Banknote Regulation were the central bank requirements on the minimum number and territorial distribution of ATMs operated by commercial banks.

In 2023, the MNB examined compliance with the provisions of the MNB Act on the issuance of currency, the Banknote Decree and the cash distribution and cash processing data reporting obligations in the course of its official cash control activities.

In 2023, the MNB issued 28 collector coins in 16 themes, of which 1 gold, 11 silver and 16 non-ferrous metal collector coins were issued, to mark historical, cultural and scientific anniversaries of overall social significance. Three different issues of commemorative circulation coins were produced, in quantities of 1 million each.

³⁴ MNB Decree No 1/2023 (I. 17.) on the processing and distribution of banknotes and on technical tasks relating to the protection of banknotes against counterfeiting.

Currency in circulation

On 31 December 2023, the total value of currency in circulation amounted to HUF 8,069.8 billion,³⁵ representing a decrease of 1.9 per cent, or HUF 156.3 billion in nominal terms, compared to the end of the previous year. The decline in cash in circulation, according to seasonal adjusted data, occurred in the first months of the year, after which the stock level started to moderately increase again from August onwards, or stagnated. The fall in cash in circulation holdings was caused by a decline in credit institutions' inventories, in addition to a sustained fall in income and consumption, as the cash held by banks was at a significantly lower level throughout the year than previously observed, with significant variation within months.

Demand for transaction cash continued to fall during the year, but still shows a different pattern across counties, which can be explained by regional differences in income and cash use preferences. Demand for cash for savings and precautionary purposes continued to be driven by persistently high levels of uncertainty and rising prices for financial services during the year, with only a small amount of savings previously held in cash being channelled into other forms of savings. Taking all of this into account, the cash demand of households in 2023 did not change

significantly, as confirmed by moderately increasing ATM cash withdrawals.

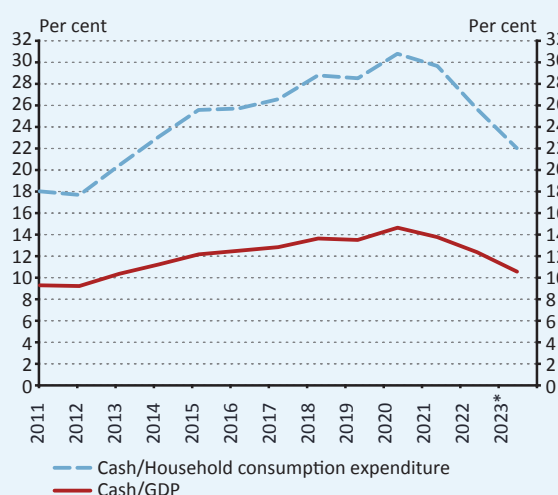
The amount of currency in circulation has been on the decline for three years relative to GDP and households' consumption expenditure (see Chart 7), amounting to 10.5 per cent of GDP and 22 per cent of consumption at the end of 2023. The decline in the indicator is mainly due to the impact of the Covid-19 pandemic and some of its waves on GDP.

The change in the volume of banknotes in circulation varies by denomination. The HUF 20,000 (44 per cent) and HUF 10,000 (28 per cent) denominations continue to have the largest share of circulation, but while the stock of HUF 20,000 banknotes in circulation decreased by 0.7 per cent, the stock of HUF 10,000 banknotes fell by 6.2 per cent. By contrast, the two smallest banknote denominations, the HUF 500 and HUF 1,000 notes, showed growth of 5.1 per cent and 5.8 per cent, respectively (see Table 4).

The two largest banknote denominations still play a dominant role in cash turnover: at the end of 2023 they jointly accounted for 72 per cent of the volume and 96 per cent of the value of all banknotes in circulation.

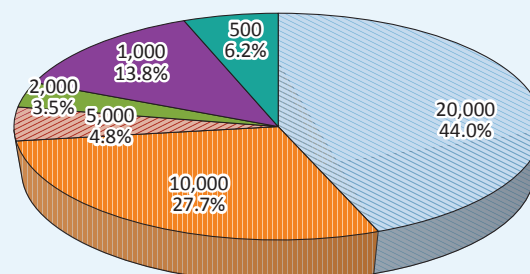
The volume of forint coins in circulation increased by 4.2 per cent compared to the previous year. The denomination distribution of the coins in circulation is stable, the ratio between the different denomination values changed by less than 1 percentage point in the five years between 2019 and 2023.

Chart 7
Cash in circulation as a percentage of annual GDP and household consumption expenditure



*The 2023 GDP figure and the household consumption expenditure data are MNB estimates.

Chart 8
Breakdown of banknotes in circulation by quantity at the end of 2023



³⁵ The value includes holdings of collector coins and commemorative banknotes issued by the central bank, which, as legal tender, form part of the means of payment in circulation at face value, but in accordance with their role, do not participate actively in cash payments. It does not include, however, the value of withdrawn banknotes that are still convertible, which is recorded in the central bank's balance sheet as a liability.

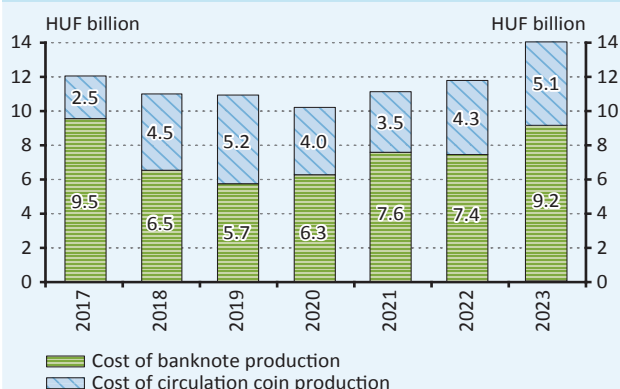
Table 5**Banknotes and coins in circulation³⁶***(figures as at 31 December 2023 and 31 December 2022)*

Banknotes	2023				2022			
	Volume	Value	Ratio (%)		Volume	Value	Ratio (%)	
	Million pieces	Billion HUF	Volume	Value	Million pieces	Billion HUF	Volume	Value
20,000 forint	290.8	5,815.6	44.0	73.1	292.9	5,858.9	43.8	72.1
10,000 forint	182.8	1,827.7	27.7	23.0	194.9	1,949.5	29.2	24.0
5,000 forint	31.9	159.7	4.8	2.0	32.1	160.5	4.8	2.0
2,000 forint	23.2	46.4	3.5	0.6	24.0	47.9	3.6	0.6
1,000 forint	90.9	90.9	13.8	1.1	85.9	85.9	12.8	1.1
500 forint	40.8	20.4	6.2	0.2	38.8	19.4	5.8	0.2
Total	660.4	7,960.7	100.0	100.0	668.6	8,122.1	100.0	100.0
Coins	Volume	Value	Ratio (%)		Volume	Value	Ratio (%)	
	Million pieces	Billion HUF	Volume	Value	Million pieces	Billion HUF	Volume	Value
	Million pieces	Billion HUF	Volume	Value	Million pieces	Billion HUF	Volume	Value
200 forint	193.6	38.7	7.9	41.3	187.3	37.5	8.0	41.5
100 forint	247.3	24.7	10.1	26.4	237.1	23.7	10.1	26.3
50 forint	242.5	12.2	9.9	12.9	232.0	11.6	9.8	12.9
20 forint	451.9	9.0	18.4	9.7	433.7	8.7	18.4	9.6
10 forint	493.4	5.0	20.1	5.3	475.9	4.8	20.2	5.3
5 forint	824.4	4.1	33.6	4.4	788.2	3.9	33.5	4.4
Total	2,453.1	93.7	100.0	100.0	2,354.2	90.2	100.0	100.0

Banknote and coin production

In order to meet the cash demand and replace unfit and therefore destroyed banknotes and coins, the MNB has banknotes and coins produced.

The MNB's expenditures related to cash production amounted to a gross sum of HUF 14.3 billion in 2023, which was HUF 2.5 billion more than in the previous year.

Chart 9**Banknote and circulation coin manufacturing (gross expenditure)****Distribution of cash**

In 2023, the MNB managed cash turnover for its clients, credit institutions and the Hungarian Post, in the total amount of HUF 4,179.5 billion; within that, it distributed 226.2 million banknotes to its clients, while 235 million banknotes were delivered to the central bank. The change in the macroeconomic environment and institutions' currency demand was also felt in the structure of the volume of the central bank's cash transactions in 2023. For the first time in a long time (12 years excluding the effects of the banknote changeover), the volume of banknotes deposited at the central bank exceeded the volume of banknotes paid out.

In 2023, the MNB removed 85.2 million end-of-life banknotes from circulation and replaced them with new, high quality means of payment. This mainly involved the HUF 1,000, HUF 500 and HUF 10,000 banknotes, which are used for transactions.

Prevention and reduction of counterfeiting

In line with previous years' trends, the degree of counterfeiting of forint banknotes remained low, and the number of counterfeit forint notes removed from circulation

³⁶ The table does not include holdings of collector coins and commemorative banknotes issued by the central bank. The table shows the data net of banknote withdrawals according to the MNB balance sheet.

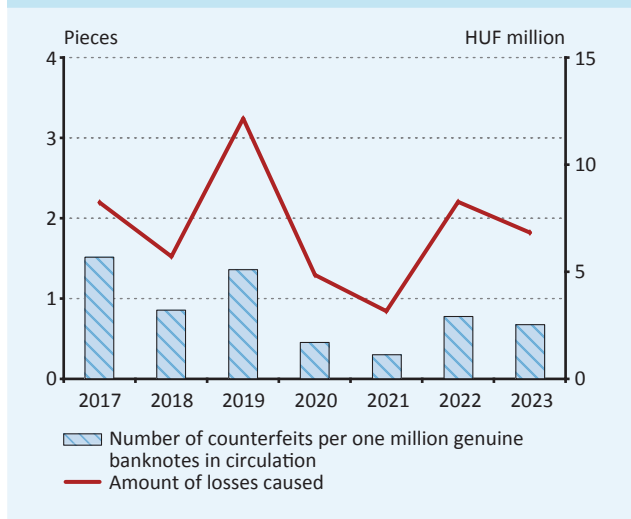
was only 450 in 2023. As in previous years, the counterfeiting of higher denominations (mainly the HUF 10,000 and HUF 20,000 banknotes) remained most typical in 2023, accounting for more than 97 per cent of counterfeit forint notes.

Table 6
Discovered counterfeit HUF banknotes by denomination in 2023

Denominations	500	1 000	2 000	5 000	10 000	20 000
Breakdown (%)	0	1	0	2	43	54

In 2023, the number of counterfeit banknotes for each one million genuine banknotes in circulation per year was 0.7, which is an extremely favourable value by international standards.

Chart 10
Changes in the number of counterfeits per one million genuine banknotes and the amount of losses caused



No major change occurred in counterfeiting methods, which are still characterised by the use of office reproduction equipment (coloured photocopy machines and printers). Persons familiar with the features of authentic banknotes can detect the counterfeits using simple checks (touching, holding up to light or moving) or in a cash office environment using combined checks with UV-A and UV-C light.

The central bank's experts identified 2,711 various foreign currency counterfeits in 2023, including 2,545 counterfeit euro banknotes. Examining the domestic cash circulation

as a whole, it is still true that the occurrence of counterfeit currencies is insignificant.

In total, 46 free banknote awareness training sessions were held by the MNB in 2023, with the participation of nearly 800 persons.

Changes to cash circulation rules

Central bank intervention was needed to curb the shrinkage of the domestic cash infrastructure since 2019 and to ensure nationally stable access to cash for the public. Therefore, on 1 February 2023, the Banknote Decree,³⁷ which contains the revised rules, entered into force; it includes new provisions on the minimum number and territorial distribution of ATMs operated by commercial banks, as well as the conditions and customer information requirements for the closure of branch cash desks of credit institutions.

The Banknote Decree determines the number of ATMs to be operated by commercial banks primarily on the basis of the number of payment cards issued by the credit institution with a cash withdrawal function. The larger the customer base of a credit institution, the larger the number of ATMs in the network that it needs to operate, and the national coverage of its network must be adapted to the population of each county and county seat. The Banknote Decree also sets out not only territorial but also circulation requirements. Commercial banks will also have to increase the number of their ATMs if the turnover in a credit institution's ATM network exceeds the benchmarks set by the MNB based on its analysis of turnover trends.

In 2023, all credit institutions covered by the Banknote Decree completed the certification of their ATM networks, and the MNB issued an official decision requiring them to upgrade their networks. As a result of the regulatory intervention, it is expected that by mid-2025 the number of ATMs operating in Hungary will be back to the 2019 level.

Cash distribution administrative inspections

The MNB also examined compliance with the provisions of the MNB Act on the issuance of currency, the Banknote Decree and the cash distribution and cash processing data reporting obligations in 2023.³⁸ In 2023, the MNB launched

³⁷ Prior to the adoption of the regulation, the MNB was granted statutory powers in 2022 to define the operating conditions for the cash infrastructure operated by credit institutions and the post office in an MNB regulation, and to classify compliance with these conditions under its statutory powers and to take the necessary measures on the basis of such classification.

³⁸ Chapter 16 of the MNB Act, the Banknote Decree, and the provisions of MNB Decree No 54/2021 (XI. 23.) on the obligations to report data to the central bank's information system primarily to enable the MNB to carry out its basic duties, relating to the reporting of data with MNB identification codes P23, P26, P50 and P81.

inspection procedures against five credit institutions and three cash processing organisations; of these, seven procedures were closed in 2023 and one in early 2024. In the framework of the ongoing monitoring, the MNB verified the revised list of critical infrastructure network elements for cash distribution for three additional designated credit institutions and one payment service provider.

Out of the seven procedures launched and closed in 2023, measures were taken in five cases, including warning letters containing calls for the organisation to conduct training and ensure full compliance in the future with the laws. In two cases, the MNB terminated the control procedure by means of an order for lack of infringement.

Of the audit procedures launched in 2022 and closed in 2023,³⁹ the MNB sent three warning letters and two decisions – with fines – to the audited institutions to remedy the infringing situation and to ensure full compliance with the law in the future.

In the course of the administrative inspections that were closed in 2023, the MNB detected the violation of certain rules pertaining to banknote distribution, the operation of banknote handling machines, the handling of suspect counterfeit banknotes, the assessment of the operational risks of cash distribution and the action plan, the exchange and conversion of forint banknotes, and the handling of incomplete damaged banknotes.⁴⁰

Issuance of collector coins and commemorative coins

Under the MNB Act, the MNB is entitled to issue banknotes and coins, including commemorative banknotes and collector coins, in Hungary's official currency. The MNB issues collector coins with the aim of commemorating Hungary's major historic, cultural and scientific anniversaries significant for society as a whole, and passing these on to succeeding generations in a lasting form, and to celebrate contemporary events and honour national idols.

Collector coins are legal tender, but their use in circulation is incompatible with the issuer's purpose of commemorating the event, as reflected in the MNB Act, Article 23(6) of which provides that the acceptance of collector coins in a payment transaction may be refused. The amendment

does not affect the legal tender status of the collector coins, as the MNB continues to guarantee that they are exchanged at face value without any time constraint.

In 2023, 28 collector coins were issued by the central bank in 16 thematic schemes, of which 1 was a gold coin, 11 were silver coins and 16 were non-ferrous metal collector coins (of which 5 coins had an independent theme, and 11 coins were issued as the non-ferrous metal versions of precious metal coins). Eight previously started series continued, and no new series were launched. The 2023 collector coin issuance programme, including images of the collector coins, is available on the MNB website.⁴¹










In 2023, three different commemorative versions of circulation coins were issued: On the occasion of the bicentenary of the birth of Sándor Petőfi a HUF 200 commemorative circulation coin, for the 75th anniversary of the foundation of the National Ambulance Service a HUF 50 commemorative circulation coin, and on the occasion of the 175th anniversary of the Hungarian Defence Forces a HUF 100 commemorative circulation coin were put into circulation in 1 million copies each.

³⁹ At the time of the audit procedures launched in 2022, MNB Decree No 19/2019 (V. 13.) on the processing and distribution of banknotes and technical tasks related to the protection of banknotes against counterfeiting (hereinafter: old Banknote Decree) was in force.

⁴⁰ Article 23(8) of the MNB Act, Article 3(1) and (3), Article 4(2) and (4), Article 5(1)–(3), Article 6 of the old Banknote Decree and of the Banknote Decree, Article 5(6), Article 9(1) and (3), Article 15(3), Article 19(2)(a)(c)(d)(f), Article 21(5), Article 23(1) and Annex 2 Item 2.1.1 of the old Banknote Decree, and Article 5(8), Article 25(1)(b) and (c)(ca), Article 29(4) and Article 31(1) of the Banknote Act.

⁴¹ <https://www.mnb.hu/letoltes/collector-coin-issuance-plan-2023.pdf>

Table 7
The MNB's 2023 collector coin issuance programme*

Theme of the collector coin and Date of issue		Specifications						
		Material	Weight g/pcs	Diameter/size mm	Edge	Finish	Face value HUF	Planned quantity pcs
	National Anthem of Hungary	Ag .925	31.46	38.61	Milled	PP	15,000	5,000
	①Date of issue 23 January 2023	Cu75Ni25	30.8			BU	3,000	6,000
	Pál Erdős	Ag .925	12.5	30	Milled	PP	7,500	4,000
	‘Wolf Prize-Winning Mathematicians of Hungarian Descent’ collector series– 2.	Cu75Ni25	12.5			BU	3,000	4,000
	①Date of issue 24 March 2023							
	Raoul Bott	Ag .925	12.5	30	Milled	PP	7,500	4,000
	‘Wolf Prize-Winning Mathematicians of Hungarian Descent’ collector series – 3.	Cu75Ni25	12.5			BU	3,000	4,000
	①Date of issue 24 March 2023							
	Sándor Petőfi and The Revolution and War of Independence of 1848/1849	Ag .925	77.76	52.5	Milled	PP	30,000	6,000
	①Date of issue 11 April 2023	Cu75Ni25	76.5			BU	7,500	8,000
	Hortobágy National Park	Ag .925	31.46	39.6 x 26.4 rectangular	Smooth	PP	15,000	5,000
	‘National Parks’ collector series – 6.	Cu75Ni25	27			BU	3,000	5,000
	①Date of issue 21 April 2023							
	Hungarian National Ambulance Service	Ag .925	31.46	38.61	Milled	PP	15,000	5,000
	①Date of issue 10 May 2023	Cu75Ni25	30.8			BU	3,000	5,000
	John von Neumann	Cu75Ni25	14	28.43 x 28.43 rectangular	Smooth	PP	3,000	6,000
	‘Hungarian Inventors and Their Inventions’ collector series – 13.					BU		5,000
	①Date of issue 6 June 2023							
	The Salt	Cu75Ni4Zn21	16	34	Fine-grained with edge lettering	Proof-like	3,000	20,000
	‘Hungarian Folk Tales animated series’ collector series – 3.							
	①Date of issue 23 June 2023							
	National Archives of Hungary	Ag .925	31.46	38.61	Fine-grained with edge lettering	PP	15,000	7,000
	①Date of issue 3 July 2023	Cu75Ni25	30.8			BU	3,000	7,000
	Andrew I of Hungary	Au .999	31.104	34	Smooth with edge lettering	PP	500,000	500
	‘Nation-Building Sovereigns from the Árpád Dynasty’ collector series – 2.	Ag .999	31.104			PP	15,000	5,000
	①Date of issue 21 August 2023	Cu90Zn10	23.4			Patinated	3,000	5,000
	National Riding Hall	Nordic gold	20	37.18 hexagonal	Smooth	Proof-like	3,000	20,000
	‘National Hauszmann Programme’ collector series – 2.							
	①Date of issue 15 September 2023							
	Military Memorial Park, Pákozd	Cu90Zn10	18.4	37	Milled	Patinated	3,000	10,000
	‘National Memorial Sites’ collector series – 10.							
	①Date of issue 29 September 2023							
	Transylvanian Hound	Cu75Ni4Zn21	16	34	Milled	Proof-like	3,000	20,000
	‘Hungarian Herding and Hunting Dogs’ collector series – 5.							
	①Date of issue 4 October 2023							
	Ferenc Deák	Ag .925	31.46	38.61	Milled	PP	15,000	5,000
	①Date of issue 17 October 2023	Cu75Ni25	30.8			BU	3,000	5,000
	Mihály Csokonai Vitéz	Ag .925	31.46	38.61	Milled	PP	15,000	5,000
	①Date of issue 17 November 2023	Cu75Ni25	30.8			BU	3,000	5,000
	Curia of Hungary	Ag .925	31.46	38.61	Milled	PP	15,000	5,000
	①Date of issue 11 December 2023	Cu75Ni25	30.8			BU	3,000	5,000

*Legend:

 gold  silver  non-ferrous metal

3.8 STATISTICAL SERVICES

In 2023, the renewal and expansion of the MNB's statistical publications continued, with the publication of consolidated data on credit institutions, the time series on interest rate statistics for the household sector and the monthly publication on securities statistics being extended within the framework thereof.

The development of the liabilities side counterpart of the HITREG data service on credit transactions, the BETREG data service on deposits at individual level, was launched. The reporting obligation will gradually become complete for all credit institutions by 2025 Q2.

The MNB was involved in the cleaning of data for analysing and forecasting the impact of climate change on bank portfolios (linked to the Statistics Committee of the ESCB (STC)) and created a fire risk forecasting model that, together with six other physical risk types, provides an estimate of the size of bank losses expected up to 2050 in different climate scenarios.

Preparations for the next round of the 'What Do We Live From?' household wealth survey were made, the sample of households surveyed and the survey questionnaire were compiled and interviews were conducted. In 2023, for the fourth time, a survey of household income, consumption and wealth was conducted in Hungary.

The MNB participated in the work of the international working groups on the revision of the international statistical methodological standards issued by the ECB, the IMF and the OECD (the System of National Accounts – SNA, the Balance of Payments Manual – BPM and the Benchmark Definition on Foreign Direct Investment – BD).

For the purpose of fulfilling its duties as specified in the MNB Act, the MNB collects statistical information and publishes the statistics thus compiled for the analysis of financial developments, the preparation of monetary policy decisions, oversight of the operation of the payment and settlement systems to ensure the smooth execution of payments with a view to supporting the stability of the

financial system, and for the performance of micro and macroprudential supervisory activities.

The MNB publishes statistical information, analyses and time series on its website for the public, in accordance with the release calendar for statistics. In relation to the individual statistical areas, the MNB also issues methodological and thematic publications.

In 2023, the MNB issued five MNB decrees related to data reporting for 2024: the MNB decrees⁴² amending the MNB decree on reporting required for the fulfilment of the MNB's basic tasks⁴³ and the MNB decree specifying the data to be provided by insurance market organisations primarily for supervisory purposes,⁴⁴ and three MNB decrees requiring reporting primarily necessary for the fulfilment of supervisory tasks.⁴⁵ Due to changes in the international and domestic regulatory environment and new data requirements related to HITREG data reporting, the MNB regulations in force for 2023 were amended five times during the year,⁴⁶ including one amendment related to the change in the minimum reserve regime, which will enter into force on 1 January 2024.

Credit register data collection

The MNB regulation amending the HITREG data collection from the reference period of 2023 Q4 came into force on 1 October 2023,⁴⁷ extending the scope of the instruments to be reported to include so-called forced loans (deposits turned negative without a credit agreement) and off-balance sheet commitments, as well as other prudential and taxonomy data. As a result of the extensive HITREG data content and the intensive quality control activities carried out in previous years in cooperation with the sector, it has become possible to prepare for the replacement of some data collections in 2023, and thus several data collections ordered by MNB regulation and one data collection ordered earlier by resolution will be discontinued from 2024.

As regards publications based on HITREG data, the publication 'LTV indicator of residential mortgage loans at the time of acceptance' has been published regularly, on a quarterly basis, from 2023 onwards. In addition, further

⁴² MNB Decree No 56/2023 (XI. 24.) and MNB Decree No 59/2023 (XI. 24.)

⁴³ MNB Decree No 54/2021 (XI. 23.).

⁴⁴ MNB Decree No 53/2022 (XII. 2.).

⁴⁵ MNB Decree No 57/2023 (VI. 24.), MNB Decree No 58/2023 (XI. 24.) MNB Decree No 60/2023 (XII. 24.).

⁴⁶ The amendments mainly concerned HITREG data reporting [MNB Decree No 31/2023 (VI. 30.)], data provided by money and credit market institutions and capital market institutions primarily for supervisory purposes [MNB Decree No 2/2023 (I. 17.)] and the provision of data primarily related to core tasks [MNB Decree No 21/2023 (V. 11.), MNB Decree No 53/2023 (XI. 20.), MNB Decree No 54/2023 (XI. 20.)].

⁴⁷ MNB Decree No 31/2023 (VI. 30.) on the amendment of MNB Decree No 35/2018 (XI. 13.) on the data reporting obligations to the central bank's information system in respect of certain data of credit transactions.

expansion and reformatting of HITREG-based publications is under preparation.

In 2023, the development of the liabilities side counterpart of the HITREG data service, the BETREG data service, which contains deposits at individual level, was launched. Data provision will be phased in until 2025 Q2 in several stages.

Machine learning for data quality

In the course of 2023, the MNB further developed a cross-sectional data quality control procedure based on machine learning (Burger and Berndt, 2023⁴⁸), which was presented at several internal and external forums (MNB Editorial Board, Budapest ML Forum 2023, BIS – Bank of Italy ‘Data science in central banking’ workshop). The MNB introduced the quality control method as per the procedure for the HITREG provisions and impairment fields.

Generating data series on climate change

The MNB was also involved in producing data analysing and forecasting the impact of climate change on banking portfolios in 2023. The work is coordinated by an expert group set up by the Statistics Committee of the ESCB (STC). In 2024 Q1, the Task Force plans to update the previously published pilot indicators on the exposure of bank portfolios to physical risks and the intensity of carbon emissions associated with these portfolios, based on a renewed methodology. In the course of this work, the MNB was involved in data cleaning and created a fire risk forecasting model that, together with six other physical risk types, provides an estimate of the size of bank losses expected up to 2050 in different climate scenarios.

Supervisory statistics

The publication containing consolidated data for credit institutions was extended with a new topic, the impairment stages, the portfolio classification categories according to IFRS 9, from 2023 Q1. The MNB continued to review the parallel credit institutions data reporting for planning the 2024 data reporting, with the involvement of the banking sector, resulting in the elimination of two reporting tables at the end of 2023. The new supervisory recommendation⁴⁹ will contribute to the consistent and timely fulfilment of the increasingly complex reporting obligations of credit institutions and to the further improvement of data quality.

The first milestone in this process was the self-evaluation in 2023, which was completed by credit institutions by the deadline.

The MNB has continuously consulted the European Banking Authority (EBA) on changes to the master data of credit institutions. The Hungarian side ensures a consistent quality of data for supervisory reporting, which is uniform across the EU. The quality of Hungarian data sent by the MNB outstanding in the EU.

During the year, the insurance and pension funds publications based on the quarterly data were published on the MNB's website by the publication deadline. The preparatory work requiring coordination across policy areas and providing new data reception and reporting processes related to the pan-European personal pension product (PEPP) marketable from 2022 continued.

For the insurance sector, the review of the uniform European supervisory reporting requirements, started in 2019, coordinated by the European Insurance and Occupational Pensions Authority (EIOPA), and was completed and the new taxonomy, which applies from 1 October 2023, already includes the changes resulting from this review.

For fund managers, the joint data quality monitoring with the European Securities and Markets Authority (ESMA) continued to improve the uniform reporting of data at European level, within the framework of which the MNB also consulted a market participants' representative body, providing further assistance in complying with the AIFMD regulation (the single reporting requirement for alternative investment fund managers under EU Regulation 231/2013).

Changes in MNB publications

At the beginning of 2023, the interest rate time series for the household sector were extended twice. On the one hand, the monthly publication includes the number of new contracts for housing and consumer loans, broken down by interest rate fixation and loan purpose, and on the other hand, for household demand deposits, current account deposits and fixed-term deposits, the data for the retail sector are highlighted separately, in addition to the household sector, and are therefore presented in the same way as for new contracts.

⁴⁸ Burger, Cs. and Berndt, M. (2023): Error Spotting with Gradient Boosting: A Machine Learning-Based Application for Central Bank Data Quality. MNB Occasional Papers, Nr. 148.

⁴⁹ MNB Recommendation No 19/2022 (XII. 1.) on the establishment, operation, framework and control functions of the compilation of credit institutions' reporting as well as the related data asset management tasks.

