



CROATIAN NATIONAL BANK

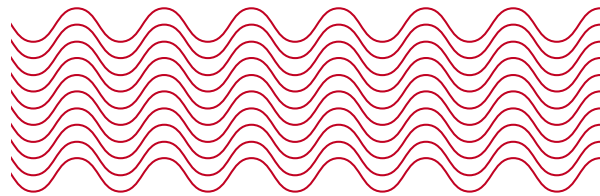
EUROSYSTEM

2022

ANNUAL REPORT

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ZAGREB, JUNE 2023

Annual Report **2022**

Climate Report and Financial Statements

Foreword

We have adopted the euro and see that as a result inflation in Croatia is lower than in EU member states outside the euro area, with interest rates for citizens and businesses being lower and financing conditions more favourable. The introduction of the euro almost completely eliminated currency risk and led to a fall in government borrowing costs as early as 2022. Finally, the direct impact of euro adoption on inflation, despite concerns, was minimal and was around 0.4%.

No euro area member state has adopted the euro in such challenging and unpromising circumstances. In addition to the pandemic and geopolitical uncertainties and the global rise in energy and raw material prices and high inflation, macroeconomic requirements were imposed on Croatia, which previous candidate countries did not have to comply with.

Economic activity continued to grow strongly in 2022. Macroprudential policy strengthened the resilience of credit institutions, while the banking sector maintained high levels of liquidity and capital. Harmonisation with the ECB's procedures in exercising supervision over credit institutions, as well as the development of new statistical indicators and reports fully comparable within the euro area, have been completed. Within the CNB, work on ethical rules continued, which was completed by the new Code of Conduct of the CNB and the adoption of decisions related to it in the middle of the year.

An important element in preparing for the introduction of the euro was the organisation of the cash changeover process. During the year, the CNB was involved in all segments of this activity, namely the adjustment of the legal framework, preparations for cash changeover and cooperation with banks on IT and other adjustments.

In 2022, initial quantities of euro banknotes and coins for frontloading to banks were procured. After the designs were chosen for the Croatian side of euro coins, with the participation of Croatian citizens, the selection of the design of the national side was completed in May and the production of euro coins started on 18 July 2022, only a few days after the EU Council decision on the introduction of the



Boris Vujčić, Governor
of the Croatian National
Bank

euro in Croatia. As regards the withdrawal of kuna banknotes and coins, it is worth noting that citizens followed the recommendations of the Government of the Republic of Croatia and the CNB and deposited a significant amount of kuna banknotes and coins in bank accounts. As a result, the value of currency in circulation was as much as 60 % lower at the end of December 2022 than at the end of 2021.

The Croatian National Bank and the Government conducted a major national campaign to ensure that Croatian citizens of all ages and educational groups, those living in urban centres, those in small places and rural communities, digitally literate persons, as well as those using traditional means of communication, pensioners, less privileged individuals, national minorities, blind and visually impaired and other vulnerable groups of the population were informed in a timely and complete manner about all the key facts of the kuna changeover to euro.

In particular, I would point out that since this year we have also published a Climate Report, and thus joined central bank efforts in the fight against climate change.

We are facing serious demographic, climate, structural, economic and other challenges. The introduction of the euro is not a substitute for reforms or a solution to all problems; however, it permanently eliminates currency risk, facilitates business operations, strengthens the competitiveness of the economy, improves financing conditions for the government, businesses and citizens, and guarantees greater resilience to financial crises and external shocks. Membership in the monetary union and participation in policy-making together with the 19 countries with which we share the currency permanently support economic growth and increase the well-being of citizens, thus accelerating the achievement of standards of more developed euro area countries. This was precisely the purpose of adopting the euro.



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Preparations for the adoption of the euro

All of the conditions for adoption of the euro have been met in 2022, and operational preparations in the financial and non-financial sectors for the changeover to the new official currency have been successfully completed. Croatia has thus come close to achieving the important strategic goal defined by the Government of the Republic of Croatia and the CNB in 2017 in a document entitled Strategy for the Adoption of the Euro in the Republic of Croatia ❶. The successful completion of the procedure for adopting the euro in the shortest possible time is a significant achievement, especially when it is taken into account that in the key stages of the process Croatia was affected by several strong shocks – the pandemic crisis, devastating earthquakes and global inflation – which represented a great challenge for the Croatian economy and economic policy makers.

The procedure of adopting the euro was initiated by the Government of the Republic of Croatia and the CNB, motivated by the significant economic benefits that will accrue to Croatia, as a small, open and highly euroised country. The adoption of the euro permanently removes currency risk, facilitates business operations, further strengthens the competitive position of Croatian tourism, improves financing conditions for the government, enterprises and citizens, and guarantees the Croatian economy, as a whole, greater resistance to financial crises and external shocks in the future. In this way, membership in the euro area will permanently support economic growth and macroeconomic stability in Croatia, and thus enable faster convergence with the income levels in the advanced euro area member states.

The formal procedure preceding the adoption of the euro was completed on 12 July 2022, when the EU Council adopted the decision ❷ on the adoption by Croatia of the euro on 1 January 2023. At the same time, by amending the corresponding regulation ❸, the EU Council determined that the fixed conversion rate at which the kuna is exchanged for the euro was to be 7.53450 kuna for 1 euro, which is equal to the central parity that was established when the Croatian kuna was included in the Exchange Rate Mechanism (ERM II) two years prior to the amendment in question. The decision of the EU Council on the adoption by Croatia of the euro was based on the Convergence Report of the European Commission ❹ and the Convergence Report of the ECB ❺, published on 1 June 2022, in which it was established that Croatia had met all of the nominal convergence criteria – the price stability criterion, the criterion of stability and sustainability of public finances, the criterion of exchange rate stability and the criterion of long-term interest rates. It was also established that Croatian legislation was fully harmonised with the relevant regulations of the European Union. It should be noted that in early 2022 there was some uncertainty as to whether

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Croatia would meet the price stability criterion in the conditions of high inflation. Nevertheless, since the inflation rate in Croatia, under conditions of global inflationary pressures, was comparable to inflation rates in other EU member states, the average inflation rate in the period under consideration being lower than the reference value, Croatia was deemed to have satisfied that criterion successfully as well.

With regard to operational preparations for currency changeover, the CNB participated in all segments of these activities during the year. The CNB participated in the drafting of legislative changes, managed the preparations for cash changeover and intensively cooperated with banks regarding IT adjustments and other adjustments that the banks were obliged to carry out before the adoption of the euro. In addition, CNB experts were involved in the work of coordination committees that led and supervised adjustments in the government sector and the non-financial corporate sector, as well as in the work of the coordination committee for communication that was responsible for notifying citizens in a timely manner of all important issues related to the adoption of the euro in Croatia.

The Act on the Introduction of the Euro as the Official Currency in the Republic of Croatia , in the drafting of which CNB experts participated in 2021 and 2022, was adopted by the Croatian Parliament on 13 May 2022. In addition to drafting the framework law, during the year the CNB was also involved in the preparation of amendments to current laws in the field of payment operations, foreign exchange operations and credit institutions, which were necessary to preserve legal certainty after the adoption of the new official currency. In the second half of the year, the CNB also adopted a series of subordinate regulations based on the Act on the Introduction of the Euro, including subordinate regulations in the area of monetary policy in order to fully harmonise the framework for the implementation of monetary policy with that of the Eurosystem. In 2022, procurement procedures for initial quantities of euro banknotes and coins were carried out, as well as the frontloading of euro banknotes and coins to banks. The selection of the design for the Croatian euro coins was completed in May, and minting of the euro coins commenced on 18 July 2022, just a few days after the decision of the EU Council on the adoption by Croatia of the euro. By the end of the year, the Croatian Mint struck around 405 million euro coins with Croatian symbols on the national side. For the purposes of the adoption of the euro, euro banknotes were not produced separately, but the CNB secured the necessary initial quantities by borrowing from the Austrian Central Bank. As part of the frontloading, which took place in the period from early October to late December, banks took over 388 million euro coins and 62 million euro banknotes from the CNB. With regard to withdrawal of kuna banknotes and coins, it should be noted that, in the second half of the year, citizens acted in accordance with the recommendations of the Government of the Republic of Croatia and the CNB, depositing a significant amount of kuna banknotes and coins in their bank accounts. Therefore, in late December 2022, the value of banknotes and coins in circulation was as much as 60% lower than in late 2021.

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In addition to activities related to cash changeover, during the year the CNB was hard at work cooperating with banks on the adjustment of information systems and monitored whether the banks comply with the provisions of the Act on the Introduction of the Euro as the Official Currency in the Republic of Croatia. The adjustment of banks' information systems was a sensitive operation due to the complexity of those systems and the negative consequences that could arise if the adjustments were not carried out on time; the success of these adjustments depended on whether kuna deposits and loans would be correctly recalculated and whether cashless payment operations in the country would function smoothly after the changeover. The CNB also monitored whether credit institutions complied with the dual display obligation and other provisions of the Act on the Introduction of the Euro through a special working body¹.

¹ The Group for Monitoring of the Implementation of the Act on the Introduction of the Euro as the Official Currency in the Republic of Croatia was established in July 2022, and its mandate expires on 31 March 2024.

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Monetary policy and economic developments

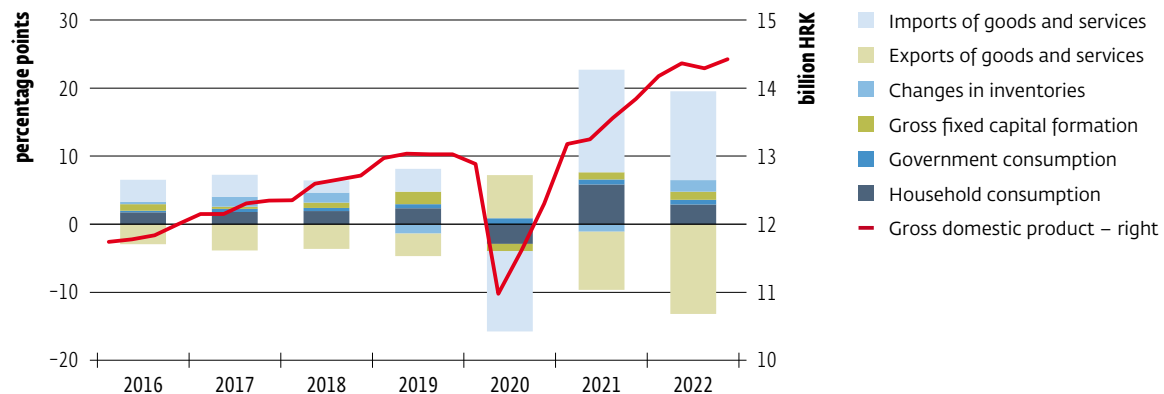
After the strong recovery in 2021, the level of economic activity surpassing the pre-pandemic level, the economy continued its relatively strong growth in 2022, despite strong inflationary pressures and the deterioration of trade conditions related to the significant rise in energy prices. Croatia's real gross domestic product increased by 6.3% on an annual level, with an increase in all foreign and domestic demand components. Consumer price inflation accelerated considerably in 2022, partly resulting from the spillover of the high prices of raw materials and other input costs in the world market to domestic prices. In addition, profit margins increased and inflationary pressures also came from the domestic labour market, resulting from strong tourism-related demand. The surge in energy prices also contributed to a deeper foreign trade deficit, which resulted in a noticeable fall in the current and capital account surplus. In 2022, the character of the CNB's monetary policy was predominantly marked by the preparations for the introduction of the euro, which to a large extent offset the pressures of external shocks on the domestic financial market. The adjustment of the monetary policy instruments resulted in a record-high liquidity level in the banking system, which mitigated the transfer of tighter financing conditions spurred by the ECB's monetary policy normalisation. Irrespective of the gradual rise in interest rates on loans and stricter standards, bank lending activity was exceptionally strong in 2022, so that the growth in loans also accelerated significantly on an annual level. The strong real growth and the increase in the price level had a favourable impact on budget revenues, enabling the general government to run a surplus, with a considerable reduction in the public debt-to-GDP ratio.

STRONG RECOVERY IN REAL ECONOMIC ACTIVITY IN 2022

Following the strong recovery in 2021, when the level of economic activity exceeded the pre-pandemic level, the economy continued its relatively robust growth in 2022, despite strong inflationary pressures and the deterioration of trade conditions related to the significant rise in wholesale energy prices. The increase in real gross domestic product by 6.3% was attributable to all foreign and domestic demand components. Notably favourable developments were recorded in foreign demand, in particular exports of services, due to exceptionally good performance during the tourist season. Household consumption increased by a relatively strong 5.2% on an annual level, spurred by the continuation of growth in employment and consumer lending, although the rise in consumption was subdued in the second half of the year due to inflationary pressures and the resulting fall in real

FIGURE 2.1 All components of domestic and foreign demand increased in 2022

contributions by GDP components and seasonally adjusted real GDP level



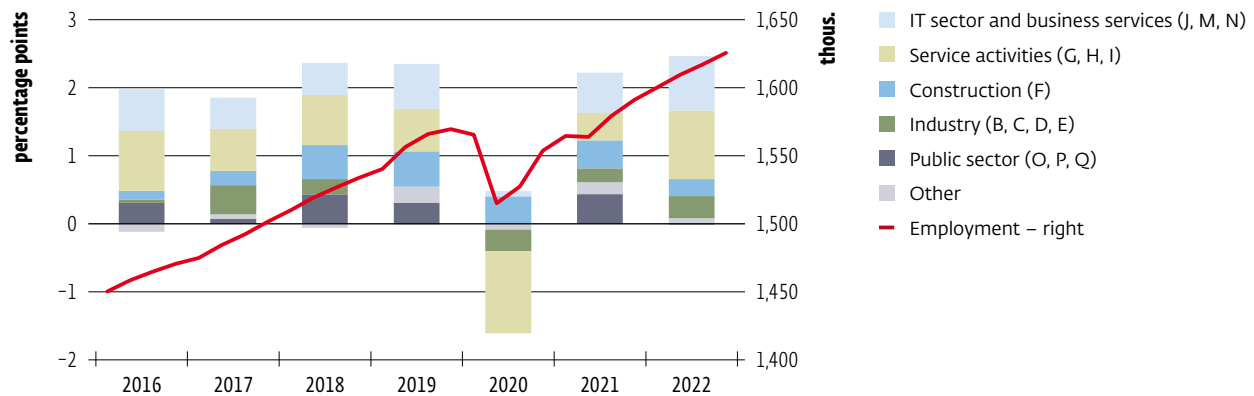
Source: CBS.

wages, which had an unfavourable impact on the levels of consumer optimism. Investment activity grew by approximately 6%, reflecting the growth in private sector investments, while government investments declined on an annual level. Domestic demand was also supported by fiscal measures for the alleviation of the negative social and economic effects of the rise in energy prices and of total inflation. Government consumption also grew (3.0%). The recovery in foreign and domestic demand spurred the growth in imports, so that the contribution of net foreign demand to total economic growth was slightly negative (Figure 2.1).

Economic developments during the year were uneven. The strong growth in the beginning of the previous year was subdued by unfavourable developments in the external environment caused by the Russian invasion of Ukraine. Thus, after solid growth in the first and the second quarter, in the period from July to September real GDP fell relative to the previous three months, primarily because of the deterioration in net exports. In the last three months of 2022, real GDP rose again on a quarterly level, reflecting the good performance in the exports of services and investments, government consumption also increasing. On the other hand, the exports of goods declined, and personal consumption also decreased notably.

In 2022 employment grew at an intensity (2.4%) similar to that in 2021 (2.2%). The mentioned growth was completely generated by the private sector, mostly by service activities. Thus the growth in total employment was mostly attributable to trade, transportation and accommodation activities as well as to the IT sector and business services (Figure 2.2). At the same time, the registered unemployment rate fell to 6.8% in 2022 (from 8% in 2021). The decline in the unemployment rate is also evident from the latest available data from the Labour Force Survey, according to which it stood at 7% on average in 2022 from 7.7% in 2021. In 2022, the demand for labour was partially met by the employment of third-country workers (from non-EU countries), primarily in construction and service activities. At the same time,

FIGURE 2.2 Growth in employment in 2022 was mostly attributable to employment in the service sector
employment by NCA (contributions to the annual rate of change) and total employment

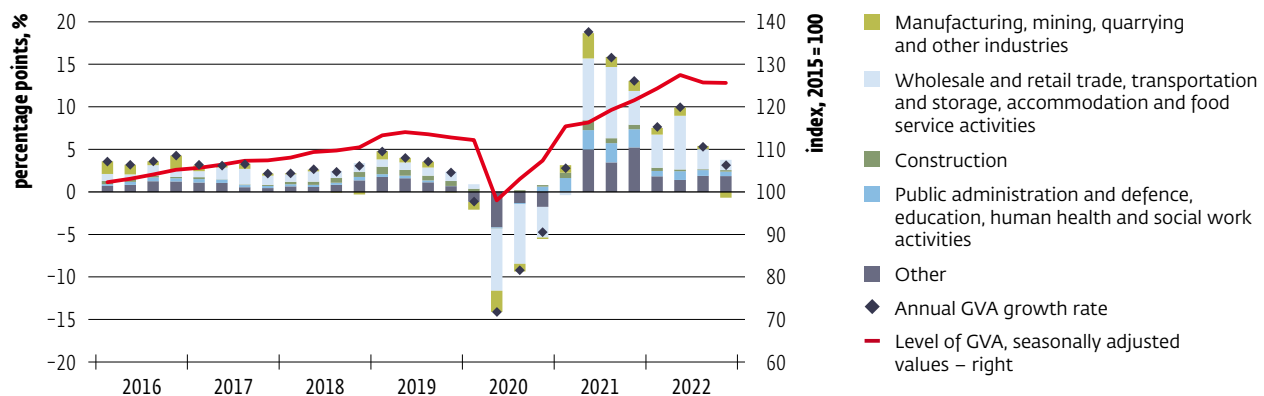


Source: CPIA (seasonally adjusted by the CNB).

growth in nominal gross wages accelerated considerably (to 7.9% from 4.1% in 2021), predominantly mirroring the more dynamic increase in wages in the private sector, while the growth of wages in the public sector was more moderate. Nominal net wages increased in 2022 at the rate of 7% (from 5.5% in 2021). However, due to accelerating inflation real net wages fell by 3.4% (after having grown by 2.9% in 2021).

Real gross value added increased at a similar pace as real GDP (6.4%) in 2022. The strongest increase in GVA was in activities closely related to tourism (wholesale and retail trade, transportation and storage, accommodation and food service activities), in the information and communication sector and in the sector of professional, scientific, technical, administrative and ancillary services. A positive contribution to growth in total GVA, albeit at a smaller intensity, also came from

FIGURE 2.3 Strong annual growth in real GVA slowed down in the second half of 2022
contributions by activities



Source: CBS.

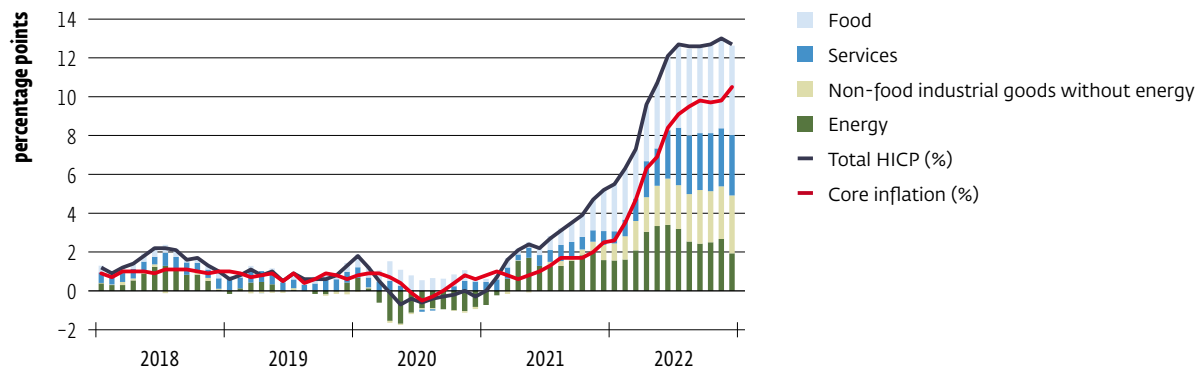
all other activities. Following a sharp increase in the first half of the year, real GVA fell in the third and the fourth quarter on a quarterly basis, which was mostly the result of unfavourable performance in manufacturing, so that the annual growth in GVA slowed down notably in the second half of the year (Figure 2.3).

Inflation accelerated under the impact of external and domestic factors

The average inflation in Croatia measured by the harmonised index of consumer prices (HICP) increased sharply from 2.7% in 2021 to 10.7% in 2022, thus reaching the highest level in the last 28 years. In 2022, inflation rose considerably on a global level, including in the euro area countries, or Croatia's major trading partners, thus continuing the trend started in mid-2021. The recovery of demand following the reopening of economies around the world triggered a global growth in the prices of energy products and other raw materials and intermediate goods. Surging inflationary pressures partly stemmed from the difficulties in global supply chains then still present, due to which the supply of individual semi-finished and finished goods was limited and demand amid the pandemic moved from services to goods, which triggered a rise in their prices. The already high global prices of energy products (above all, crude oil and natural gas) surged further following the outbreak of the Russian aggression against Ukraine. In addition, the prices of food raw materials supplied by Russia and Ukraine to the world market also increased, as did the mineral fertilisers that are an important input component in agricultural production. Russia is also an important exporter of iron, steel and non-ferrous metals. The reduced supply of these raw materials due to sanctions and a ban on exports of individual raw materials from Russia sharply increased the prices of metals on the world market following the outbreak of the war. The considerable increase in consumer price inflation in Croatia in 2022 was to a large extent the result of these imported inflationary pressures, that is, the spillover of the high prices of raw materials and other input costs in the world market to producer and consumer prices. In addition, higher inflation can also be partly linked to profit margins, which increased in the circumstances of uncertainty with regard to the prices of raw materials and future price developments. Inflationary pressures also came from the domestic labour market, on which the demand for workers was strong and unemployment was low and falling, which led to a relatively strong growth in nominal wages. On the other hand, the intensity of the acceleration of inflation in 2022 was to a certain extent softened by the price caps on some energy products and basic food products. The base effect related to the significant acceleration of inflation from mid-2021 also helped in stabilising the annual growth rate of consumer prices in the second half of the previous year.

Consumer price inflation accelerated strongly in Croatia in the first seven months of 2022 (to 12.7% from 5.2% in December 2021) as a result of continuous monthly price increases in a large number of products and services from the consumer basket, mainly in the period from March to July. Such developments reflected the increase in the prices of energy products and other raw materials after the outbreak of the war in Ukraine, as well as strong tourist demand. In the second half of the year, price increases were significantly less pronounced and were at the level of

FIGURE 2.4 Consumer price inflation accelerated significantly
contributions to annual inflation



Note: Core inflation is measured by the harmonised index of consumer prices that excludes energy, food, alcoholic beverages and tobacco prices.
Sources: Eurostat and CNB calculations.

those in the previous year, so that total annual inflation stabilised around the level reached in July. Contributions to the acceleration of inflation were made by all of the main components of inflation. Thus, the annual rate of the growth of food prices increased from 7.3% in December 2021 to 16% in December 2022, which was mainly the result of the spillover of imported cost pressures, i.e. the increase in the prices of energy products, food raw materials and mineral fertilisers in the world market. Price caps on several basic food products offset the intensity of the acceleration of the increase in food prices.¹ The considerable increase in the annual rise in energy prices from 12.4% in December 2021 to 25.8% in mid-2022 largely reflected the increase in the price of refined petroleum products, which accompanied the movements of the prices of crude oil in the world market. Also, administered prices of natural gas and electricity rose in April due to their considerable increase in the European market, which additionally accelerated the annual increase in energy prices. In the rest of the year, the annual rate of the increase in energy prices dropped to 14.7% in December, mostly due to the deceleration of the annual rate of the growth in the prices of refined petroleum products, which was contributed to by the noticeable decrease in the prices of crude oil in the world market and favourable base effects, while consumer prices of electricity and natural gas held steady.²

Furthermore, the annual rate of the increase in services prices accelerated from 2.3% in December 2021 to 9.9% in December 2022. This was mostly attributable to hotel and restaurant and accommodation services, the prices of which increased significantly amid the recovery of domestic and foreign demand for these services after the lifting of epidemiological measures. The growth of prices in restaurants and coffee shops was generated by rising input costs (the prices of food and

¹ Sunflower oil, long-life milk, flour, sugar, whole chicken and some kinds of pork.

² Electricity prices increased slightly in October due to the growth of these prices for households whose consumption exceeds the threshold up to which prices are fixed at a lower level.

beverages as well as energy products) and inflationary pressures stemming from wage increases (due to labour shortages in hotels and restaurants). Due to ongoing delays in supply chains and the spillover of an earlier increase in the prices of energy and industrial raw materials, the annual growth in consumer prices of industrial products also accelerated significantly (up from 2.9% in December 2021 to 11.2% in December 2022). Due to the increase in the annual growth of prices of both main components (industrial products and services) in 2022 core inflation also accelerated noticeably from 2.5% in December 2021 to 10.5% in December 2022, which was significantly higher than the long-term average (1.5%), to a considerable extent indicating the presence of postponed effects of previous increases in the costs of energy and other raw materials and intermediate goods. It is also noticeable in the movement of industrial producer prices of consumer goods, whose annual growth in 2022 accelerated significantly. A relatively sharp rise in nominal wages made an additional contribution to keeping core inflation elevated.

In 2023, the average inflation of consumer prices in Croatia is expected to slow down to 7.0%, in key with the considerable decrease in the annual growth in the prices of energy and food. The expected decrease in the prices of energy products and other raw materials in the world market and the elimination of the remaining bottlenecks in global supply chains should largely result in a decrease in imported inflationary pressures. The slowdown in inflation in 2023 is also affected by the favourable base effect, i.e. the waning effect of the considerable increase in the prices of numerous goods and services in 2022. The largest contribution to the slowdown in inflation in 2023 should come from energy, amid the expected decrease in the prices of refined petroleum products and the unchanged administered prices of natural gas and electricity. Furthermore, due to the reduced cost pressures, i.e. the prices of food raw materials, energy products, fertilisers and freight rates, the growth of food prices is also expected to slow down. In contrast, the average annual rate of core inflation (measured by HICP excluding food and energy) might hold steady in 2023 at the high level reached in the previous year because a certain spillover of the previous increases in the prices of energy products and other raw materials and intermediate goods to core inflation are further expected. Also, in 2023, nominal gross wages are expected to rise sharply, which might contribute to keeping core inflation elevated. Nevertheless, while the trend of increasing core inflation was present in 2022, in 2023, it is expected to decrease from 10.2% in the first quarter to 6.4% in the last quarter, which is in line with the expected gradual decline of the effect of the spillover of the previous increases in the prices of energy and other raw materials, delays in supply chains and the re-opening of the economy to the growth in consumer prices towards the end of the year. In addition, domestic inflationary pressures on the demand side are expected to weaken in 2023. A continued slowdown in inflation is expected in 2024 and 2025, when consumer price inflation might come close to targeted levels.

The risks related to the gradual return of inflation towards the targeted levels at the currently expected pace are still pronounced, but the risks of heightened inflation are less dominant and their relationship is becoming more balanced.

On the one hand, inflation might be higher in the case of higher prices of energy products in the world market, for example, due to any more pronounced impact of the re-opening of China. The possibility of wage growth exceeding expectations quite significantly poses an additional risk. On the other hand, the lower prices of energy products and other raw materials in the world market, a slowdown in economic growth more pronounced than currently expected, entry in recession as well as lower than expected inflation in major trading partners might contribute to a faster and more intensified weakening of inflationary pressures.

A strong rise in the prices of energy products had a negative impact on the current and capital account of the balance of payments of Croatia in 2022

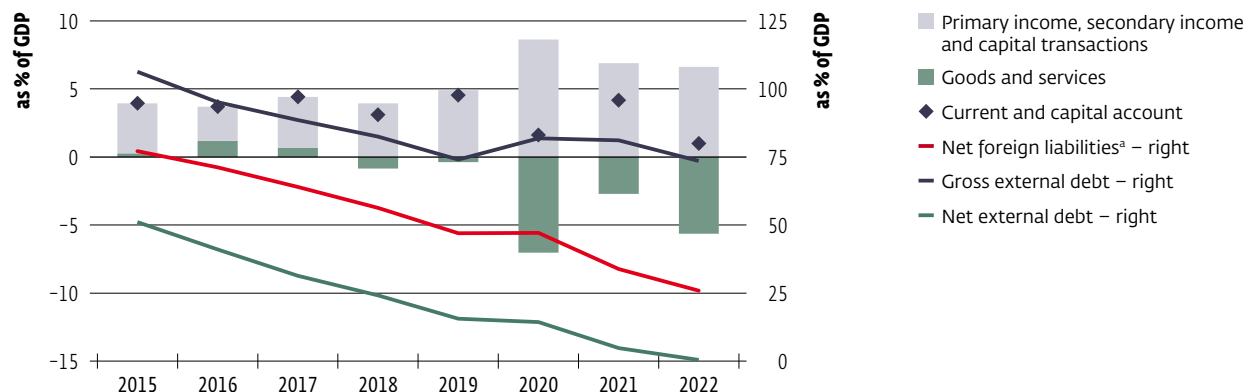
The current and capital account of the balance of payments deteriorated by 3.2 percentage points in 2022 from 2021, reducing the surplus to 1.0% of GDP. The deterioration of the balance reflects a strong growth in the prices of energy products in the world market, additionally pronounced after the Russian aggression against Ukraine, which resulted in a substantial increase in net imports of all categories of energy products, in particular natural gas. Net imports of energy products thus reached almost 9.0% of GDP in 2022, in contrast to the slightly less than 3.0% of GDP the year before; this rise was the main reason for the increase in the foreign trade deficit of 57.7% on an annual level.

Unfavourable trends in the goods account were offset by a significant rise in net exports of services in 2022, primarily owing to the increase in tourism revenues, which were EUR 2.6bn or 24.4% higher than the previous highest level, recorded in 2019. This was a reflection of the continued rebound in demand for services that had been largely subdued during the coronavirus pandemic, and the considerably higher prices of accommodation and hotel and restaurant services. In addition to international trade in services, a positive contribution to the overall current and capital account balance also came from developments in other sub-accounts. Thus, although to a much smaller extent, the overall surplus in the secondary income and capital transactions accounts increased as a result of the simultaneous greater disbursements from EU funds to end beneficiaries and a further growth in revenues from personal transfers. The surplus in the primary income account also grew moderately as the increase in revenues from compensation of persons (Croatian residents) temporarily employed abroad exceeded the increase in expenditures on equity investments in Croatia due to the greater profitability of domestic enterprises in foreign ownership.

Reflecting the deterioration of the balance in the current and capital account of the balance of payments, there was a net capital inflow in the financial account of the balance of payments last year, 2022, following a noticeable net capital outflow in 2021. Thus, the net inflow from equity investments increased, while net debt liabilities of domestic sectors continued to decrease. However, the relative indicators of external debt improved noticeably as a result of the strong growth in nominal GDP, so that gross and net external debt at the end of 2022 stood at 73.5% of GDP and 0.4% of GDP relative to 81.1% of GDP and 4.8% of GDP at the end of 2021 respectively. The improvement in the relative net international investment position was even more pronounced, from -33.8% of GDP at the end of 2021 to -25.9% at the end of 2022.

FIGURE 2.5 Decline in the current and capital account surplus in 2022

current and capital account and the balance of foreign liabilities



^a Net foreign liabilities are defined as the difference between total foreign liabilities and total foreign assets (based on debt instruments, financial derivatives, equity investments and similar), which is equal to the negative value of the net international investment position (-25.9% of GDP at the end of 2022).

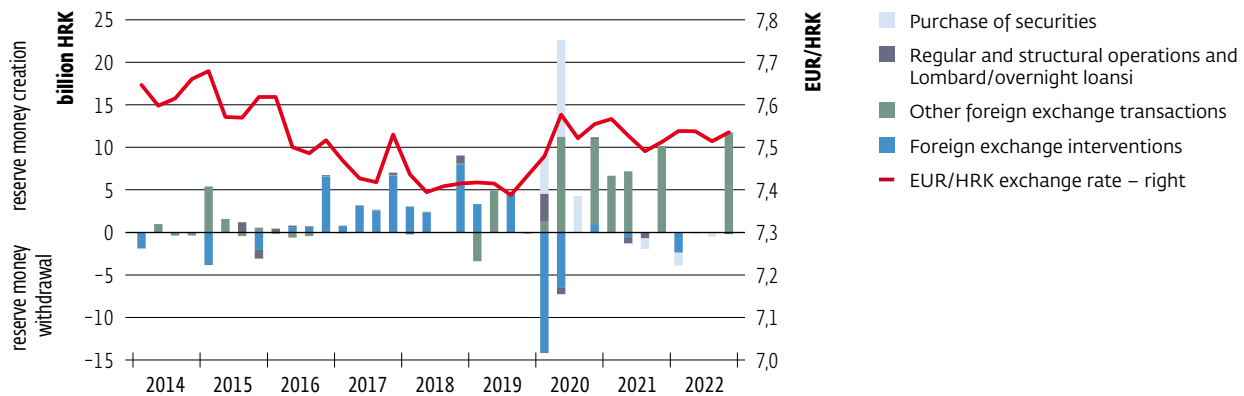
Source: CNB.

MONETARY POLICY TOWARDS THE INTRODUCTION OF THE EURO

In 2022, small open economies were faced with strong global inflationary pressures and the start of the tightening of financing conditions in international markets. In such circumstances, membership in the exchange rate mechanism ERM II and plans for the introduction of the euro stabilised the exchange rate of the kuna, while the harmonisation of the CNB's set of monetary policy instruments with the requirements of euro area membership significantly increased liquidity in the banking system. This has alleviated pressures for an increase in interest rates prompted by the ECB's tighter monetary policy.