Starting from April 2023, the monthly securities statistics publication has been supplemented with a time series 'Holdings of green bonds issued by resident issuers and holders, at nominal value', which includes end-month holdings of bonds classified as green on the basis of information provided by issuers.

At the beginning of 2023, the MNB conducted an online survey to assess user satisfaction on the Statistics subpage, which was renewed in 2022 (<https://statisztika.mnb.hu/en>). Based on the responses received, regular users are generally satisfied with the renewed website, but they also indicated that there is a need for a public database, a more sophisticated search function, state-of-the-art visualisation solutions, more news highlights, and more information on credit institutions, financial markets and insurance.

Cooperation with the Hungarian Central Statistical Office

Preparations for the next round of the 'What Do We Live From?' household wealth survey were made, the sample of households surveyed and the survey questionnaire were compiled and interviews were conducted in 2023. The 'What Do We Live From?' survey is the Hungarian version of the Household Finance and Consumption Survey (HFCS), coordinated by the ECB and organised every three years; in 2023, this survey measured the income, consumption and wealth of households in Hungary for the fourth time. Based on the survey, the first results will appear in autumn 2024.

In the area of balance of payments statistics and financial accounts, the next five-yearly comprehensive benchmark revision will take place in 2024. Preparatory work on this was carried out in 2023 in cooperation with the HCSO. Benchmark revisions allow for a longer time horizon than normal revisions to reflect the effects of changes in data sources, methodological changes and to improve data quality.

International data supply, international cooperation

As follows from its status, the expectations arising from international cooperation and its membership obligations, the MNB regularly supplies data and information to the European Central Bank (ECB), the Statistical Office of the European Communities (Eurostat), the European supervisory authorities (EBA, EIOPA), the Bank for International Settlements (BIS), the International Monetary Fund (IMF), the World Bank and the Organisation for Economic Co-operation and Development (OECD).

With a view to complying with the international recommendations and requirements and monitoring the changes therein, the MNB regularly participates in international forums related to the central bank's statistical activity and plays an active role in the work of the international working groups dealing with methodological developments and current statistical issues.

In June 2023, Eurostat visited Hungary to verify the quality of government finance statistics. At the meetings, which are held every two years, Eurostat, with the assistance of the Hungarian EDP Working Group (HCSO, MNB, Ministry of Finance), reviewed in detail the compilation process for government finance statistics, as well as the related organisational, division of labour and quality assurance issues, and checked their compliance with EU statistical standards. In addition, methodological and statistical accounting issues that arose during the compilation of the EDP (Excessive Deficit Procedure) report were discussed. During the 2023 visit, Eurostat did not identify any incorrect statistical accounting practices, and the main findings of the visit and the related follow-up tasks were recorded as action points.

In 2023, methodological preparatory work continued for the renewal of the international statistical methodological standards: the System of National Accounts (SNA), the Balance of Payments Manual (BPM) and the Benchmark Definition on Foreign Direct Investment (BD). The MNB actively participated in the international working groups on the review initiated by the ECB, the IMF and the OECD. The working groups produced guidelines with concrete recommendations, which were the subject of global consultations. Questionnaires were used to gather the views and experiences of the member countries on each of these topics. Based on the results of the survey, the IMF Balance of Payments Committee, the OECD Committee of Experts and the Advisory Group on National Accounts decide on statistical changes.

Data quality, administrative inspections

In 2023, based on the MNB decrees stipulating a reporting requirement for the central bank's information system, the MNB, during its continuous evaluation of compliance with the reporting requirement, including timely fulfilment and adequate data quality, proposed penalties in 98 cases, in addition to the warnings and the resolutions imposing measures and notices. The penalties totalled HUF 95 million and affected 70 reporting entities.

The audit procedure launched in 2022 to verify the provisions of MNB Decree No 54/2021 (XI. 23.) on the

obligations to report data to the central bank's information system primarily to enable the Magyar Nemzeti Bank to carry out its basic duties [hereinafter: MNB Decree No 54/2021 (XI. 23.)] concerning the provision of data with the MNB identification code E20 was completed in 2023, and the MNB imposed a fine of HUF 1 million on the investment firm under investigation, in addition to the measures set out in the decision.

In 2023, six credit institutions and one mortgage credit institution were subject to thematic investigations concerning the correctness of certain data reported in the data reporting of ID codes K21, K23, M03 and M04 as per MNB Decree No 54/2021 (XI. 23.) and in the HITREG data reporting; the proceedings are ongoing and will be completed in 2024.

3.9 THE MNB'S ACTIVITY IN THE AREA OF SOCIAL RESPONSIBILITY

On the basis of the Corporate Social Responsibility Strategy that is formulated in harmony with the core values and vision in its Statutes, the MNB considers it its mission to serve the public good and contribute to the achievement of objectives serving society as a whole within its means and capabilities and without jeopardising its primary tasks. The main elements of the strategy are: strengthening financial literacy, education (especially higher education), the renewal and development of economics and financial education, support for scientific activity and contribution to charitable initiatives. The central bank's performance in this area in 2023 has actively contributed to the achievement of the targets set.

By the end of 2023, the Hungarian Money Museum and Visitor Centre had welcomed more than 190,000 visitors, and its successful operation has been recognised by numerous national and international awards and accolades.

In implementing its corporate social responsibility strategy, the MNB considers it its task to improve financial literacy and financial awareness and to enhance the underlying economic and social intelligence, as well as the related institutional system and infrastructure. With a view to achieving the defined goals, the MNB works to renew and enhance education (primarily tertiary education), the system of economics and financial training, and to support scientific activity and financial literacy. The programmes supported by the MNB and its foundations are partly its own initiatives and are partly realised through partnerships with participating institutions.

Higher education programmes and cooperation

In the 2023/2024 academic year, the MNB launched the MNB Excellence Scholarship Programme for the eighth time in the fields of bachelor's and master's degrees in economics related to its activities. In the academic year in question, 591 students at 25 Hungarian higher education institutions were granted this scholarship.

In 2023, the MNB renewed its cooperation with its key academic partners, the Budapest Metropolitan University (METU), the Budapest University of Technology and Economics (BME) and the John von Neumann University (NJE). In the framework of the cooperation with BME, joint research projects continued in the framework of the three professional workshops (the Digitalisation, Artificial Intelligence and Data Age workshop, the Higher Education Innovation workshop and the Green Finance and Green Economy workshop) with the participation of BME faculty and MNB experts. Within the framework of the renewed cooperation with the University of Debrecen, international conferences and case studies were organised and the MNB Laboratory was launched. Academic competitions and scholarship were also announced regularly for students of the partner universities.

The Master's programme in Economics and Finance, which was launched in 2022 at the MNB Knowledge Centre's Centre for Sustainable Finance (MNB Institute) on the Budapest Campus of John von Neumann University, was announced in autumn 2023 as well. The success of the course was also reflected in the fact that 2.5 times more students applied than the number of available places, and it became one of the country's largest full-time master's courses in economics. The two-year course, which is now based on international standards, will introduce students to topics such as Big Data, artificial intelligence, green finance, digital finance and behavioural economics.

As a result of the cooperation with the Budapest Metropolitan University, the Institute for Sustainability and Competitiveness, which was established in 2022, continued to carry out a number of research projects in 2023. In parallel with the creation of the Research Institute, a new degree in sustainability management was launched in 2023 to expand its training activities in economic fields. In addition, the postgraduate specialist training courses launched in the previous year, namely the specialist training course in economics and finance journalism, the specialist training course in financial digitalisation and compliance,

and the specialist training course in financial regulation and supervision, were continued.

Within the framework of its cooperation with the universities other than its priority partners, the MNB conducted several programmes on sustainability with the six universities participating in the 'University network for sustainable development' project.

The MNB is actively involved in the 'Opening up to the East' policy announced by the government of Hungary, and in strengthening these efforts groups of researchers and priority actors were supported by the central bank. The cooperation between the 'Modern East Asia Research Group' of Pázmány Péter Catholic University and the MNB continued successfully in 2023.

With the professional participation of the MNB, as an incentive for the continuing education of the Tiszaroff sub-region the 'Tiszaroff Scholarship Programme' has been announced each year since 2015 to support students in higher education. Under the title 'Tiszaroff Further Education Scholarship Programme', in 2017 the programme was extended to the support of the studies of high school students. In the spring semester of the 2022/2023 academic year 46 university students (including 4 PhD students) and 23 secondary school students won scholarships, while in the autumn semester of the 2023/2024 academic year 60 university students (including 6 PhD students) and 18 secondary school students received scholarships.

In 2023, the cooperation between the MNB and TDK-ért Közhazsnú Alapítvány ("For the Scientific Students' Association" Non-Profit Foundation) continued, with the main objective of promoting financial awareness and interdisciplinary fields.

Financial education for the public

In order to improve the financial awareness of the adult population, and consistent with the MNB's financial stability and financial consumer protection objectives, the MNB operates its complex information system called *Financial Navigator*, which is aimed at providing credible and accessible information to wide swathes of society through various channels about the aspects and risks to be considered while taking informed financial decisions. Monitoring legislative changes and market developments, the central bank regularly updates and expands the content. Well-informed decisions as well as comparisons of products

and service providers are assisted by the product search features and calculators available free-of-charge, such as nationwide branch and ATM search, credit calculator, deposit calculator, household budget calculator, loan and lease selector, deposit selector applications, etc.

To enhance the public's financial awareness, the MNB operates the Financial Navigator Advisory Office Network (FNAON)⁵⁰ with offices in all county seats. The offices are operated by civil society organisations, which are independent of financial institutions and service providers. The advisers give unbiased, professional and free financial advice for consumers in person, on the phone as well as electronically and by post. The objective of the advisory service, which is under the MNB's continuous professional control and support, is to allow consumers to request an independent expert opinion before their financial decisions as well as to receive assistance in drafting and submitting official documents, applications and complaint letters.

FNAON advisers handled around 26,000 cases in 2023. As in previous years, the majority of enquiries (56 per cent) were about financial services rather than complaints. The majority of enquiries were received by the offices in relation to Certified Consumer Friendly products, enforcement, debt collection and cyber fraud.

In order to disseminate financial knowledge as widely as possible and raise the level of financial awareness in Hungary, the main objective of the MNB's 2023 public communication was to provide consumers with practical advice and tips that are immediate and easy to use. To achieve this goal, the central bank launched a series of thematic consumer protection campaigns throughout the year to help people manage their finances on topics such as changing bank accounts and banks, holidays, starting school, saving and preparing for Christmas. In these campaigns, the MNB also placed particular emphasis on increasing customer reach through social media platforms. During the year, the central bank further expanded its tools for educating the public by creating a quiz and calculator framework developed in-house.

In addition to new initiatives, communication channels and platforms that were used successfully in the past were also assigned a function to inform the public: In 2023, more than 500,000 copies of the Financial Navigator information booklets were distributed, and cooperation continued with the család.hu website operated by the Family-Friendly Hungary Centre, the okosanapennzel.hu site created by the

⁵⁰ <https://www.mnb.hu/fogyasztovedelem/tanacsado-irodak> (in Hungarian only)

Ministry of Finance and the Honfoglaló educational app. The quality of user services is further improved by the renewal in the summer of 2023 of the Deposit and Savings Finder⁵¹ and the Loan and Leasing Product Finder⁵² programmes. A significant part of the Financial Navigator content is also available on a mobile app with the latest news and exchange rate data, the embedded versions of online search engines and calculators, a customer service appointment reservation function and a financial dictionary.

Linked to the MNB's Green Programme and its sustainability objectives, the central bank considers it an important objective to stimulate potential demand for green financial products among households. The central bank programme called Family Green Finance (FGF), which seeks to enhance financial literacy and shape consumers' awareness among adults by presenting how the conscious management of finances can serve the environment and sustainable development. The content related to the programme can be accessed from the menu of the Financial Navigator page.

Hungarian Money Museum and Visitor Centre

The Hungarian Money Museum and Visitor Centre (Money Museum) had welcomed more than 190,000 visitors by the end of 2023, and hosted numerous events, competitions and conferences for students and families. The success of the Money Museum has been recognised by a number of national and international awards and accolades: In September 2023, it won the Family-Friendly Museum Award and the Special Award for Excellence in Museum Education in the category of Museum Education, while the European Museum Academy (EMA) awarded the DASA Prize for the importance of museum learning.

The institution offers extensive information on money through games and personal experiences, rather than in a traditional museum setting. Thanks to the novel approach, the exhibition not only provides information about money, but also helps visitors make their own realisations through first-hand experiences. A mobile app is also available to help visitors access services related to the Money Museum.

Sponsoring

Within its means and capabilities, the central bank also provided ad-hoc support to promote the achievement of value-creating objectives for society as a whole. In 2023,

the main objectives from the Corporate Social Responsibility Strategy included strengthening financial literacy, the continued development of education (mainly higher education) and supporting scientific activities.

3.10 THE MNB'S ENVIRONMENTAL SUSTAINABILITY ACTIVITY

In April 2023, the MNB published its Green Finance Report for the third time, once again assessing the financial system in terms of its environmental sustainability. The launch of the Green Finance Report coincides with the launch of the Green Finance Product Finder, through which the MNB aims to promote the availability of green financial products and support financial and sustainability education for the general public. The Product Finder is an online platform for collecting, presenting and comparing green financial products and key sustainability information in Hungary. The implementation of the MNB's Green Programme, which was launched in 2019, reached a new stage in September 2023, when the central bank's management extended the capital relief programme, one of the flagship programmes, and expanded the credit targets.

From 2021, the MNB moved to carbon neutrality by reducing its own carbon footprint and offsetting its own carbon footprint that can no longer be reduced. In its environmental strategy for 2020–2022, the MNB had set the objective of reducing the carbon footprint related to its operating activities by at least 30 per cent by the end of 2022. The MNB managed to nearly double this target, with a reduction in its carbon footprint per employee of almost 60 per cent.

In 2023, the MNB reviewed its environmental strategy and committed to further reduce its operational carbon footprint over the period 2023–2025, targeting a 75-per cent reduction by the end of 2025.⁵³ For the strategic time horizon 2023–2025, the MNB committed to maintaining carbon neutrality, which it intends to achieve by offsetting the remainder with further real carbon footprint reductions.

The MNB's Green Programme

The implementation of the MNB's Green Programme, which was launched in 2019, reached a new stage in September 2023, when the central bank's management extended the capital relief programme, one of the flagship programmes, and expanded the credit targets. The benefit was originally

⁵¹ <https://betetvalaszto.mnb.hu/termekkereso> (in Hungarian only)

⁵² <https://hitelvalaszto.mnb.hu/termekkereso> (in Hungarian only)

⁵³ The MNB measures the reduction of its carbon footprint related to its operational activities against the 2019 baseline (6,021 tonnes).

available to credit institutions for green loan contracts and bond issues concluded between 1 January 2020 and 31 December 2024. With the extension, the new contracting deadline was changed to 31 December 2025, and the discount will be available for the first five years of contracts. A new loan objective was added to the programme to finance investments in energy storage, renewable district heating and the expansion and development of the electricity grid.

The inclusion of new loan targets was also performed in light of the fact that the recent energy market crisis and the challenges involved in expanding the role of solar power in electricity generation have highlighted the need for energy efficiency and the modernisation of energy grids. The MNB organised a GreenPower conference on 14 September focusing on the energy theme, which provided a forum to discuss the possibilities for promoting solar and wind power generation with the professional assistance of the Zero Carbon Centre (ZKK). The conference was preceded by a series of twelve articles published between July and September, in which the MNB and ZKK presented the main results of their joint project, also called GreenPower, on the online news portal Világgyász.

In October, for the fifth time, the MNB organised the Green Finance Conference, which has become one of the main points of information for domestic economic operators on issues and recent developments in green finance at home and abroad. The programme received a great deal of positive feedback from participants and guests, confirming the importance and recognition of the event. This year, for the first time, the conference consisted of two days organised around two separate themes, with the first day focusing on energy efficiency and its market and economic aspects, and the second day featuring representatives from the academic world at the first Green Science Conference.

In November, the MNB issued a recommendation to domestic insurers on the identification, management and disclosure of climate change and environmental risks and the integration of environmental sustainability considerations in their business activities.⁵⁴ Insurance market players are exposed to climate and environmental

risks in a variety of ways, from drought insurance to liability claims and investment revaluation, making the green revolution a priority for them as well. The Recommendation is also in line with the MNB's Green Programme and its supervisory strategy that was overhauled in 2022. The aim of the supervisory regulation is to ensure that market participants identify, measure, manage, control and disclose climate and environmental risks and that they integrate environmental sustainability considerations into their business activities.

As a significant amount of data has been accumulated in the area of green finance and market participants have shown increasing interest in accessing this data, the MNB has been publishing key data related to green products on a regular quarterly basis since November 2023. The publications include key data on green lending, historical data on SFDR funds in the fund management and insurance sector, and an itemised list of green securities.

In addition to greening the financial sector and reducing the country's energy dependence, the MNB continues to attach importance to 'greening' its own operations, setting an example for domestic institutions. The carbon footprint of the MNB's operations has decreased significantly in recent years, and to compensate for the part that can no longer be reduced, the MNB agreed on a new habitat restoration project with WWF Hungary in 2023. This time, reforestation and grassland restoration may be realised in Drávaszentes, in the Danube-Drava National Park. In addition to carbon offsetting, the project also provides ecosystem services, including contributing to biodiversity conservation and mitigating the effects of climate change.

Carbon neutralisation is a practice that has become very popular in the world in recent years, and its norms and rules are still being shaped. Compensation is most often done through nature-based solutions projects such as those supported by the MNB through the WWF. In September, the MNB published a publication on this topic entitled 'Nature-based carbon offsetting – a market guide for companies'.⁵⁵ The study aims to help all large companies in Hungary, beyond financial companies, to navigate the world of carbon offsetting and the voluntary carbon market.

⁵⁴ Recommendation No 12/2023 (XI.27.) of the Magyar Nemzeti Bank on climate and environmental risks and the integration of environmental sustainability aspects in the activities of insurers.

⁵⁵ <https://www.mnb.hu/letoltes/terme-szetlapu-karbonsemlagesi-te-s-2023-hun-0906-1.pdf> (in Hungarian only)

Environmental aspects of the MNB's operational activities

Evolution of the carbon footprint of the MNB's operational activities

In the context of its operational activities, the MNB has committed to further reduce its own carbon footprint by 75 per cent by the end of 2025 compared to the baseline level. To this end, it has developed an environmental programme for the period 2023–2025, which is on schedule.

The carbon footprint of the MNB was further reduced in 2023, with the per capita carbon footprint 20.6 per cent lower at the end of the year.

The carbon emissions associated with energy use in buildings used to account for 75–80 per cent of the total carbon footprint, but now account for only about half thereof. The table shows that in 2023, the burden from energy use is almost halved. The reduction is based on an

actual consumption reduction of 6.7 per cent, and in 2023 the MNB placed a strong emphasis on environmentally responsible building management with an optimal energy mix.

The second biggest component of the operational carbon footprint is business travel, which in 2023 was of a magnitude approaching energy use. Business travel by air, which had fallen significantly in the previous pandemic period, increased in 2023 to reach 85 per cent of its pre-pandemic level. The carbon footprint caused by foreign and domestic travel with vehicles and taxis decreased by 7.3 per cent.

Evolution of energy indicators

The MNB's direct environmental impact is mainly due to energy consumption, within which energy consumption related to the operation of buildings makes a key contribution. In 2023, total energy use decreased by 6.7 per cent and per capita by 7.7 per cent.

Table 8
Evolution of the carbon footprint of operational activities

Carbon footprint/cause	MNB's carbon footprint in 2023 (tonnes CO ₂)		Change in 2023 %
	2022	2023	
Electricity	87	7	-91.8
Natural gas and district heating	1,975	1,127	-42.9
Total carbon footprint from energy use	2,062	1,134	-45.0
Vehicles fleet	116	122	5.57
Air travel	411	811	97.1
Car travel abroad	2.8	3.9	39.3
Domestic car travel	10.4	10.3	-1.0
Taxi usage	4.6	2.3	-50.0
Total business travel	545	950	74.3
Refrigerants	3	2	-28.9
Banknote briquettes for energy purposes	15	14	-8.5
Recycled office paper	1	1	-31.5
Waste	61	57	-6.1
Total other emissions	80	74	-7.8
Total carbon emissions (tonnes CO₂)	2,687	2,158	-19.7
Unit carbon footprint (tonnes CO₂/person)	1.9	1.5	-20.6

Table 9
Evolution of total energy consumption in 2023

Total energy consumption (kWh)	2023				Change in 2023 %
	MNB's Buda Centre	MNB Logistics Centre	MNB's Supervisory Centre and Money Museum	Total	
Electricity consumption (kWh)	1,560,191	2,767,310	3,004,615	7,332,116	5.3
Heating, hot water energy consumption (kWh)	4,189,608	943,486	950,804	6,083,898	-18.9
Fuel energy consumption (kWh)	449,322			449,322	15.0
Total energy consumption (kWh)				13,865,336	-6.7
Unit energy consumption (kWh/person)				9,660	-7.7
Unit energy consumption (kWh/used area m²)				298	-6.7

Table 10
Changes in water consumption in 2023

Water consumption (m ³)	2023				Change in 2023 %
	MNB's Buda Centre	MNB Logistics Centre	MNB's Supervisory Centre and Money Museum	Total	
Water consumption (m ³ /year)	13,211	2,055	5,891	21,157	-20.1
Unit water consumption (m ³ /person/year)				14.740	-21.0
Own well water consumption (m ³ /year)	-	9,230	-	9,230	6.4
Total (m³)	13,211	11,285	5,891	30,387	-13.5

In 2023, for the MNB's two large office buildings (MNB Buda Centre; MNB Supervisory Centre and the Money Museum), the fine-tuning of the operation of the buildings, following the move-in to the buildings at almost the same time as the commissioning, and the implementation of the MNB-wide energy saving programme resulted in a real reduction in energy consumption, which is also observed for the Logistics Centre.

Water management

The MNB pays particular attention to water consumption at its buildings and achieved a 20-per cent reduction in mains water use in 2023.

In the MNB Logistics Centre, presence-sensing motorised valves were installed in all wet rooms to prevent possible water leaks and drips in 2023. The BREEAM pre-qualification of the MNB Buda Centre building was completed in 2023, based on international environmental requirements, and includes the installation of water consumption sub-meters among the development proposals, which are planned to be completed by the end of 2025.

Waste management

There was no change in the separate waste collection system in 2023. The separate collection of the used aluminium-based coffee capsules and the Tetra-Pak boxes remains popular with workers. Many people also welcome the fact that they can bring their used batteries and burnt out lightbulbs to the MNB buildings for separate collection.

The daily amount of municipal waste in 2023 decreased by 6.8 per cent, with a daily amount per worker of 17.6 dkg.

In 2023, 64.9 per cent of the total annual waste was collected separately. The proportion of hazardous waste in total waste was just 0.1 per cent.

3.11 FACTORS SHAPING THE COMMUNICATION OF THE MNB

In 2023, the MNB considered it important to continuously and transparently present the central bank's activities, achievements, reports and recommendations. To ensure full information and communication on its professional work,

the MNB held 38 press conferences and published 284 press releases, as well as live streaming for 17 conferences and major events on its YouTube channel. In addition, during the year it published 141 professional articles, mostly on online economic portals and on its website in order to maintain the reputation created by its high quality professional work and to reinforce positive public opinion. The central bank sought to increase the financial awareness of the corporate sector and the public through its social responsibility, supervisory, market surveillance and consumer protection activities and communication actions. The MNB also organised international conferences important for the management of its reputation abroad, and published professional articles and publications in English on its website, which it distributed to interested foreign audiences through its social media platforms. The press was mostly briefed about the reports online, but the central bank organised several major events with media presence in a hybrid manner.

In the course of its communication, the MNB focused on disclosing and explaining the key decisions concerning the core tasks of the MNB, monetary policy and financial stability. Accordingly, the MNB regularly presented the substance and background of its major decisions, disclosed the outcomes of Monetary Council meetings and published on an ongoing basis the results of supervisory inspections and procedures and the content of the measures, including those responsible for the infringements which were found. Warnings about the necessary precautions to identify risk related to financial operations also formed part of the supervisory communication in 2023, along with the communication about Certified Consumer-Friendly products. In addition to the information campaigns, each member of the product group has its own dedicated page and calculator on the MNB's website.

In 2023, there was a noticeable increase in financial fraud. It is still typical that certain groups of consumers cannot keep up with the rapid development of digitalisation and, in parallel, with the management of risks appearing in cyberspace. During the year, the central bank continued its financial awareness campaigns, which were marked by an intensive social media presence. In 2023, educational outreach continued, with the Financial Navigator brand already well known in the public consciousness and the communication of the CyberShield (inter-institutional collaboration) launched in 2022, covering all segments of the target population. During the campaigns, the MNB raised awareness among consumers and bank customers about the rising levels of online and telephone fraud and how to protect themselves against it. The CyberShield project has been joined by four institutions (Ministry of National Economy, Ministry of Justice,

Supervisory Authority for Regulatory Affairs and Hungarian State Treasury), in addition to the initial six partners (MNB, Hungarian Banking Association, Special Service for National Security, National Cyber Security Centre, National Media and Infocommunications Authority and Hungarian Police). The cooperation involved joint and coordinated communication activities, based on the kiberpajzs.hu website operated by the MNB.

In 2023, the central bank continued to place particular emphasis on communicating the benefits and achievements of the Instant Payments System (AFR2.0). Residents and businesses are also making more and more use of the system, which has been working safely and securely for three years. The number of out-of-hours transfers, card payments and mobile wallet payments increased sharply. New services (request for payment, QR code and deep-link payments) will be introduced in 2024.

Specialised articles on key central bank topics were produced at regular intervals during the year. These were intended to present an in-depth view of the MNB's activities in adequate detail and in accordance with the requirements of clarity, while at the same time bringing interested parties closer to the work of the various functional areas and the explanation of the key results. In 2023, the number of professional publications reached 141, and the MNB was assisted in this by reputable news and economic websites. The central bank also published professional articles, analyses and summaries on the mnb.hu website in order to maintain the reputation of the high quality professional work, to strengthen the positive public opinion and to increase the number of visitors to the website.

The central bank sought to increase the financial awareness and knowledge of the corporate sector and the public through its social responsibility, supervisory, market surveillance and consumer protection activities and communication actions. Increasing consumers' knowledge was a focus area in the central bank's communication in 2023 again, not only through supervisory press relations but also in the form of topical campaigns. The MNB is committed to maintaining positive communication about the Certified Consumer Friendly brand. In 2023, it continued to place a strong emphasis on the promotion of customer-focused loans and home insurance.

In 2023, central bank communication typically took place in a hybrid way, not exclusively online. The MNB broadcast all international conferences, public events and press conferences on its official YouTube channel. The MNB soundcloud was constantly updated with new content

throughout the year. The podcasts were also published on the central bank's website and social media platforms. In addition to informing the public and raising its financial awareness, the main purpose of producing this content was to highlight professional achievements. Facebook and YouTube, as well as other social media outlets, are an efficient platform for reaching Generations Y and Z. In this context, important central banking messages were disseminated through readily accessible audiovisual content (animations, short videos), tailored for the platforms.

In addition, the MNB placed increasing emphasis on communication on social media platforms: with nearly 140,000 followers, social media can provide a wide reach. The central bank also organised international conferences important for the management of its reputation abroad and published professional articles in English on its website. Related information was typically and mainly communicated to international economic actors via the Twitter channel, which also allowed for continuous and direct interaction. During the year, the MNB continuously updated the public on the international activities of the central bank and its executives. There was also active communication about the foreign visits of Hungarian delegations as well as the international meetings and conferences organised in Hungary.

3.12 THE MNB'S INCOME IN 2023

In 2023, the MNB recorded a loss of HUF 1,763.2 billion. On the expanded balance sheet, with interest rates gradually rising in 2022 to contain inflation, but declining steadily from May 2023, the absorption of excess liquidity in the banking system resulted in a significant net interest expenditure by the central bank. The result was mainly determined by this interest loss. The central bank's equity became negative by the end of 2023. According to the current MNB Act and the resolution of the Fiscal Council, the central government will have no reimbursement obligation in 2024.