In 2022, the CNB only carried out three interventions in the foreign exchange market of a relatively modest amount (the sale of EUR 385m to banks) in order to mitigate the consequences of the short-term disruption caused by Sberbank's problems following the Russian invasion of Ukraine. The CNB also withdrew reserve money (M0) based on the maturity of individual government bonds of the Republic of Croatia from the CNB's portfolio, which reduced the balance of reserve money by about HRK 2.1bn. However, reserve money was at the same time created by the purchase of foreign exchange funds from the Ministry of Finance in the amount of EUR 1.6bn, mostly the funds related to different EU financial instruments. Positive net flows of reserve money thus indicate an expansionary monetary policy stance based on the operations of the purchase of foreign exchange (Figure 2.6).

As part of the preparations for the introduction of the euro, the CNB significantly adjusted monetary policy instruments, which resulted in the loosening of monetary conditions and a considerable increase in liquidity in the banking system (Figure 2.7). Following the EU Council's decision on Croatia's joining the euro area in July 2022, the Council of the CNB adopted decisions on lowering the reserve

FIGURE 2.6 In anticipation of the introduction of the euro the exchange rate in 2022 held steady

Notes: The Lombard facility cancelled on 28 September 2017 was replaced by the overnight facility. Other foreign exchange transactions include the purchase of foreign exchange from and the sale of foreign exchange to the MoF and the EC and foreign currency swaps with banks. The positive values refer to the purchase of foreign exchange. Source: CNB.

requirement from 9% to 5% as of August and from 5% to 1% as of mid-December and on cutting the rate of minimum required foreign currency claims from 17% to 8.5% as of August and entirely revoking the measure as of December. The reduction in the reserve requirement increased kuna liquidity by HRK 31bn and the total effect of the revocation of minimum required foreign currency claims was EUR 5.4bn. Liquidity in the amount of EUR 9.5bn was thus released in the banking system, reaching a record high. This offset the transfer of tighter financing conditions driven by the normalisation of the ECB's monetary policy in the euro area to the domestic financial market relative to the euro area members (Figure 2.8). Although the sharp increase in liquidity offset the intensity of the spillover of tighter financing conditions from international markets to domestic banks' interest rates, in the second half of 2022, and in particular towards its end, interest rates on loans started to increase at a slow pace. This increase was more pronounced for interest rates on loans to non-financial corporations than on loans

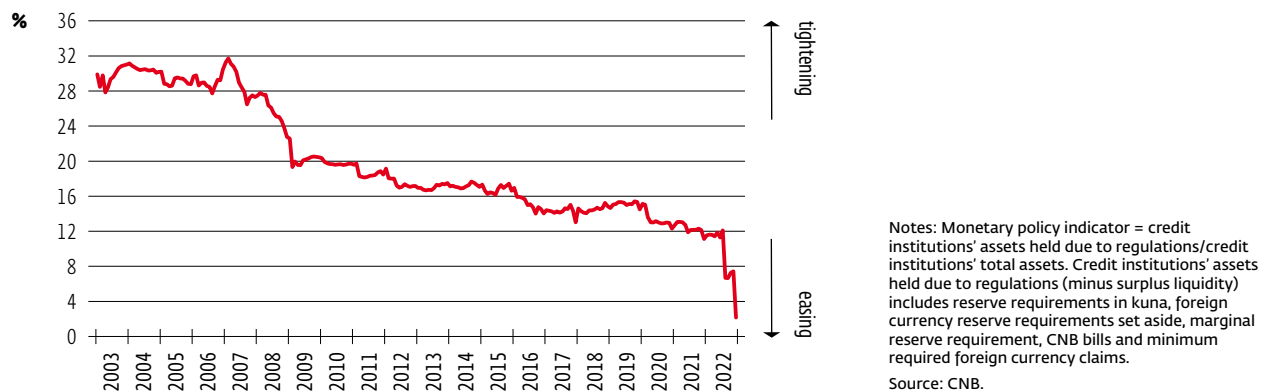
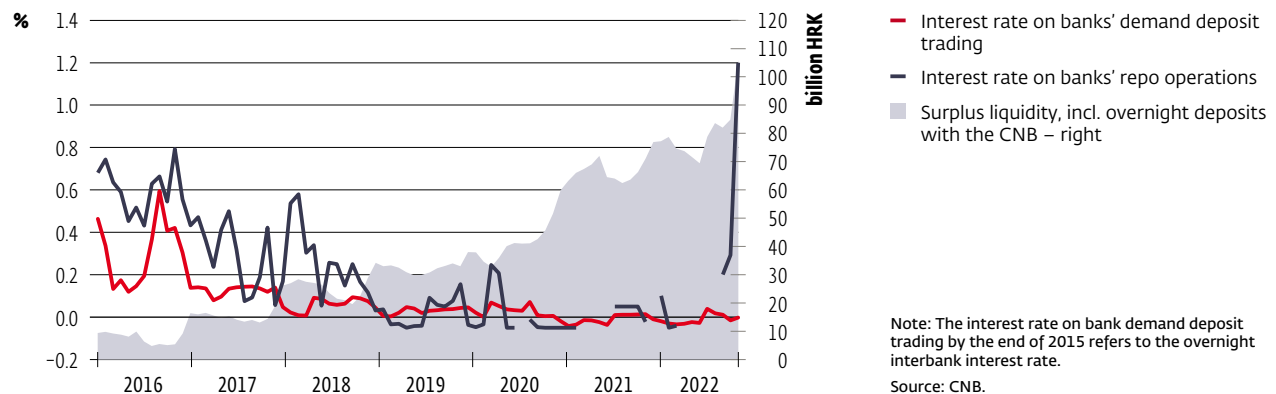
FIGURE 2.7 Banks' regulatory cost fell to the lowest level since the beginning of measurement

FIGURE 2.8 Kuna liquidity surplus at an all-time high

to households. Interest rates on pure new corporate loans thus reached 3.2% in December, the highest level since 2017, while interest rates on pure new household loans were around 4%, which corresponds to the average level from 2021 (Figure 2.9). Average interest rates on housing loans were around 2.5% and interest rates on general-purpose cash loans stood at about 5.4%. A similar ratio of corporate and household interest rates was also recorded in deposit interest rates, which increased for corporate deposits from about 0% in 2021 to about 0.9% in December 2022, while interest rates on household deposits remained almost unchanged.

The results of the bank lending survey for 2022 suggest the tightening of financing conditions in the segment of corporate loans, mostly resulting from risk perception in the economy, and to a lesser extent from factors connected with funding costs and balance sheet restrictions. On the other hand, the survey results also showed a considerable increase in demand for loans in the corporate sector, primarily due to the need for the financing of inventories and working capital, which was also confirmed by the indicators of the corporate lending structure. Credit

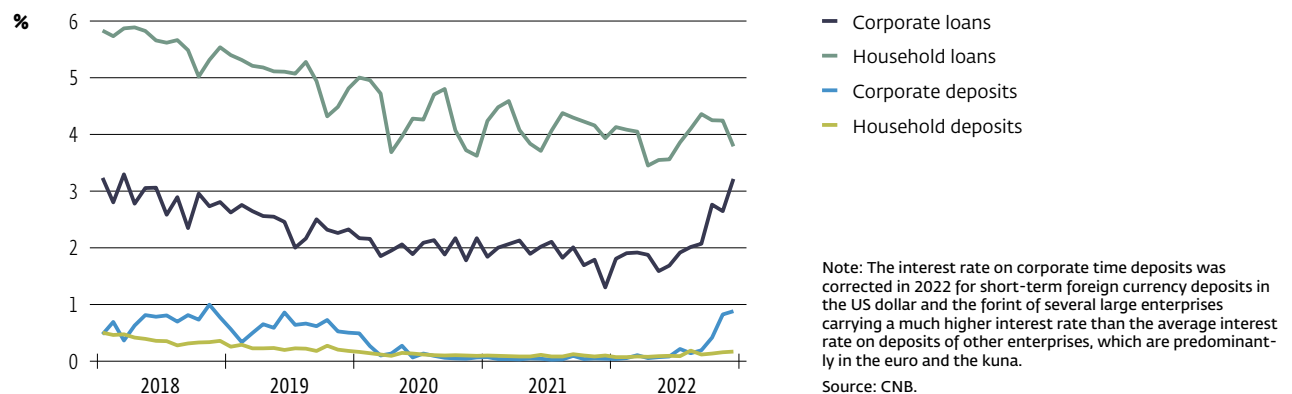
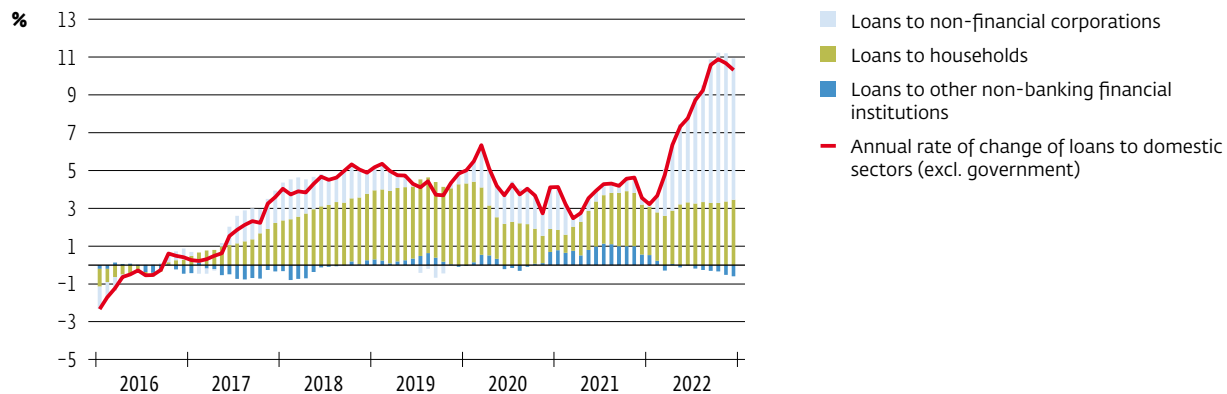
FIGURE 2.9 Increase in interest rates was particularly pronounced in the corporate sector

FIGURE 2.10 Total credit activity was dominantly determined by corporate lending

Source: CNB.

standards for households were also tightened in the second half of the year under the impact of the same factors, i.e. risk perception and, to a lesser extent, funding costs, but at a weaker intensity than credit standards for corporations. At the same time, the demand for consumer loans weakened, while the demand for housing loans strengthened when compared with 2021.

Banks' credit activity in 2022 accelerated despite the rise in interest rates on loans and stricter lending conditions. The increase in loans to non-financial corporations accelerated from 1.0% to 20.8%, which should be interpreted in the context of the energy crisis and increases in the prices of a number of raw materials, which raised corporate demand for working capital. The rate of increase in household loans in the same period also accelerated from 4.5% to 5.8%, which was particularly attributable to the increase in housing loans, driven among other things by the government subsidy programme: in 2022, there were record numbers of applications. Finally, in 2022, the movement of total loans was dominantly determined by a strong increase in corporate loans, which differed significantly from the previous years, when credit activity was determined by household lending (Figure 2.10).

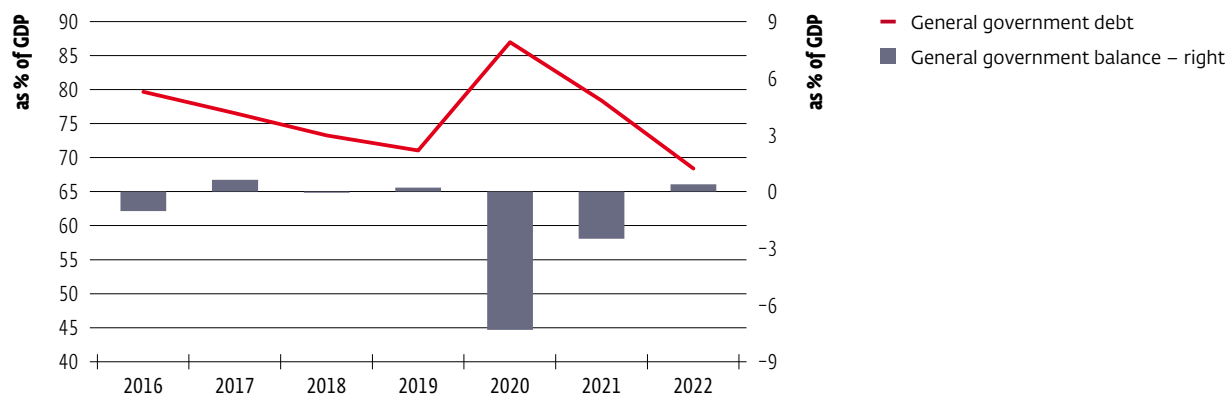
STRONG REAL GROWTH AND ACCELERATION OF INFLATION HAD A FAVOURABLE EFFECT ON PUBLIC FINANCE INDICATORS IN 2022

Fiscal indicators in 2022 were favourable due to realised real economic growth, as well as the increase in price levels. According to the internationally comparable methodology of the European System of National and Regional Accounts (ESA 2010), in 2022, the general government ran a surplus of 0.4% of GDP, which is a considerable improvement from the deficit in 2021 (2.5% of GDP). At the same time, the general government debt-to-GDP ratio dropped noticeably.

A significant improvement in the general government balance in 2022 reflects the growth in budget revenues primarily due to the nominal increase in the related

FIGURE 2.11 Improvement in fiscal indicators

fiscal indicators as % of GDP



Sources: CBS and CNB.

macroeconomic bases. The growth in revenues exceeded the increase in expenditures partly determined by the adopted package of measures to offset inflationary pressures on citizens' living standards and businesses. Total revenues thus grew by 13.3% annually and total expenditures rose at about half of the rate of 6.6%. The increase in real economic activity and the GDP deflator, in addition to a favourable budget outcome, resulted in a considerable decrease in the public debt-to-GDP ratio on an annual level. The relative indicator of public debt at the end of 2022 stood at 68.4% of GDP, which corresponds to the annual decrease of 10 percentage points.

3

Financial stability and macroprudential policy



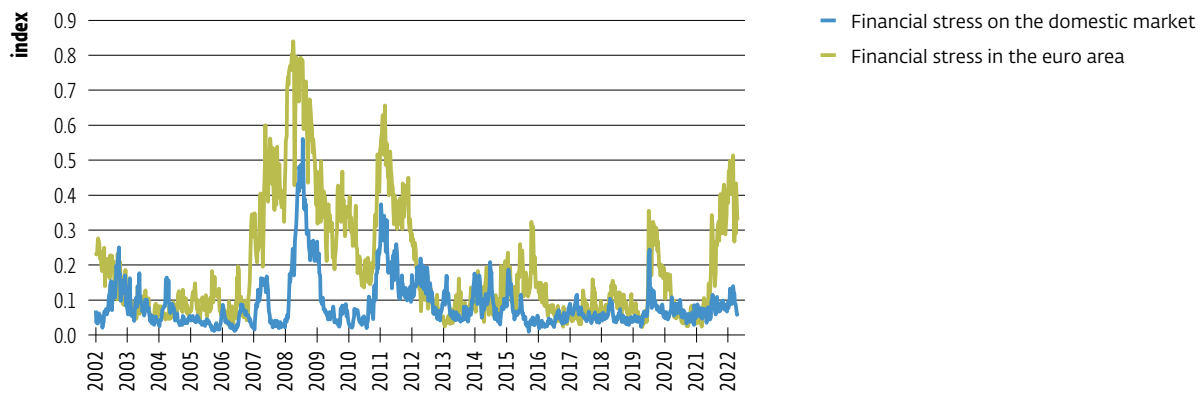
Risks to financial stability during 2022 were characterised by the growth of geopolitical tensions and the energy crisis, which spilled over onto the growth of inflationary pressures. The tightening of monetary policy commenced with the aim of mitigating these risks, with an increase in volatility on the financial markets and the cost of financing the private financial sector, which also affected debt sustainability indicators. The trend of rising real estate prices on the domestic market accelerated, although the number of sale and purchase transactions decreased as the year came to a close. In such conditions, the domestic banking sector continued to operate at a profit and maintained high levels of liquidity and capital. The past year was also the year in which all the preconditions for the accession of the Republic of Croatia to the euro area and the Schengen Area on 1 January 2023 have been fulfilled, thereby reducing financial risks and opening up new opportunities for the domestic economy.

The macroprudential policy of the CNB in 2022 was aimed at strengthening the resilience of credit institutions to potential losses in the event of the realisation of systemic risks. The continuation of the upward phase of the financial cycle led to an increase in cyclical risks, which is why the CNB activated the countercyclical capital buffer for the first time. In order to maintain adequate capitalisation of credit institutions in relation to elevated structural systemic risks, other capital buffers were kept at the levels of the previous year.

OVERALL ASSESSMENT OF THE MAIN RISKS AND CHALLENGES TO FINANCIAL STABILITY

The expectation of accession to the euro area, which will deepen the integration of the Croatian financial system into European financial flows and eliminate currency risk, had a positive effect on mitigating systemic risks in Croatia. Nevertheless, inflationary pressures, the levels of which were unprecedented in the last few decades, initiated by the rapid recovery from the pandemic, disruptions in production chains and rising prices of raw materials and energy, along with the slowdown in global economic activity in conditions of geopolitical uncertainty, kept the overall exposure to systemic risks in Croatia at a moderately elevated level. In addition, the growth of real estate prices and the growth of loans granted to the private sector increased, which, along with the expected continuation of the rise in interest rates, increases the burden of debt repayment and may lead to difficulties in its repayment.

During 2022, world financial markets were marked by the deepening of geopolitical uncertainties under the influence of the war in Ukraine and the gradual

FIGURE 3.1 Index of financial stress on the European and Croatian markets

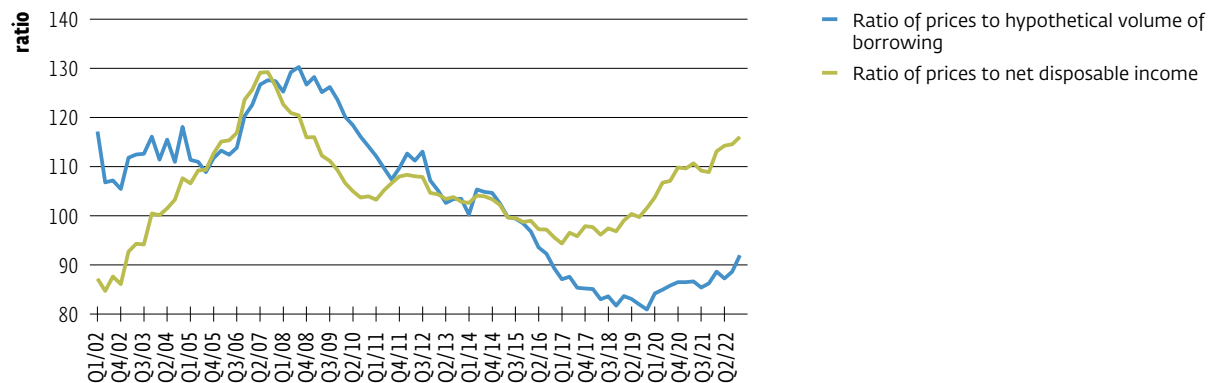
Sources: ECB and CNB calculations.

tightening of monetary policy by central banks throughout the world with the aim of suppressing high inflation. Volatility has increased in financial markets, with leading equity and bond indices falling and borrowing costs rising. The normalisation of the ECB's monetary policy in 2022 spilled over, to a limited extent, to financing conditions in Croatia, the cost of borrowing by the government and non-financial corporations increasing substantially. Equity and bond index values on the Zagreb Stock Exchange decreased, while the foreign exchange market calmed down, reflecting the certainty of the adoption of the euro as the official currency. The assessed stress on the domestic financial markets remained at relatively low levels (Figure 3.1).

The business operations of non-financial corporations recovered during 2022, while the increase of the number of corporations in Croatia was the greatest in the last five years, despite a larger number of corporations exiting the market. At the same time, the rise in prices of raw materials, especially energy products, along with strong demand, encouraged borrowing by the corporate sector to finance working capital, especially in the energy sector. With the gradual increase in interest rates for loans with a variable interest rate, the debt repayment burden of the corporate sector increased slightly, but it was still at an extremely low level, considering the relatively high share of loans with a fixed interest rate.

The rise of interest rates on loans with variable interest rates stands out as a risk for households' ability to service their debt (see Box 2), and rising living costs, which erode savings at the same time, thus reducing households resilience to potential adverse economic shocks, represents an additional contribution to this risk. This could particularly affect the segment of the most vulnerable households, which already allocate a relatively high share of income for living expenses and loan repayments.

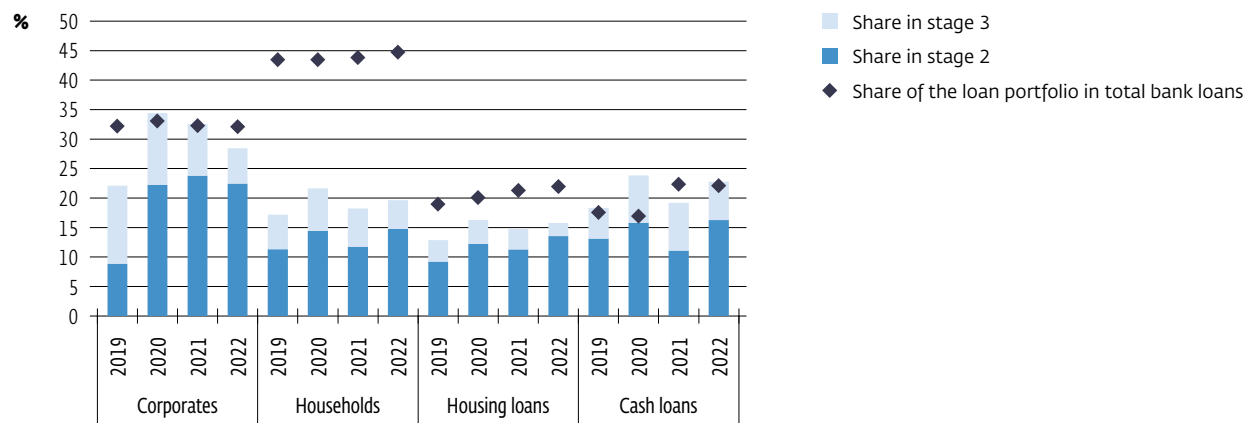
Strong domestic demand, supported by historically low interest rates and the government's subsidy programme, as well as foreign demand in the coastal areas of Croatia, in conditions of weak real estate supply and rising construction costs, influenced the acceleration of residential property price growth. The growth of

FIGURE 3.2 Strong growth in residential property prices reduces their affordability

Sources: CBS and CNB calculation.

residential property prices thus accelerated considerably, from 7.3% in 2021 to 14.8% in 2022, with growth being the strongest in Zagreb (17.9%), and the slowest in the Adriatic region (12.3%). Such developments have reduced the availability of residential properties, despite strong growth in nominal household income and borrowing conditions that remain favourable (Figure 3.2). In addition, in the conditions of worsening macro-financial trends and rising interest rates in EU member states, the liquidity of the residential real estate market also decreased. Thus, the number of real estate sales in 2022 fell by 7.1% compared to the previous year, and it was 4.8% lower than in the pre-pandemic year of 2019.

The banking system remained extremely resilient, with surplus liquidity and capital remaining well above regulatory requirements or increasing further. With strong lending activity, the share of non-performing loans decreased to the

FIGURE 3.3 Credit risk at higher levels compared to the period before the outbreak of the COVID-19 pandemic

Source: CNB.

lowest levels recorded so far, but reclassifications within the category of performing loans in the segment of high-risk loans increased (Figure 3.3). Profitability in 2022 remained at levels only slightly lower than the previous year. Although banks incurred one-off costs related to preparations for the adoption of the euro during 2022 (related to the adjustment of IT systems and the changeover of cash in circulation) and permanently lose revenues related to foreign exchange operations (kuna/euro), in the long term they will realise benefits due to the removal of most of the currency risk and direct access to euro area monetary operations.

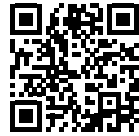
MACROPRUDENTIAL ACTIVITIES OF THE CNB IN 2022

In 2022, the growth of cyclical systemic risks related primarily to the residential real estate market and bank lending continued. In order to contribute to the stability of the financial system, the CNB implemented macroprudential policy measures in order to increase the resilience of the banking system in relation to the risks identified, taking into account the relatively favourable macroeconomic trends, as well as the continuation of increased uncertainty.

a) Capital buffers

During 2022, indicators of cyclical systemic risks reached levels that required the activation of the countercyclical capital buffer, a variable instrument of

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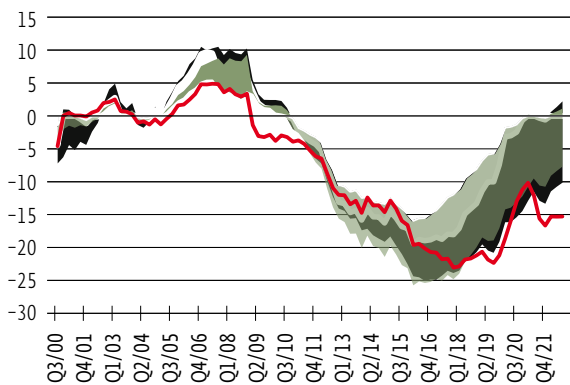


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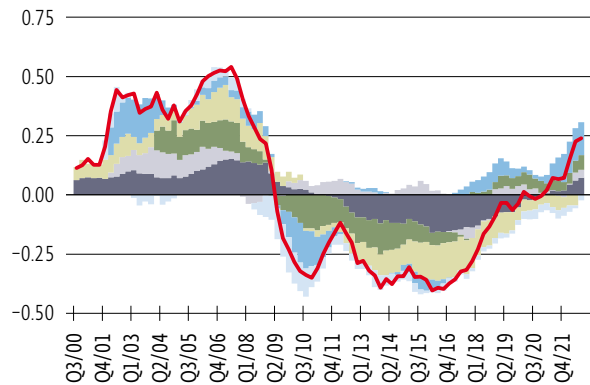
FIGURE 3.4 Indicators of cyclical systemic risks

a) Range of credit gap indicators



Notes: The standardised credit gap (red curve) calculated according to the guidelines of the Basel Committee on Banking Supervision (BCBS, 2010) and the value range for 12 credit gaps are shown, which fulfil the signalling function better for the Republic of Croatia than the Basel gap. Green shaded areas indicate the range of absolute gaps, while black shaded areas refer to relative gaps. For more information on the methodology for calibrating the countercyclical buffer, see CNB Working Papers W-69 and W-68. Source: CNB.

b) Composite indicator of cyclical systemic risk



- Risk underestimation
- Debt burden
- CI financing risk
- External imbalances
- Overvaluation of real estate
- Credit dynamics
- ICSR bearing a weight of 1/6 per group

Note: The abbreviation CI refers to credit institutions, and ICSR is the composite indicator of cyclical systemic risk (composite index of financial stress). Source: CNB.

macroprudential policy the purpose of which is to mitigate risks that may arise from excessive lending to the private non-financial sector. Indicators of the credit gap, which measures deviations of the relative indebtedness of the private sector from its long-term trend that are specific to the Republic of Croatia, indicated its gradual closing during 2022, with some gap indicators already moving into positive territory (Figure 3.4a). The strengthening of credit activity and the acceleration of the growth of residential property prices (Figure 3.4b) contributed the most to the growth of cyclical risks.

The CNB responded to the increase in cyclical risks by announcing an increase in the rate of the countercyclical capital buffer, which has been 0% since the introduction of this instrument into the legislation of the Republic of Croatia. The first increase in the rate of this capital buffer, from 0% to 0.5%, was announced in March 2022 ❶, with the commencement of application of the specified rate on 31 March 2023. The second increase, from 0.5% to 1%, was announced in late December 2022 ❷, with the commencement of application on 31 December 2023. In this way, the timely allocation of additional capital strengthens the resilience of credit institutions in case of realisation of unfavourable economic and financial scenarios.

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At the end of the year, the CNB estimated that the level of capital buffers covering systemic risks of a structural nature is still adequate in view of macroeconomic and financial trends, and their rates in 2022 remained unchanged. In December 2022, the regular review of the rate of the capital buffer for structural systemic risk (SSR) confirmed the rate of 1.5% ❸ of the total amount of risk exposure. In addition, the status of ❹ seven previously established other systemically important (O-SII) credit institutions was confirmed, with a rate range of 0.5% to 2.0% of the total amount of risk exposure, which corresponds to their systemic importance. The actual rate to be maintained by O-SIIs whose parent institution is an O-SII or a global systemically important institution in the EU also depends on the buffer rate of the parent institution, so for two O-SIIs it totalled less than the rate set by the CNB.

During 2022, the combined risk buffer that was applied remained unchanged, and was applied for all credit institutions at a rate of between 4% and 6% of the total risk exposure, depending on their systemic importance. It consisted of a capital conservation buffer in the amount of 2.5%, a countercyclical capital buffer that was applied during 2022 at a rate of 0%, and two buffers for structural risks (O-SII and SSR). The announced increases in the countercyclical capital buffer rate will increase the combined buffer in 2023 by 0.5 percentage points in March, and by an additional 0.5 percentage points in December.

In addition, in the second quarter of 2022, the CNB conducted a regular annual review of the significance of third countries for the banking system of the Republic of Croatia, which showed that Bosnia and Herzegovina and Montenegro stand out as substantially significant third countries in 2022 as well. An analysis of the development of systemic risks of a cyclical nature in the aforementioned countries, account being taken of the increased uncertainty, the worsening outlook for the

world economy and growing inflationary pressures established that there is currently no risk of excessive credit growth that would require regulatory measures to be taken for Croatian banks exposed to these markets.

b) Other macroprudential activities

In 2022, the CNB continued improving the data sources on standards for lending to consumers and lending related to the real estate market¹. The expanded and improved analytical basis enables more detailed monitoring and analysis of risks to financial stability related to lending to households (e.g. simulations of an increase in the repayment burden associated with an increase in interest rates, which is discussed in Box 2) and the real estate market, so that the CNB may apply mitigating measures in a timely manner, if necessary. The analyses conducted have been published as part of the regular **publications of the CNB** .

COOPERATION IN THE FIELD OF MACROPRUDENTIAL POLICY

Representatives of the CNB participated in the work of the Financial Stability Council, which held two meetings in 2022, chaired by the Governor of the CNB. Presented at the meetings were assessments of the main risks and challenges to financial stability and activities related to the implementation of macroprudential policy. CNB representatives took part in the work of the ESCB committees and working groups, which was, in 2022 directed at the analysis of risk associated with the current slowdown of economic growth, inflation and the continued growth of vulnerability in the real estate market. As part of the close cooperation with the ECB, the CNB formulated and implemented macroprudential policy measures governed by harmonised European regulation in cooperation and in coordination with the European Central Bank (ECB), and notified the ECB in advance of all macroprudential activities the CNB intends to carry out. The representatives of the CNB joined in the work of the Financial Stability Committee, consisting of representatives of the countries participating in the SSM, and in its standing working groups², in which financial stability risks, and measures and instruments of macroprudential policy considered or implemented by the member states are discussed.

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1 Amendments  to the Decision on collecting data on standards for lending to consumers and the Decision on collecting granular data on loans and credit risk, and real estate data .

2 See chapter 14 CNB in the EU and the international environment for more details.

Comparison of inflation trends in Croatia and the euro area and an estimation of the impact of euro introduction on inflation



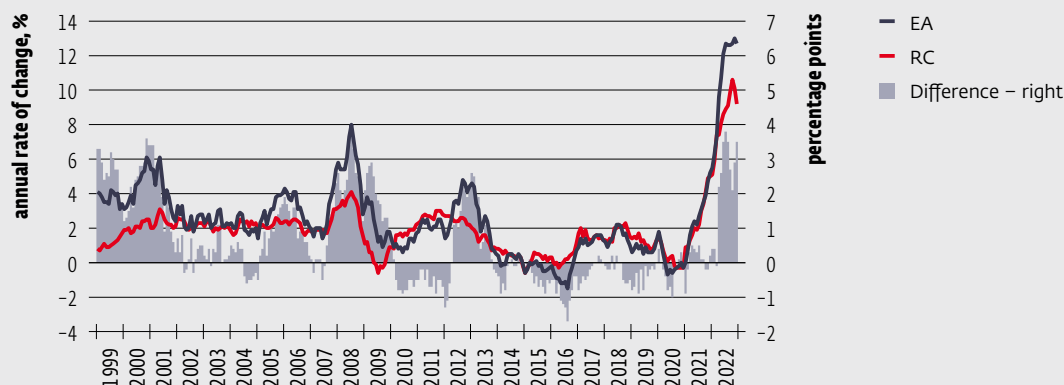
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Inflation accelerated in Croatia and in many other euro area member states, amid the spillover of a strong growth in the prices of raw materials in the world market to consumer prices and shortages of certain goods due to the disruptions in global supply chains. Overall inflation in Croatia at the end of 2022 exceeded euro area inflation due to the more pronounced rise in the prices of food and higher core inflation. Many consumers in Croatia were concerned that the changeover to the euro would have an additional impact on the increase in consumer prices. Preliminary estimates indicate that the introduction of the euro spurred the growth in overall inflation in January 2023 by 0.4 percentage points, with a more pronounced rise in prices recorded in the service sector. This is in line with the experiences of other euro area member states in which the conversion of national currencies to the euro also had a relatively mild and one-off effect on inflation, mostly as a result of the increase in the prices of certain services.