In 2023, the MNB recorded a loss of HUF 1,763.2 billion. During the year, the following main developments had an effect on the balance sheet and the profit:

- the level and composition of international reserves defined by monetary policy, foreign exchange purchases and sales affecting the level of reserves: net foreign exchange inflows from EU transfers, operations performed by the Government Debt Management Agency in relation to debt management and foreign exchange conversions performed by the Hungarian Treasury for purposes other than debt financing;
- developments in instruments absorbing forint liquidity, which are correlated with changes in foreign exchange reserves and the MNB's net foreign currency receivables, as well as with the evolution of the central bank's liquidity and growth support instruments and cash holdings;
- changes in forint interest rates and international foreign exchange interest rates; and
- changes in exchange rates.

The net interest and interest-related losses amounted to HUF 1,758.9 billion. The significant increase in losses was caused by a deterioration in net forint interest income, moderated by an improvement in the net foreign exchange interest income. As a result of the interest rate increases undertaken in 2022 to control inflation, the banking system's excess liquidity was absorbed at a higher average interest rate in 2023, which entailed steady growth in net forint interest expenditure.

Net forint interest and interest-related income amounted to a loss of HUF 1,991.6 billion in 2023. The effective interest rate gradually declined from 18 per cent at the beginning of the year to 10.75 per cent at the end of December.

Table 11

Abbreviated income statement of the MNB

(HUF billion)

No.	Description (P/L line)	2022	2023	Change
1	Net interest and interest-related income (I+II)-(X+XI)	-1,062.3	-1,758.9	-696.6
2	Net forint interest and interest-related income (I-X)	-968.2	-1,991.6	-1,023.5
3	Net foreign exchange interest and interest-related income (II-XI)	-94.1	232.7	326.9
4	Realised gains/losses arising from financial operations (IV-XIV)	-27.4	-42.7	-15.3
5	Income arising from exchange rate changes (III-XII)	797.7	90.6	-707.1
6	Other constituents of net income* (V+VI+VII+VIII)-(XIII+XV+XVI+XVII+XVIII)	-110.0	-52.2	57.8
7	Profit/loss for the year (1+4+5+6)	-402.0	-1,763.2	-1,361.2

* Incomes from supervisory activities, net profit/loss of banking operations, costs of issuing banknotes and coins, net creation and release of provisions and impairment provisioning, income/expenses from commission and from other items.

Interest expenditure paid on interest-bearing forint liabilities (overnight deposits of credit institutions, floating rate deposits, minimum reserves, MNB discount bills, the forint deposits of the central government) increased by nearly HUF 950 billion compared to 2022, due to higher interest rates and partly due to higher stocks. At the same time, the central bank's forint instruments are typically fixed-rate instruments (government bonds, covered loans, mortgage bonds, corporate bonds), and thus forint interest income did not change significantly compared to the previous year. This led to a significant net forint interest loss. The loss on interest rate swaps with credit institutions also contributed to the deterioration in the net forint interest and interest-related income. As a result of the interest rate cuts implemented, the monthly net interest and interest-related losses gradually decreased in the second half of the year.

Net foreign exchange interest and interest-related income in 2023 showed a gain of HUF 232.7 billion. Interest income on international reserves increased significantly, exceeding the 2022 level by HUF 169 billion, reflecting the rise in foreign exchange yields and higher reserve holdings. However, this was offset by the rise in foreign currency interest expenses. Net foreign exchange interest-related income also improved substantially, mainly related to derivative transactions linked to reserves. The improvement in net interest-related income was also due to the fact that, as a result of the prolonged rise in yields, the share of securities purchased below par value in the reserve portfolio gradually increased, and accordingly the amortisation of the securities' purchase price differences (agio/disagio) already increased interest-related income in 2023, in contrast to previous years.

The realised gains arising from financial operations contain gains and losses realised from changes in the market price of securities generated upon the sale of the securities. In 2023, the MNB realised a loss on selling securities related to foreign exchange reserve management transactions, due to the continued rise in the foreign exchange yields relevant for the reserve portfolio for most of the year. This was the main reason that a loss of HUF 42.7 billion was recorded for net realised gains/losses arising from financial operations.

Income arising from exchange rate changes is determined by the difference between the forint's official exchange rate and the average cost rate on the one hand and by the volume of foreign currency sales on the other hand. In 2023, the official exchange rate of the forint strengthened compared to the previous year, and the difference between the official and the average cost rate narrowed. In 2023, foreign currency sales were predominantly connected to the Government Debt Management Agency's debt management operations, along with transactions to cover the foreign currency needs of energy-importing companies until the end of March. In 2023, the realised net gains on exchange rate changes amounted to HUF 90.6 billion, which was significantly lower than the historically high value in 2022. Both the stronger forint exchange rate and lower conversion volumes contributed to the change.

Other components of net income include banking operating income, costs and expenditures, costs of issuing banknotes and coins, creation and release of provisions and impairment, incomes from supervisory activities and income/expenses from fees and commissions and other income/expenses. Net expenditures resulting from these items amounted to HUF 52.2 billion in 2023, an improvement of HUF 57.8 billion compared to the previous year. The change was mainly due to the reversal of part of the impairment losses on monetary policy securities recognised in previous years on the basis of prudential considerations, which, in addition to the decline in market forint yields, was also due to the upgrading, maturity, redemption and shortening of the remaining maturity of the securities.

The MNB's equity showed a negative balance of HUF 1,854.6 billion as at 31 December 2023, with the significant decrease compared to the end of 2022 mainly due to the annual loss of the MNB. Among the revaluation reserves, the change in the revaluation reserves due to exchange rate changes further decreased equity, while the change in the revaluation reserves of foreign currency securities increased equity. According to the MNB Act in force and the resolution of the Fiscal Council, the central government will have no reimbursement obligation in 2024 due to the central bank's capital position.

Table 12
Changes in equity
(HUF billion)

Description (B/S line)	31 Dec 2022	31 Dec 2023	Change
Equity	255.9	-1,854.6	-2,110.5
of which: Retained earnings (XI.2.)	151.2	-250.7	-402.0
Revaluation reserves due to exchange rate changes (XI.4.)	774.9	258.0	-516.9
Revaluation reserves of foreign currency securities (XI.5.)	-278.4	-108.6	169.7
Profit/Loss for the year (XI.6.)	-402.0	-1,763.2	-1,361.2

As a result of the strengthening of the forint during the year, the positive difference between the official exchange rate and average cost rate decreased, and thus the revaluation reserves due to exchange rate changes were HUF 516.9 billion lower, at HUF 258 billion on 31 December 2023.

On 31 December 2023, unrealised losses on foreign currency securities marked to market amounted to HUF 108.6 billion, which represented an improvement of HUF 169.7 billion in the revaluation reserve balance compared to the previous year-end. The change was largely related to the fall in foreign exchange yields in 2023 Q4, which pushed up the market price of securities.

3.13 THE MNB'S FINANCIAL MANAGEMENT IN 2023

Actual operating costs in 2023 amounted to HUF 81,368 million, which is 4.0 per cent below the approved budget (excluding central reserves) and 17.4 per cent above the expenditures incurred in 2022.

Compared to the previous year, an increase was recorded in both personnel costs and banking overheads (mainly operating costs), mainly due to higher utility costs, including electricity costs. In addition, IT and other costs, as well as depreciation, rose. The rise in personnel costs in 2023 is mainly due to an increase in the cost of salaries for staff members and an increase in basic benefits and welfare costs.

In relation to normal operations, the approved capital expenditure budget for 2023 amounted to HUF 10,441 million. In 2023, the amount of payments related to investments was HUF 7,905 million. A large portion of the capital expenditures in 2023 was related to the purchase of hardware and software products and various IT projects.

The internal operations of the MNB are essentially aimed at providing the resources required for the efficient discharge of the duties stipulated by the MNB Act.

Operating costs

Actual operating costs in 2023 amounted to HUF 81,368 million, which is 4.0 per cent below the approved budget (excluding central reserves) and 17.4 per cent above the expenditures incurred in 2022.

Compared to the previous year, an increase was recorded in both personnel costs and banking overheads (mainly operating costs), mainly due to higher utility costs, including electricity costs. In addition, IT and other costs, as well as depreciation, rose. The rise in personnel costs in 2023 is mainly due to the increase in the cost of salaries for staff members, as well as an increase in basic benefits and welfare costs (mainly due to the cost of the holiday service as a new benefit).

Personnel-related costs

Personnel-related costs in 2023 (HUF 39,274 million) exceeded the previous year's expenses by 20.7 per cent (HUF 6,741 million).

The difference mainly reflects the fact that, pursuant to the decision of the MNB's Executive Board, in order to ensure and retain highly qualified personnel over the long term, the 2022 wage bill limits within the wage bill management scheme were raised by 11.9 per cent from 1 January 2023, and by another 5 per cent from 1 July 2023 under certain conditions set to preserve the market value of wages. In addition, the Balatonakarattya Oktatási és Konferencia Központ (Balatonakarattya Education and Conference Centre) was opened earlier than planned during the year, and for the first time, its costs were included in operating costs, taking into account its higher-than-expected utilisation rate.

In addition to the above, the evolution of expenditures was affected by the increase in expenditures on representation for online and face-to-face events, as well as by the implementation of events that could not have been foreseen in the planning stage.

Table 13
Operating costs of the MNB in 2023

Description	Actual data for 2022	Budget for 2023	Actual data for 2023	Index (2023 actual / 2023 budgeted)	Index (2023 actual / 2022 actual)
	HUF million			Per cent	
Staff expenditures	32,533	38,043	39,274	103.2	120.7
General operating costs	36,749	46,732	42,094	90.1	114.5
Total	69,282	84,775	81,368	96.0	117.4

General operating costs

Bank operating overheads in 2023 (HUF 42,094 million) were HUF 5,345 million (14.5 per cent) higher than in 2022. The changes in the components were attributable to the following.

IT costs rose by HUF 1,220 million (21.3 per cent) compared to the previous year, mainly due to the impact of additional costs from IT investments already made (functional extensions, higher availability levels). There were also increases in the cost of repair and maintenance of computer equipment, as well as in fees for news services, due to the purchase of new Bloomberg subscriptions and fee hikes.

Compared to 2022, *operating costs* rose by HUF 2,172 million (11.5 per cent) in 2023, mainly due to real estate costs, including primarily utility costs (mainly electricity), armed guard and defence costs, and expert and consultancy fees related to bank security activities. The increase in costs is mainly due to the increase in energy prices (especially electricity tariffs) in 2023 and the increase in hourly rates for security services (MNB-Biztonsági Zrt., Reserve Police Service). There was also a significant increase in the cost of other machinery and equipment in connection with the renewal of the contract for the maintenance of the videoconferencing system, supplemented by additional support requests.

Depreciation for tangible and intangible assets in 2023 was HUF 965 million (15.6 per cent) higher than the depreciation costs in the previous year. This can mainly be attributed to the value of investments, mostly in IT, and in particular intangible assets (software), made in 2022 H2 and in 2023.

Other expenses for 2023 rose by 20.0 per cent (HUF 1,231 million) compared to the previous year. The cost of consultancy services supporting the IT system development of the MNB's specialised areas (based on a three-year framework contract based on a Board decision) and the amount of other expert and consultancy costs approved on the basis of interim Board decisions (e.g. Implementation of the data warehouse development strategy) played an important role in this. The other main reason for the increase in the case of economic consultancy services and data purchases was the additional needs approved in the plan for the professional areas, together with the corresponding price increases. The increase in expenditure in this cost group was also due to the fact that some of the costs for 2022 were incurred at an even lower level

than before (mainly for missions abroad) because of the epidemic situation.

The absolute value of the transfer of costs – which reduces operating expenses to ensure that the total amount of operating expenses reflects only the actual expenses incurred by the MNB – increased in year-on-year terms. The main reason for this was the reclassification of the 2020–2022 and 2023 personnel expenses related to the DLT⁵⁶ investment to investments.

Capital expenditure

Various development projects and procurements are required for the achievement of the MNB's objectives and maintaining the volume and quality of its assets. *In relation to normal operations, the approved capital expenditure budget for 2023 amounted to HUF 10,441 million.* In 2023, payments related to investments amounted to HUF 7,905 million.

A large portion of the capital expenditures in 2023 was related to the purchase of hardware and software products and various IT projects. During the period, the MNB purchased Microsoft licences, servers and workstations, and also incurred significant expenditure on payments for ongoing software development.

Completed investments in relation to real estate during the period under review were mostly related to the Logistics Centre building.

Personnel management at the MNB

The MNB treats human resource management as a strategic issue with a view to fostering efficient and profitable operation. The MNB provides stable employment and has developed a work culture where employees are able to perform their tasks efficiently, focusing on performance, in a value-driven atmosphere. The MNB supports the acquisition and development of the knowledge, skills and competences needed to work effectively, and provides appropriate tools to encourage and reward effective performance. It expects its staff to work to a high standard and to behave ethically. Through all of this, in line with the interests of the institution, the individual interests of the colleagues can be promoted as well.

The MNB is an exceptional and attractive organisation in the labour market, characterised by its special legal status, its

⁵⁶ DLT (Distributed Ledger Technology) system ~ IT support for the home insurance registration and collateralisation business process using distributed ledger technology.

specific and wide-ranging tasks and the financial and moral esteem of its staff. The combined effect of all these aspects is already clearly perceptible in the labour market, as the MNB has been ranked in the top three in the PwC Employee Preference Survey in the financial sector four times in the last five years, while in the Randstad Hungary Employer Brand Survey, the MNB won the Randstad Special Award in the Most Attractive Employer – Financial Institution category for the fourth time in a row.

The MNB also places great emphasis on international presence and employment. In the framework of the European Central Bank's ('ECB') Schuman programme, the ECB and national central banks and supervisors, including the MNB, are inviting applications from other countries for project work lasting 6–9 months. The workers involved in the projects will work full-time during the project in the country where the project is hosted. In addition, the MNB has taken over the international coordination of the programme since September 2022.

The human resources strategy will ensure an adequate supply of well-qualified, motivated staff. The MNB not only seeks to attract the best people, but also to retain them, by promoting individual ambition in line with organisational objectives. One of the key human resources strategic goals of the MNB is to employ employees loyal to the institution, who enable it to take active part in the changes arising in line with the renewing domestic economic and social interests and values.

Employees typically attended professional trainings, domestic leadership trainings and language trainings, which – tailored to individual needs – served the participants' development in terms of efficiency and approach, as well as cooperation skills.

Since the epidemic has passed, targeted training, development and support have been reintroduced in a personalised way to provide workers with security, stability, predictability and lower stress levels, alongside continuous professional development. During the support programmes, the MNB seeks to provide to employees development that fosters work efficiency, creative thinking and innovative solutions, and therefore along with the various professional trainings, language development courses and the well-being programme, internal trainings were advertised that bolstered and enhanced employees' mental strength, physical health and emotional well-being. In the post-pandemic period, managing and motivating staff required specific skills. The MNB prepared its managers to

meet these challenges through a tailor-made programme with a diverse set of tools developed in-house.

With the extension of its internship system, also incorporating international best practices, the MNB continued to support university students in acquiring professional skills. Within the framework of the internship system, the MNB received higher education students for the period of their field practice and also within the framework of dual training. In cooperation with the John von Neumann University, the MNB participated as a dual corporate partner in the training of students of the university's bachelor's degree programmes initially in Mechanical Engineering with specialisation in Economics, and later in Business Administration and Management, International Business Administration and Finance and Accounting courses. In this scheme, 81 students completed their traineeship at various functional areas and subsidiaries of the MNB. In 2021 and 2022, the MNB continued to expand its dual training programme with the addition of bachelor's and master's degree courses at other higher education institutions, reaching a new pool of university students eligible for the programme. As a result, from 2023, selected students of the Budapest Metropolitan University will also be able to spend their dual internships at the MNB.

New graduates and career starters also had the opportunity to participate in the internship programme, which helped their integration in the labour market, and also provided the MNB with the opportunity to select students showing outstanding performance and employ them as bank employees.

In 2023, the MNB continued to develop and digitise its HR systems to support the integration of new entrants, the relationship between the employee and the organisation during the employment relationship and to help manage the exit from the organisation.

The heads of functional areas play a key role in determining the headcount and defining the wages necessary for fulfilling the tasks. The MNB's wage and income policy reflects its special position and supervisory function. The salaries recognise the unique knowledge and expertise possessed by the employees of each specialist field in order to fulfil the tasks set out above.

The wage bill management system operating in the MNB provides the opportunity, in accordance with the objectives specified upon the implementation thereof, to manage changes and requirements arising in the various functional

areas in a fast and flexible manner by regrouping the employees, temporarily as well if necessary. In addition, wage bill management supports managers in more fully implementing the tasks of the areas under their control. Information for this is provided by the coaching approach of the developmental discussion system, which allows managers to give feedback directly to colleagues on the results achieved, while also providing a space for discussing individual needs and development opportunities, thus providing a basis for the development of employees' moral and financial motivation and remuneration. Accordingly, the system that was introduced became suitable for the long-term retention of high quality, highly qualified personnel and also for strengthening responsible financial management by granting much wider possibilities for the heads of wage management areas to give proposals.

The MNB phased out the optional non-wage benefits system as of 1 January 2020 and, at the same time, while retaining or restructuring some forms of the non-wage benefits already provided under the system, it also introduced new elements, which were maintained or extended in 2023. In 2023, it continued to provide extensive support to its employees and further developed its family welfare benefits system. In particular, it provided special support for starting a family and having and raising a child, contributed to the mitigation of the burden related to unexpected situations in life, and to the self-care of its employees, and supported recreation and relaxation for employees. For the preservation of the personnel's health, a once-yearly complete medical check-up programme was still available for each employee again this year and, based on the experience of the coronavirus outbreak, the option of employer-sponsored vaccinations continued to be available.

It is of key importance in the MNB's organisational culture that employees can also fulfil their roles and grow in their private life, while performing their tasks at the workplace supported by a well-balanced family background. To support the return to work after the birth of a child, the MNB runs a Workplace Day Nursery.

As a result of numerous measures and successful initiatives, in recognition of its family policy, the MNB was awarded the Outstanding Family Friendly Place Award by the Family-Friendly Hungary Centre in 2023, and the Family-Friendly Workplace Award for the eighth time.

The MNB renewed its Family-Friendly Workplace Certification Mark in the Family-Friendly Workplace Certification Mark Competition 2023, announced by the

Government of Hungary in the framework of the Family-Friendly Country Programme. The certification expresses an organisation's commitment to family-friendly operation and the implementation of measures to achieve this.

Changes in staff numbers

The staffing of the MNB in 2023 was influenced by the need to ensure the necessary workforce to fulfil its tasks.

As a result of employee attrition, quality-driven turnover and changes in inactive payroll, the MNB's statistical headcount declined by 82 employees.

In order to secure an adequate workforce for the operating structure aligned with the challenges and the MNB's tasks to fill vacant or new positions, 75 persons were recruited and added to the MNB's statistical headcount in 2023.

As the combined balance of the decreases and increases, the closing headcount of 2023 was 1,566, which is 7 persons lower than the 2022 figure.

The average number of staff in the MNB in 2023 was 1,561.4, 6.6 fewer than in the previous year.

The average age of employees at the end of 2023 was 43.1 years.

Procurement

Similar to the other central banks in the European Union, the MNB conducts public procurement procedures in respect of acquisitions where the value reaches the value limits of international public procurements. In accordance with Directive 2014/24/EU of the European Parliament and of the Council on public procurement and repealing Directive 2004/18/EC and Act CXLIII of 2015, the MNB is subject to public procurement obligations. The procurement processes of the MNB are regulated by the internal regulations, in accordance with the prevailing Act on Public Procurement. The new procurement requests generated in 2023 and those carried over from 2022 (18) resulted in a total of 935 procedures. The total value of the successful procedures amounted to HUF 13.51 billion based on the signed contracts (including multiannual contracts). No legal remedy was sought in relation to the procurement procedures launched and concluded in 2023. The MNB performed the procurement tasks in compliance with the deadlines, with due transparency and keeping in mind the good reputation and prestige of the institution.

Operational risk management and business operation continuity

The successful implementation of the MNB's strategic objectives and the safeguarding of its reputation and assets are important values. Effective operational risk management has a major role to play in protecting these objectives and values. With this in mind, the identification, assessment and continuous in-house monitoring of operational risks and the implementation of the appropriate response measures constitute an integral part of the MNB's corporate governance.

To continuously maintain outstanding operational risk management, it is essential to monitor international best practices and to improve the MNB's procedures and systems in line with such practices. Within the continuous development agenda of the operational risk framework, the MNB also applies the internationally accepted IAP (Integrated Assurance Programme) methodology, which is based on the cooperation of three lines of defence control areas. As part of this programme, during the year, it carried out a valuation of the operational risk map of the Real Time Gross Settlement (VIBER) system and associated controls.

The MNB introduced new key performance indicators in the internal instructions on operational risk management, which will help to achieve organisational objectives effectively and allow for the timely identification of increases in risk levels. The framework and methodology for incident management was renewed, making it easier to track risk-mitigating projects. An intranet-based knowledge base was developed to improve risk awareness among employees, complemented by a system of consultation office hours.

To adequately fulfil its fundamental tasks in critical situations as well, the MNB has effective business continuity management in place. In this context, it continuously updates its business continuity and disaster recovery plans, the reliability of which is tested yearly. The test performed in respect of the operation of the payment system and foreign reserve management bore the utmost importance.

As a result of the measures taken in 2023, the MNB was able to continuously operate and perform its duties with a high level of competence, as stipulated in the MNB Act.

3.14 INTRODUCTION OF THE ESCB COMMITTEES

The ESCB Committees play an important role in the work of the ECB's decision-making bodies. The basic role of these committees is to prepare decisions and facilitate coordination as per the horizontal division of various central bank duties, covering all areas of central banking operations. The senior executives and relevant experts of the MNB play an active role in the work of these committees and in the activities of the committees' working groups.

Since Hungary's accession to the European Union, the MNB's management and experts have been participating in the work of the ESCB committees and their working groups. This membership and cooperation provides an opportunity for national central banks to work together and formulate coordinated positions, and also enables the representatives of national central banks to obtain information on the ECB's activities on a regular basis.

On 31 December 2023, there were fifteen ESCB committees and two other committees assisting the work of the ESCB. In connection with the launch of the Single Supervisory Mechanism (SSM) in November 2014, in addition to the two existing configurations (euro area composition and ESCB composition), a number of committees have held meetings in SSM composition since 2014 as well, with the attendance of representatives of the supervisory authorities operating as organisations independent of the central banks of the Member States participating in the SSM.

The following provides a brief summary of the fields of activity (mandates) of each ESCB committee:

Accounting and Monetary Income Committee (AMICO):

This Committee develops and regularly reviews the accounting policy principles which define the framework of financial statements in accordance with the Statute of the ESCB and the methodology of the preparation of regular financial reports, facilitating their coordination at an international level. It monitors the calculation of monetary income based on the risk management process developed by the security framework system of accounting.

Banknote Committee (BANCO): It determines the euro banknote needs of euro area countries, coordinates the production of banknotes and works out the stockpiling and banknote processing policies of euro banknotes. Its tasks include the exchange of experiences gained from the production of euro banknotes, the examination and development of security features to prevent euro banknotes from being counterfeited, and the assessment of security risks related to the production of the euro. It contributes to the harmonisation of practices applied in the euro area, the development of the system which monitors counterfeiting, and the verification of statistics regarding euro banknotes and coins.

Committee on Controlling (COMCO): It contributes to the application and enhancement of the Common Eurosystem Cost Methodology and prepares analyses on the cost data and cost structure of certain functions and products of the Eurosystem and the ESCB. In the area of management information systems, it serves as an important forum for cooperation and information exchange on issues concerning the ESCB as a whole. COMCO only holds meetings with euro area participants.

Eurosystem/ESCB Communications Committee (ECCO): This Committee contributes to the development of the external communication policy of the Eurosystem, the ESCB and the ECB, with the aim of making the objectives defined by the Eurosystem and the ESCB more transparent and understandable, and informing the public of the tasks and activities of the Eurosystem and the ESCB.

Financial Stability Committee (FSC): Its task is to provide professional support to the decision-making bodies of the European Central Bank in their functions relating to financial stability and macroprudential policy issues.

Internal Auditors Committee (IAC): By reviewing relevant common projects, systems and activities, and by providing for cooperation in certain auditing issues which are of 'common interest' for the ECB and national central banks, this Committee assists the ESCB in achieving its targets.

International Relations Committee (IRC): IRC assists in carrying out those tasks of the ESCB that are related to international cooperation and contributes to formulating the position of the Eurosystem regarding the various areas of relations with non-EU countries.

Information Technology Committee (ITC): This Committee contributes to the development of the information

technology policy and strategy of the Eurosystem and the ESCB as well as the related guidelines (with special regard to security concerns) and provides technical advice to other committees. Furthermore, it initiates and implements Eurosystem and ESCB level developments and independent projects.

Legal Committee (LEGCO): LEGCO provides legal assistance for the work of the ESCB; in particular, it contributes to the maintenance of the regulatory framework of the Eurosystem and the ESCB and to the review of the transposition of legal regulations into national law, and monitors and reports on how national authorities and EU institutions comply with their consultation obligations relating to draft legislation in areas falling within the ECB's competence.

Market Infrastructure and Payments Committee (MIPC): This Committee assists the ESCB in the smooth operation of payment systems and in connection with the cross-border use of collateral. Furthermore, it supports the ESCB in general and 'oversight' issues relating to payment systems, as well as in strategic decisions related to securities clearing and settlement systems. It pays special attention to the strengthening of the oversight activity, the fostering of pan-European developments in the area of high- and small-value payments, securities and collateral management.

Market Operations Committee (MOC): MOC assists the ESCB in the implementation of the single monetary policy and the execution of foreign exchange transactions, the management of the ECB's foreign reserves and in the appropriate adaptation of the monetary policy tools applied by the central banks of the non-euro area Member States, as well as in the implementation of ERM II.

Monetary Policy Committee (MPC): It assists the ESCB in the implementation of the single monetary and exchange rate policy of the Community. In addition, it provides assistance in the execution of the ESCB's tasks related to the coordination of the monetary and exchange rate policies of the NCBs of non-euro area Member States and the ECB.

Organisational Development Committee (ODC): It assists the work of ECB decision-makers with proposals regarding the planning and organisational issues related to the operation of the Eurosystem and the Single Supervisory Mechanism (SSM). In addition, it also coordinates the work of the Eurosystem Procurement Coordination Office (EPCO) and runs the operational risk management and business continuity system of the Eurosystem/ESCB. ODC only holds meetings with euro area participants.

Risk Management Committee (RMC): Its task is to assist the work of ECB decision-makers in managing and controlling risks arising from the market operations of the Eurosystem by means of analyses and proposals. RMC only holds meetings with euro area participants.

Statistics Committee (STC): It assists the ESCB in collecting statistical information required for the execution of its tasks. It contributes, *inter alia*, to the elaboration and cost-effective application of necessary modifications in statistical data collection.

Other committees assisting the work of the ESCB:

Budget Committee (BUCOM): This Committee assists the Governing Council of the ECB in issues concerning the budget of the ECB; its members are the ECB and the central banks of euro area Member States.

Human Resources Committee (HRC): The objective of this Committee is to serve as a forum for the central banks of the Eurosystem/ESCB in the exchange of information, opinion and experiences on issues concerning the management of human resources.

3.15 RESEARCH ACTIVITY OF THE MNB

The purpose of the research activity performed by the various directorates of the MNB is to support the central bank's decision-making. Research results are also published in international and domestic scientific journals as well as in the MNB's internal publications: the Financial and Economic Review,

the MNB Working Papers (typically published in English only) and the MNB Occasional Papers. In addition to the publications, the MNB's research activity also encompasses representation of the MNB at international conferences and in the research networks and working groups coordinated by the ECB.

In 2023, MNB authors published eight articles in the most prestigious quarter of international scientific journals (Q1). In September, the *Journal of Banking & Finance* published a paper in which the authors investigate the role of fundamentals in asset prices on sovereign risk premia data using new text analysis methods. A joint paper by five MNB authors was published in the prestigious *Journal of Economic Dynamics and Control*, in which the authors created a model of the Hungarian housing market by linking several micro-level databases. Another researcher, in a paper published in *Econometric Reviews*, presents a novel threshold regression model, illustrating its econometric results with public debt data. A study that was published in *Macroeconomic Dynamics* adds costs of entry to conventional macroeconomic models and examines the implications for asset prices. In an article published in *Finance Research Letters*, the authors examine the extent to which stock markets priced in the Russian-Ukrainian war. The impact of green ECB speeches on equity returns is analysed by two MNB authors in the August issue of the *Journal of Sustainable Finance & Investment*. A study was also published in the journal *Child Indicators Research*, in which the author assesses inequalities in the availability of early childhood education services in Hungary. In the neuroscience journal *Cortex*, the authors investigate the extent to which poverty alleviation improves cognitive performance.

Table 14
Publications by MNB authors in 2023 Q1 international journals

Author(s)	Title	Journal
Eszter Baranyai	The Socio-Economic Status of Neighbourhoods and Access to Early Childhood Education	Child Indicators Research
Chaoyi Chen, Thanasis Stengos, Yiguo Sun	Endogeneity in semiparametric threshold regression models with two threshold variables	Econometric Reviews
Andras Fulop, Zalan Kocsis	News indices on country fundamentals	Journal of Banking & Finance
Marcell P. Granát, Kristóf Lehmann, Olivér Nagy, Gábor Neszveda	Expect the unexpected: did the equity markets anticipate the Russo-Ukrainian war?	Finance Research Letters
Lorant Kaszab, Ales Marsal, Katrin Rabitsch	Asset pricing with costly and delayed firm entry	Macroeconomic Dynamics
Bence Mérő, András Borsos, Zsuzsanna Hosszú, Zsolt Oláh, Nikolett Vágó,	A high-resolution, data-driven agent-based model of the housing market,	Journal of Economic Dynamics and Control
Gabor Neszveda, Bence Siket	Green ECB speeches matter	Journal of Sustainable Finance and Investment
Barnabas Szaszi, Bence Palfi, Gabor Neszveda, Aikaterini Taka, Peter Szecsi, Christopher Blattman, Julian C. Jamison, Margaret Sheridan	Does alleviating poverty increase cognitive performance?: short- and long-term evidence from a randomized controlled trial	Cortex

In addition to international journals, studies by MNB researchers and analysts also appeared in the publications of foreign central banks and international institutions, and at conferences. Notable among these is the contribution of the MNB co-authors to the European Systemic Risk Board's report on improving the macro-prudential framework.

The *Financial and Economic Review*, edited and published by the MNB, contains nineteen publications: six papers, two essays, six professional articles and five conference reports by MNB authors. The articles published in the *Financial and Economic Review* are in English. As in previous years, in 2023 the *Financial and Economic Review* also published a compilation of works in Chinese, in addition to the Hungarian publication.

Numerous applied research results were also published in the MNB's internal publications. Four studies were published in the *MNB Working Papers* series, and three in the publication *MNB Occasional Papers*.

3.16 PUBLICATIONS AND CONFERENCES ORGANISED BY THE MNB

In 2023, new volumes were added to the MNB's range of economic and monetary policy books. The book 'Stability and Confidence – The History of Hungarian Financial Supervision' was published in November, presenting the development and history of Hungarian financial supervision over the past 100 years, with a special focus on the events of the past ten years and the development of micro-prudential supervision and consumer protection. Also in November, the MNB published a new book of studies entitled 'Geopolitical Awakenings – Building a sustainable future in the emerging Eurasian era', in Hungarian and English. This volume is a symbol of the MNB's commitment to Hungary's goal of becoming a bridge between East and West in the middle of Eurasia and an intellectual and financial hub of the future.

The range of regular professional publications was also significantly expanded in 2023. The MNB's 'Sustainable and Responsible Investment Charter', the 'Nature-based Carbon Neutralisation 2023 – a market guide for companies' and the 'Payments 2030' strategy were published.

As part of its commitment to international central bank cooperation, the MNB launched its Technical Assistance Programme in 2023. The aim of the initiative is for the MNB to contribute to knowledge sharing between central banks, providing a platform for professional dialogue and the transfer of MNB good practices. The programme, entitled 'Stability and Innovation', offered four seminars during

the year, covering both traditional central bank functions and innovations in the financial world. In total, nearly 100 central bank experts from 21 partner countries participated in the seminars. Given the success of the programme, the MNB Technical Assistance Programme will continue in 2024 with four more seminars.

Regular publications

Inflation Report

The *Inflation Report* is published quarterly in order to enable the public to understand and follow the MNB's policies. It provides a regular presentation of past and expected future trends in inflation, evaluates the macroeconomic developments that determine inflation and provides a summary of the forecasts and considerations on the basis of which the Monetary Council makes its decisions.

Report on Financial Stability

Published twice a year, this report outlines the MNB's position regarding the changes in the financial system and describes the effect of these changes on the stability of such. The analysis in this report focuses on the forward-looking assessment of long-term trends and risks.

Growth Report

The annual *Growth Report* presents Hungary's longer-term growth path (occasionally encompassing an entire business cycle) and its determinants, using both standard and alternative indicators. The report provides an annual overview of the most important trends shaping economic growth over the short, medium and longer term.

Productivity Report

The *Productivity Report*, published once a year, helps to understand the drivers, characteristics, distribution and dynamics of the key factor of economic growth and convergence, and thus brings us closer to the formulation and implementation of productivity reforms. It does this in a complex manner, examining a wide range of efficiency indicators, including labour productivity as well as innovation, digitalisation and ecological productivity.

Housing Market Report

The MNB's semi-annual *Housing Market Report* addresses current trends in the Hungarian housing market. The purpose of the publication is to provide a comprehensive overview of the short-term and long-term trends affecting

the residential property market and present the regional differences in the domestic market. Housing market developments are closely related not only to financial stability issues, but also fundamentally determine the short-term and long-term prospects of economic activity.

Commercial Real Estate Market Report

This thematic MNB publication analyses developments in the commercial real estate market on a semi-annual basis. It presents the macroeconomic factors influencing the market as well as supply and demand trends characterising various market segments. The report also covers banks' real estate financing activities, as the main link between real estate market developments and financial stability.

Macroprudential Report

The purpose of the annual *Macroprudential Report* is to present the macroprudential instruments applied by the MNB to prevent and address the systemic risks identified and communicated in the *Financial Stability Report*, as well as their effects and the adjustment of market participants. In line with the MNB's Statutes and macroprudential strategy, the publication intends to make the MNB's macroprudential measures easier to follow and understand both for the actors of the sector and the general public.

Competitiveness Report

The purpose of the *Competitiveness Report* is to provide a comprehensive, objective picture of aspects of Hungary's competitiveness that usually are given less attention in the central bank's traditional macroeconomic analyses, although they are important factors in terms of economic developments. The report measures and assesses the competitiveness of the country in 14 areas using more than 160 indicators, 95 per cent of which are objective, for comparison with the European Union, the Visegrád countries and the most advanced Nordic countries.

Competitiveness Mirror

The publication seeks to monitor in a structured manner the realisation of the competitiveness initiatives and recommendations formulated by the MNB, facilitating the necessary competitiveness turnaround by supporting implementation. The Competitiveness Mirror annually assesses the progress in Hungary's competitiveness, based on the 330 recommendations in the Competitiveness Programme published in 2019. The monitoring system uses both descriptive and analytical methods to evaluate the implementation of the central bank's recommendations.

FinTech and Digitalisation Report

The purpose of the annual *FinTech and Digitalisation Report* is to provide insight into domestic and international developments in financial innovation, digitalisation and their underlying technologies, which are becoming increasingly dominant in the Hungarian financial markets. In this way, the MNB contributes to strengthening the digitalisation level of the domestic financial system, a process in which it intends to continue playing a key supporting role.

Report on Insurance, Funds, Capital Market Risk and Consumer Protection

The publication presents the key characteristics and risks of insurance companies, funds, intermediaries, non-banking group entities and the markets of capital market participants. The purpose of the report, which is published annually, is to inform the public and the institutions of the financial system in respect of current prudential and consumer protection issues, thereby enhancing the risk awareness of stakeholders and also maintaining and strengthening confidence in the financial system. Official activities to identify and reduce risks, as well as the information and educational activities of the central bank, and its efforts to enhance Hungarian financial literacy all contribute to making the information necessary for decisions concerning financial institutions and products available to stakeholders, thus strengthening the stability of the financial system as a whole.

Trends in Lending

The objective of *Trends in Lending* is to present a detailed picture of the latest developments in lending and to facilitate the appropriate interpretation of such. To this end, it elaborates on the evolution of credit aggregates, the demand for loans perceived by banks and credit conditions.

Report on the Balance of Payments

This report is published four times annually to inform market participants on developments in the balance of payments and provide deeper insight into correlations in the economy. Developments in the external balance are key to financial stability, as processes relating to the balance of payments allow for conclusions to be drawn concerning the sustainability of economic growth and the relevant risks. The MNB performs comprehensive, regular analyses of trends relating to Hungary's external balance, examining a number of indicators to assess macroeconomic imbalances.

Payment Systems Report

Once a year, this report provides a comprehensive review of the trends in payments and the functioning of the overseen payment and securities settlement systems in Hungary, the main risks and any measures taken by the MNB which are necessary to maintain the smooth provision of payment services and facilitate the reliable and efficient operation of the supporting payment and settlement systems.

Public Finance Report

With the aim of supporting the fulfilment of its fundamental duties stipulated in Act CXXXIX of 2013 on the Magyar Nemzeti Bank, and particularly the task related to the definition and implementation of monetary policy, the MNB analyses the developments in the budgetary deficit and debt, monitors the financing of the general government, analyses the impact of financing on monetary processes on the capital markets and on liquidity, and researches fiscal policy issues. Pursuant to Act CXCV of 2011 on the Economic Stability of Hungary, the Governor of the MNB is a member of the Fiscal Council (FC), and thus the professional expertise and accumulated information available in the MNB can indirectly support the work of the FC. The MNB prepares background analyses for the duties of the FC stipulated in the Act and makes such available to the FC. The general public can learn about the most important results of these analyses from this publication.

Annual Report

Published once a year in Hungarian and English, this publication presents the MNB's business report on the previous year and its audited annual financial statements in accordance with the Accounting Act.

Semi-annual Report: Semi-annual Report on the MNB's Activities

The *Semi-annual Report* is published once a year in September with contents in line with the *Annual Report*. The report is the central bank's business report and financial statements pertaining to the first half of the year (unaudited).

Interim Report: Quarterly Report on the MNB's Activities

The *Interim Report* is published twice annually, in April and November, between the annual and semi-annual reporting periods. It gives an account of the basic activities of the central bank's operating units as stipulated in the MNB Act, in respect of the first and the third quarters: monetary

policy, overview of the financial system, FX reserves, payment transactions, cash logistics activities and statistical changes.

Report on the annual activities of the Financial Arbitration Board

The Financial Arbitration Board, operated by the MNB, publishes its summary report about its operation and activities once a year online and in printed form, under the title '*Report on the annual activities of the Financial Arbitration Board*'. The annual report is prepared based on the considerations set out in Article 130(1) of the MNB Act and discusses, among other things, the analysis of incoming requests and closed cases as well as the recurring or major problems between consumers and financial service providers that often lead to disputes. The publication also contains recommendations on how to avoid or solve such problems in the future. The report presents the average time it takes to resolve consumers' legal disputes and also includes information on how companies implement the recommendations, the decisions including a requirement and the decisions authorising a deal.

Supervisory Board Report

Pursuant to the MNB Act, members of the Supervisory Board have a reporting obligation to the Parliament that elects them and the Minister who appoints them. The focus of the Supervisory Board's duties is on controlling the central bank's continuous operation. The Supervisory Board performs its activity based on the laws applicable to it, its own rules of procedure and the internal operational principles defined by the members jointly during the operation of the Board. The meetings of the Supervisory Board constitute the main form of the control activity, the topics of which are determined by the annual rolling workplan based on the audit universe. The *Supervisory Board Report* is a presentation of the Supervisory Board's activity.

Environmental Statement

The fight against and adaptation to climate change as well as environmental issues that are generally becoming increasingly severe have significant impacts on the economy as a whole and thus also on the financial intermediary system. With this in mind, the MNB launched its Green Programme in 2019. It aims to reduce the risks related climate change and other environmental issues, expand green financial services in Hungary, broaden the corresponding Hungarian and international knowledge, and further mitigate its own and financial actors' ecological

footprint. The MNB is at the forefront of international practices in continuously reducing the environmental impact of its operations. In accordance with the requirements of the environmental management system, the so-called EMAS (Eco-Management, and Audit Scheme), regulated by Regulation (EC) No 1221/2001 of the European Parliament and of the Council and Regulation (EU) No 2017/1505, the certified Environmental Statement is published annually. The publication presents stakeholders with information on the institutional efforts to improve environmental performance and the results achieved.

Sustainability Report

In line with the MNB's legal mandate, the *Sustainability Report* aims to examine and clarify the key factors in Hungary's long-term sustainable convergence and inclusive growth, thereby facilitating the formulation and implementation of reforms that ensure sustained economic and social welfare. The *Sustainability Report* does this with a multifaceted approach: along with real economy factors, it also looks at whether by international standards the financial, social and environmental resources are utilised sustainably to ensure successful convergence and the achievement and preservation of social welfare. The report is published once a year in Hungarian and English.

Green Finance Report

The MNB publishes the *Green Finance Report* annually. The aim of the publication is to increase transparency on environmental sustainability and finance and thereby strengthen market awareness, and to contribute to a more accurate understanding of the financial aspects of climate change by the actors in the financial system and economy, as well as by Hungarian society. As the consequences of climate change and environmental anomalies may be reflected as financial risks, it is especially important to remedy the lack of data in the financial system. By improving the understanding regarding sustainable financing, this publication may indirectly boost the effectiveness of sustainability efforts.

The MNB's Climate-Related Financial Disclosure

The MNB was among the first among central banks and domestic financial institutions to produce a climate-related financial (TCFD) report. The aim of the report is to identify, measure and transparently disclose the climate risks related to the operational activities and financial instruments of the MNB to the widest possible extent, thereby providing guidance to the domestic financial sector. The report is published once a year in Hungarian and English.

Analyses, studies, statistics

MNB Occasional Papers

The *MNB Occasional Papers* series primarily presents practical (applied) research related to the central bank's professional areas, summarises existing theories and international findings in certain topics, and provides analyses facilitating the understanding of central bank decision-making.

MNB Working Papers

The *MNB Working Papers* series presents the results of the more theoretically-oriented research conducted at the MNB. The studies published in this series are primarily directed at academic, central bank or other researchers, with the goal of encouraging readers to offer comments that the authors may use in their future research.

Financial and Economic Review

The *Financial and Economic Review* is a journal in social science with a history of over a decade. The publication has been edited and published quarterly by the MNB since the end of 2014, in separate volumes in Hungarian and English. Since 2018, a Chinese-language compilation of the most important studies has been produced every year. The journal publishes scientific studies, short essays, book reviews, conference reports and reports on other scientific activities.

Other publications

Financial Navigator Papers

One of the most important tools of the MNB's financial literacy activities to help customers make informed decisions is the *Financial Navigator* booklet series. The publications cover topics related to different financial products and services, as well as life situations, in an accessible style. The MNB regularly reviews and updates the content of the booklets to ensure that the information is up-to-date at all times and to keep abreast of changes in legislation and market developments. Based on a preliminary survey of financial service providers and partners, 12 issues of the 40-part series were published in 2023 and were available in print at nearly 100 branches and client counters of financial institutions, as well as at the MNB Customer Service and the client counselling offices of the national Financial Navigator Advisory Offices. All publications are available online on the Financial Navigator website.

The Magyar Nemzeti Bank's Charter of Sustainable and Responsible Investment

As a central bank committed to sustainability, the MNB attaches great importance to using its available instruments to support the management of climate change challenges and to give effect to environmental considerations in the broadest possible range of its activities without compromising its primary objective of achieving and maintaining price stability. To this end, in November 2023, the MNB published a *Sustainable and Responsible Investment Charter*, expressing its commitment to making reserve management more environmentally sustainable and setting medium- and long-term targets for greening reserve management without compromising the traditional objectives of reserve maintenance. In the Charter, the central bank structures the greening of reserve management and the necessary steps to achieve it based on four pillars: (1) measurement, (2) investment strategy, (3) transparency/active engagement, and (4) monitoring. The MNB monitors the relevant environmental sustainability factors and criteria, and integrates them into the investment process where possible, keeping in mind the triple bottom line (liquidity-security-return) of reserves management.

Natural Carbon Neutralisation 2023: a Market Roadmap for Companies

This study provides guidance and good practices for Hungarian member companies setting environmental sustainability targets in one of the most untested, yet increasingly important segments of green finance – the so-called voluntary carbon market. It aims to be a guide for companies and anyone interested in the market, using plain language. The study provides an overview of the motivations for companies to reduce their environmental footprint and the different options for 'outsourcing' footprint reduction. To put the concept of offsetting in context, the background document briefly summarises the essential facts about carbon pricing and carbon markets in general, and the drivers of supply and demand. Building on this, the paper presents the details of nature-based carbon neutralisation, addresses the criticisms that particularly affect this sub-market and highlights the regulatory and technological key factors that will influence its future development.

Payments 2030 Strategy

Based on the results of the existing payment strategy, a new vision for electronic payments is needed, which the MNB summarises in the document '*Payments 2030*', which also provides the basis for the concrete measures to be defined

later. The payments strategy outlines the main areas and possible directions identified in the analysis and research work so far, where targeted economic policy interventions could be made in the future to achieve the main strategic goal. In order to assess the current situation of domestic payments, identify potential areas for intervention and concrete options for action, define strategic objectives and measure the achievement of the measures needed to meet these objectives, the MNB has established the Payment Development Indicators System (PFM).

MNB books

The MNB considers the development of financial literacy in Hungary as one of its priority tasks, hence, relying on its available means, it intends to facilitate education in the field of economics as well as the widening and enhancement of financial literacy. To this end, the book series on economics and monetary policy was expanded with new volumes in 2023.

The book '*Stability and Confidence – The History of Hungarian Financial Supervision*', edited by Dr Csaba Kandrács, was published in November. In 2013, the MNB became a supervisory centre that performs both micro-prudential and macro-prudential supervisory roles, as well as the function of resolution authority. This book, which marks the tenth anniversary of this event, describes the development and current challenges of financial supervision in Hungary.

A compilation of studies entitled '*Geopolitical Awakenings – Building a sustainable future in the emerging Eurasian era*', edited by Barnabás Virág and Marcell Horváth, was also published in November in Hungarian and English. In this year's volume of the series, distinguished experts from China, Germany, Singapore, the UK, South Korea, Norway and Hungary present model examples of cooperation that are both present and forward-looking in terms of mitigating rising geopolitical tensions and combating worsening climate change.

Events organised by the MNB

In respect of the events organised, the MNB pursues a strategy of openness with its associate and partner institutions, which is aimed at strengthening professional and collegial partnership. The MNB's objective is to further strengthen its relations with partner institutions through professional cooperation, to participate actively in international dialogue, to achieve broad recognition through its international role, and to integrate the work of the Hungarian central bank into the international

professional community to the greatest possible extent. To this end, the MNB arranges international conferences, internal events and cultural events.

International conferences

Most of the MNB's international professional conferences involve 80–100 persons, although the number of participants at some events reaches 300–500 guests. The international conferences are primarily held on the premises of the MNB. Events are held in person, sometimes in a hybrid format, ensuring that events can be followed online as well.

The most important international professional events held in 2023 were the following:

Lámfalussy Lectures Conference

The annual event launched in 2014 under the name 'Lámfalussy Lectures Conference' aims to invite prominent speakers to Hungary to share and present to the audience and fellow professionals their views on current issues affecting global economic policy, specifically in monetary policy and the financial system. Parallel to the launch of the international conference, the Governor of the MNB established the Lámfalussy Award to recognise outstanding international professional performance and lifetime achievements that influence the MNB's activity and have a major long-term impact on developments in international monetary and financial policies. Besides the Lámfalussy Award, the Popovics Prize, commemorating the first governor of the MNB, is a recognition awarded by the central bank to outstanding young professionals in the field of economy and finances. The awards are presented each year at a gala ceremony linked to the conference. On 6 February 2023, the ninth edition of the Lámfalussy Lectures Conference took place, with two sessions covering the latest developments in central bank digital currencies and the role of central banks in promoting the green economy. Based on the proposal by the MNB's Expert Committee, the prize named after the 'Father of the Euro' was awarded to Robert Holzmann, Governor of the Oesterreichische Nationalbank, while the Popovics Prize was received by Zsolt Kuti, the MNB's Executive Director responsible for monetary policy, financial analysis and statistics.

MNB – RBWC joint conference

The MNB and the Reinventing Bretton Woods Committee (RBWC) held a joint conference titled 'Fragmentation of the global economy – Economic policies in a new era of uncertainty' on 14 March 2023. The closed-door

event brought together top experts and intellectual leaders to discuss the questions around fragmentation and deglobalisation of the global economy and the best economic policies required to navigate in the new era uncertainty.

MNB-BIS-LSE-Corvinus joint conference

The MNB, the Bank for International Settlements (BIS), the London School of Economics (LSE) and the Corvinus University of Budapest (BCE) held a joint conference titled 'New Age of Central Banking in Emerging Markets' on 17 March 2023 on the margins of the event granting an honorary doctorate to Agustín Carstens, Managing Director of BIS. During the event, the speakers discussed in two sections the monetary policy toolkit of emerging economies in a high inflation environment and the role of central banks in financial innovations with special focus on central bank digital currency.

Budapest Renminbi Initiative Conference

The Budapest Renminbi Initiative Conference was launched by the MNB in March 2015 with the purpose of further strengthening its partnership with the People's Bank of China (PBoC). The Renminbi Programme contribute to the diversification of investment and financing sources in Hungary, stimulates the growth of cross-border economic activity, strengthens the regional role of Budapest in economic relations between China and Central and Eastern Europe, and contributes to the development of external economic relations between China and Hungary. On 4 May 2023, the MNB organised the Budapest Renminbi Initiative Conference for the seventh time, with the title 'Financial Interconnectivity and the Green Transition'. While the first panel of the conference was held in cooperation with the Bank of China's Hungarian subsidiary and focused on Budapest as an emerging financial centre in the Central and Eastern European region and discussed the opportunities of renminbi financing and the role of Chinese banks in Hungary, the second panel explored sustainable finance, green financing and the opportunities of central banks.

BRI 10 – Belt and Road Initiative

China's Belt and Road Initiative (BRI) celebrated its 10th anniversary in 2023. On the occasion of the anniversary, the MNB and the Embassy of the People's Republic of China in Hungary organised a joint conference on 25 September 2023, which discussed the prospects of this cooperation platform for the next decade from three different angles: financial integration, green development and, last but not least, human relations.

Green Finance Conference

On 12 October 2023, the MNB held its fifth international annual conference, the 'Green Finance Conference' on the financial implications of environmental sustainability where participants discussed how energy efficiency can be made a higher priority for policymakers, local governments, the financial sector, the corporate sector and indirectly the general public. Following the high-level opening session, presentations focused on the macroeconomic impacts, the international and domestic financing of energy efficiency as well as on the challenges faced by households and businesses. At the conference, the Green Finance Awards for financial institutions were presented. The Green Bank Award 2023 was won by UniCredit Bank Hungary Zrt. The Green Insurance and Pension Fund Award was given to the Aranykor National Voluntary Pension Fund, while the Green Investment Fund Manager Award was given to Amundi Asset Management.

Budapest Eurasia Forum

The Budapest Eurasia Forum, launched by the MNB in 2019, aims to explore the potential for Eurasian cooperation, and provides a platform for European and Asian thinkers to enhance cooperation. In 2023, the Forum continued to explore the most pressing issues of our time through six thematic panels, with distinguished speakers presenting the latest trends in finance, geopolitics, technology, economics, multilateral cooperation and education. The 2023 event titled 'Transitions for Sustainability' addressed sustainable finance, in particular the relationship between digitalisation and green development, the geopolitical dimensions of technological development, technological singularity, the emergence of new economic sectors, the importance of environmental, social and governance (ESG) aspects in the operation of multilateral development banks and financial institutions, and the future of education and work. The event series has attracted an increasing amount of international attention each year, with 53 speakers from 15 countries attending the 2023 conference, supported by 14 foreign partner institutions and forums. On the occasion of the Eurasia Forum, the latest volume of studies to its unique series of publication launched in 2021 was presented, entitled '*Geo Awakenings – Building a sustainable future in the emerging Eurasian era*'.

MNB Talent Programme

One important objective of the MNB's education strategy is to contribute to strengthening individual and national competitiveness by developing outstanding talents in economics and unleashing individual potential. The

main objective of the MNB Talent Programme is to provide the most talented Hungarian students with new knowledge in areas that will shape the future, such as sustainable economics, the possible directions of technological development or the most important pillars of competitiveness.

During the MNB Talent Programme in 2023 students were introduced to the economic and cultural side of the Asian 'giant' in three professional presentations related to the Chinese Lunar New Year; the innovative economic development action plan for the medium and long-term transformation of the strategic sectors of the Middle East country developed by the Dubai Future Foundation; and the modern and innovative, yet traditional and respectful side of South Korea presented by the South Korean Institute for Future Strategy.

MNB Technical Cooperation Programme

In the spirit of professional experience exchange and knowledge sharing, the MNB places great emphasis on knowledge sharing, and MNB experts along with their Western counterparts regularly hold technical assistance meetings and other bilateral meetings and workshops, where best practices are shared with experts from central banks and financial institutions in China, Singapore, Korea and Kazakhstan. In addition to bilateral study visits, the MNB is also actively involved in the EU-funded project that aims to strengthen central bank capacities in the Western Balkans.

As part of its commitment to international central bank cooperation, the MNB launched its Technical Cooperation Programme in 2023 to facilitate cooperation between the MNB and its partners, to contribute to knowledge sharing among central banks and to provide a platform for professional dialogue and sharing the MNB's best practices. The programme is built on the belief that knowledge-transfer and personal, international connections have a vital role in effective economic policymaking and for financial stability and growth. The MNB's Technical Cooperation Programme 'Stability and Innovation' offered four seminars during the year, covering both conventional central banking functions and the technology-driven developments of the financial landscape. In total, nearly 100 central bank experts from 21 partner countries participated in the seminars.

Building on the success of the programme, the MNB's Technical Cooperation Programme will continue in 2024 with four new seminars under the theme '*From Tradition To Innovation*'.

Green and Sustainable Finances – Introducing the MNB’s Green Programme (14–16 June 2023)

The first seminar of the technical cooperation programme focused on financial sustainability, providing a comprehensive overview of the sustainability aspects of the MNB’s operations and initiatives to reduce its carbon footprint. During the seminar the participants were also introduced to the MNB’s Green Programme, the ‘greening’ of monetary policy and the management of climate risks.

The MNB’s Approach on Supporting Digitalisation and FinTech Innovations (25–27 October 2023)

At this seminar the participants gained an in-depth insight into the financial stability and market integrity considerations that emerging FinTech solutions are bringing about. Participants learned about the MNB’s digital policy tools and digitalisation technologies and their cyber security aspects through case studies. The central bank digital currency, international trends in CBDC research, pilot programmes and projects already in place, as well as the MNB’s own programmes were also presented.

Financial Infrastructures, Payments and Cyber Security (22–24 November 2023)

The programme’s third seminar focused on key topics such as the renewal of financial infrastructures and innovative payment systems, as well as the increasingly important cyber security. MNB speakers presented the Hungarian Instant Payment System, which as the main Hungarian financial innovation of the past thirty years has led to the successful digital transition of the banking sector. Using case studies, seminar participants were introduced to best practices for the main factors influencing payment habits, as well as the MNB’s best practices in IT and cyber security.

Financial Stability and Macroprudential Policymaking (6–8 December 2023)

The seminar held by MNB experts focused on addressing current challenges to financial stability, including the MNB’s response to climate risks and the presentation of the latest decision-supporting methodologies, such as agent-based modelling. Participants also had the opportunity to engage in interactive workshops, deepening their practical knowledge on borrower-based measures and the calibration of macroprudential capital buffers, as well as liquidity and funding regulations.