COMPARISON OF INFLATION TRENDS IN CROATIA AND THE EURO AREA¹

Croatia's consumer price inflation largely followed trends in the euro area. At the end of 2021, overall and core inflation (measured by the HICP excluding energy, food, alcohol and tobacco) in Croatia and the euro area were equal. However, in the course of 2022, inflation accelerated in Croatia more than in the euro area and the difference between overall inflation in Croatia and the euro area in December 2022 was 3.5 percentage points (Figure 1). There were several probable causes for the divergence in inflation, including a sharp increase in non-resident demand for tourist services, a stronger economic recovery in Croatia, a decrease in domestic market competition and differences in the consumer basket structure arising from the larger share of food and accommodation services' prices in Croatia's consumer basket. Croatia's inflation was higher in December 2022 primarily because of the contribution of food prices due to the more pronounced increase in these prices in Croatia and their larger share in the consumer basket. The prices of industrial products and services in 2022 also increased in Croatia more than in the euro area. Particular note should be taken of the prices of hotel and restaurant services and accommodation that on an annual basis grew in Croatia in December 2022 more than twice as fast as in the euro area, being among the fastest growing among the euro area member states. In contrast, the contribution of energy prices to inflation was lower in Croatia than in the euro area. The annual growth rate of energy prices in Croatia, standing at 14.7% in December 2022, was 10.8 percentage

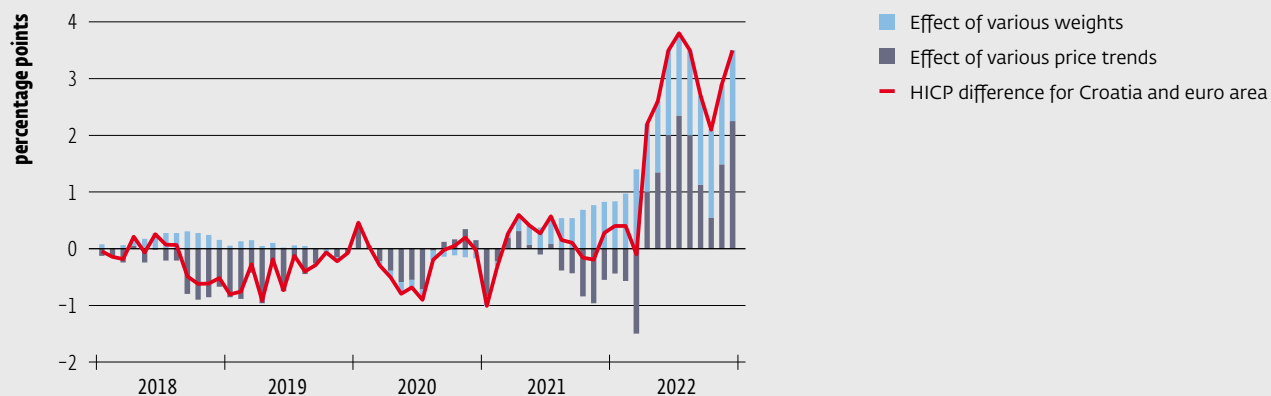
¹ The contribution is based on the updated analysis from Box 3 Why is inflation higher in Croatia than in the euro area?, CNB's Macroeconomic Developments and Outlook, December 2022.

FIGURE 1 Trends in overall inflation in Croatia and the euro area

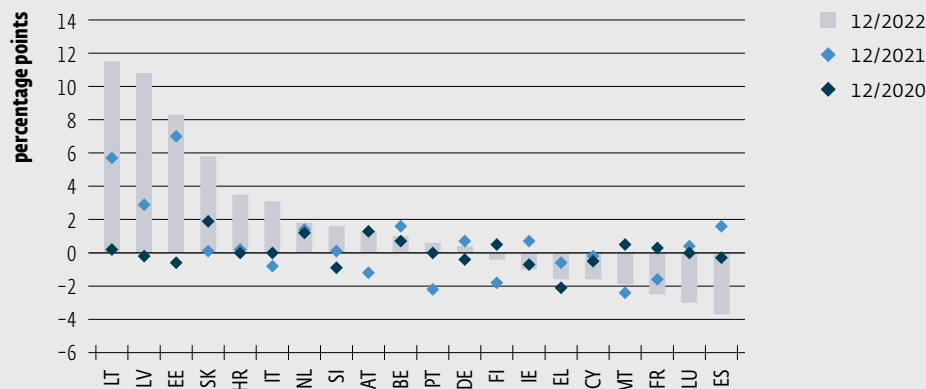
Sources: Eurostat and CNB calculations.

points lower than the euro area average and one of the lowest growth rates in all euro area member states. The slower growth of energy prices in Croatia can be attributed to price caps as well as Croatia's relatively low dependence on imports of energy products from Russia and the fact that the opening of the LNG terminal enabled an alternative supply chain of natural gas.

The differences between the contributions of individual components to inflation can be explained by the different trends of their prices and/or their different shares in the consumer baskets, which reflect variations in consumer preferences. The recent divergence in inflation between Croatia and the euro area is also due to differences between the weights of individual components and their price trends (Figure 2), with the effect of a more pronounced annual price increase in Croatia being the largest in the middle and by the end of 2022.

FIGURE 2 Impact of different movements in prices and weights in Croatia and the euro area

Sources: Eurostat and CNB calculations.

FIGURE 3 Inflation differential relative to the euro area

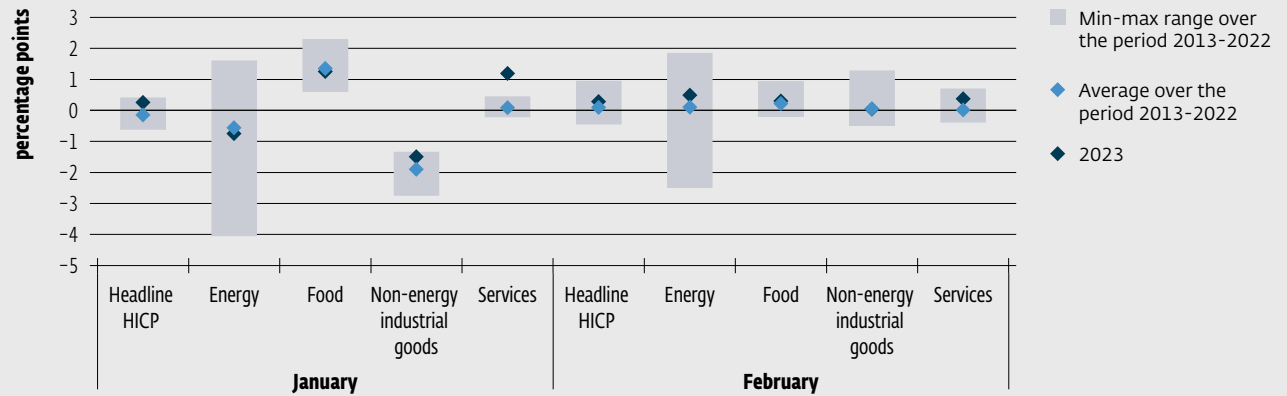
Sources: Eurostat and CNB calculations.

Inflation differentials relative to the euro area average in 2022 increased in many other monetary union members (Figure 3). Thus, on the one hand, inflation in the Baltic countries was noticeably higher than the euro area average mainly because of the more pronounced increase in the prices of food and energy and their larger weight in the consumer basket. On the other hand, inflation in Spain and France was significantly below the euro area average, primarily due to the much smaller contribution of energy to inflation in these countries.

ESTIMATION OF THE IMPACT OF EURO INTRODUCTION ON INFLATION¹

Many Croatian consumers have expressed concerns about potential price increases related to the euro changeover. A high-inflation environment has also contributed to the sensitivity of the situation. The conversion of prices of individual products from the kuna to the euro itself is carried out according to the established fixed exchange rate, which is a technical operation that should not have any impact on price increases. However, a certain short-term increase in prices in the course of conversion may be due to the factors that most often refer to the spillover of conversion costs (e.g. the costs of price list changes, IT services and staff training) onto consumers, and to the efforts of some corporations to increase their profit margins in the situation in which citizens are getting used to the new currency. Furthermore, it is known that a significant portion of prices is formed at the so-called attractive level, which implies price rounding so that payment is practical (not too many coins/banknotes required as change), or price formation ending in the number 9 (so-called psychological prices), which affects consumers by leading them to underestimate the cost of purchased products. After the conversion to

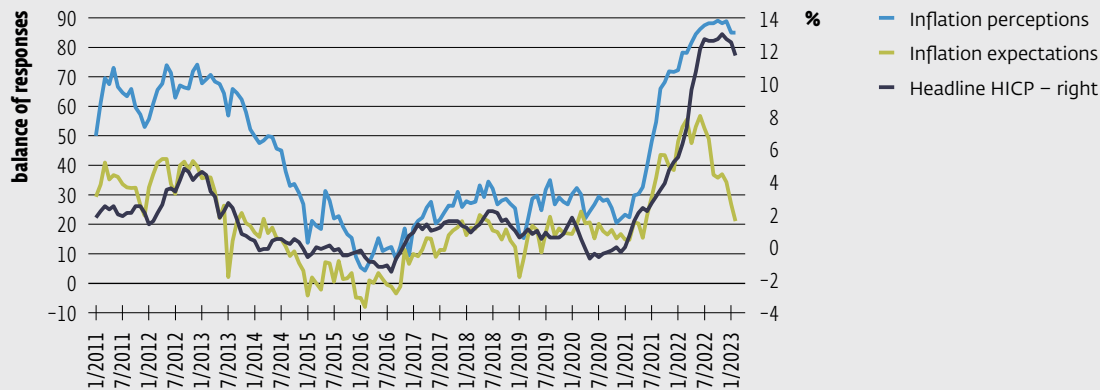
¹ The contribution is based on the paper by Falagiarda, M., C. Gartner, I. Mužić, and A. Pufnik (2023): *Has the euro changeover really caused extra inflation in Croatia?*, ECB Blog, 7 March 2023.

FIGURE 4 Consumer price inflation in Croatia

Source: Falagiarda, M. et al. (2023): *Has the euro changeover really caused extra inflation in Croatia?*, ECB Blog, 7 March.

euro according to the official conversion exchange rate, prices are often no longer attractive. If traders adjust the prices in euro up to the first higher attractive level, there might be a certain short-term impact on inflation. Market forces, or competition in the retail sector, are a significant factor that deters traders from raising prices, while the decline in transaction costs and the absence of exchange rate risk tend to decrease in prices. In addition, the obligation to display dual prices in stores from September 2022 might also deter traders from raising prices.

Eurostat data show that consumer prices (measured by the harmonised index of consumer prices) in Croatia in January 2023 increased by 0.3% from December 2022, or less than in some other euro area countries. When the main components are observed, it is noticeable that monthly changes in the prices of food, energy and industrial products did not deviate significantly from the average monthly growth in these prices in January in the previous ten years (Figure 4). In contrast, in January 2023, the prices of services increased significantly higher on a monthly basis than the long-term average (1.2% from 0.1%). The largest contribution to the rise in these prices came from services in restaurants and cafés, followed by dental and medical services and hairdressing services. In February 2023, the monthly growth of overall inflation was 0.2%, where the monthly rate of change of none of the main inflation components diverged considerably from the historical average. Assuming that the monthly increase in the price of services in January 2023 was at the level of the long-term average, total monthly consumer price inflation would be lower by 0.4 percentage points. Such a preliminary estimation of the effects of the introduction of the euro on overall inflation in Croatia is in line with the experiences of other euro area member states, which shows that the effect of the conversion of national currencies to the euro on the increase in consumer prices was moderate and one-off, while a slightly more pronounced increase in prices was recorded in a smaller share of products, predominantly in the service sector.

FIGURE 5 Inflation perceptions and expectations

Sources: Eurostat and European Commission.

The portion of attractive prices in domestic retail chains fell considerably in January (to about 45% in euro, from about 98% in kuna in December 2022),¹ which was largely the result of the fact that traders complied with the regulations on price rounding. About 65% of prices remained unchanged in January from December, while of the remaining 35% of the prices that changed, as much as 25% of the prices were reduced, partly due to the fact that some traders rounded the prices down to lower levels when converting the kuna to the euro.

In contrast to the experiences of other euro area member states, in which inflation perceptions mostly grew at the time of the introduction of the euro, in Croatia inflation perceptions decreased in January from December and remained stable in February, while inflation expectations of consumers declined in both months (Figure 5). The decline in perceived inflation was probably mostly under the impact of the recent decrease in energy prices.

¹ The analysis is based on microdata on prices from retail chains in Croatia, obtained from the intermediation by "PCA – prikupljanje cijena i analiza d.o.o.", a company specialised for the collection and analysis of prices in the Croatian market. The data include food products, beverages, cleaning products, personal care products, etc.

4



International reserves management

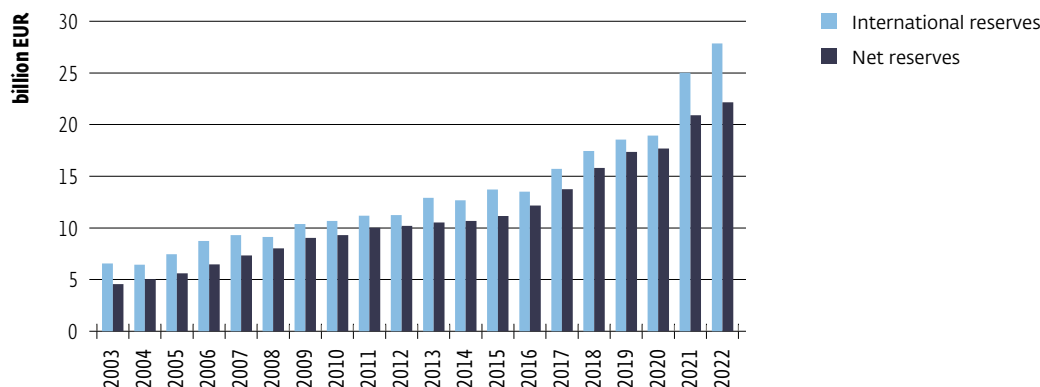
In 2022, international reserves reached their record high. Liquidity and safety of investment, the main objectives of international reserves management, were successfully accomplished. Despite one of the largest annual increases in yields in history, both in euros and in US dollars, which resulted in the big drop in bond prices and despite the high level of uncertainty in financial markets, the CNB foreign currency portfolios recorded a positive financial result due to investment and tactical decisions adopted in 2022 as well as in the previous years. In addition, in 2022, adjustments were implemented for the accession to the euro area on 1 January 2023.

INTERNATIONAL RESERVES IN 2022

International reserves totalled EUR 27,876.4m at the end of 2022, up EUR 2,855.2m or 11.4% on the end of 2021 (Figure 4.1). During the same period, net reserves, excluding the funds of the Ministry of Finance and the European Commission, the funds with the IMF, special drawing rights and investments in repo operations, increased by EUR 1,266.8m, or 6.1%, reaching EUR 22,177.1m.

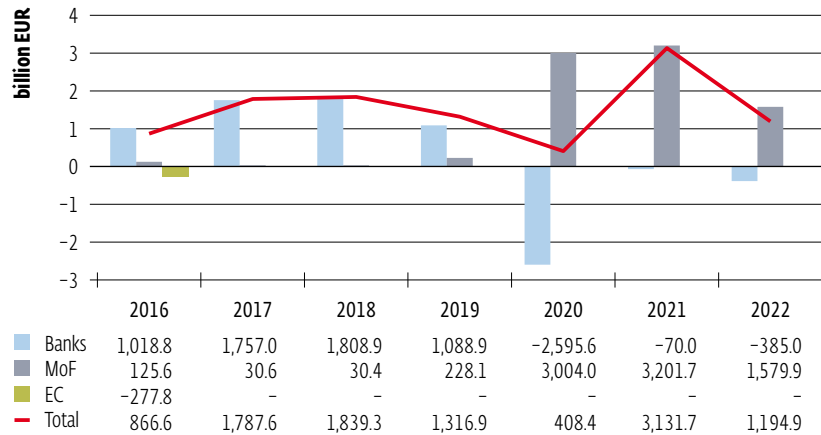
The increase in international reserves in 2022 was mostly attributable to the purchase of foreign currency from and foreign currency inflows to the MoF account and a higher level of agreed repo operations. By this growth, international reserves reached their record high shortly prior to the introduction of the euro. In 2022, the CNB purchased EUR 1,579.9m from the Ministry of Finance, while in net foreign exchange transactions with banks the CNB sold a net worth of EUR 385.0m. Thus, net purchases of foreign currency by the CNB during the year amounted to EUR 1,194.9m, creating HRK 8,989.8m.

FIGURE 4.1 Record high international and net reserves
end of period, million EUR



Source: CNB.

FIGURE 4.2 High purchases of foreign exchange from the MoF, the third year in a row
the CNB's net purchases of foreign exchange, from 2016 to 2022, in million EUR



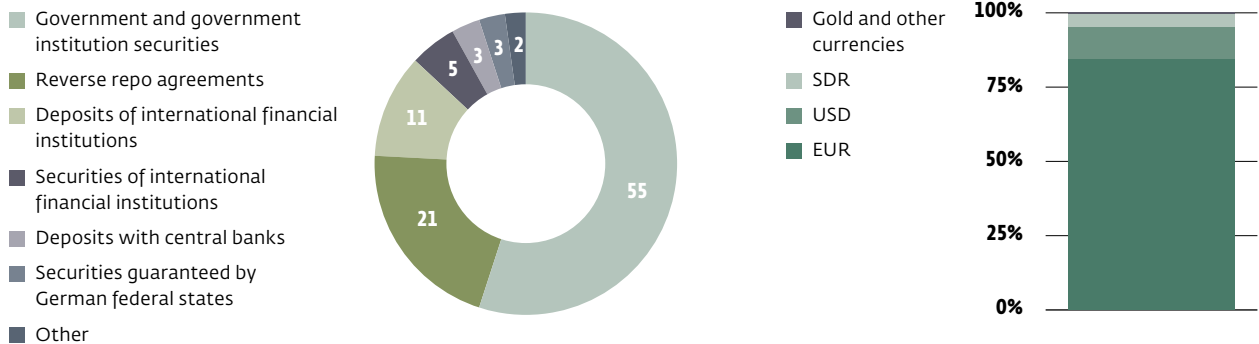
Note: Positive values refer to the purchase and negative to the sale of foreign exchange by the CNB.