4 Additional information on the supervisory activity of the MNB in 2023

Table 15	
Institutions subject to full supervision¹	
Money market	729
Financial institution	268
Credit institution	29
Bank	17
Bank branches ²	1
Specialised credit institution	10
Cooperative credit institution	1
Non-financial institution	238
Financial enterprise equivalent to credit institution	12
Other financial enterprise	223
Financial holding company	0
Organiser (NOK)	1
Non-financial institution	461
Independent intermediary ³	444
Money market broker	16
Money market multiplier	4
Money market multiple agent	290
Money market trade multiple agent	134
Payment service provider	15
Electronic money issuer	2
Insurance	381
Insurance institution	27
Insurance company	21
Insurance associaton	6
Insurance intermediary ⁴	353
Insurance broker	319
Insurance multiple agent	34
Guarantee fund management ⁵	1
Funds	49
Occupational pension provider	1
Private pension fund	4
Voluntary fund	44
Voluntary healthcare and mutual fund	11
Voluntary healthcare fund	3
Voluntary mutual fund	2
Voluntary pension fund	28
Capital market	55
Investment fund manager	41
Alternative investment fund manager	34
UCITS fund manager	7
Investment firm	10
Clearing house, central counterparty	2
Stock exchange	2
Total	1,214

¹ The members of the institutional group are under direct supervision of the MNB on 31 December 2023.

² Hungarian branch of a financial institution not domiciled in another third-country state.

³ Independent intermediaries include registered and principal intermediation institution.

⁴ Insurance intermediaries include registered and principal institutions.

⁵ Compensation Account and Compensation Fund.

Table 16**Number of inspections conducted, by type of inspection and sectors***(pieces)*

Number of inspections		Started in 2023	Closed in 2023
Prudential	Total	115	92
	Money market	23	26
	Insurance	18	14
	Funds	11	13
	Capital market	14	20
	Thematic audit	49	19
	<i>Number of involved institutions</i>	<i>14</i>	<i>10</i>
Consumer protection	Total	11	0
	Money market	5	0
	Insurance	0	0
	Funds	0	0
	Capital market	0	0
	Thematic audit	6	0
	<i>Number of involved institutions</i>	<i>6</i>	<i>0</i>
Market surveillance	Total	41	41
	Related to market surveillance	38	37
	Related to issuer oversight	3	5
Anti-Money Laundering	Total	13	7
ICAAP/ILAAP/BMA	Total	38	50

Table 17**Amount of fines imposed***(HUF millions)*

Prudential fines	828.5
<i>Money market</i>	500.8
<i>Insurance</i>	215.8
<i>Funds</i>	25.05
<i>Capital market</i>	86.85
Consumer protection fines	198.4
Anti-Money Laundering fines	108.27
Market surveillance fines	2,476.2
Issuer supervision fines	64.3
Procedural fines	23.2
Licensing fines	0
Total	3,698.87

Table 18 Measures taken in the financial market sector <i>(pieces)</i>	
Number of prudential decisions and orders	1,547
Number of authorisation resolutions/rulings	626
Number of foundation permits	3
Number of operating licences	9
Number of operating change licences	6
Number of stock transfer licences	4
Number of acquisition of holding licenses	50
Senior executives/ board members licences	193
Number of withdrawal licences by an institution	23
Allow and approve amendment of Articles of Association and other regulations	58
Resolutions issued under CRR	23
Number of other authorisation decisions	237
Number of substantive orders for authorisation	20
Number of enforcement decisions	921
Number of decisions related to investigations	24
Number of revocation and suspension decisions by MNB sanctions	10
Ongoing supervisory decisions/number of decisions containing measure	326
Money laundering prevention decisions and orders, number of reports	79
Number of consumer protection decisions and orders	456
Number of other enforcement decisions	26

Table 19 Measures taken in the capital market sector <i>(pieces)</i>	
Number of prudential decisions and orders	771
Number of authorisation resolutions/rulings	700
Number of operating licences	7
Number of activity change permissions	11
Number of acquisition of holding licenses	4
Senior executives/ board members licences	168
Number of withdrawal licences by an institution	3
Allow and approve amendment of Articles of Association and other regulations	9
Resolutions issued under CRR	0
Number of other authorisation decisions	467
Number of substantive orders for authorisation	31
Number of enforcement decisions	71
Number of decisions related to investigations	17
Ongoing supervisory decisions/number of decisions containing measure	3
Money laundering prevention decisions and orders, number of reports	1
Number of consumer protection decisions and orders	37
Number of other enforcement decisions	12
Number of other enforcement orders	1

Table 20**Measures taken in the insurance market sector***(pieces)*

Number of prudential decisions and orders	351
Number of authorisation resolutions/rulings	172
Number of operating licences	9
Number of portfolio transfer licenses	0
Number of acquisition of holding licenses	12
Senior executives/ board members licences	106
Number of withdrawal licences by an institution	20
Number of other authorisation decisions	1
Number of substantive orders for authorisation	24
Number of enforcement decisions	179
Number of decisions related to investigations	12
Number of revocation and suspension decisions by MNB sanctions	2
Ongoing supervisory decisions/number of decisions containing measure	59
Decision on the secondment of a supervisory commissioner	2
Number of consumer protection decisions and orders	102
Number of other enforcement decisions	2

Table 21**Measures taken in the funds market sector***(pieces)*

Number of prudential decisions and orders	27
Number of authorisation resolutions/rulings	17
Number of operating licences	1
Number of portfolio transfer licenses	0
Number of withdrawal licences by an institution	0
Allow and approve amendment of Articles of Association and other regulations	11
Number of other authorisation decisions	5
Number of substantive orders for authorisation	0
Number of enforcement decisions	10
Number of decisions related to investigations	6
Number of orders granting an interim measure	0
Number of consumer protection decisions and orders	4

Table 22	
Market surveillance and issuers supervision	
<i>(pieces)</i>	
Number of enforcement decisions and orders issued	776
Number of market surveillance decisions	23
Market surveillance enforcement orders	711
Number of issuer oversight decisions	34
Number of Issuer supervision orders	8
Substantive rulings, orders, number of resolving discrepancies	1,231
Number of Issuance decisions	845
Number of Issuance orders	0
Number of supplementary information requests	386

Table 23	
Licensing related to securities issuance	
<i>(pieces)</i>	
Number of issues and stock exchange listings	
Number of stock exchange listings	14
- <i>stocks</i>	6
- <i>bonds and mortgage bonds</i>	8
Offers	2

5 Explanation of abbreviations and terms specific to central banking

Abbreviations

BGS: Bond Funding for Growth Scheme

BIS: Bank for International Settlements

BISZ Zrt.: BISZ Central Credit Information Plc.

BPM: Balance of Payment Manual

BSE: Budapest Stock Exchange

CCFHI: Certified Consumer-Friendly Home Insurance

CCFHL: Certified Consumer-Friendly Housing Loans

CCIS: Central Credit Information System

CCyB: Countercyclical capital buffer

CSOK (HPS): Home Purchase Subsidy Scheme for Families

CET1: Common Equity Tier 1 (CET1) capital

DEM (FECR): Foreign exchange coverage ratio

EBA: European Banking Authority

EBRD: European Bank for Reconstruction and Development

EIB: European Investment Bank

EIOPA: European Insurance and Occupational Pensions Authority

ECB: European Central Bank

EMIR: Unified Monitoring and Information System

EMU: Economic and Monetary Union

EREP: European Resolution Examination Programme

ESCB: European System of Central Banks

ESMA: European Securities and Markets Authority

FFAR (DMM): Foreign exchange funding adequacy ratio

FGS: Funding for Growth Scheme

FNAON: Financial Navigator Advisory Office Network

FSC: The Financial Stability Council

GIRO: GIRO Clearing House Ltd.

HCSO: Central Statistical Office

HITREG: Central bank credit register

IFRS: International Financial Reporting Standards

IMF: International Monetary Fund

ISDA: International Swaps and Derivatives Association

KELER: KELER Central Clearing House and Depository Ltd.

LR: Leverage ratio

LTV: Loan-to-value ratio

MFAR: Mortgage Funding Adequacy Ratio

MIRS: Interest Rate Swap (IRS) facility of monetary policy purpose

MNB: Magyar Nemzeti Bank

MOF (PM): Ministry of Finance

MSZVK Zrt.: MSZVK Magyar Szanalási Vagyonkezelő Zártkörűen Működő Részvénytársaság

MTPL: Compulsory motor third-party liability insurance

NPL: Non-Performing Loan

OECD: Organisation for Economic Co-operation and Development

O-SII: Domestic institutions of systemic importance

PFM: Payment Development Indicators System

PTI: Payment-to-income ratio indicator

RoA: Return on assets

ROE: Return on equity

SNA: System of National Accounts

SRB: Single Resolution Board

SSM: Single Supervisory Mechanism

SyRB: Systemic risk capital buffer

TMM (CRR): Capital adequacy ratio

TREA: Total risk exposure

TSA: Treasury Single Account

VIBER: Real-time gross settlement system, a payment system operated by the MNB

Glossary

Access interface: Pursuant to the PSD2 requirements, all account servicing payment service providers had to design an interface that, subject to specific rules, enables third-party providers to provide services to customers.

AFR: A domestic payment platform for clearing and settlement of instant payment orders

AML/CFT: Anti Money Laundering and Combating the Financing of Terrorism

API: Application Programming Interface With the help of a public API, it is possible to use the services of a programme system without having to know its internal operation.

Cash turnover: The sum of exchanges and payments to and from the central bank

CLS (Continuous Linked Settlement): A clearing and settlement model that enables the elimination of FX settlement risks. It is based on a multi-currency payment versus payment (PvP) mechanism. The CLS is operated by the CLS Bank.

CSDR (Central Securities Depositories Regulation): Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012.

Currency Interest Rate Swap (CIRS): Usually a medium- or long-term transaction involving the exchange of different currencies, a series of interest payments on the principal and repayment of principals when the transaction is settled.

DORA (Digital Operational Resilience Act): Regulation (EU) 2022/2554 of the European Parliament and of the Council of 14 December 2022 on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014, (EU) No 909/2014 and (EU) 2016/1011

Duration: Average remaining maturity of bonds. It is an indicator measuring the level of risk associated with the bond portfolio.

Exchange Rate Mechanism II: An exchange rate mechanism for establishing the conditions for an exchange rate policy co-operation between euro area countries and EU Member States not participating in the third stage of EMU. The ERM II is a multilateral system of fixed but adjustable exchange rates, where the mid-rate is surrounded by a normal, +/-15 per cent fluctuation band. All decisions in relation to the mid-rate and, as the case may be, a narrower fluctuation band, are made on the basis of a joint agreement between the Member State concerned, the euro area countries, the ECB and the other Member States participating in the mechanism.

FinTech: FinTech is a technology-driven financial innovation that can result in new business models, applications or products, and can have a significant impact on financial markets and institutions, and on the financial services themselves.

Foreign exchange futures: A stock exchange transaction where the basis of future settlement is a certain amount of standardised (expressed-in-contract) foreign exchange specified at the time of the deal.

Foreign exchange swap: Usually a short-term transaction involving the exchange of different currencies and, when the transaction is settled, exchange of the currencies again at the price determined in the contract by the cross rate and the interest rate of the currencies.

FX swap: See Foreign exchange swap

IDD (Insurance Distribution Directive): Directive (EU) 2016/97 of the European Parliament and of the Council on insurance distribution

IMF reserve quota: The freely drawable, i.e. not yet drawn portion of the IMF quota paid to the International Monetary Fund in SDR (Special Drawing Rights)

Interest rate swap (IRS): The exchange of fixed rate and variable rate interest on principal at pre-determined intervals, adjusted to certain market rates and conditions.

MBS: Mortgage-backed securities

MIFID II (Markets in Financial Instruments Directive): Directive 2014/65/EU of the European Parliament and the Council on markets in financial instruments

MNB Act: Act CXXXIX of 2013 on the Magyar Nemzeti Bank

MREL: Minimum Requirement for own funds and Eligible Liabilities

O/N: Overnight deposit/loan

Option contract: For the owner of the foreign exchange option this means a right, but not an obligation, to buy or sell a certain amount of currency against another currency at a pre-determined rate, at or before a pre-determined date. If the holder of the option exercises this right, it will become an obligation for the seller (writer) of the option.

Payment system: In the case of supervised systems, a form of cooperation established based on an agreement between the cooperating parties for the operation of the system defined in Section 6(1)(27) of the Credit Institutions Act. It

is part of the financial infrastructure. It includes means of payment, bank procedures and interbank payment systems that together enable the execution of payments.

PEPP: Pan-European Personal Pension Product

PSD2 (Payment Services Directive 2): The revised Payment Services Directive. Directive 2015/2366/EU of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC

Repurchase and reverse repurchase transaction: An agreement on the transfer of the ownership right of a security with a repurchase obligation at a pre-determined price at a future date specified or to be specified at the time when the contract is concluded. Within the maturity of the transaction the buyer may obtain the security which is the subject of the transaction, and may freely dispose over it (delivery repo transaction) or may not obtain and may not freely dispose over it, and in this case the security is deposited as a bail to the benefit of the buyer during the maturity (hold-in-custody repo).

Revaluation reserve: The revaluation reserve of the forint exchange rate and the revaluation reserve of foreign currency securities are reserves that are part of the equity of the MNB.

– **Revaluation reserve due to forint exchange rate changes:** Unrealised exchange rate gains and losses on the forint exchange rate changes of foreign currency assets and liabilities are indicated in the forint exchange rate revaluation reserve, which constitutes a part of the equity.

– **Revaluation reserve of foreign currency securities:** The valuation difference between the market value and cost rate of foreign exchange assets based on securities is indicated in the revaluation reserve of foreign currency securities, which constitutes a part of the equity.

SCAr: Commission Delegated Regulation (EU) 2018/389 of 27 November 2017 supplementing Directive (EU) 2015/2366 of the European Parliament and of the Council with regard to regulatory technical standards for strong customer authentication and common and secure open standards of communication

Third-party providers: The new players on the payment services market: account information service providers, payment initiation service providers and payment service providers issuing card-based cash-substitute payment instruments

VaR (Value at Risk): Value at risk – a method for measuring risks. VaR quantifies the maximum amount of loss to be expected at a given confidence level for a specific time horizon.

FGS Green Home Programme (FGS GHP): A programme launched under the Funding for Growth Scheme (FGS), as part of the MNB's Green Toolkit Strategy, to support the modernisation of the stock of Hungarian properties from an energy perspective and the implementation of green considerations in lending by financing the construction of new, highly energy-efficient flats and family houses.

Part B)
Audited financial statements
of the Magyar Nemzeti Bank

1 Independent auditor's report



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This is a translation of the Hungarian Report

Independent Auditor's Report

To the Shareholder of Magyar Nemzeti Bank

Opinion

We have audited the accompanying 2023 annual financial statements of Magyar Nemzeti Bank ("the Bank"), which comprise the balance sheet as at 31 December 2023 - showing a balance sheet total of HUF 27,213,994 million and a loss after tax for the year of HUF 1,763,244 million -, the related profit and loss account for the financial year then ended and notes to the annual financial statements, including a summary of significant accounting policies.

In our opinion, the annual financial statements give a true and fair view of the equity and financial position of the Bank as at 31 December 2023 and of the results of its operations for the financial year then ended in accordance with the Act C of 2000 on Accounting ("Hungarian Accounting Law").

Basis for opinion

We conducted our audit in accordance with Hungarian National Auditing Standards and with applicable laws and regulations in Hungary. Our responsibilities under those standards are further described in the "Auditor's responsibilities for the audit of the annual financial statements" section of our report.

We are independent of the Bank in accordance with the applicable ethical requirements according to relevant laws in effect in Hungary and the policy of the Chamber of Hungarian Auditors on the ethical rules and disciplinary proceedings and, concerning matters not regulated by any of these, with the International Ethics Standards Board of Accountants' (IESBA) International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other information

Other information consists of the 2023 business report of the Bank. Management is responsible for the preparation of the business report in accordance with the Hungarian Accounting Law and other relevant legal requirements, if any. Our opinion on the annual financial statements does not cover the business report.

In connection with our audit of the annual financial statements, our responsibility is to read the business report and, in doing so, consider whether the business report is

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materially inconsistent with the annual financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Concerning the business report it is our responsibility also, in accordance with the Hungarian Accounting Law, to consider whether the business report has been prepared in accordance with the Hungarian Accounting Law and other relevant legal requirements, if any.

In our opinion, the business report of the Bank for 2023 is consistent, in all material respects, with the 2023 annual financial statements of the Bank and the relevant requirements of the Hungarian Accounting Law.

Since no other legal regulations prescribe for the Bank further requirements with regard to its business report, we do not express opinion in this regard.

Further to the above, based on the knowledge we have obtained about the Bank and its environment in the course of the audit we are required to report whether we have identified any material misstatement in the business report, and if so, the nature of the misstatement in question. We have nothing to report in this regard.

Responsibilities of management and those charged with governance for the annual financial statements

Management is responsible for the preparation of annual financial statements that give a true and fair view in accordance with the Hungarian Accounting Law, and for such internal control as management determines is necessary to enable the preparation of annual financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the annual financial statements, management is responsible for assessing the Bank's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting. Management is required to apply going concern principle unless the applicability of that principle is precluded by other provisions or there are facts and circumstances that contradict with the continuance of the Bank's business activity.

Those charged with governance are responsible for overseeing the Bank's financial reporting process.

Auditor's responsibilities for the audit of the annual financial statements

Our objectives are to obtain reasonable assurance about whether the annual financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Hungarian National Auditing Standards and with applicable laws and regulations in Hungary will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be



expected to influence the economic decisions of users taken on the basis of these annual financial statements.

As part of an audit in accordance with Hungarian National Auditing Standards and with applicable laws and regulations in Hungary, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- ▶ Identify and assess the risks of material misstatement of the annual financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- ▶ Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Bank's internal control.
- ▶ Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- ▶ Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Bank's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the annual financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Bank to cease to continue as a going concern.
- ▶ Evaluate the overall presentation, structure and content of the annual financial statements, including the disclosures, and whether the annual financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Budapest, 21 May 2024

(The original Hungarian version has been signed.)

Dr. Hruby Attila
Ernst & Young Kft.
1132 Budapest, Váci út 20.
Registration No. 001165

Dr. Hruby Attila
Registered auditor
Chamber membership No.: 007118

2 Balance sheet of the Magyar Nemzeti Bank

HUF millions

Note	A S S E T S	31 Dec 2022	31 Dec 2023	Change
1	2	3	4	4-3
	I. RECEIVABLES DENOMINATED IN FORINTS	11,073,698	9,982,660	-1,091,038
4.3.	1. Receivables from the central government	3,311,869	3,306,780	-5,089
4.7.	2. Receivables from credit institutions	6,203,114	5,123,800	-1,079,314
4.10.	3. Other receivables	1,558,715	1,552,080	-6,635
	II. RECEIVABLES DENOMINATED IN FOREIGN CURRENCY	16,502,644	16,691,678	189,034
4.9.	1. Gold and foreign exchange reserves	15,464,679	15,810,687	346,008
4.4.	2. Receivables from the central government	0	0	0
4.8.	3. Receivables from credit institutions	26,719	14,591	-12,128
4.10.	4. Other receivables	1,011,246	866,400	-144,846
	III. BANKING ASSETS	287,185	344,509	57,324
4.12.	of which: invested assets	283,712	340,474	56,762
4.14.	IV. DEFERRED EXPENSES/ACCRUED INCOME	197,322	195,147	-2,175
	V. TOTAL ASSETS (I+II+III+IV)	28,060,849	27,213,994	-846,855
Note	L I A B I L I T I E S A N D E Q U I T Y	31 Dec 2022	31 Dec 2023	Change
1	2	3	4	4-3
	VI. LIABILITIES DENOMINATED IN FORINTS	21,320,242	23,923,971	2,603,729
4.5.	1. Central government deposits	912,782	681,695	-231,087
4.7.	2. Deposits by credit institutions	8,380,109	10,129,536	1,749,427
	3. Banknotes and coins in circulation	8,226,122	8,069,795	-156,327
4.11.	4. Other deposits and liabilities	3,801,229	5,042,945	1,241,716
	VII. LIABILITIES DENOMINATED IN FOREIGN CURRENCY	6,188,755	4,878,592	-1,310,163
4.5.	1. Central government deposits	940,798	958,568	17,770
4.8.	2. Deposits by credit institutions	209,793	92,906	-116,887
4.11.	3. Other deposits and liabilities	5,038,164	3,827,118	-1,211,046
4.13.	VIII. PROVISIONS	909	540	-369
	IX. OTHER BANKING LIABILITIES	113,155	106,258	-6,897
4.14.	X. ACCRUED EXPENSES/DEFERRED INCOME	181,911	159,223	-22,688
4.15.	XI. EQUITY	255,877	-1,854,590	-2,110,467
	1. Share capital	10,000	10,000	0
	2. Retained earnings	151,239	-250,714	-401,953
	3. Valuation reserves	0	0	0
4.16.	4. Revaluation reserves due to exchange rate changes	774,944	258,009	-516,935
4.16.	5. Revaluation reserves of foreign currency securities	-278,352	-108,641	169,711
	6. Profit/Loss for the year	-401,954	-1,763,244	-1,361,290
	XII. TOTAL EQUITY AND LIABILITIES (VI+VII+VIII+IX+X+XI)	28,060,849	27,213,994	-846,855

21 May 2024, Budapest

Dr György Matolcsy
Governor of the Magyar Nemzeti Bank

3 Income statement of the Magyar Nemzeti Bank

HUF millions

Note	I N C O M E	2022	2023	Difference
1	2	3	4	4-3
4.18.	I. INTEREST AND INTEREST-RELATED INCOME DENOMINATED IN FORINTS	220,612	229,432	8,820
	1. Interest on receivables from the central government	91,267	92,326	1,059
	2. Interest on receivables from credit institutions	64,576	70,897	6,321
	3. Interest on other receivables	55,227	55,763	536
	4. Interest-related income	9,542	10,446	904
4.18.	II. INTEREST AND INTEREST-RELATED INCOME DENOMINATED IN FOREIGN CURRENCY	287,018	557,077	270,059
	1. Interest on foreign exchange reserves	95,152	264,163	169,011
	2. Interest on receivables from the central government	0	0	0
	3. Interest on receivables from credit institutions	-25	0	25
	4. Interest on other receivables	0	0	0
	5. Interest-related income	191,891	292,914	101,023
4.19.	III. INCOME ARISING FROM EXCHANGE RATE CHANGES	806,234	128,950	-677,284
4.18.	IV. REALISED GAINS ARISING FROM FINANCIAL OPERATIONS	1,308	3,907	2,599
4.21.	V. OTHER INCOME	33,291	37,871	4,580
	1. Fees and commissions	2,653	2,638	-15
4.22.	2. Income other than fees and commissions	4,954	4,140	-814
4.23.	3. Income from supervisory activities	25,684	31,093	5,409
4.13.	VI. PROVISIONS RELEASED	878	762	-116
4.13.	VII. REVERSED IMPAIRMENT	3,299	27,164	23,865
4.24.	VIII. OPERATING INCOME	866	551	-315
	IX. TOTAL INCOME (I+II+III+IV+V+VI+VII+VIII)	1,353,506	985,714	-367,792
Note	E X P E N S E S	2022	2023	Difference
1	2	3	4	4-3
4.18.	X. INTEREST AND INTEREST-RELATED EXPENSES DENOMINATED IN FORINTS	1,188,789	2,221,013	1,032,224
	1. Interest on central government deposits	102,494	167,966	65,472
	2. Interest on deposits by credit institutions	962,423	1,678,481	716,058
	3. Interest on other deposits	21,817	186,713	164,896
	4. Interest-related expenses	102,055	187,853	85,798
4.18.	XI. INTEREST AND INTEREST-RELATED EXPENSES DENOMINATED IN FOREIGN CURRENCY	381,145	324,337	-56,808
	1. Interest on central government deposits	377	19,254	18,877
	2. Interest on deposits of credit institutions	540	3,884	3,344
	3. Interest on other liabilities	24,135	69,898	45,763
	4. Interest-related expenses	356,093	231,301	-124,792
4.19.	XII. EXPENSES RESULTING FROM EXCHANGE RATE CHANGES	8,575	38,392	29,817
4.20.	XIII. COST OF ISSUING BANKNOTES AND COINS	13,182	15,766	2,584
4.18.	XIV. REALISED LOSSES ARISING FROM FINANCIAL OPERATIONS	28,737	46,634	17,897
4.21.	XV. OTHER EXPENSES	7,430	7,778	348
	1. Fees and commissions	2,815	2,781	-34
4.22.	2. Expenses other than fees and commissions	4,615	4,997	382
4.13.	XVI. PROVISIONS CHARGED	676	392	-284
4.13.	XVII. IMPAIRMENT	53,158	12,118	-41,040
4.24.	XVIII. OPERATING COSTS AND EXPENSES	73,768	82,528	8,760
	XIX. TOTAL EXPENSES (X+XI+XII+XIII+XIV+XV+XVI+XVII+XVIII)	1,755,460	2,748,958	993,498
	XX. PROFIT/LOSS FOR THE YEAR (IX-XIX)	-401,954	-1,763,244	-1,361,290

21 May 2024, Budapest

Dr György Matolcsy
Governor of the Magyar Nemzeti Bank

4 Notes to the financial statements

4.1 MNB ACCOUNTING POLICIES

The Magyar Nemzeti Bank (MNB), the central bank of Hungary, is owned by the Hungarian State (the shareholder). Ownership rights are exercised by the minister in charge of public finances (the finance minister).

The MNB has been a member of the European System of Central Banks (ESCB) since the effective date of the Act promulgating the international treaty on the accession of Hungary to the EU, i.e. 1 May 2004.

The accounting policies of the MNB are based on the Act on Accounting (Act C of 2000), Act CXXXIX of 2013 on the Magyar Nemzeti Bank (hereinafter: the MNB Act) and Government Decree 221/2000 (XII.19) on the special reporting and accounting requirements applicable to the Magyar Nemzeti Bank (hereinafter: the MNB Decree).

The following sections present a brief description of the MNB's accounting system and the valuation and profit recognition rules, insofar as these differ from the general rules.

4.1.1 Changes in the regulatory environment

In 2023, the rules related to the central government's reimbursement obligation changed in the MNB Act. Based on the new recapitalisation rule, if the amount of equity is below the subscribed capital for a prolonged period of time, it must be ensured by reimbursement provided by the central budget that the amount of MNB's equity is at least at the level of the subscribed capital within a reasonable period of time, in order to comply with the principle of financial independence. According to Act CXCV of 2011 on the Economic Stability of Hungary (hereinafter: the Stability Act), the legal compliance of the MNB's equity position is examined annually by the Fiscal Council within the framework of commenting on the Act on the Central Budget. For this purpose, the Executive Board shall send the year-by-year forecast of the preliminary level of the MNB's equity at the end of the previous year and its expected development to the Fiscal Council and to the shareholder after its approval and no later than 30 April.

The balance sheet and the income statement in the financial statements for 2023 are not affected by the legal changes. In 2024, based on the current MNB Act and the Fiscal Council Opinion,⁵⁷ it is not necessary to provide reimbursement by the central budget. Pursuant to the Act before the amendments, one fifth of the negative difference of the equity in excess of the subscribed capital (HUF 372.9 billion) would have been reimbursed to the retained earnings by the central budget in 2024. As a result of the legal amendment, negotiated previously in consensus with the MNB and the ECB, in 2024 there was no need for the restructuring of the liability side of the balance sheet (in the case of reimbursement, the KESZ account (Single Treasury Account) is charged to increase the retained earnings). For more details on changes in equity, see Section 4.15.

4.1.2 The MNB's accounting framework

One of the key accounting principles of the MNB is that transactions are booked for the period in which they occur unless the financial year is already closed. This is especially important for the accurate measurement of exchange rate gains and losses, in particular foreign exchange sales and purchases. Spot foreign currency transactions which involve foreign exchange conversions are recorded in the books on the transaction date. Assets and liabilities arising from such transactions affect the MNB's foreign currency position from the date of entering into the transaction. The same procedure is applied to recording the revaluation difference in the balance sheet relating to derivative transactions for hedging purposes.

⁵⁷ KVT/39-2/2023 – adopted by the Council with Resolution No. 7/2023.12.23.

On a daily basis, the MNB records:

- exchange rate differences arising from the revaluation of its foreign assets and liabilities and off-balance sheet derivative transactions recorded for hedging purposes;
- amortisation of securities' price gains and losses; and
- accrued/deferred interest arising from on and off-balance sheet assets and liabilities from hedging transactions.

Pursuant to the MNB Decree, for the purpose of reporting data to the owner, the MNB must close accounts relating to its assets, liabilities and income and prepare trial balances on a quarterly basis, in accordance with the procedures specified in its accounting policies.

For internal use, the MNB compiles a balance sheet and income statement on a monthly basis; these are supported by:

- the market valuation of foreign currency securities;
- the breakdown and recording of realised and unrealised portions of foreign exchange gains and losses derived from daily revaluation; and
- the charging of depreciation and amortisation.

Upon the quarterly closing of accounts, the MNB measures its off-balance sheet contingent and future liabilities arising from derivative transactions for other purposes and securities lending operations based on international agreements (in this case, the liabilities are equal to the purchase value of the collateral received) and other off-balance sheet liabilities. It also measures the receivables and securities in the balance sheet, and additionally measures the financial investments at the end of the year and at the second quarter. As a result of this measurement, the MNB recognises impairment losses as necessary and forms provisions for off-balance sheet liabilities.

The balance sheet preparation date is the 15th working day of January in the year following the reporting year. For this report, the balance sheet preparation date was 22 January 2024.

By law, the MNB is also required to report to Parliament. The MNB submits a single report to both Parliament and the Ministry in charge of public finances (Ministry of Finance), which exercises the rights of ownership as laid down in the MNB Act. This takes the form of an Annual Report, which contains a business report describing the MNB's structure, operations and state of affairs during the reporting year, and the MNB's annual financial statements defined by the Act on Accounting, as adopted by the Board of Directors with the auditor's opinion. The Supervisory Board submits an opinion on the Annual Report and a report on such to the shareholder. The Annual Report is published in unabridged form on the internet in Hungarian and in English. The website is accessible at: <http://english.mnb.hu>.

Additionally, the Governor of the MNB also reports to the parliamentary committee responsible for economic affairs on the half-year activity of the MNB. This report is the Half-year Report, which contains a business report describing the MNB's structure, operations and half-year activity, as well as the half-year financial statements as defined by the Act on Accounting and compiled by the Board of Directors. The Half-year Report is also published on the internet in Hungarian.

Pursuant to the MNB Decree, the MNB is not obliged to draw up consolidated financial statements.

The financial statements of the MNB must be audited by the statutory auditor in compliance with the Act on Accounting. The registered auditor of the MNB is Dr Attila Hruby (Ernst & Young Kft.), Chamber membership number: 007118.

The person authorised to sign the Annual Report is Dr György Matolcsy, Governor of the Magyar Nemzeti Bank.

The person responsible for accounting services is Gábor Kalina, registration number: 194599.

4.1.3 Major valuation principles

Receivables from the central government

Securities stated under receivables from the central government are recorded in the balance sheet at amortised purchase price and include no interest. The difference between the purchase price excluding interest and the face value is shown in the MNB's income statement as a valuation gain or loss in proportion to the time elapsed.

Receivables from credit institutions

Mortgage bonds and securities issued by credit institutions with government guarantees are recorded in the balance sheet under 'Receivables from credit institutions' at amortised purchase price net of interest. The market value difference at acquisition is shown in the MNB's 'Interest-related income' as a valuation gain or loss in proportion to the time elapsed.

Interest-free refinancing loans within the framework of the Funding for Growth Scheme (FGS, FGS+ and FGS GHP) and the base rate fixed loans provided to credit institutions with collateral (securities, large entity loan receivables) are recorded in the balance sheet at the disbursed amount.

Other receivables

Corporate bonds are recorded in the balance sheet under 'Other receivables' at amortised purchase price, net of interest. The market value difference at acquisition is shown in the MNB's 'Interest-related income' as a valuation gain or loss in proportion to the time elapsed.

Receivables from supervisory activities are stated in the balance sheet, along with any related impairment. The MNB records supervisory fees imposed in line with the incoming data reported by the institutions and reports, and the penalties imposed are recorded in accordance with the final resolutions. Supervisory fees, penalties levied and fees from public proceedings are recognised as 'Income from supervisory activities'.

The balance of 'Other receivables' also contains employee loans and loans provided to other legal entities in the amount of the disbursements. The related interest income is stated under 'Interest on other receivables'.

Valuation of receivables

Impairment losses may not be recorded in connection with receivables from the central government.

'Receivables from credit institutions' and 'Other receivables' are tested for impairment and if the book value of the receivable is higher than its expected recovery value, an impairment loss is recorded, in line with the MNB's impairment policy. This does not apply to receivables with market valuation and collateralised monetary policy receivables.

With the exception of government bonds and bonds issued with government guarantees, securities that are denominated in forints and purchased for monetary policy purposes are tested for impairment in line with the corresponding rules, and impairment is recorded in proportion to the risk of losses. Other forint-denominated securities held for monetary policy purposes (mortgage bonds, corporate bonds) are tested for impairment separately for each portfolio (held-for-sale portfolio, held-to-maturity portfolio). With regard to the held-for-sale portfolio, the appropriate amount of impairment is defined as the negative difference between the book value and the market value, provided that such difference (loss) appears to be a permanent, material amount. With regard to the held-to-maturity portfolio, the impairment methodology is based on the risk of non-performance and the related expected loss, ignoring the materiality criteria.

Valuation of foreign currency assets and liabilities and recognition of exchange rate gains

In its books, the MNB records all foreign currency assets, including the precious metals held for central bank purposes based on the MNB Decree, and liabilities at the official exchange rate prevailing on the date of acquisition. If a foreign currency asset or liability is created as a result of foreign exchange conversion, the exchange rate gain or loss arising from the difference between the actual and the official exchange rate is recorded by the MNB as conversion income for that particular date and is stated under 'Gains/losses from exchange rate changes' in the income statement.

The MNB carries out a daily revaluation of foreign currency assets and liabilities as well as off-balance sheet assets and liabilities arising from derivative transactions for hedging purposes, taking account of variations in the official exchange rate. As a result of this revaluation, balance sheet items denominated in foreign currency are stated at the amount converted at the official exchange rate prevailing on the balance sheet date. Banking assets and banking liabilities in foreign currencies (with the exception of foreign investments) and foreign currency accruals and derivative transactions for purposes other than hedging do not form part of the revaluation.

Income received in foreign currency is stated at the official exchange rate prevailing on the given date.

Daily accounting for accrued income is preceded by reversing the accrued income from the previous day. As a result, foreign currency accruals are recorded in the balance sheet at the official exchange rate without revaluation.

In respect of foreign exchange gains and losses arising in the course of daily revaluation, only realised exchange rate gains and losses can be stated as a profit item, while the unrealised result is reported under 'Equity' in the item 'Revaluation reserve due to exchange rate changes'.

Realised income in a particular currency arises as a result of a decrease in the net foreign currency position (in absolute terms). Realised income arises as the difference between the value of the change in the net foreign currency position at the official exchange rate and the average cost rate prevailing on that particular date.

Foreign currency securities

Foreign currency securities are stated at market price. The difference between the market value (prices applied by the instrument facilitating portfolio management) prevailing on the date of valuation and the amortised purchase value is recorded in 'Revaluation reserve of foreign currency securities' as part of 'Equity'. Exchange rate gains or losses realised on sales are stated under 'Realised gains/losses arising from financial operations'.

The MNB measures its securities on the basis of market prices prevailing on the last working day of each month. However, if adequately liquid prices are not ensured on this day in respect of a certain foreign currency, the valuation of securities is based on the market prices available on the previous working day.

Foreign currency securities managed by external trustees based on a mandate are also stated at market price, applying the prices received from the custodian.

Security repurchase transactions based on international agreements are recorded as credit/deposit transactions, while the related, future receivables or liabilities on securities are stated as off-balance sheet items.

Securities lent through securities lending operations based on international agreements need not be removed from foreign exchange reserves; they are recognised as off-balance sheet items. Non-cash collaterals and investments from cash collateral must be recorded as contingent liabilities under off-balance sheet items and, in the event that their market value is negative, a provision of an equal amount must be created for the investments on a quarterly basis.

Accounting rules relating to the IMF quota

Part of the IMF quota subscribed in foreign currency and denominated in SDR as a callable loan is stated under foreign exchange reserves.

The part of the quota paid in forints and recorded in SDR is presented under 'Other foreign currency receivables' in the balance sheet. The related IMF forint deposit is reported on the liabilities side of the balance sheet. It is the MNB's duty to ensure at least annually that the amount of the IMF's forint deposit is equal to the amount of the quota paid in forints. As this deposit account is only formally a HUF account, it is reported under 'Other foreign currency payables' in the balance sheet.

The SDR allocation aims to increase the foreign exchange reserves of the IMF's members. The amount received increases the MNB's foreign exchange reserves and creates a liability to the IMF without a maturity date on the liability side of the balance sheet. This transaction has an effect on profit and loss (interest must be paid on the SDR amount received) if it is utilised.

Accounting rules relating to derivatives

Based on the transaction purpose, the MNB distinguishes between two groups of derivative transactions: hedging transactions, and derivatives for purposes other than hedging.

Hedging transactions are defined as transactions which reduce the risk arising from changes in the exchange rate or market value of a specific asset or liability or open position, are directly related to such, are announced as hedging transactions at the start of the contract and neutralise or significantly mitigate the risk that is intended to be hedged. Furthermore, derivatives with the government or non-resident counterparties to hedge these transactions are also regarded as hedging transactions. FX transactions for the purpose of setting the benchmark FX structure or decreasing in absolute terms the remaining average duration of the interest-bearing assets and liabilities, are deemed macro hedging transactions.

Derivatives are stated under off-balance sheet assets and liabilities. The aggregate revaluation difference of foreign currency assets and liabilities arising from hedging transactions is reported on the balance sheet (depending on the balance of such, either in 'Other foreign currency receivables or liabilities', or 'Foreign currency receivables from or liabilities to the central government or credit institutions'), including the interest accrued in proportion to the time elapsed (as accrued income or accrued expenses).

When derivative transactions for purposes other than hedging are closed, the income from such transactions is stated in the lines of income and expenses arising from exchange rate changes when foreign exchange transactions are involved, and in the lines of interest-related income and interest-related expenses for transactions linked to interest rate changes. While such transactions are not revalued, consistent with the principle of prudence, in reasonable cases, based on the information available at the balance sheet preparation date, a provision is formed on a quarterly basis, equal to the negative market value of the transaction.

Banking assets and liabilities

Banking assets and liabilities are stated on the respective sides of the balance sheet. These consist of the following:

- assets and liabilities not directly related to central bank functions and bank operations (such as settlements relating to taxes, contributions, payments to employees, creditors);
- liabilities arising from banknotes no longer accepted as legal tender but not yet exchanged;
- investments; and
- assets required for operating the organisation (such as intangible assets, tangible assets, and inventories).

The MNB's balance sheet does not state cash among liquid assets. The central bank is the exclusive issuer of banknotes and coins. Notes and coins held at the Cashier and the Depository are not in circulation and are therefore deducted from banknotes and coins on the liabilities side of the balance sheet.

Depreciation rates applied by the Magyar Nemzeti Bank

Per cent

Description	31 Dec 2023
Concessions, licences and similar rights	14.5–17
Trademarks patents and similar assets	10–50
Buildings	3
Vehicles (cars) *	20
Telecommunication devices, office equipment, machines	10–50
Office equipment	5–50
Computer hardware	13–33
Cash-processing equipment	5–50
Instruments	20
Bank security devices	2–50
Other equipment and devices	3–50
* Residual value of vehicles: 20 per cent	

The depreciation rates are determined individually based on estimated useful economic life. Depreciation is charged on a straight-line basis in every case. The MNB records no depreciation if the assets do not lose their value in use or if the value increases from year to year, given the particular nature of the assets (e.g. land, works of art, art treasures).

4.2 EFFECTS OF MACROECONOMIC TRENDS ON THE 2023 BALANCE SHEET AND INCOME STATEMENT OF THE MAGYAR NEMZETI BANK

In 2023, the MNB incurred a loss of HUF 1,763.2 billion, which resulted almost entirely from interest and interest-related losses. The balance sheet total as of 31 December 2023 amounted to HUF 27,214 billion, showing a decrease of HUF 846.9 billion versus the end-2022 balance.

On the assets side, the decrease in the stock of FGS loans and mortgage bonds contributed the most to the change in the total balance sheet, as maturities exceeded the drawdown of GHP loans and mortgage bonds purchases. Out of the collateralised credit instruments, the loans granted for three-year maturity expired during the year, which also reduced the total balance sheet. However, it was increased by the change in the stock of gold and foreign exchange reserves, but due to the strengthening of the forint exchange rate, to a lesser degree than would have been expected based on the growth measured in euros. On the liabilities side, the MNB's equity decreased to the largest extent: its development was determined by the loss in 2023 and the change in the aggregate balance of the revaluation reserves. The decrease in liabilities in foreign currency was mainly related to the lower stock of repo transactions concluded with international organisations compared to the end of 2022, as well as the strengthening of the forint exchange rate. In addition, the stock of the central government's deposit and the amount of currency in circulation also fell. By contrast, forint deposits by credit institutions increased and the volume of discount bonds expanded, as the year-end expansion of international reserves, the swap holdings providing lower foreign exchange liquidity than the end-2022, the decrease of cash holdings, and the interest paid by the central bank during the year all influenced the increase of liquidity.

A net interest and interest-related loss of HUF 1,758.9 billion was recorded in 2023, which was HUF 696.6 billion higher compared to the loss registered in 2022. The rise in forint interest and interest-related net expenses from HUF 968.1 billion to HUF 1,991.6 billion was attributable to the average higher level of forint interest rates, resulting in higher sterilisation costs related to the instruments of forint-liquidity absorption. The result of the interest rate swap transactions concluded with credit institutions worsened owing to the higher forint interest rate.

In 2023, the net foreign exchange interest and interest-related result showed a gain of HUF 232.7 billion after a loss in the previous year. This is the result of the average higher level of the foreign exchange reserves and the gradually rising foreign exchange yields increasing the interest income from the international reserves, as well as the result of forward transactions related to reserves and the amortised result of securities also turned into a profit in 2023. The realised loss arising from financial operations rose by HUF 15.3 billion to HUF 42.7 billion from 2022 to 2023, which mainly derived from selling securities relating to foreign exchange reserve management transactions.

In 2023, the realised gains on exchange rate changes amounted to HUF 90.6 billion, which was HUF 707.1 billion less than the profit in 2022; the change can be explained by base effect. The development this profit item is driven partly by the volume of foreign currency sales and partly by the difference between the forint's official exchange rate and the average cost rate.

For more details on the factors affecting net income, see Section 3.12. of the Business Report.

4.3 FORINT RECEIVABLES FROM THE CENTRAL GOVERNMENT

HUF millions

B/S line	Remaining maturity	Balance		Change
		31 Dec 2022	31 Dec 2023	
	Government bonds maturing within 1 year	0	0	0
	Government bonds maturing within 1 to 5 years	280,317	369,786	89,469
	Government bonds maturing in over 5 years	3,031,552	2,936,994	-94,558
I.1.	Total receivables from the central government	3,311,869	3,306,780	-5,089

The balance of forint receivables from the central government was HUF 3,306.8 billion at the end of 2023, reflecting a small decrease. Compared to the end of 2022, the face value of the stock of mostly fixed-rate, typically long-term government bonds did not change, while the related positive exchange rate difference decreased by HUF 5.1 billion due to amortisation. The majority of government securities had a maturity of more than 5 years as at 31 December 2023.

4.4 FOREIGN CURRENCY RECEIVABLES FROM THE CENTRAL GOVERNMENT

Neither at end-2022 nor at end-2023 was any amount listed in the item for foreign currency receivables from the central government. The balance of currency swaps with the central government showed a net credit balance, and thus these items were stated as 'Foreign currency liabilities of the central government' (see Section 4.5).

4.5 FORINT AND FOREIGN CURRENCY LIABILITIES OF THE CENTRAL GOVERNMENT

Forint deposits of the central government

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	Single Treasury Account (KESZ)	909,270	675,726	-233,544
	Deposit by Government Debt Management Agency (ÁKK Zrt)	191	286	95
	Public sector instant payment accounts	3,263	5,625	2,362
	Other	58	58	0
VI.1.	Forint deposits of the central government	912,782	681,695	-231,087

The balance of central government forint deposits decreased by HUF 231.1 billion. The change was mainly in the KESZ account, due to budgetary and financing processes. The balance of the instant payment accounts rose by HUF 2.4 billion.

Foreign currency liabilities of the central government

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	Foreign currency deposits of the central government	608,005	842,613	234,608
	Swap and forward transactions with the central government	250	0	-250
	Currency swaps with the central government	332,543	115,955	-216,588
VII.1.	Foreign currency liabilities of the central government	940,798	958,568	17,770

The total amount of the foreign currency deposits and currency swaps of the central government was HUF 958.6 billion on 31 December 2023, up HUF 17.8 billion versus the end of 2022. The increase of HUF 234.6 billion in government foreign currency deposits was triggered by the debt management activities of the Government Debt Management Agency. The total amount of forward transactions concluded to set the interest and currency structure of foreign currency debt decreased by HUF 216.8 billion to HUF 116 billion by the end of 2023.

Foreign currency liabilities of the central government, broken down by remaining maturity

HUF millions

B/S line	Remaining maturity	Balance		Change
		31 Dec 2022	31 Dec 2023	
	- within 1 year	763,894	910,210	146,316
	- within 1 to 5 years	117,946	0	-117,946
	- over 5 years	58,958	48,358	-10,600
VII.1.	Foreign currency liabilities of the central government	940,798	958,568	17,770

4.6 NET POSITIONS VIS-À-VIS THE CENTRAL GOVERNMENT

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
I.1.–VI.1.	Net forint position	2,399,087	2,625,085	225,998
II.2.–VII.1.	Net foreign currency position	-940,798	-958,568	-17,770
	Total	1,458,289	1,666,517	208,228

4.7 FORINT RECEIVABLES FROM AND LIABILITIES TO CREDIT INSTITUTIONS

Forint receivables from credit institutions

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	FGS refinancing loans	2,562,163	1,817,527	-744,636
	Covered mortgage bonds	690,914	553,901	-137,013
	Collateralised loans	2,623,373	2,574,873	-48,500
	Securities issued with government guarantees	153,109	153,213	104
	Other receivables	184,102	32,690	-151,412
	Total gross receivables from credit institutions	6,213,661	5,132,204	-1,081,457
	Impairment loss for receivables from credit institutions	-10,547	-8,404	2,143
I.2.	Total receivables from credit institutions	6,203,114	5,123,800	-1,079,314

Forint receivables from credit institutions decreased by HUF 1,079.3 billion to HUF 5,123.8 billion in one year. The balance of FGS loans changed to the largest extent, decreasing by HUF 744.6 billion overall. Due to maturities the stock fell by HUF 807.7 billion, while loans drawn under the FGS Green Home Programme increased the stock by HUF 63 billion. The volume of mortgage bonds was HUF 173 billion lower, as a result of maturities during the year and purchases resulting from some renewals. A part of collateralised loans expired in May 2023. The decrease of HUF 151.4 billion in other receivables shows the change in the receivable-type balance of collaterals (margins) placed due to changes in the market value of forward transactions concluded with credit institutions.

Gross forint receivables from credit institutions by remaining maturity

HUF millions

Remaining maturity	Balance		Change
	31 Dec 2022	31 Dec 2023	
- matured	5,252	5,252	0
- within 1 year	926,464	354,438	-572,026
- within 1 to 5 years	3,762,555	3,415,690	-346,865
- over 5 years	1,519,390	1,356,825	-162,565
Total gross receivables from credit institutions	6,213,661	5,132,205	-1,081,456

Forint liabilities of credit institutions

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	Current accounts	2,491,194	9,397,069	6,905,875
	Variable rate deposit tender	2,135,000	531,000	-1,604,000
	Deposit quick tender	3,641,460	0	-3,641,460
	O/N deposits	15,271	22,730	7,459
	Instant payment accounts	97,184	178,737	81,553
VI.2.	Deposits of credit institutions	8,380,109	10,129,536	1,749,427

The liquidity-absorbing deposits of credit institutions increased by HUF 1,749.4 billion (more than 20 per cent) compared to end-2022 and amounted to HUF 10,129.5 billion on 31 December 2023. The required reserves ratio rose from 1 April 2023. The deposit quick tender ceased to exist at the end of September, and thus the required reserves became the MNB's policy instrument, and the banking system's excess liquidity was reallocated here. As a result of the two effects mentioned above, the stock of current accounts increased significantly compared to HUF 2,491.2 billion at end-2022, amounting to HUF 9,397.1 billion on the last day of 2023.

The stock of the overnight deposit quick tender decreased by HUF 3,641.5 billion compared to the end of the previous year, due to termination of this scheme. The amount of longer-term variable rate deposit (up to 6 months), which ensure the long-lasting absorption of liquidity, fell by HUF 1,604 billion to HUF 531 billion in one year. The balance of instant payment accounts rose by HUF 81.6 billion to HUF 178.7 billion, and the stock of the former overnight deposits increased by HUF 7.5 billion to HUF 22.7 billion.

4.8 NET POSITIONS VIS-À-VIS CREDIT INSTITUTIONS

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
I.2.–VI.2.	Net forint position	-2,176,995	-5,005,736	-2,828,741
II.3.–VII.2.	Net foreign currency position	-183,074	-78,315	104,759
	Total	-2,360,069	-5,084,051	-2,723,982

Net liabilities to credit institutions increased overall by HUF 2,724 billion to HUF 5,084.1 billion by end-2023. Within this, the net forint liabilities increased significantly (see Section 4.7).

Net foreign currency liabilities to credit institutions dropped HUF 104.8 billion versus end-2022, amounting to HUF 78.3 billion at 31 December 2023. Within this, the decrease in foreign currency deposits placed by credit institutions at the MNB improved this item to a large extent, while the aggregate change in the balance of foreign currency swaps with credit institutions slightly worsened the net foreign currency position.

Foreign currency receivables from and liabilities to credit institutions, broken down by remaining maturity

HUF millions

B/S line	Remaining maturity	Balance		Change
		31 Dec 2022	31 Dec 2023	
	- within 1 year	5,420	4	-5,416
	- within 1 to 5 years	5,108	2	-5,106
	- over 5 years	16,191	14,585	-1,606
II.3.	Foreign currency receivables from credit institutions	26,719	14,591	-12,128
	- within 1 year	209,793	92,906	-116,887
	- within 1 to 5 years	0	0	0
	- over 5 years	0	0	0
VII.2.	Foreign currency liabilities to credit institutions	209,793	92,906	-116,887
II.3.-VII.2.	Net foreign currency position	-183,074	-78,315	104,759

4.9 GOLD AND FOREIGN EXCHANGE RESERVES OF THE CENTRAL BANK

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	Gold reserve	2,071,789	2,174,160	102,371
	Reserve position in the IMF	150,581	139,992	-10,589
	Foreign currency deposits	6,097,681	4,508,585	-1,589,096
	Foreign currency securities	7,144,628	7,834,103	689,475
	Foreign currency repo transactions	0	1,153,847	1,153,847
II.1.	Gold and foreign exchange reserves	15,464,679	15,810,687	346,008

For statistical purposes, the MNB regularly publishes the amount of foreign exchange reserves. According to the statistical rules, foreign exchange reserves also include accrued interest, and consequently foreign exchange reserves differ in amount according to statistical and accounting rules.

Excluding accrued interest, foreign exchange reserves rose by HUF 346 billion to HUF 15,810.7 billion as of 31 December 2023. The amount of foreign exchange reserves was increased by new foreign currency bonds issued by the state, euro transfers from the European Commission, transactions concluded with international and other foreign financial institutions, and the yield earned by portfolios. By contrast, the reserves declined due to disbursements by the Government Debt Management Agency to repay debt, the foreign exchange expenditures of the Hungarian State Treasury, the lower level in foreign currency deposits placed by domestic financial institution and changes in cross rates. The difference between the value of the swap transactions providing euro liquidity announced at the end of 2023 and the repurchase agreements used to finance such had a temporary effect on the evolution of the reserve level. Related to covering foreign exchange needs for energy imports, EUR/HUF transactions were concluded in the first quarter of 2023. As a result of these factors, the size of foreign exchange reserves denominated in euros rose by EUR 2.7 billion to EUR 41.3 billion at 31 December 2023. The stock of reserves denominated in forints increased by a smaller amount due to the strengthening of the forint exchange rate versus the euro.

The end-2023 balance of foreign currency securities contained the securities managed by an external trustee based on a mandate amounting to HUF 937.6 billion (12 per cent in total).

4.10 OTHER FORINT AND FOREIGN CURRENCY RECEIVABLES

Other forint receivables

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	Total other gross forint receivables	1,702,396	1,676,585	-25,811
	Impairment loss for other receivables	-143,681	-124,505	19,176
I.3.	Other forint receivables	1,558,715	1,552,080	-6,635

The stock of other forint receivables was HUF 1,552.1 billion as of 31 December 2023, down HUF 6.6 billion compared to the end of 2022. The aggregated balance of other gross forint receivables was HUF 1,676.6 billion, 99 per cent of which was accounted for by the central bank's purchases of securities as part of the monetary policy instruments. The balance of receivables from supervisory activities amounted to HUF 8 billion at end-2023, and an impairment loss was recognised for 98.2 per cent of this, in line with the MNB's regulations. The item 'Impairment loss for other forint receivables' also contains impairment on securities, representing 7.5 per cent of the portfolio. The total amount of preferential property loans and personal loans granted by the MNB to its employees amounted to HUF 7.5 billion as of 31 December 2023.

Other foreign currency receivables

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	Forint payment of IMF quota	819,361	761,740	-57,621
	Foreign hedging transactions*	191,095	103,479	-87,616
	Other	790	1,181	391
II.4.	Other foreign currency receivables	1,011,246	866,400	-144,846

* The revaluation difference of hedging derivative transactions is stated in net terms, in accordance with the MNB Decree.

The forint payment of the IMF quota decreased owing to the 7-per cent appreciation of the forint exchange rate against the SDR. The item 'Foreign hedging transactions' includes the net debit balance of swap and forward transactions with non-resident counterparties concluded by the MNB.

4.11 OTHER DEPOSITS AND LIABILITIES

Other forint liabilities

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	International financial institutions' forint deposits	2,342,224	2,092,897	-249,327
	Discount Bills issued by the MNB	1,375,650	2,941,000	1,565,350
	Other legal entities' bank accounts	81,127	6,719	-74,408
	Other legal entities' instant payment accounts	1,464	1,600	136
	Other liabilities	764	729	-35
VI.4.	Other forint deposits and liabilities	3,801,229	5,042,945	1,241,716

The stock of other forint deposits and liabilities increased by about one third, amounting to HUF 5,042.9 billion as of 31 December 2023. The central bank discount bills played a dominant role in the change, as the balance of such was HUF 1,565.3 billion higher at end-2023 than at end-2022. By contrast, the forint deposits of the European Commission and other foreign financial institutions decreased, as well as the balance of the bank accounts of domestic and foreign other legal entities.

Other foreign currency liabilities

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	Repo transactions	2,539,811	1,571,029	-968,782
	IMF deposits	2,245,433	2,087,546	-157,887
	Foreign deposits	213,549	130,318	-83,231
	Foreign hedging transactions*	39,076	38,177	-899
	Other liabilities	295	48	-247
VII.3.	Other foreign currency liabilities	5,038,164	3,827,118	-1,211,046

* The revaluation difference of hedging transactions is stated in net terms, in accordance with the MNB Decree.

The balance of other foreign currency liabilities declined by HUF 1,211 billion to HUF 3,827.1 billion as of 31 December 2023. Within this, the total amount of repo transactions concluded with foreign partners and repo calls from international organisations changed the most, dropping by HUF 968.8 billion. The stock of IMF deposits was HUF 157.9 billion lower, due to revaluation. The decline of HUF 83.2 billion in foreign deposits was driven by both the fall in the accounts reflecting changes in the market value of hedging transactions and the decrease in the deposit of the European Commission. The aggregate credit balance of foreign hedging transactions decreased by HUF 0.9 billion.

Other foreign currency liabilities by remaining maturity

HUF millions

B/S line	Remaining maturity	Balance		Change
		31 Dec 2022	31 Dec 2023	
	- within 1 year	3,613,022	2,502,198	-1,110,824
	- within 1 to 5 years	0	0	0
	- over 5 years	0	0	0
	- without maturity	1,425,142	1,324,920	-100,222
VII.3.	Other foreign currency liabilities	5,038,164	3,827,118	-1,211,046

The item 'Liabilities without maturity' includes liabilities derived from SDR allocations carried out by the IMF in the amount of SDR 2,850.5 million; the decline was due to exchange rate changes.