Source: CNB.

STRUCTURE OF INTERNATIONAL RESERVES INVESTMENT

The securities of governments and government institutions, reverse repo agreements and deposits with international financial institutions accounted for the largest share in the structure of international reserves investment at the end of 2022 (Figure 4.3). A share of international reserves was also made up of the sustainable, so-called ESG investments, into green bonds, social bonds and sustainability bonds, whose share in total reserves totalled 5.8%¹ at the end of 2022.

FIGURE 4.3 In the structure of investments of international reserves, investments in the safest instruments accounted for the largest share (left panel), and by currency structure those in the euro (right panel) shares in percentage, at the end of 2022



Source: CNB.

Note: The shares of the instruments in the structure are rounded to a whole number.

¹ The first climate pledge related to the portfolio of international reserves of the CNB is presented in the Climate Report.

International reserves funds are invested in instruments with an investment grade rating, with investments in individual financial institutions and countries and in individual instruments being limited, which diversifies credit risk. At the end of 2022, about 57% of international reserves were invested in the safest investments – instruments from issuers within the two highest credit rating categories and BIS and IMF instruments.

Currency structure of international reserves

In the currency structure of international reserves the euro accounts for the greatest share. The share of the euro at the end of 2022 accounted for 84.2%, the share of the US dollar 10.9%, and the share of SDRs 4.5%. Gold, which on the last day of 2022 accounted for 0.4% of international reserves, was obtained in December 2022 for the purposes of transfer of foreign exchange reserves to the ECB in early 2023.

FINANCIAL MARKETS AND INTERNATIONAL RESERVES MANAGEMENT RESULTS IN 2022

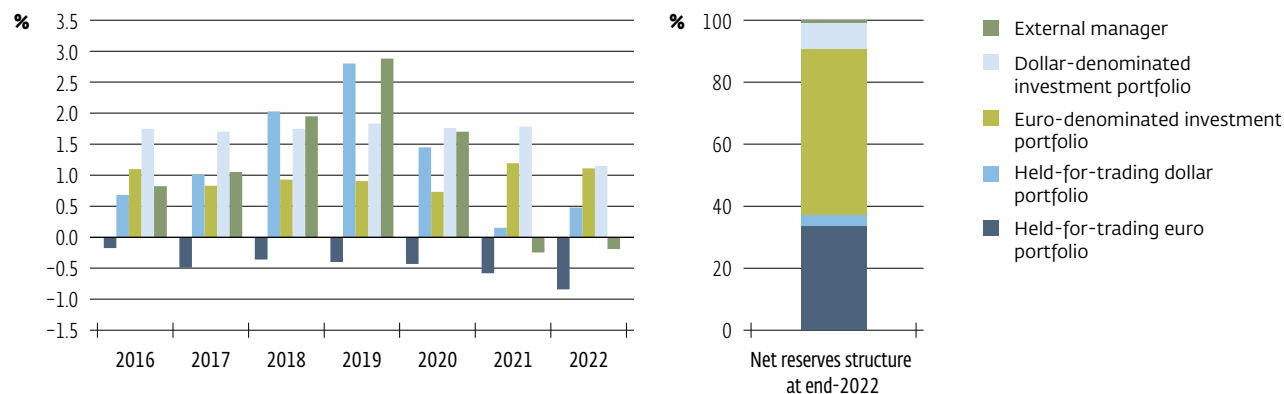
Financial markets in 2022 were marked by a strong growth in yields and fast hikes in key interest rates of leading central banks, all in an environment of very high inflation and unfavourable geopolitical situation due to the outbreak of the war in Ukraine. The increase in yields was one of the largest ever in history. The Fed started the cycle of raising its benchmark interest rates before the ECB, which followed suit in the second half of the year. The tightening of monetary policies also meant the end of the securities purchase programme and the start of the scaling back of the central banks' balance sheets from record high levels. Euro yields completely left the negative territory after several years. The shift in curves for government bonds of euro area countries of maturities up to ten years on average in 2022 stood at about 310 basis points, the largest in the case of Italy (342 basis points). The yield curve for US bonds of maturities up to ten years rose in 2022 from the end of 2021 on average by 319 basis points. Bond markets thus recorded one of the worst years ever, as when yields rise, bond prices fall. In addition, equity markets were also falling, so that 2022 was one of the rare years with the same trend direction in equity and bond markets.

Although the mentioned strong increase in yields also had a direct impact on portfolios of international reserves carried at market prices, in 2022, in total, the CNB's foreign exchange portfolios had a positive impact. For such an impact, the key was the structure of all international reserve portfolios set up in advance and a set of investment and tactical decisions adopted in the course of 2022 as well as in the previous years. The key task in international reserves management – liquidity and safety – was successfully fulfilled. The earnings from investment in 2022 amounted to HRK 1,237.8m or EUR 164.2m.

The entire euro portfolio of net reserves generated a rate of return of 0.48% in 2022, while the rate of return on the entire dollar portfolio stood at 1.17%. If held-for-trading and investment portfolios are observed separately, the euro

FIGURE 4.4 International reserve investment portfolios secure adequate rates of return in a period of historically low yields as well as in a period of one of the largest increases in yields (left panel), with the key portfolio structure set up in advance (right panel)

year-on-year rates of return, in percentage (left panel) and the structure in percentages (right panel)



Source: CNB.

held-for-trading portfolio generated a rate of return of -0.84%, while the dollar held-for-trading portfolio generated a rate of return of 0.48% in 2022. In 2022, the euro-denominated investment portfolio yielded a return of 1.11%, while the dollar-denominated investment portfolio yielded 1.15%. In 2022, the rate of return on the US dollar funds entrusted for management to an international financial institution was -0.19% (Figure 4.4).

The held-for-trading portfolios, which account for approximately 37% of net reserves, are used to maintain the country's foreign currency liquidity position. Investment portfolios, which account for approximately 62% of net reserves, generated the bulk of the CNB's earnings.

In 2022, a large number of activities and decisions in international reserves management were also linked to the preparations and adjustments that had to be implemented due to the introduction of the euro as of 1 January 2023. By applying the capital key, the CNB transferred to the ECB foreign exchange reserves in the amount of EUR 639.9m, of which 85% in the US dollar and 15% in gold.

5

Supervision



CNB supervision focused its activities on enhanced monitoring of the business model and credit risk of banks, with the aim of safety, stability and maintenance of trust in the banking system, in particular because of the continuation of the pandemic and the impact of Russian aggression against Ukraine. The main characteristics of the banking system continue to be high capitalisation and liquidity and considerable resilience to negative shocks.

PRUDENTIAL REGULATION

The Credit Institutions Act (hereinafter: the Act) was amended in late 2022. The amendments mostly arose due to the introduction of the euro as the official currency in the Republic of Croatia and the consequent harmonisation with the provisions of the Act on the Introduction of the Euro. In addition to harmonising the monetary amounts and the currency, the interactions and powers of competent authorities have been defined with regard to joining the Single Supervisory Mechanism (SSM); the powers of the European Central Bank (ECB) have been regulated, according to which the ECB performs tasks related to the policies of the prudential supervision of credit institutions, i.e. the ECB has the powers of the Croatian National Bank referred to in the Act and Regulation (EU) No 575/2013. In addition to the above, the Articles of the Act regulating the delivery of recovery plans have been regulated; the restrictions pertaining to large exposures have been adjusted and the resulting thresholds have been corrected; references to the regulatory framework for resolution/winding up of credit institutions have been redefined by reference to relevant regulatory acts; the provisions on persons in a special relationship with a credit institution have been amended; the deadline for completing the acquisition of a qualified holding has been changed; changes have been made in the area of authorisation of the management board and the supervisory board; changes have been made in the area of approvals for the provision of financial services, as well as numerous less important and technical changes.

A significant number of subordinate regulations in the field of prudential regulation have also been amended due to the amendments to the Credit Institutions Act. Thirteen subordinate regulations were amended for the purpose of harmonisation with the Act on the Introduction of the Euro. In addition to changes in monetary amounts and the currency, additional adjustments to related acts, guidelines and the relevant prudential regulations were made in certain decisions.

In the area of prudential regulation, four subordinate regulations were amended. The subject amendments were not related to harmonisation with the Act on the

Introduction of the Euro and the currency changeover:

- The Decision on recovery plans of credit institutions was amended due to the application of the Guidelines on recovery plan indicators of the European Banking Authority (EBA).
- The Decision on employee remuneration was amended due to the harmonisation of the provisions on employee retention bonuses, severance pay and monitoring of the gender-based wage gap with regard to the provisions of the EU directive.
- The Decision on governance arrangements was amended due to the transposition of some of the provisions of the Guidelines of the European Banking Authority regarding internal governance.
- The Decision on the assessment of the suitability of the chairperson of the management board, members of the management board, members of the supervisory board and key function holders in a credit institution is amended due to the transposition of some of the provisions of the Guidelines of the European Banking Authority on the assessment of the suitability of the management authority and key function holders.

In addition, in 2022 a subordinate regulation was drafted to clarify the method of exercising oversight of credit unions, as well the preparation and delivery of reports concerning the oversight of credit unions (Decision on the procedure and the manner of exercising oversight of credit unions and on preparing and delivering reports on examination findings).

Alignment with the supervisory procedures of the European Central Bank (ECB) for credit institutions and participation in working groups and activities of the European Commission and EU Council continued.

Representatives of the CNB at the European Banking Authority (EBA) actively participated in working group meetings on the preparation of reports, guidelines and draft technical standards within the EBA's purview.

In several circular letters, the CNB, in accordance with EBA Guidelines, informed credit institutions of its supervisory expectations in the segments of recovery plans; the procedures for establishing reference values regarding the remuneration practices and gender-based differences in salaries; collection of data on employees with high incomes; internal governance; and the assessment of the suitability of the management authority and key function holders, including good remuneration policies. A notice was sent on the revocation of three EBA guidelines on public disclosure, as well as a notice on the amendment of the EBA guidelines regarding disclosures on non-performing and restructured exposures.

For the first time, as members of the EBA's working group, prudential regulation employees participated in the mandatory Basel III monitoring exercise, which is carried out in cooperation with the Bank for International Settlements (BIS). This exercise assessed the effect of the application of the Basel III framework on banks. Two further surveys were conducted with the participation of selected credit institutions in coordination with the EBA. Representatives of the Department actively participated in the process of defining the regulatory positions of

the Republic of Croatia regarding the changes to the regulatory framework for the operations of credit institutions, as part of the changes brought by the CRDVI/CRRIII regulatory package¹.

Regulatory assistance was provided to the Central Bank of Montenegro in connection with the adjustments of the prudential regulatory framework for the operations of credit institutions in relation to the EU acquis.

In the area of the prudential reporting regulations, the following subordinate regulations were amended during 2022:

- Decision on supervisory reports of credit unions
- Decision on financial reports of credit unions
- Decision on statistical and supervisory reporting
- Decision on supervisory reports of credit institutions
- Decision on the structure and content of annual financial statements of credit unions, and
- Decision on the structure and content of annual financial statements of credit institutions.

In addition to the technical adjustments due to the euro changeover, the CNB discontinued some of the reports in order to relieve credit institutions of the reporting requirements via these changes, with entry into force in 2023. Reporting on currency-induced credit risk has been discontinued, as this risk is significantly reduced with the introduction of the euro. Reporting on borrowers whose debt exceeds HRK 5 million has been discontinued. Namely, the CNB used to receive reports on borrowers whose debt exceeds HRK 5 million, prepare an aggregate report (which contains the total debt of these borrowers at the level of the banking system) and make the aggregate data available to credit institutions. However, some credit institutions – even some systemically important banks – did not consult that aggregate report at all, so there was no wider application of these data in the banking system, for which reason the reporting requirement for the delivery of that data was abolished.

Also prepared were some of the amendments to the Decision on the refusal of annual financial statements of credit institutions and the content of an audit for the purposes of the Croatian National Bank related to the statements.

The Decision on the supervision fee for credit institutions for the year 2022 was also adopted, and all preparations for the collection of it were carried out.

PRUDENTIAL RISK MODELLING

Prudential risk modelling was focused on credit risks. In 2022, risk modelling experts conducted three on-site internal model inspections for credit risk management in significant credit institutions: one inspection was related to the request

¹ Capital Requirements Directive (CRD) and Capital Requirements Regulation (CRR)

for the initial application of the IRB¹ approach, and two inspections were related to significant changes to the model at a credit institution that applies the IRB approach for calculating capital requirements for credit risk.

Since credit institutions were obliged to apply the new definition of the default status in identifying bad loans based on the change in the European regulatory framework, an analysis of the application of this new definition in Croatian credit institutions and the compliance of the definition with the relevant regulatory framework was also carried out. In accordance with Commission Delegated Regulation (EU) 2018/171 of 19 October 2017 on supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards for the materiality threshold for credit obligations past due, under Article 178 of Regulation (EU) No 575/2013 (hereinafter: materiality threshold RTS), an obligor is in default when the limit expressed as the absolute component of the materiality threshold (EUR 100 for retail and EUR 500 for other exposures) and the limit that is expressed as a relative component of that threshold were exceeded for 90 consecutive days.

Risk modelling experts actively participated in the meetings of the working groups of the ECB and the EBA and worked on the preparation of reports, guidelines and drafts of technical standards in the EBA's purview.

PRUDENTIAL SUPERVISORY TEAMS

The past year was marked to a large extent by macroeconomic and geopolitical developments, which also affected prudential supervision activities that were carried out with the aim of ensuring the safety and stability of the banking system. Prudential supervision activities in 2022 were mainly aligned with the **supervisory priorities of the Single Supervisory Mechanism² ①**, and were additionally directed at analyses and enhanced monitoring of credit institutions' business areas that were assessed as more risky in terms of the impact of the Russian aggression against Ukraine, changes in interest rates and price growth. The aforementioned challenging environment necessitated an even more intensive engagement in the work of the ECB's joint supervisory teams for significant credit institutions³, as well as cooperation with the ECB's teams for monitoring the implementation of supervision for less significant credit institutions. In addition, the activity of prudential teams was also aimed at monitoring the forecast of the impact of the introduction of the euro on the business plans of credit institutions. On the basis of regular monitoring of key business indicators, additional thematic analyses and the assessment of the adequacy of the risk management system, the level and structure of the capital and liquidity of credit institutions, 98 supervisory measures and recommendations for credit institutions were taken in 2022 with the aim

1 Internal Ratings Based Approach

2 More details at: https://www.bankingsupervision.europa.eu/banking/priorities/html/ssm.supervisory_priorities2022-0f890c6b70.en.html ②

3 More details at: <https://www.bankingsupervision.europa.eu/banking/list/criteria/html/index.en.html> ③

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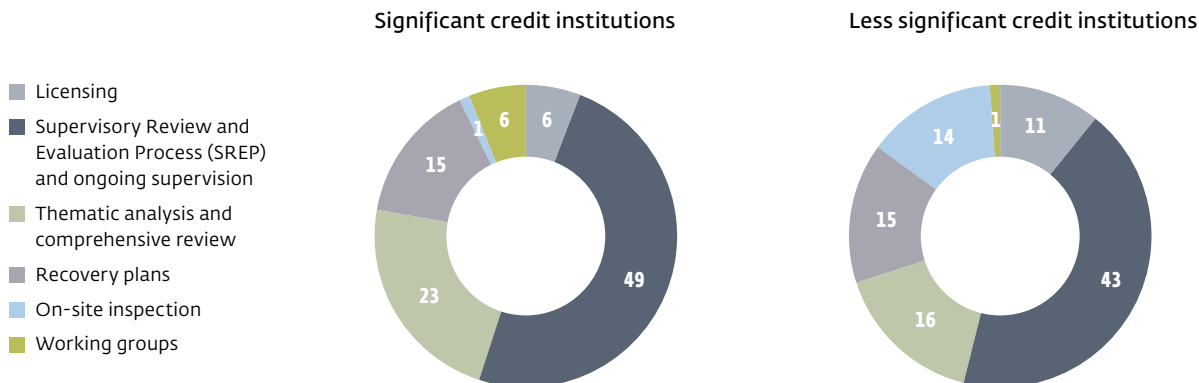


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FIGURE 5.1 Prudential supervision activities in 2022 by credit institution significance

Source: CNB.

of eliminating identified deficiencies and, in some cases, illegalities in business operations. All credit institutions were covered by at least one of the six standard supervisory activities in 2022 (Figure 5.1).