Currency structure of other foreign currency liabilities – without foreign hedging transactions

HUF millions

Description	Balance		Change
	31 Dec 2022	31 Dec 2023	
- EUR	2,605,503	1,336,657	-1,268,846
- USD	310	3,400	3,090
- SDR	1,639,218	1,481,374	-157,844
- Other	754,057	967,510	213,453
Other foreign currency liabilities	4,999,088	3,788,941	-1,210,147

About two thirds of the item 'Other' amounting to HUF 967.5 billion on 31 December 2023 consists of the forint coverage of the IMF quota adjusted by revaluation.

4.12 INVESTMENT ASSETS

In addition to intangible assets, tangible assets and capital expenditure (HUF 47.4 billion), investment assets also include shares in investments (HUF 12.6 billion in foreign investments and HUF 280.4 billion in domestic investments).

Changes in the gross value, depreciation and net value of intangible assets, tangible assets and capital expenditure

HUF millions

	Assets							Intangible assets, tangible assets and capital expenditure
	Intangible assets		Tangible assets				Capital expenditure and advances given	
	Rights and intellectual property	Software under development	Buildings and accessories	Equipment	Cultural goods	Money Museum collection		
Gross value								
31 Dec 2022	25,958	2,666	15,771	29,005	10,281	1,361	1,131	86,173
Commissioning/acquisition	4,182	479	223	3,421		3	73	8,381
Acceptance of assets free of charge								0
Other addition/reclassification						4		4
Retirement				-640			-7	-647
Selling				-215				-215
Transfer free of charge				-443				-443
Other disposal/reclassification	-2	-186		-4				-192
31 Dec 2023	30,138	2,959	15,994	31,124	10,281	1,368	1,197	93,061
Details of depreciation								
31 Dec 2022	19,562	0	6,643	13,601	0	0	0	39,806
Ordinary depreciation	2,856		287	4,020				7,163
Other addition due to reclassification								0
Derecognition	-2			-1,291				-1,293
Decrease due to reclassification								0
31 Dec 2023	22,416	0	6,930	16,330	0	0	0	45,676
Balance								
31 Dec 2022	6,396	2,666	9,128	15,404	10,281	1,361	1,131	46,367
31 Dec 2023	7,722	2,959	9,064	14,794	10,281	1,368	1,197	47,385
Change	1,326	293	-64	-610	0	7	66	1,018

Foreign investments and dividends from investments

HUF millions

Description	Ownership share (%)		Book value		Dividends received	
	31 Dec 2022	31 Dec 2023	31 Dec 2022	31 Dec 2023	2022	2023
BIS	1.43	1.43	10,503	10,223	1,182	1,105
<i>SDR millions</i>			10	10		
<i>CHF millions</i>			14	14		
European Central Bank	1.55	1.55	2,516	2,407	-	-
<i>EUR thousands</i>			6,287	6,287		
SWIFT	0.03	0.03	19	18	0	0
<i>EUR thousands</i>			46	46		
Total investments			13,038	12,648	1,182	1,105

Ownership distribution in the ECB as of 31 December 2023

National Central Banks (NCBs)	Subscribed capital	Paid-up capital	Capital key (%)
	EUR thousands		
Nationale Bank van België/ Banque Nationale de Belgique	320,745	320,745	2.9630
Deutsche Bundesbank	2,320,817	2,320,817	21.4394
Eesti Pank	24,800	24,800	0.2291
Central Bank of Ireland	149,082	149,082	1.3772
Bank of Greece	217,767	217,767	2.0117
Banco de España	1,049,820	1,049,820	9.6981
Banque de France	1,798,120	1,798,120	16.6108
Hrvatska narodna banka	71,391	71,391	0.6595
Banca d'Italia	1,495,637	1,495,637	13.8165
Central Bank of Cyprus	18,944	18,944	0.1750
Latvijas Banka	34,304	34,304	0.3169
Lietuvos banka	50,953	50,953	0.4707
Banque centrale du Luxembourg	29,000	29,000	0.2679
Central Bank of Malta	9,234	9,234	0.0853
De Nederlandsche Bank	515,941	515,941	4.7662
Oesterreichische Nationalbank	257,678	257,678	2.3804
Banco de Portugal	206,054	206,054	1.9035
Banka Slovenije	42,391	42,391	0.3916
Národná banka Slovenska	100,824	100,824	0.9314
Suomen Pankki – Finlands Bank	161,715	161,715	1.4939
Subtotal for euro area NCBs	8,875,217	8,875,217	81.9881
Bulgarian National Bank	106,431	3,991	0.9832
Česká národní banka	203,445	7,629	1.8794
Danmarks Nationalbank	190,423	7,141	1.7591
Magyar Nemzeti Bank	167,658	6,287	1.5488
Narodowy Bank Polski	653,127	24,492	6.0335
Banca Națională a României	306,229	11,484	2.8289
Sveriges riksbank	322,477	12,093	2.9790
Subtotal for non-euro area NCBs	1,949,790	73,117	18.0119
Total NCBs	10,825,007	8,948,334	100.0000

Hungary joined the European Union on 1 May 2004, as a result of which the MNB became a member of the ESCB. The ESCB comprises the European Central Bank (ECB) and the national central banks of the EU Member States. The Eurosystem is composed of the ECB and the national central banks of Member States that have already adopted the euro. Pursuant to the provisions of Article 28 of the Statute of the ESCB and the ECB (hereinafter referred to as 'the Statute'), the MNB became an owner of the ECB. Subscriptions depend on shares which are fixed in accordance with Article 29 of the Statute and must be adjusted every five years based on demographic and GDP data provided by the European Commission. Shares can also change with a new accession to the EU, a Member State leaving the EU, or due to a capital increase.

On 1 January 2023, Croatia adopted the euro, and thus Hrvatska narodna banka belongs to the group of euro area NCBs. As of 1 January 2024, the key subscription was adjusted again, due to the five-year review. The MNB's key for subscription rose to 1.5819 per cent, and its share increased to EUR 171.2 million.

Pursuant to Article 47 of the Statute, non-euro area NCBs are required to pay 3.75 per cent of their subscribed capital to the ECB as a contribution to the operational costs of the ECB. As a non-euro area NCB, the MNB is not entitled to receive any share of the distributable profits of the ECB, nor is it liable to fund any loss of the ECB.

The MNB's participation in the ECB is presented in the sub-item 'Investment assets' under 'III. Banking assets' in the balance sheet of the MNB. The value of the investment (i.e. paid-up capital) amounted to EUR 6.3 million (HUF 2.4 billion) in the MNB's balance sheet as of 31 December 2023.

Domestic investments and dividends from investments

HUF millions

Description	Ownership share (%)		Book value		Dividends received	
	31 Dec 2022	31 Dec 2023	31 Dec 2022	31 Dec 2023	2022	2023
Pénzjegynyomda Zrt. 1055 Budapest, Markó utca 13–17.	100.0	100.0	11,827	11,827	0	0
Magyar Pénzverő Zrt. 1239 Budapest, Európa u. 1.	100.0	100.0	1,309	1,309	350	200
Pénzügyi Stabilitási és Felszámoló Nonprofit Kft. 1055 Budapest, Bajcsy-Zsilinszky út 78.	100.0	100.0	50	50	-	-
MNB-Biztonsági Zrt. 1123 Budapest, Alkotás utca 50.	100.0	100.0	1,317	3,067	0	0
GIRO Zrt. 1054 Budapest, Vadász utca 31.	100.0	100.0	14,779	14,779	0	0
MNB-Ingatlan Kft. 1013 Budapest, Krisztina körút 32.	100.0	100.0	167,403	225,075	0	0
MNB-EduLab Nonprofit Kft. 1122 Budapest, Krisztina körút 6-8.	100.0	100.0	15,414	12,119	0	-
Budapesti Értéktőzsde Nyrt. 1013 Budapest, Krisztina körút 55.	81.4	81.4	11,555	11,555	410	449
KELER Zrt. 1074 Budapest, Rákóczi út 70–72.	53.3	53.3	643	643	0	459
KELER KSZF Zrt. 1074 Budapest, Rákóczi út 70–72.	0.1	0.1	10	17	0	0
Total investments			224,307	280,441	760	1,108

Participations of domestic investments

Description	Participations		
	Name Headquarters	Ownership share (%)	Share capital (HUF millions)
		31 December 2023	
Pénzjegynyomda Zrt.	DIPA Diósgyőri Papírgyár Zrt. 3535 Miskolc, Hegyalja út 203/1.	100.0	4,196
GIRO Zrt.	BISZ Központi Hitelinformációs Zrt. 1205 Budapest, Mártonffy utca 25–27.	100.0	217
Budapesti Értéktőzsde Nyrt.	KELER Zrt. 1074 Budapest, Rákóczi út 70–72.	46.7	4,500
	KELER KSZF Zrt. 1074 Budapest, Rákóczi út 70–72.	0.1	3,423
KELER Zrt.	KELER KSZF Zrt. 1074 Budapest, Rákóczi út 70–72.	99.9	3,423
MNB-Ingatlan Kft.	Optimum-Gamma Ingatlanbefektetési Kft. „v.a.” 1013 Budapest, Krisztina körút 32.	100.0	4
	Optimum-Omega Ingatlanbefektetési Kft. 1013 Budapest, Krisztina körút 32.	100.0	20
	WINDIRECT Kft. 1013 Budapest, Krisztina körút 32.	100.0	3

Pénzjegynyomda Zrt. (Hungarian Banknote Printing Plc.) produces forint banknotes, secure documents in paper and plastic card format, banderole and securities, and provides document personalisation services for domestic and foreign clients. It operates in accordance with the medium-term shareholder's strategy. In line with this, its primary aim is to produce banknotes in adequate quantity and excellent quality based on the MNB's orders. In market segments other than banknote production, its main goal is to increase foreign penetration and to develop integrated IT systems and services related to the given products. The company was a prominent actor in the production and personalisation of domestic documents in 2023 as well, therefore the fulfilment of civil orders for documents, beside the production of banknotes, is also high priority. Pénzjegynyomda Zrt.'s subsidiary, **DIPA Diósgyőri Papírgyár Zrt.** (DIPA Zrt., Diósgyőr Papermill Plc.), is the sole security paper manufacturer in Hungary, the primary function of which is to produce forint banknote papers. At the centre of the company's product strategy are quality products bearing up-to-date security elements. In addition to banknote papers, DIPA Zrt. produces papers for a significant share of documents used in public administration, base papers for tickets, as well as papers for passports and documents for numerous countries, in relation to which it also offers solutions providing complex protection against forgery.

Based on MNB orders, the primary duty of **Magyar Pénzverő Zrt.** (Hungarian Mint Plc.) is to produce circulation coins for secure cash turnover, as well as the collector and commemorative coins issued by the MNB as legal tender. The company is operating in accordance with the shareholder's strategy for 2021–2025. Utilisation of the company's free capacity allows for the production of non-legal tender and other medals, on the basis of its own coin programme and customised orders, and of the national awards on behalf of the Sandor Palace. As part of its commercial activities, the company is the primary distributor of commemorative and collector coins, in Hungary and abroad, both as a wholesaler and retailer. In addition, the company sells collector banknotes, packaged circulation coin series and commemorative coin versions, and imported gold investment products. The company provides the Money Museum's souvenir shop with goods. Besides its ISO 9001 quality management system certification since 1996, the company aimed to introduce the ISO 14001 environmental management system by the end of the current strategy period, for which the organisation was certified on 27 October 2023, one year earlier than planned. The company met the orders and deadlines related to the circulation coin and collector coin issuing programme covering 16 thematic schemes in 2023.

Pénzügyi Stabilitási és Felszámoló Nonprofit Kft. (PSFN Kft., Financial Stability and Liquidator Non-profit Ltd.) is a company exercising public service functions with the exclusive right to perform the liquidation or, in case of designation, winding-up proceedings of financial institutions and to phase out venture capital funds. It participates in the resolution process of financial institutions and performs supervisory commissioner work for financial institutions with suspended authorisation for operations. When assigned to a financial institution as a supervisory commissioner, PSFN Kft.'s main duty is to perform tasks related to administration and operational management. If the prudent and legal operation of the financial institution is not ensured, despite the supervisory measures by the MNB or the designation of supervisory commissioners, the company performs the liquidation or winding-up proceedings for the institution following the withdrawal of its authorisation for operations by the MNB, in the interests of a smooth exit from the market. The primary purpose of these procedures is to enforce creditors' interests and to satisfy their claims, prior to the end of the termination proceedings. PSFN Kft. performs its functions for the public good, protecting the interests of the customers of financial services. Its express objective is to terminate financial institutions in accordance with a uniform approach and methodology, emphasising prudence and transparency. Furthermore, it works to complete resolutions as quickly as possible, bearing in mind the complex nature of the undertaking and the interests of customers, and to maximise creditors' recovery.

MNB-Biztonsági Zrt. (MNB-Security Services Plc.) performs personal guarding and protection activities, i.e. the company carries out the personal guarding and protection of the office objects and premises of the MNB with armed security guards under legal obligation. It performs the tasks of money and valuables transport. The company provides security for events for the MNB, performs evaluative/analytical and advisory activities, as well as company and business security activities. Moreover, the company provides information security and technical security services for the MNB, performs operating tasks related to the reception and call centre as well as to personal, physical and information security of the MNB's subsidiaries. The company operates the workplace buffets and provides catering services for the MNB and its employees, performs some operating tasks of the Money Museum, and operates the MNB's nursery. The company operates the Balatonakarattya Oktatási és Konferencia Központ (Balatonakarattya Education and Conference Centre), and organises events for the MNB. The book value of the investment amounted to HUF 3.1 billion as at 31 December 2023, following additions to capital and reserves in a total of HUF 1.8 billion.

GIRO Zrt. operates the payment system for domestic interbank forint credit transfers and direct debits, the so-called Interbank Clearing System. The key objectives in its strategy include stable and safe operation, development of clearing services, implementation of new services and increasing the competitiveness of clearing fees. The company's most important development so far has been the implementation of the instant payment system, which ensures the settlement of domestic electronic payments up to HUF 20 million within 5 seconds 24 hours a day, every day of the year. The scope of the innovative payment solutions based on the central infrastructure provided by GIRO and the MNB is constantly expanding, offering customers an improving service quality in more and more payment situations.

MNB-Ingatlan Kft. (MNB-Real Estate Ltd.) leases and operates real estate, and provides real estate management and development services for the MNB and its subsidiaries. Based on a contract with the MNB, the company is coordinating the reconstruction of the building of the headquarters on Szabadság tér. According to the MNB-Ingatlan Kft.'s financial plan for 2024, the net budget for the whole reconstruction is HUF 82.6 billion (the total net cost of the construction works, including advance payment, amounted to HUF 37.8 billion up to end-2023, with HUF 14.9 billion of this amount incurred in 2023). After completion, the project will be recorded in the MNB's books in the year of capitalisation (in the amount of the total gross project cost, increased with the coordination fee paid and other costs incurred up to the day of capitalisation). The MNB is financing the reconstruction by increasing the capital and reserves of MNB-Ingatlan Kft. The company owns the Bölcs Vár, the MNB Felügyeleti Központ és Pénzmúzeum (MNB's Supervisory Centre and the Money Museum, the MNB Budai **Központ** (MNB's Buda Centre), the Balatonakarattya Oktatási és Konferencia Központ (after the real estate was transferred to MNB-Ingatlan Kft., Optimum-Gamma Ingatlanbefektetési Kft., i.e. Optimum-Gamma Real Estate Investment Ltd., underwent winding-up proceedings), and the Burg Hotel via the investment in **Optimum-Omega Ingatlanbefektetési Kft.** (Optimum-Omega Real Estate Investment Ltd.). The book value of the investment amounted to HUF 225.1 billion as at 31 December 2023, following additions to capital and reserves: HUF 48.8 billion addition related to the reconstruction of the building of the headquarters, HUF 8.4 billion addition related to the financing of the construction works of the Pallas Athéné Konferencia Központ in the Burg Hotel, and HUF 0.4 billion addition related to developments at the MNB Felügyeleti Központ és Pénzmúzeum and the Balatonakarattya Oktatási és Konferencia Központ.

MNB-EduLab Nonprofit Kft. (MNB-EduLab Nonprofit Ltd.) develops educational and digital learning materials in relation to the MNB's activities, in line with its objective of raising financial consciousness. It is responsible for the Money Museum, which presents the fundamentals of money usage and the MNB's activities. The national specialised museum also operates a research service, performs educational and museum pedagogical tasks, and safeguards and expands the repository of the Museum. As of November 2023, the MNB-EduLab Kft. operates as a nonprofit company. The book value of the investment changed to HUF 12.1 billion as at 31 December 2023, as a net result of the addition to capital and reserves amounting to HUF 3 billion in early 2023, and the write-down of HUF 6.3 billion. Addition to capital and reserves was needed for financing the operation of the Money Museum. The write-down was related to the business model of the Museum, i.e. the company does not have revenue from the operation of the Museum, and thus the loss has been incorporated to its equity. The financing model of the company changes in 2024 and the operating expenses related to the Museum will be offset on an on-going basis by the founder MNB.

With the strategic ownership of **Budapesti Értéktőzsde Nyrt.** (BÉT, Budapest Stock Exchange Plc.), the basic aim of the MNB is to develop the market and achieve an adequately sized, effectively operating capital market, as a developed capital market and diversified financial intermediary system form the basis for a competitive economy and sustainable growth. The main elements of its strategic policy for the period 2021–2025 are: BÉT IPO, focus on profitability, making the most of core business growth potential, and creating secure IT operations supporting the business strategy. BÉT's first Sustainability Report was presented in the first half of 2023 and contains also its ESG strategy. BÉT went public in June and entered the Standard category on the 33rd anniversary of its re-establishment. The company has a minority interest in the KELER Group, consisting of **KELER Zrt.** and **KELER KSZF Zrt.**, in which the MNB holds a majority share. Therefore, as the majority owner of the Budapest Stock Exchange, the MNB holds a strategic share in the KELER Group as well. As the operator of the back-office infrastructure of the Hungarian securities market, the KELER Group settles, guarantees and clears BÉT stock exchange transactions and transactions with dematerialised securities issued in Hungary.

KELER Zrt. (KELER Plc.) provides central depository services in the Hungarian capital market and acts as a specialised credit institution. KELER issues the Hungarian ISIN codes and keeps the central registry, and performs the issuance, modification, and cancellation of the dematerialised securities. The company has a CSDR licence, in accordance with the European regulation on central depositories. The company is a member of the TARGET2-Securities (T2S) securities settlement platform operated by the ECB, which aims to make cross-border securities trading more efficient.

As a subsidiary of KELER, **KELER KSZF Zrt.** (KELER KSZF Plc.) handles the clearing service and CCP function in Hungary. As a clearing house, the company accounts the spot and derivative transactions traded on the Budapest Stock Exchange and the spot government security transactions traded on MTS Hungary, and as a CCP, it also guarantees that the transactions are completed. In addition to the capital market segment, transactions with electricity and natural gas trading have also become significant in recent years. In several markets (e.g. the Hungarian power exchange HUPX), KELER KSZF Zrt. provides its services as a member of ECC AG, headquartered in Leipzig, while in other markets (e.g. the Central European gas exchange CEEGEX) it acts as a CCP. The book value of the MNB's investment in KELER KSZF Zrt. increased to HUF 17 million as at 31 December 2023 due to the impairment test of the company.

Equity of domestic investments

The latest data available upon the compilation of the Annual Report are shown in the following table.

HUF millions

Investment	Share capital	Reserves	Profit/loss for the year	Equity
	31 December 2023			
Pénzjegynyomda Zrt.	11,827	11,455	3,532	26,814
Magyar Pénzverő Zrt.	1,309	2,615	665	4,589
Pénzügyi Stabilitási és Felszámoló Nonprofit Kft.	50	3	0	53
MNB-Biztonsági Zrt.	1,086	1,854	-255	2,685
GIRO Zrt.	7,496	9,822	792	18,110
MNB-Ingatlan Kft.	15	226,571	2,050	228,636
MNB-EduLab Nonprofit Kft.	50	18,120	-6,245	11,925
Budapesti Értéktőzsde Nyrt.	541	14,825	5,841	21,207
KELER Zrt.	4,500	23,039	5,118	32,657
KELER KSZF Zrt.	3,423	12,261	6,231	21,915

MNB's receivables from and liabilities to affiliated companies

HUF millions

Investment	Receivables	Liabilities
	31 December 2023	
Pénzjegynyomda Zrt.	363	281
Magyar Pénzverő Zrt.	781	3
Pénzügyi Stabilitási és Felszámoló Nonprofit Kft.	0	1,366
MNB-Biztonsági Zrt.	45	955
GIRO Zrt.	0	7
MNB-Ingatlan Kft.	2,647	369
MNB-EduLab Nonprofit Kft.	5	0
Budapesti Értéktőzsde Nyrt.	0	1
KELER Zrt.	20	36
KELER KSZF Zrt.	5	0
Total	3,866	3,018

Receivables from Pénzjegynyomda Zrt. and MNB-Biztonsági Zrt. arose solely from the refinancing of employee real estate loans, while receivables from Magyar Pénzverő Zrt. were due partly to this factor. Receivables from Magyar Pénzverő Zrt. were mostly due to advance payment. Receivables from MNB-Ingatlan Kft. resulted from deposits related to rents. Receivables from KELER Zrt. and KELER KSZF Zrt. contained the collateral required for BÉT trading.

Liabilities to PSFN Kft. were related to the subsidy approved to finance the company's operation in 2024; the amount was paid and recorded as expenditure in January 2024. Other liability items are mostly from the invoicing of contract-based services provided to the MNB.

Receivables from collaterals required for BÉT trading will exist until the end of the MNB's clearing membership. Receivables from rent-related deposits and real estate loans of subsidiaries' employees will be settled in accordance with the conditions of the underlying contracts. All other receivables and liabilities in the table are short-term in nature.

4.13 PROVISIONS AND IMPAIRMENT LOSSES

HUF millions

B/S line	Description	31 Dec 2022	Interim changes		31 Dec 2023
		Impairment losses / provisions	Increase	Use / Reversal	Total impairment losses / provisions
1	2	3	4	5	3+4+5
I.2.	Forint receivables from credit institutions	10,547	0	-2,143	8,404
I.3.	Other forint receivables	143,681	5,823	-24,999	124,505
III.	Invested financial assets	6,401	6,295	-7	12,689
III.	Other receivables	86	0	-15	71
VIII.	Off-balance sheet liabilities	909	392	-762	539
	- litigation related liabilities	191	336	-69	458
	- FGS+ refinancing loans	133	0	-107	26
	- derivatives	585	56	-586	55
	Total	161,624	12,510	-27,926	146,208
	Effect of the recognition of impairment losses/provisions on the profit/loss (VI.+VII.)-(XVI.+XVII.)		12,510	-27,926	-15,416

On 31 December 2023, the cumulated balance of provisions and impairment losses was HUF 146.2 billion, owing to the decrease during the year.

In relation to forint receivables (B/S line I.2 and I.3), net impairment of HUF 21.3 billion was reversed in 2023, due to the decreasing balance and improving qualification of monetary policy securities.

The impairment of invested financial assets increased by HUF 6.3 billion, due to qualification of the MNB-EduLab Nonprofit Kft. The impairment arose due to financing the operation of the Money Museum from equity, as the company does not have revenue from the operation of the museum, and the loss has been incorporated into its equity.

In connection with litigation-related contingent liabilities, compared to the end of 2022 the provision was increased by HUF 0.3 billion at the end of 2023, owing to two new proceedings.

The provision related to the FGS+ decreased by HUF 0.1 billion in 2023 as the balance of the refinancing loans changed.

The provision created for the negative market value of the open derivative transactions was HUF 0.1 billion at end-2023.

4.14 DEFERRED EXPENSES/ACCRUED INCOME AND ACCRUED EXPENSES/DEFERRED INCOME

HUF millions

B/S line	Description	Balance		Change
		31 Dec 2022	31 Dec 2023	
	Due to banking transactions	193,408	188,298	-5,110
	Due to internal operation	3,914	6,849	2,935
IV.	Deferred expenses/accrued income	197,322	195,147	-2,175
	Due to banking transactions	181,381	158,257	-23,124
	Due to internal operation	530	966	436
X.	Accrued expenses/deferred income	181,911	159,223	-22,688

Deferred expenses, accrued income, accrued expenses and deferred income primarily include interest received/charged and interest related income/charges and expenses incurred during the reporting period because of banking transactions, independently of the date of financial settlement.

4.15 CHANGES IN EQUITY

HUF millions

B/S line	Description	31 Dec 2022	31 Dec 2023	Change
XI.1.	Subscribed capital	10,000	10,000	0
XI.2.	Retained earnings	151,239	-250,714	-401,953
XI.3.	Valuation reserves	0	0	0
XI.4.	Revaluation reserves due to exchange rate changes	774,944	258,009	-516,935
XI.5.	Revaluation reserves of foreign currency securities	-278,352	-108,641	169,711
XI.6.	Profit/loss for the year	-401,954	-1,763,244	-1,361,290
XI.	Equity	255,877	-1,854,590	-2,110,467

The subscribed capital consists of a single registered share with a nominal value of HUF 10 billion.

The decrease of HUF 402 billion in retained earnings was the effect of the transfer of the 2022 loss.

Equity declined by HUF 2,110.5 billion to HUF 1,854.6 billion as of 31 December 2023, due to the loss for the year and the lower aggregate positive balance of the revaluation reserves.

The amount of MNB's equity fell below the subscribed capital at the end of 2023. Pursuant to the amended MNB Act and Stability Act, the Fiscal Council examined the MNB's equity position at its meeting on 23 December 2023. Based on its Opinion,⁵⁸ it is not necessary to provide reimbursement by the central budget in 2024. For the legislative changes affecting equity, see Section 4.1.1.

For more details on revaluation reserves, see Section 4.16.

⁵⁸ KVT/39-2/2023 – adopted by the Council with Resolution No. 7/2023.12.23.

4.16 REVALUATION RESERVES

HUF millions

B/S line	Description	31 Dec 2022	31 Dec 2023	Change
XI.4.	Revaluation reserves due to exchange rate changes	774,944	258,009	-516,935
XI.5.	Revaluation reserves of foreign currency securities	-278,352	-108,641	169,711
	Total revaluation reserves	496,592	149,368	-347,224

Revaluation reserves due to exchange rate changes are determined by the amount of revalued foreign exchange holdings and the difference between the official and average cost rate. The appreciation of the forint relative to year-end 2022 decreased the revaluation reserves, with the balance changing by HUF 516.9 billion to HUF 258 billion. The MNB took on foreign exchange rate exposure mainly in euro: as at 31 December 2023, the exchange rate was EUR/HUF 382.78, and the average cost rate was EUR/HUF 371.18.

Revaluation reserves of foreign currency securities are calculated as the difference between the market value and the amortised book value of securities. The market value difference on the securities in the MNB's portfolio showed a negative balance of HUF 108.6 billion as at 31 December 2023.

4.17 OFF-BALANCE SHEET MNB LIABILITIES AND OTHER SIGNIFICANT OFF-BALANCE SHEET ITEMS

Hedging transactions and derivatives for purposes other than hedging

HUF millions

No.	Description	31 Dec 2022			31 Dec 2023		
		Receivables	Liabilities	Net market value	Receivables	Liabilities	Net market value
1.	Interest rate swap transactions	2,897,883	2,897,883	-350,883	1,132,473	1,132,473	-140,954
	- IRS facility of monetary policy (MIRS)	1,099,617	1,099,617	-308,112	726,457	726,457	-127,492
	- IRS contracted with domestic credit institutions	175,200	175,200	-42,335	175,200	175,200	-13,843
2.	Futures	0	122,725	1,100	0	261,801	-1,122
3.	FX swap, FX futures and forward transactions	12,835,397	12,747,716	-271,530	11,768,753	11,681,333	-67,283
	- FX swaps with domestic banks providing EUR liquidity	2,647,254	2,677,519	-25,157	1,823,564	1,827,422	-2,253
4.	Currency swap transactions (including transactions without capital swap)	3,068,902	3,163,748	-212,543	1,058,032	1,148,995	-56,154
	- Currency swap transactions linked to FGS	96,769	75,450	46,010	79,074	64,486	26,527
5.	Total hedging transactions (1+2+3+4)	18,802,182	18,932,072	-833,856	13,959,258	14,224,602	-265,513
6.	Options	751	796	2	0	0	0
7.	TBA transactions	116,490	32,801	-1,219	85,387	46,189	703
8.	Futures	32,410	0	-417	88,667	0	520
9.	Interest rate swap transactions	18,079	18,079	-35	36,364	36,364	118
10.	Total derivative transactions for purposes other than hedging (6+7+8+9)	167,730	51,676	-1,669	210,418	82,553	1,341
11.	Total (5+10)	18,969,912	18,983,748	-835,525	14,169,676	14,307,155	-264,172

The above table includes all types of off-balance sheet receivables and liabilities arising from derivative transactions; it also includes FX swaps, interest-bearing currency swaps, FX futures and forward transactions for hedging purposes, which are part of the net foreign currency position and are recorded in the balance sheet, except for interest-bearing currency swaps without a capital swap. Hedging transactions reduce risks related to the net foreign currency position arising from cross-rate fluctuations and from interest rate changes, and support the creation of the benchmark foreign currency structure.