In February 2022, the beginning of the Russian-Ukrainian conflict increased the concerns of clients of credit institutions, and the banking system as a whole was under increased liquidity pressure. Prudential supervision intensified the daily communication with credit institutions, which recorded increased requests from clients for the payment of funds, so that all available activities could be undertaken in a timely manner to ensure the safety and stability of the banking system. Particular pressure on liquidity, caused by the name crisis, was recorded by the bank Sberbank d.d., the beneficial owner of which was a Russian entity. The daily demands of depositors for the withdrawal of funds, many times higher than usual, resulted in the rapid development of the liquidity crisis of that bank, which, despite all the efforts undertaken by the credit institution, eventually escalated to a situation in which Sberbank d.d. could not independently provide liquidity sufficient to meet all client demands. During this period, the prudential team, together with other expert teams and the management, participated in the implementation of activities that were coordinated both within the CNB and with other EU stakeholders since this bank was a part of a cross-border group the subsidiaries of which were exposed to similar negative effects of the name crisis. The bank underwent resolution in a very short period of time and was taken over by Hrvatska poštanska banka, which had the effect of changing the mood of depositors and easing the pressure on liquidity.

The most resource-intensive and time-consuming activity related to the regular annual supervisory assessment, which resulted in the official imposition of capital requirements that credit institutions will be obliged to maintain in 2023. In 2022, prudential supervision covered 19 credit institutions through the SREP process, and for some of them qualitative recommendations were issued for improving the risk management process, primarily in the area of credit risk, the structure of management bodies and interest rate risk on the banking book. With a view to

still possible vulnerabilities regarding the earnings and capital for credit institutions, prudential supervision continued to pay special attention to monitoring the capitalisation of the Croatian banking system and ensuring its adequacy.

The quality of the credit portfolio and credit risk management were continuously monitored in the context of possible post-pandemic effects, as well as of the impact of the war in Ukraine. In particular, the exposure of credit institutions to vulnerable sectors was monitored in the light of macroeconomic developments in 2022. Semi-annual thematic analyses were carried out, as well as comprehensive reviews of credit institutions' compliance with the EBA guidelines, primarily in the areas relating to credit and interest rate risks. For all less significant credit institutions, thematic analysis of individual segments of internal governance was carried out.

In 2022, a total of 61 requests for licensing were received, the majority of which were related to the licensing of candidates for membership of management boards and supervisory boards, mostly for less significant credit institutions. Certain credit institutions were given recommendations in the licensing process on achieving or maintaining gender equality, providing ongoing training or avoiding conflict of interest, or ensuring time allocated to the performance of functions with the aim of improving the governance structure.

The monitoring of the impact of potential Swiss franc borrower complaints regarding the operations of credit institutions and the adequacy of established systems for managing this risk continued.

In 2022, bankruptcy proceedings were initiated for one credit union, and for all remaining 16 credit unions regular three-month monitoring of legal restrictions was carried out based on the submitted data.

In cooperation with the ECB, prudential supervision employees participated in joint on-site inspection of two credit institutions, while they carried out their own inspection of target segments of risk and governance quality for three less significant credit institutions.

SPECIALIST SUPERVISION OF INFORMATION AND COMMUNICATION TECHNOLOGY

The supervision of information and communication technology¹ in 2022 was focused on the supervision of projects aimed at the adjustment of these systems of credit institutions and non-bank payment service providers with regard to the introduction of the euro. The introduction of the euro required significant changes in the ICT systems of financial institutions, which had to be tested in a timely and comprehensive manner. The progress of the project was monitored in direct communication with financial institutions and key service providers and with the help of a specially established system of regular monthly reporting on

¹ The acronym ICT is used for information and communication technology.

the status of the project and the status of adjustment of an ICT system with regard to the introduction of the euro.

As part of the Supervisory Review and Evaluation Process (SREP), supervisors assessed the ICT risk (the so-called IT SREP) in 11 banks, which make up more than 95% of the banking system, in accordance with the SREP cycle. IT SREP in 2022 focused on ICT system management, information security and data integrity risks. In addition to supervising ICT risks in Croatian institutions, ICT supervisors also participated in the work of the Single Supervisory Mechanism and the work of several European and Croatian working groups on ICT risks. Information security is defined as one of the supervisory priorities of the Single Supervisory Mechanism, and the risk of it being breached is continuously growing. Despite this, no incidents with major negative consequences for the ICT systems of banks were recorded in 2022, nor were there any significant interruptions in the provision of key services in the banking sector.

In 2022, a new Decision on adequate information system management was published, which enters into force on 1 April 2023, further elevating the expectations on credit institutions related to ICT. ICT supervisors also continued with the preparations for the implementation of the Regulation of the European Parliament and of the Council on digital operational resilience for the financial sector, which aims to establish a comprehensive and detailed framework for digital operational resilience of the financial system.

SPECIALIST SUPERVISION OF PREVENTION OF MONEY LAUNDERING AND TERRORIST FINANCING

The CNB checks whether the entities under its supervision implement the measures that must be implemented pursuant to the Act on the Prevention of Money Laundering and Terrorist Financing¹, aiming at the prevention of the use of the financial system for money laundering and terrorist financing (PMLTF). In addition to the above, the CNB supervises whether the supervised entities apply international restrictive measures.

In 2022, the CNB's supervisory activities in the MLTF segment were directed at ensuring that supervised entities have in place an efficient and effective ML/TF prevention system, both at sector and at individual entity level. All credit institutions, credit unions, electronic money institutions and payment institutions were subject to ML/TF risk profile assessment.

In all, nine on-site inspections were carried out in 2022, with special attention being paid to the adequacy of risk management associated with criminal offences that represent a considerable threat of MLTF as identified by the National Risk Assessment of Money Laundering and Terrorist Financing in the RC. In accordance with the established illegalities and irregularities, the CNB initiated the undertaking of seven supervisory measures with respect to supervised entities in 2022. MLTF risks were also analysed in the framework of licensing processes.

¹ The acronym PMLTF is used for the prevention of money laundering and terrorist financing.

In addition to the above, the assessment of the adequacy of the system and controls implemented by the supervised entities in order to apply international restrictive measures was at the centre of the supervisory activities. That is, in 2022 supervisory activities were greatly influenced by the introduction of sanctions against Russia and Belarus by the European Union. Active coordination with the supervised entities was ensured in order to promote a better understanding of the risk of violating the sanctions.

In 2022, the CNB also undertook significant additional activities to promote the understanding of the MLTF risks within the supervised sectors. This includes thematic training covering all supervised entities, regular annual interviews with selected entities, thematic interviews with several involved entities, as well as issuing guidelines regarding the implementation of individual provisions of the Act on the Prevention of Money Laundering and Terrorist Financing.

Cooperation with other national and international competent authorities, as well as participation in various forums of supervisors and in working groups for the coordination of activities of preventing MLTF, continued. In 2022, the CNB actively participated in the work of ten colleges for the prevention of MLTF in financial institutions active on a cross-border basis.

At the initiative of the Ministry of Finance, a working group for amendments to the Act on the Prevention of Money Laundering and Terrorist Financing was established in 2022, in the work of which representatives of the CNB also participated.

PRUDENTIAL COORDINATION

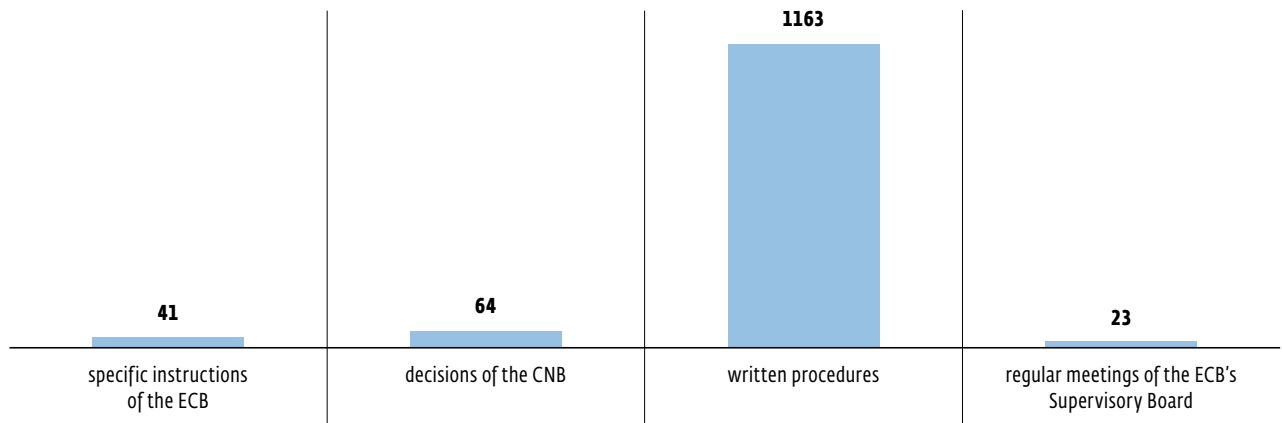
In 2022, the Office for Coordination of Prudential Supervision, Oversight and Risk Management Activities provided support to decision-making in the format of close cooperation with the ECB, directed its activities at managing information and coordination, and participated in bilateral and multilateral meetings with the ECB's expert bodies.

A continuous dialogue was ensured between the ECB and the CNB at the operational and management level, aiming at the exchange of experience and knowledge for the purpose of further convergence of supervisory methodology and tools.

As part of the network of SSM coordinators, the Office participates in the preparation of all meetings of the Supervisory Board, holds a large number of bilateral meetings and cooperates closely with the SSM coordinators of several competent national bodies. All challenges arising from the complex legal environment of decision-making were successfully resolved in close and excellent cooperation with the decision-making bodies of the ECB and through the implementation of practical solutions.

With respect to the entry of the Republic of Croatia into the euro area on 1 January 2023, the Office played a key role in the transition from the format of close cooperation to the full scope of supervision within the SSM. All procedures were updated and all modalities of supervision activities were harmonised in the last quarter

FIGURE 5.2 The tasks of the secretariat for the ECB's Supervisory Board performed by the CNB Office for Coordination



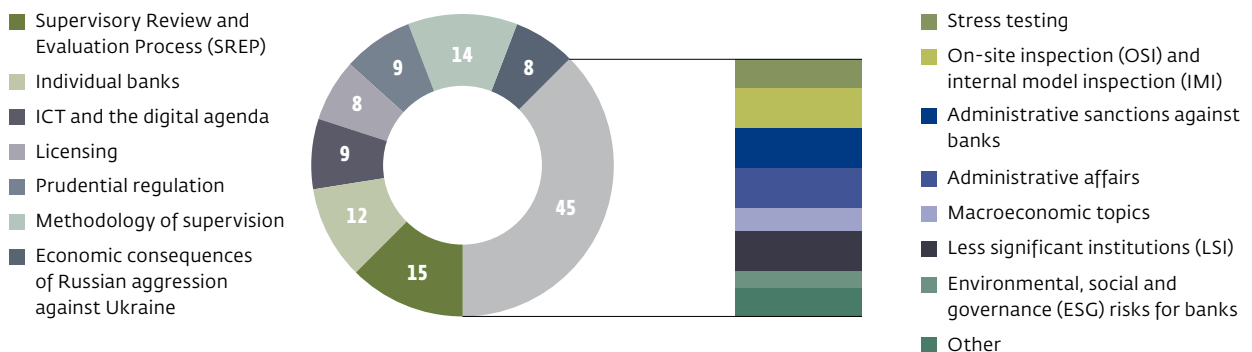
Source: CNB.

of 2022, with the support of and in coordination with several organisational units of the ECB. The transition from one legal framework to another was successfully carried out for the first time. As a result of these changes, the Office took over the coordination tasks of the Governing Council in supervisory matters.

During 2022, 23 meetings of the ECB's Supervisory Board¹ were held, during which about 120 individual topics were discussed. The economic consequences of Russian aggression against Ukraine were discussed, and special attention was paid to SREP, prudential regulation and methodology, and information security and digitalization.

Focusing on process improvement and training of supervisors within the SSM remains one of the basic principles of the Office. Accordingly, we participated in

FIGURE 5.3 Topics of the ECB's Supervisory Board meetings



Source: CNB.

¹ Including 5 seminars.

several strategic projects of the SSM. We participated in the preparation of the Supervisors Connect 2022 conference, where together with experts from the ECB and NCAs, we held a presentation on public disclosure of climate risks. As part of the SSM Integration project, which is aimed at improving cooperation and efficiency within the SSM, we successfully made it possible for CNB supervisors to be included in the work of expert groups that we prioritise. We also provided SSM programme training for more than 40 supervisors regarding more than 50 supervision topics, with particular emphasis on SREP training.

In addition, the Office coordinated the exchange of information on operative and strategic issues with other supervisory authorities in the RC and the region, including the BSCEE (the non-profit banking association of supervisors from Central and Eastern Europe), as well as coordination with other European competent authorities.

The Office focused part of its activities on updating existing supervisory agreements, drafting a new agreement for the supervision of the central securities depository, and improving cooperation with the ECB's SCT Accountability & Cooperation unit.

6



Resolution

Representatives of the Croatian National Bank have successfully participated in the work of the Single Resolution Mechanism for the second year in a row. During the year, a regular annual update of resolution plans was carried out for all credit institutions with registered offices in the Republic of Croatia, and continuous work went on to improve the content of the resolution plans and raise the degree of their feasibility. Resolution of the credit institution Sberbank d.d. was successfully carried out in February 2022, which prevented more serious economic disturbances, protected the public interest and preserved the financial stability of the Republic of Croatia.

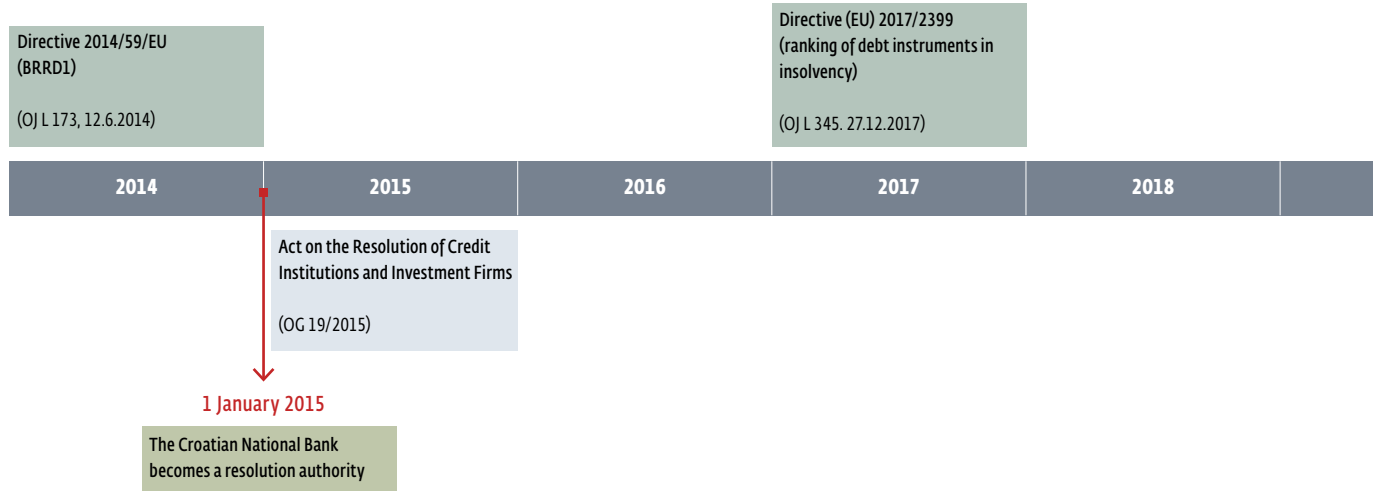
OPERATING WITHIN THE SINGLE RESOLUTION MECHANISM

For the second year in a row, representatives of the Croatian National Bank participated in the work of the Single Resolution Board, thus acting as full members of the Single Resolution Mechanism alongside representatives of other Eurosystem participants.

In this sense, during 2022 representatives of the Croatian National Bank who are members of internal resolution teams in charge of banking groups to which credit institutions with registered offices in the Republic of Croatia belong participated in the process of regular annual updating of the resolution plans for those banking groups to which our banks belong. As part of the aforementioned procedure, data and information on all members of a particular banking group, including Croatian banks, were updated, so that in the event of the need for resolution of any company from a particular group resolution plans would be up-to-date and, in this sense, reliable and feasible.

Representatives of the Croatian National Bank who are members of various working groups established within the Single Resolution Board also contributed to the updating of a series of different policies and internal acts of the Single Resolution Board, which apply equally to the operations of credit institutions and to the work of resolution authorities in the banking union. Of the more important acts that were the subject of discussions and which were adopted last year, the SRB MREL Policy 2022 should be highlighted, on the basis of which the binding MREL requirements were later calculated and imposed on all banks in the banking union, including Croatian banks for which resolution is planned.