The interest rate swaps transactions with foreign partners for hedging purposes linked to specific bond issuances are concluded with the aim of achieving the interest structure deemed desirable by the MNB. By 31 December 2023, the balance of the monetary policy interest rate swaps (MIRS) decreased due to maturities. The balance of the interest rate swap transactions concluded with domestic credit institutions to reduce their interest rate risk in relation to the self-financing programme remained unchanged.

Bond futures transactions are hedging transactions maturing within 1 year to reduce the average remaining duration of the reserve portfolios.

FX swap, FX futures and forward transactions are primarily the main instruments for hedging foreign exchange risk, based on expectations related to foreign exchange rate changes; their aim is to achieve the targeted foreign currency position. FX swaps providing EUR liquidity are for monetary policy purposes; the MNB holds these tenders on an ad-hoc basis depending on liquidity.

Currency swaps are used to manage foreign exchange and interest rate risks jointly over the long term. By 31 December 2023, from the currency swap transactions the transactions without a capital swap have matured.

The remaining maturity of hedging transactions and the derivatives for purposes other than hedging is presented in the following table.

Liabilities from derivative transactions by remaining maturity

HUF millions

Remaining maturity	Balance		Change
	31 Dec 2022	31 Dec 2023	
- within 1 year	14,252,599	10,685,666	-3,566,933
- within 1 to 5 years	3,425,331	3,035,519	-389,812
- over 5 years	1,254,142	503,417	-750,725
Liabilities from hedging transactions	18,932,072	14,224,602	-4,707,470
- within 1 year	33,597	82,553	48,956
- within 1 to 5 years	18,079	0	-18,079
- over 5 years	0	0	0
Derivative transactions for purposes other than hedging	51,676	82,553	30,877
Total (1+2)	18,983,748	14,307,155	-4,676,593

Other off-balance sheet liabilities

HUF millions

Description	Balance		Change
	31 Dec 2022	31 Dec 2023	
FGS credit facilities	356,259	123,181	-233,078
Credit facilities to subsidiaries	44,275	2,145	-42,130
FGS+ related contingent liabilities	133	26	-107
Litigation-related contingent liabilities	247	535	288
Guarantees	2,464	2,283	-181
Other off-balance sheet liabilities	2	2	0
Total	403,380	128,172	-275,208

The contracts concluded but not yet disbursed in the framework of FGS Go! are reported as off-balance sheet liabilities, as credit facilities within 3 years from the conclusion of the contracts, thus until September 2024. Within the framework of FGS fix, the credits could be drawn down until May 2023, and thus these credit facilities terminated in 2023.

Credit facilities to subsidiaries include the funds still available from the contracted amount for the employee housing loans of Pénzjegynyomda (Hungarian Banknote Printing Plc.), Pénzverő (Hungarian Mint Plc.), MNB-Biztonsági Zrt. (MNB-Security Services Plc.) and from 2023 of MNB-EduLab (MNB-EduLab Nonprofit Ltd.). The total value of these credit facilities is HUF 2.6 billion and they will expire at the end of the years 2028, 2031 and 2033. Based on the credit agreement concluded with KELER KSZF Zrt. and its mid-year amendment, the funds were available until 31 October 2023, with the credit limit of HUF 50 billion decreased to HUF 30 billion.

In accordance with the contracts concluded in the framework of FGS+, the MNB reimburses credit institutions up to 50 per cent of the capital loss of credit institutions arising from SME loans, subject to a portfolio-level limit. FGS+ related contingent liabilities are used to record the expected reimbursement for which provisions have been made, in line with the qualification rules. Based on the data provided by the credit institutions the amount for the loss compensation decreased by HUF 0.1 billion as of 31 December 2023.

The legal proceedings are mostly proceedings against penalty resolutions connected to supervisory activities and include other compensation proceedings. The related contingent liabilities are used to record paid but litigated penalties and in connection to the other proceedings the expected compensation amounts for which provisions were formed. In 2023, the amount changed mainly due to the newly initiated cases.

The item 'Guarantees' includes on the one hand the HUF 0.2 billion owner's guarantee related to the collateral required in a subsidiary contract, and on the other hand the export guarantees amounting to HUF 2.1 billion. An irrevocable indemnity bond is always linked to the export guarantees, and when exercising a guarantee, the MNB has the right to a reverse guarantee if needed. The decrease in the forint value of the guarantees is the result of the exchange rate change.

Recording off-balance sheet securities transactions

HUF millions

Description	Balance		Change
	31 Dec 2022	31 Dec 2023	
Face value of securities lent - automatic securities lending	4,337	4,661	324
Face value of securities lent - agency securities lending	172,548	117,448	-55,100
Purchase cost of the non-cash hedge arising from security lending transactions	17,211	33,736	16,525
Purchase cost of investment of cash hedge arising from security lending transactions	147,842	78,110	-69,732
Market value of investment of cash hedge arising from security lending transactions	147,842	78,110	-69,732
Face value of securities bought under repo transactions	0	1,206,081	1,206,081
Face value of securities sold under reverse repo and blocked for ECB repo transactions	2,694,891	1,661,408	-1,033,483

4.18 NET INTEREST INCOME AND REALISED NET INCOME OF FINANCIAL OPERATIONS

Net forint and foreign currency interest and interest-related income

HUF millions

P/L line	Description	2022	2023	Change
(I.1.+II.2.)–(X.1.+XI.1.)	Central government	-11,604	-94,894	-83,290
(I.2.+II.3.)–(X.2.+XI.2.)	Credit institutions	-898,412	-1,611,468	-713,056
(I.3.+II.1.+II.4.)– (X.3.+XI.3.)	Other	104,427	63,315	-41,112
	Net profit/loss from interest	-805,589	-1,643,047	-837,458
	Forint securities	-22,168	-21,188	980
	Foreign currency securities	-28,924	22,850	51,774
	Derivative transactions for hedging and other purposes*	-205,623	-117,456	88,167
	Other	0	0	0
(I.4.+II.5.)–(X.4.+XI.4.)	Net interest-related profit/loss	-256,715	-115,794	140,921
(I.+II.)–(X.+XI.)	Net interest and interest-related income	-1,062,304	-1,758,841	-696,537

* For details on derivative transactions for hedging and other purposes, see the related table in this section.

In 2023, the MNB recorded a net interest and interest-related loss of HUF 1,758.8 billion, which was HUF 696.5 billion higher compared to end-2022.

Net interest income decreased by HUF 837.5 billion compared to the previous year, as a combined effect of the following:

The main negative factors in net interest income were:

- an increase of HUF 716.1 billion in interest expenses on the forint deposits of credit institutions, stemming from the higher interest rates of liquidity-absorbing instruments. In relation to these, the most significant items were the HUF 740.7 billion increase in interest paid on the deposit quick tenders, the HUF 474.2 billion increase in the amount of required reserves, related also to the raising of the required reserve ratio, and the interest expenses of HUF 87.8 billion on variable rate deposit tenders. Meanwhile interest expenses on one-week deposits decreased by HUF 540.7 billion because of the termination of the instrument and interests paid on O/N deposits were also lower by HUF 44.4 billion;
- an increase of HUF 164.9 billion in interest expenses on other forint deposits related to discount bills issued by the MNB;
- interest paid on the forint deposits of the central government was HUF 65.5 billion higher compared to 2022;
- interest expenses on other foreign currency liabilities rose by HUF 45.8 billion; of this, the increase in interest paid on the SDR allocation carried out by the IMF amounted to HUF 33.2 billion as a result of the changes in market interest rates, however it had a much smaller effect on net interest expenses, since a portion of the allocation is also part of the foreign exchange reserves (or belongs to such) and it caused a rise in interest income of HUF 21.3 billion as well. The interest paid on repo calls from international organisations also raised the interest expenses on other foreign currency liabilities;
- interest paid on the foreign currency deposits of the central government and on the foreign currency deposits of credit institutions increased by HUF 18.9 billion and by HUF 3.3 billion, respectively.

The main positive factors in net interest income were:

- an increase of HUF 169 billion in interest income on foreign exchange reserves compared to 2022;
- an increase in interest income on loans to and on bonds issued by credit institutions (mortgage bonds and securities issued with government guarantees or sureties) in the amount of HUF 6.3 billion, primarily as a result of interest income on margin deposits with banks related to derivative transactions concluded with credit institutions;
- forint interest income received from the central government rose by HUF 1.1 billion compared to 2022, related to the floating-rate bonds in the government bond portfolio.

Net interest-related income improved by HUF 140.9 billion; this item mainly includes the amortisation of the purchase price difference of securities and the net gain or loss on derivative transactions which are not related to exchange rate changes. In the past years, in a low-yield environment, on securities bought over the nominal value, an amortised net purchase price loss was recorded by approaching maturity. As the rise in yields has continued for a longer time, the ratio of securities bought under the nominal value gradually increased in the portfolio, and in 2023 an amortised net purchase price gain was realised. For details on derivative transactions, see the table below in Section 4.18.

Negative interest income/expenses in net forint and foreign currency interest and interest-related income

HUF millions

P/L line	Description	2022		2023	
		Total	of which: Negative sums for interest	Total	of which: Negative sums for interest
II.	INCOME				
	Interest and interest-related income denominated in foreign currency	287,018	-16,250	557,077	-1,662
II. 1.	Interest on foreign currency reserves	95,152	-11,297	264,163	-465
II. 3.	Interest on receivables from credit institutions	-25	-29	0	0
II. 5.	Interest-related income	191,891	-4,924	292,914	-1,197
XI.	EXPENSES				
	Interest and interest-related expenses denominated in foreign currency	381,145	-5,390	324,337	-18
XI. 1.	Interest on central government deposits	377	-1,974	19,254	-18
XI. 2.	Interest on deposits by credit institutions	540	-767	3,884	0
XI. 3.	Interest on other liabilities	24,135	-520	69,898	0
XI. 4.	Interest-related expenses	356,093	-2,129	231,301	0

Note: Table includes only P&L lines affected by negative sums for interest.

In accordance with the interest structure stated in the MNB Decree, negative interest income and expenses are recorded in the original P&L lines related to assets/liabilities (in net terms). For example, interest income on deposits of the central government, arising from negative yields, is recorded in the line 'XI. 1 Interest expense on central government deposits'. This method may cause negative balances in the statements.

Details on income from derivative transactions for hedging and for purposes other than hedging represented in interest-related income

HUF millions

Description	2022	2023	Change
Interest margin on interest rate swaps	-68,747	-160,345	-91,598
Net interest result of currency swaps	-21,752	-1,246	20,506
Net interest result of FX swaps, FX futures and forward transactions	-82,758	45,036	127,794
Net interest result of futures transactions	-1,083	764	1,847
Net interest-related result of hedging transactions	2,234	-1,137	-3,371
Net interest and interest-related result of other transactions	-33,517	-528	32,989
Net result of derivative transactions	-205,623	-117,456	88,167

Interest rate swaps include derivative transactions concluded with domestic credit institutions and with foreign partners. The decrease of HUF 91.6 billion in interest income on interest rate swaps stemmed predominantly from the deterioration of interest income on interest rate swaps concluded with domestic credit institutions (IRS facility of monetary policy and IRS facility related to self-financing programme) due to the change in market interest rates.

Currency swap transactions comprise derivative transactions concluded with the Government Debt Management Agency, with foreign partners and with domestic credit institutions. The transactions concluded with foreign partners are mainly hedging transactions concluded with the Government Debt Management Agency. The transactions concluded with domestic credit institutions include the currency swaps related to Pillar II of the FGS. Net interest income on currency swaps showed a loss of HUF 1.2 billion, which was HUF 20.5 billion lower compared to the loss for 2022. The change was due to the expiry of a part of the transactions, as well as the development of foreign exchange yields.

Hedge FX swaps include short-term transactions concluded with foreign partners, with the Government Debt Management Agency and with domestic credit institutions. FX futures and forward transactions comprise short-term transactions concluded with foreign partners. Net interest income on these transactions amounted to HUF 45 billion, increasing the result by HUF 127.8 billion. The decrease in the net interest expenses on FX swaps was mainly related to the change of foreign exchange yields in the case of transactions concluded with foreign partners, while in the case of transactions providing euro liquidity to domestic credit institutions, it was due to the expiry of stocks.

The net interest result of hedging futures transactions amounted to a gain of HUF 0.8 billion; this item turned positive due to the increase in net interest income of bond futures.

Net interest-related income on hedging transactions includes the exchange rate gains or losses on swap transactions and the option fee of option transactions. The change in net interest-related result of HUF 3.4 billion in 2023 arose mainly from the decrease in net exchange rate gains on hedging swap transactions caused primarily by the termination of MIRS transactions concluded with Sberbank which is under liquidation.

Net interest and interest-related income on other transactions increased by HUF 33 billion; the change was related mainly to TBA transactions and to bond futures transactions other than hedging.

Realised gains/losses from financial operations

HUF millions

P/L line	Description	2022	2023	Change
	Realised gains on corporate bonds	0	15	15
	Realised gains on coupon-bearing bonds denominated in foreign currency	1,308	3,892	2,584
IV.	Realised gains from financial operations	1,308	3,907	2,599
	Realised losses on bonds issued by the Hungarian government	1,144	0	-1,144
	Realised losses on bonds issued by enterprises	191	283	92
	Realised losses on coupon-bearing bonds denominated in foreign currency	27,402	46,351	18,949
XIV.	Realised losses from financial operations	28,737	46,634	17,897
IV.-XIV.	Net financial gains/losses	-27,429	-42,727	-15,298

In 2023, net realised losses from financial operations amounted to HUF 42.7 billion, reflecting an increase of loss of HUF 15.3 billion compared to 2022. Realised losses arose predominantly from sales of bonds denominated in foreign currency, owing to the increase in foreign exchange market returns, relevant for the reserve portfolio, which continued for most of the year.

4.19 COMPONENTS OF INCOME FROM THE REVALUATION OF FOREIGN EXCHANGE HOLDINGS

HUF millions

Description	2022	2023
Net income from exchange rate changes (realised and conversion spread)*	797,659	90,558
Change in revaluation reserves in the balance sheet** (due to unrealised revaluation net income)	120,492	-516,935
Total effect of exchange rate changes	918,151	-426,377

* P/L line: III.-XII.

** Revaluation reserves due to exchange rate changes (balance sheet line XI.4.).

In 2023, the total net exchange rate change effect was a loss of HUF 426.4 billion. The MNB realised a gain of HUF 90.6 billion on sales involving a decrease in the daily net FX position, while the revaluation reserve amount was reduced by unrealised exchange rate losses of HUF 516.9 billion during the year. In 2023, foreign currency sales occurred mainly in relation to the debt management transactions of the Government Debt Management Agency and, until the end of March, to the hedging of energy-importing companies' needs for foreign currency.

For more details on revaluation reserves, see Section 4.16.

4.20 COST OF ISSUING BANKNOTES AND COINS

HUF millions

P/L line	Description	2022	2023	Change
	Cost of banknote production	7,436	9,153	1,717
	Cost of coin production	4,347	5,088	741
	Cost of production of commemorative and collector coins	1,399	1,525	126
XIII.	Cost of issuing banknotes and coins	13,182	15,766	2,584

The total cost of issuing banknotes and coins amounted to HUF 15.8 billion in 2023, an increase of HUF 2.6 billion (20 per cent) compared to the previous year.

The cost of banknote production amounted to HUF 9.2 billion, showing an increase of HUF 1.7 billion versus 2022, due to the rise in unit prices, in spite of the shrinking production volume. The cost of coin production was HUF 5.1 billion, reflecting an increase of HUF 0.7 billion compared to the previous year, which was a result of the much higher raw material prices although production volume decreased.

The cost of producing commemorative and collector coins amounted to HUF 1.5 billion in 2023, exceeding the figure for 2022 by HUF 0.1 billion. Costs increased due to higher raw material prices, but this was offset by the smaller volume of coins issued during the year.

4.21 OTHER INCOME/EXPENSES

HUF millions

P/L line	Description	2022	2023	Change
V.1.	Income from fees and commissions	2,653	2,638	-15
XV.1.	Expenses of fees and commissions	2,815	2,781	-34
	Net income from fees and commissions	-162	-143	19
V.2.	Income other than fees and commissions	4,954	4,140	-814
XV.2.	Expenses other than fees and commissions	4,615	4,997	382
	Net income other than fees and commissions	339	-857	-1,196
V.3.	Income from supervisory activities	25,684	31,093	5,409
V.-XV.	Other net results	25,861	30,093	4,232

Net income from fees and commissions includes the balance of income from and expenses on fees and commissions linked to payment services, income from fees related to account management, the cost of securities trading as well as expenses on fees related to holding foreign currency reserves.

For more details on income other than fees and commissions, see Section 4.22.; in respect of income related to supervisory activities, see Section 4.23.

4.22 INCOME OTHER THAN FEES AND COMMISSIONS

HUF millions

P/L line	Description	2022	2023	Change
	Dividends from investments	1,942	2,213	271
	Income related to coins and commemorative coins	1,603	1,717	114
	Recommitment of financial money transfer	254	117	-137
	Income from assets assigned free of charge	12	3	-9
	Other income	1,143	90	-1,053
V.2.	Income other than fees and commissions	4,954	4,140	-814
	Expenses related to coins and commemorative coins	1,278	1,611	333
	Financial money transfer	3,170	3,246	76
	Expenses related to public proceedings	0	24	24
	Expenses from assets assigned free of charge	117	73	-44
	Other expenditures	50	43	-7
XV.2.	Expenses other than fees and commissions	4,615	4,997	382
V.2.-XV.2.	Net income/expenses other than fees and commissions	339	-857	-1,196

Dividends from investments amounted to HUF 2.2 billion in 2023. BÉT paid a dividend of HUF 0.4 billion, KELER paid HUF 0.5 billion, Pénzverő paid HUF 0.2 billion, while BIS paid HUF 1.1 billion (EUR 2.98 million) to the MNB.

Net income related to coins and commemorative coins depends on the commemorative coin programme, and arises mainly from the difference between the income from sales of commemorative coins and expenses related to the removal of the coins' face value. Related income and expenses are almost equal, since by agreement, the sale of commemorative coins is accounted with Magyar Pénzverő Zrt. at face value, except when the production cost exceeds the face value (the latter is typical for gold coins). In 2023, net income arose mainly from the issue of the gold commemorative coins 'Andrew I of Hungary'.

The item 'Financial money transfer' includes donations to professional organisations and foundations, as well as to organisations for charitable and other purposes. In 2023, the MNB gave HUF 3.2 billion as donations, up HUF 0.1 billion versus the previous year. The highest amounts were HUF 1.1 billion paid for the annual operation of PSFN Kft., nearly HUF 1.5 billion paid to universities and HUF 0.4 billion to Pénziránytű – Alapítvány a Tudatos Pénzügyekért (a foundation for financial education). According to the MNB Act, 6 per cent of the penalties received in the previous year can be used for promoting and supporting environmental goals, in order to mitigate the effects of the MNB's activities on the environment. Based on the law, in 2023 HUF 43 million was paid to WWF Hungary as donation. During the year, HUF 0.1 billion was returned to the MNB as an unused donation affecting previous years.

The item 'Expenses from assets assigned free of charge' includes books and coins transferred to foundations and to other organisations.

4.23 INCOME FROM SUPERVISORY ACTIVITIES

HUF millions

P/L line	Description	2022	2023	Change
	Supervisory fee and default interest	23,595	26,877	3,282
	Received penalties and reimbursement from public proceedings	1,867	3,917	2,050
	Administrative service fee from public proceedings	208	284	76
	Late payment surcharge for supervisory claims	5	9	4
	Other income arising from administrative procedures	9	6	-3
V.3.	Income from supervisory activities	25,684	31,093	5,409

The main component in income from supervisory activities is supervisory fees received from the supervised institutions obliged to pay such fees. In 2023, the income arising from the assessment of the minimum charges for the entire year and of the variable-rate fees due quarterly amounted to HUF 26.9 billion, while in 2022 the set fee obligation amounted to HUF 23.6 billion. The increase in the supervisory fee was related primarily to the banking sector. Income from penalties imposed by the MNB and from reimbursements totalled HUF 3.9 billion.

4.24 OPERATING INCOME AND EXPENSES

HUF millions

P/L line	Description	2022	2023	Change
	Income from assets and inventories	83	23	-60
	Income from subcontracted services	545	349	-196
	Income from invoiced services	152	154	2
	Other income	86	25	-61
VIII.	Total operating income	866	551	-315
	Expenses of materials	31,214	35,876	4,662
	Cost of materials	1,005	2,751	1,746
	Services contracted	30,157	33,026	2,869
	- Maintenance, operation and rent of properties	11,043	10,086	-957
	- Maintenance and rent of equipment	2,810	2,878	68
	- Consultancy services	1,656	2,243	587
	- IT systems services	4,329	5,439	1,110
	- Guarding services, transport of banknotes and coins	4,087	5,310	1,223
	- Advertisements, market research	2,158	2,618	460
	- Other, non-significant services*	4,074	4,452	378
	Other services	52	99	47
	Personnel-related costs	32,533	39,274	6,741
	Depreciation	6,191	7,163	972
	Transfer of costs of other activities	-656	-945	-289
	Total operating costs	69,282	81,368	12,086
	Expenses incurred on assets and inventories	385	23	-362
	Expenses incurred on subcontracted services	538	345	-193
	Expenses incurred on invoiced services	150	150	0
	Other expenses	3,413	642	-2,771
	Total operating expenses	4,486	1,160	-3,326
XVIII.	Total operating costs and expenses	73,768	82,528	8,760
VIII.-XVIII.	Net operating expenses	-72,902	-81,977	-9,075

* In particular, 'Other, non-significant services' contains postal and telecommunication services, preparation of publications, travel and hotel services, services for education, translation and audit, membership fees, as well as the distribution of commemorative coins.

In 2023, net operating expenses amounted to HUF 82 billion, an increase of HUF 9.1 billion (12.4 per cent) compared to 2022.

Operating costs rose by HUF 12.1 billion (17.4 per cent) in 2023 compared to the previous year. 2023 expenditures were increased mainly by personnel-related costs, but expenses of materials and – to lesser extent – depreciation also rose versus 2022.

In 2023, expenses of materials exceeded the expenses incurred in 2022 by more than HUF 4.7 billion (14.9 per cent). This mainly explained by the material costs and services used detailed below:

– Compared to the previous year, the 'Cost of materials' rose significantly in 2023 (from HUF 1 billion to HUF 2.8 billion), with this mainly appearing in the cost of electricity due to the sharp increase in electricity service fees in 2023.

- In 2023, the cost of ‘Guarding services, transport of banknotes and coins’ was HUF 1.2 billion higher compared to 2022, mainly due to the increase in fees for guard protection services.
- The increase in the costs of ‘IT systems services’ (from HUF 4.3 billion to HUF 5.4 billion) basically stemmed from additional costs due to IT investments previously implemented (functional expansions, higher availability levels, automation of existing processes), and the maintenance and support contracts concluded in previous years. In addition, the MNB continued to pay special attention to maintaining and increasing IT security, which was also accompanied by rising expenditures.
- The costs of ‘Consultancy services’ rose from HUF 1.7 billion to HUF 2.2 billion in 2023 mainly due to the expenses of consultancy supporting the IT system development of the functional areas of the MNB, as well as other expert costs (e.g. implementation of the Data warehouse development) approved on the basis of mid-year decisions by the MNB Board of Directors. The rise in the expert and consulting fees related to guarding and cost of consulting for credit assessment related to Bond Funding for Growth Scheme also contributed to the increase.
- The main reason for the increase in costs of ‘Advertisements, market research’ (from HUF 2.2 billion to HUF 2.6 billion) was the additional demand of the functional areas, as well as the increase in prices. In addition, advertising costs related to communication and the cost of communication services rose by a smaller amount than before.
- The costs of ‘Other, non-significant services’ increased in 2023 mainly in relation to mission-related travel, non-personnel and accommodation costs (by HUF 0.2 billion to HUF 0.7 billion in total), after the number and cost of missions were significantly lower in 2022 due to the effect of the pandemic. The amount of membership fees rose by smaller amount than previously (from HUF 1.2 billion to HUF 1.3 billion), and furthermore the cost of education, the cost of news services and the cost of distributing commemorative coins also increased. The financial statements and audit costs (due diligence based on accounting documents, ad-hoc financial/accounting analyses, consulting) amounted to a gross sum of HUF 68 million, of which the MNB’s annual audit fee was HUF 52 million in 2023.
- Compared to the previous year, the cost of ‘Maintenance, operation and rent of properties’ decreased in 2023 (from HUF 11 billion to HUF 10.1 billion). This is basically the result of the fact that from 2023, the rent of properties – rented from the MNB-Ingatlan Kft. – was determined on the basis of the cost of the properties determined in HUF, instead of the previous pricing in EUR, which significantly reduced the rents in 2023.

Personnel-related costs increased by HUF 6.7 billion (20.7 per cent) compared to 2022. The major factor in this regard was the decision by the MNB Board of Directors to increase the annual wage bill by 11.9 per cent from 1 January 2023 and under defined conditions by an additional 5 per cent from 1 July 2023, in order to secure and retain highly skilled employees in the long run. Over and above this, the Balatonakarattya Oktatási és Konferencia Központ (Balatonakarattya Education and Conference Centre) was opened during the year, and the costs – also taking into account its utilisation exceeding the preliminary calculations – were part of the operating costs for the first time. The increase in the number of events with online and personal participation and the increase in representation expenses had an additional impact on personnel-related costs.

The depreciation and amortisation of tangible and intangible assets in 2023 was 15.7 per cent higher than the previous year. This is mainly due to the investments, predominantly in IT, made in the second half of 2022 and 2023, within which the acquisition of intangible assets (software) was significant.

Prime cost transfers are intended to ensure that the total amount of operating expenses reflects only actual expenses incurred by the MNB (e.g. rent paid by Magyar Pénzverő Zrt. for the partial use of MNB Logisztikai Központ (MNB Logistics Centre); reimbursed expenses related to payment system – VIBER, instant payment system). The transfer amounts increased compared to the previous year, mainly because of the transfer of the 2020–2022, and 2023 personnel expenses related to the system of Distributed Ledger Technology (registration of housing insurance and IT support of the business process of providing loan collateral with distributed ledger technology) to investments.

In 2023, other (operating) expenses included receivables – mainly supervisory receivables – written down because of uncollectibility in the amount of HUF 0.5 billion, which did not have any impact on the result, as the related provision was used.

4.25 INFORMATION ON WAGES AND NUMBER OF STAFF, REMUNERATION OF EXECUTIVE OFFICERS

Wage and headcount data

HUF millions			
Description	2022	2023	Change (%)
Payroll costs incurred on staff	23,135	26,810	15.9
Other staff costs*	712	691	-2.9
Payroll	23,847	27,501	15.3
Other payments to personnel	4,916	7,227	47.0
Social contribution tax	3,622	4,374	20.8
Contribution to rehabilitation	131	151	15.3
Sick-allowance	17	21	23.5
Taxes on personnel-related payments	3,770	4,546	20.6
Payments to personnel	32,533	39,274	20.7
* Other wage costs include absence payments for notice periods and amounts paid to staff off payroll and non-MNB workers.			

Persons			
Description	2022	2023	Change (%)
Average number of staff	1,568	1,561	-0.4

Remuneration of executive officers

Bodies		2023
Monetary Council*		614
Supervisory Board		268
* Includes the salaries and other payments to internal and external members of the Monetary Council in an employment relationship with the MNB pursuant to Article 9 (4) c) of the MNB Act.		

Loans of executive officers

Bodies	Amount of loans	Outstanding at 31 Dec 2023	Maturity	Rate of interest
	HUF millions			
Monetary Council	128	80	1 Oct 2033	2.5%
Supervisory Board	-	-	-	-

21 May 2024, Budapest

Dr György Matolcsy
Governor of the Magyar Nemzeti Bank

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