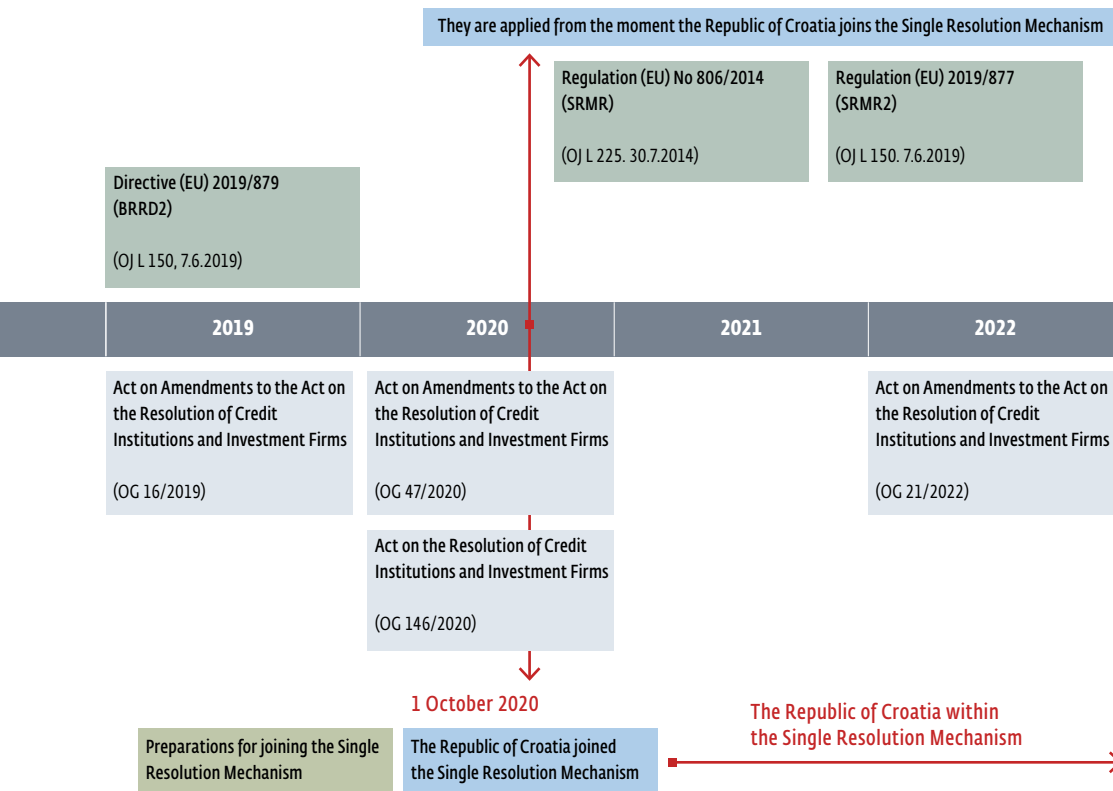
Finally, the activities of the Croatian National Bank were also carried out at the highest governing level, where representatives of the Croatian National Bank, together with representatives of the remaining 19 participating member states and Bulgaria, participated on an equal footing throughout the year in a series of plenary and executive sessions of the Single Resolution Board. The representatives of the Croatian National Bank, acting at the plenary sessions, participated in the formation, approval and monitoring of the implementation of all important acts of

FIGURE 6.1 Development of the resolution framework in the Republic of Croatia

Source: CNB.

the Single Resolution Board itself as an institution, such as the work plan, budget, employment plan, public procurement plan and internal audit plan. Through their actions at the executive sessions, they participated in decision-making regarding all important issues related to the banking groups to which banks with registered offices in the Republic of Croatia belong, for example on the content of resolution plans, determining the amount and structure of MREL requirements, the scope of reporting and similar issues.

In addition to the aforementioned activities regarding the updating of resolution plans, all national resolution authorities, as well as credit institutions in the banking union were engaged during 2022 in improving the quality and raising the degree of feasibility of resolution plans in order to accomplish the most important goal of the Single Resolution Board by 1 January 2024 referred to in the SRB Multi-Annual Programme 2021-2023, which is that the resolution plans be feasible. In this sense, a significant number of workshops and joint meetings with banks were held during the year. Although banks and resolution authorities still have the whole of 2023 ahead of them, the preliminary conclusions of both the Single Resolution Board and the Croatian National Bank, the national resolution authority, indicate that credit institutions with registered offices in the Republic of Croatia have made enormous efforts and demonstrated commendable success in meeting the goals that they were tasked with as part of this procedure.



In addition to updating resolution plans for credit institutions for which the Single Resolution Board is directly responsible, during 2022 a regular annual update of resolution plans for all credit institutions for which the Croatian National Bank is directly responsible as the resolution authority was carried out.

RESOLUTION OF SBERBANK D.D.

On 27 February 2022, the European Central Bank informed the Single Resolution Board and the Croatian National Bank that, in accordance with the provisions of Article 18(4)(c) of Regulation (EU) No 806/2014¹, the ECB assessed that Sberbank d.d. was failing or was likely to fail.

On the same day, the Single Resolution Board confirmed the above-mentioned assessment of the European Central Bank and adopted a decision ordering the Croatian National Bank as the resolution authority to determine the deferral of all payments and the seizure of assets of the credit institution Sberbank d.d. for a

¹ Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010 (OJ L 225, 30.7.2014; with all amendments thereto)

period of 48 hours, in accordance with the provisions of national law. The purpose of the aforementioned deferral was primarily to prevent further outflow of deposits from that credit institution, but also, because the failure of several companies operating within a single group would be involved, to provide sufficient time in the aforementioned manner for all involved resolution authorities to adopt decisions on taking appropriate measures and further steps.

On 1 March 2022, the Single Resolution Board adopted a decision determining that the conditions for the resolution of Sberbank d.d. had been met, and ordered the Croatian National Bank to open resolution proceedings against that bank in accordance with the provisions of national law. In its decision, the Single Resolution Board determined that the resolution would be carried out using the instrument of the sale of shares to a new buyer, Hrvatska poštanska banka d.d.

In accordance with the aforementioned decision, at the Council session held on 1 March 2022 the Croatian National Bank adopted the Decision to open resolution proceedings against Sberbank d.d. and the Decision to appoint a resolution administration. The operations of this bank have been completely stabilised through the actions of the resolution administration during the resolution proceedings, which prevented further uncontrolled outflow of deposits and ensured its liquidity and the assumption of control by the new owner.

The resolution proceedings against Sberbank d.d. were completed on 13 April 2022, with the adoption of the Decision of the Council of the Croatian National Bank on the completion of resolution proceedings. The former bank Sberbank d.d. was renamed Nova hrvatska banka d.d., and today the bank is a member of the Hrvatska poštanska banka d.d. group.

7

Business operations
of credit institutions



Strong capitalisation and high liquidity characterise the banking system of the Republic of Croatia and support stable and smooth operations amid the continued uncertainty of geopolitical instability and macroeconomic pressures.

STRUCTURE OF THE SYSTEM

At the end of 2022, there were 21 credit institutions operating in the Republic of Croatia: 20 banks and one housing savings bank, two housing savings banks merging with their parent banks in the course of the year.¹ In addition, there was one branch of an EU credit institution operating in the country, of BKS Bank AG, Main Branch Croatia, while over 200 institutions from the EU and the European Economic Area had notified the CNB of the intention to directly provide mutually recognised services in the territory of the Republic of Croatia.

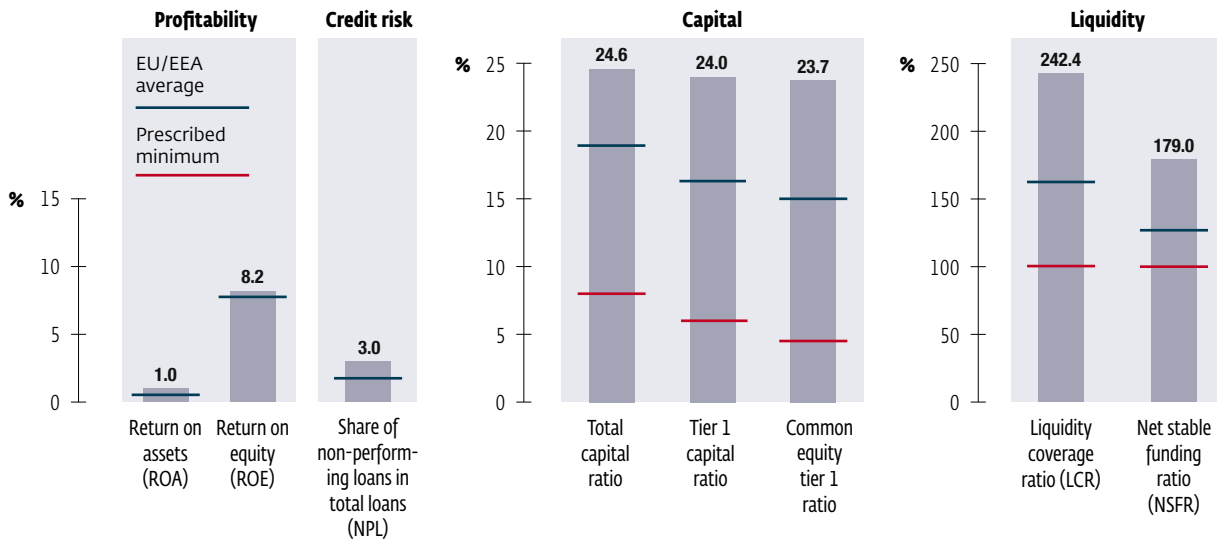
The merger of housing savings banks and the change in the ownership structure of Nova hrvatska banka d.d.² slightly changed the features of the ownership structure of the banking system. The number of credit institutions in the majority ownership of foreign shareholders fell from 14 to 11, thus also reducing the share of their assets in the total banking system assets. However, their share remained dominant, accounting for 88.8% of the total banking system assets. The years-long moderate decline in the number of employees continued, and at the end of the year 2022 the credit institutions system had 18,363 employees.

PERFORMANCE INDICATORS OF CREDIT INSTITUTIONS

The assets of credit institutions rose to a record high of HRK 572.2bn in 2022. The key source of their growth was the increase in deposits in the current accounts of households, increased by deposits of surplus funds in the run-up to the introduction of the euro, and deposits of non-financial corporations also increased. Assets

¹ Raiffeisen stambena štedionica merged with Raiffeisenbank Austria d.d. on 2 May 2022 and PBZ stambena štedionica merged with Privredna banka Zagreb d.d. on 15 June 2022.

² On 1 March 2022, resolution proceedings were opened against Sberbank and the bank's ownership structure was changed by the acquisition of a qualifying holding by Hrvatska poštanska banka. Resolution proceedings ended on 13 April 2022 and the bank started to operate on 14 April 2022 under the name of Nova hrvatska banka d.d.

FIGURE 7.1 Key banking system indicators, as at 31 December 2022

Source: CNB.

mostly increased in the form of highly liquid cash instruments, in particular by the end of the year as a result of the larger inflow of deposits and the end of the adjustments of monetary measures to the monetary policy instruments in the euro area. The strengthening of cash balances in total assets of credit institutions pushed up the value of the liquidity coverage ratio (LCR) to a record high of 242.4%, a level that was almost two and a half times higher than the prescribed minimum of 100%. The long-term liquidity and the requirements for stable sources of financing in the environment of rising assets were to a large extent ensured by the above-mentioned increase in deposits of households and non-financial corporations, which contributed to a growth in the value of net stable funding ratio (NSFR) to as much as 179.0%.

Cash balances also had a favourable effect on improved quality of total assets and contributed to the high total capital ratio of all credit institutions of 24.6%. Although the total capital ratio decreased under the impact of unrealised losses based on bonds carried at fair value, it is still among the highest of all EU member states. All credit institutions reported a total capital ratio above the prescribed minimum of 8% and eight of them, which accounted for two thirds of the total system assets, boasted a total capital ratio of above 20%.

Credit activity in 2022 resulted in a 5.5% increase in loans. The increase in loans was mostly directed at non-financial corporations, in particular at the financing of corporations in the activities of energy supply, trade and real estate operations. Housing loans to households continued to increase, further supported by the participation of credit institutions in the government programme for subsidising these loans, and a moderate growth in general-purpose cash loans also continued. The quality of credit institutions' assets measured by the non-performing loans

ratio (NPL), continued to improve, although this ratio, after declining to 3.0%, continues to be less favourable than the EU average (1.8%). Non-performing loans continued to decline in all more important activities of the non-financial corporations sector, which resulted in a decrease in the NPL share in total loans to non-financial corporations, to 6.4%. The share of NPLs in total loans to households fell to 5.0%, with the size of this share being primarily influenced by difficulties in the collection of general-purpose cash loans.

The positive development in the non-performing share of the credit portfolio is contrasted with the situation in the performing share of the credit portfolio that is not yet in default. The level of credit risk in this share of the portfolio is still higher than before the period of the COVID-19 pandemic and has yet to show signs of declining.

Credit institutions' operations in 2022 generated HRK 5.3bn in profit, 4.9% down from the profit generated in 2021. Profitability indicators decreased as well – ROA totalled 1.0% and ROE 8.2%. The decrease in the profit was mostly the consequence of the higher general operating expenses, largely associated with the costs related to the introduction of the new currency. As a result, the cost efficiency of the banking system was reduced moderately because credit institutions used a larger share of the net income to meet these costs. Net operating income increased, driven by the increase in net interest income following a long period of decline and due to the continued growth in net income from fees and commissions.

BUSINESS OPERATIONS OF CREDIT UNIONS

At the end of 2022, 16 credit unions had assets of HRK 627.7m at their disposal. The number of credit unions decreased by one from 2021, but their total assets rose by 1.2%. Total assets of credit unions are equivalent to 0.1% of the total assets of all credit institutions.

The impact of interest rate growth on household borrowing costs



02

The rise in the key interest rates of the central banks was reflected in the increase in the household borrowing costs. In Croatia, such an effect is currently limited by the high share of loans with fixed interest rates, the large presence of the relatively sluggish national reference rate for loans with variable interest rates, and legal restrictions on the maximum allowed interest rates. Despite this, in the event of a significant increase in interest rates on deposits, interest rates on loans would also increase, as well as the repayment burden for the segment of borrowers with loans granted at variable interest rates.

After a long period of extremely high liquidity and low interest rates, the tightening of monetary policy in 2022 increased interest rates on international financial markets, which gradually spilled over to the domestic economy. Therefore, the costs of new borrowing and the repayment burden for existing borrowers who have contracted loans with variable interest rates have increased.

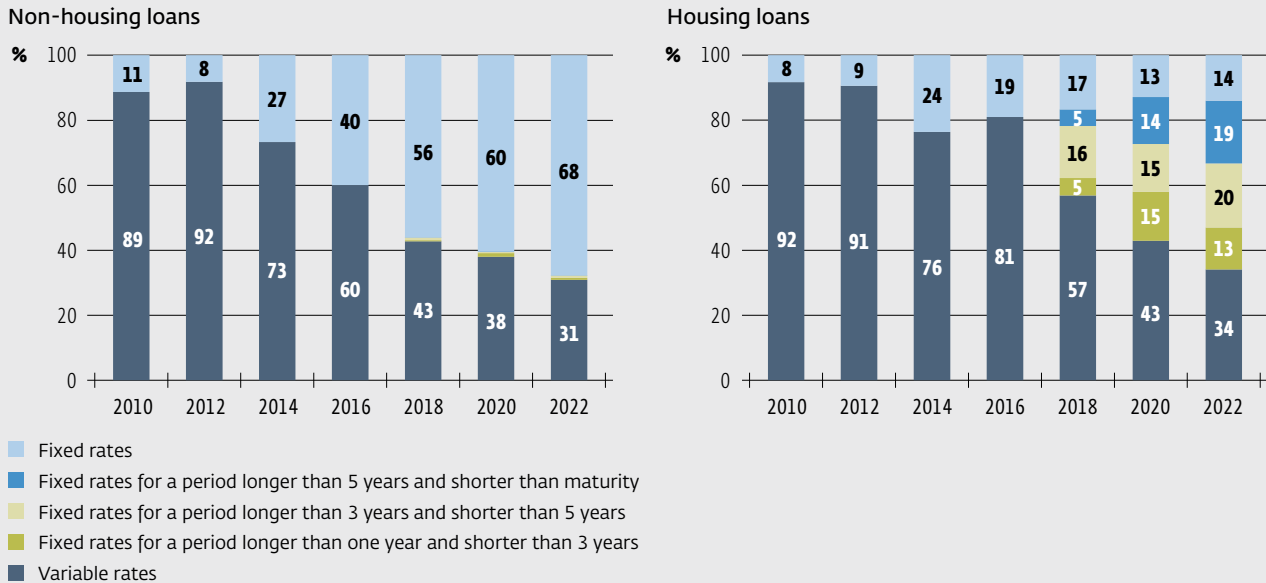
Such developments spilled over to Croatia with a certain delay, and to a much milder extent than in other European countries. The cost of financing of the government and corporate financing rose the fastest and most strongly, while interest rates on newly granted loans to households continued to decrease until mid-2022, when they reached a historic minimum, which was supported, *inter alia*, by the government subsidy programme. At the same time, interest rates on the majority of existing loans to households that are already being repaid continued to decrease. Non-housing loans with a variable interest rate linked to EURIBOR (they make up about 2% of all loans to households) are an exception, the average interest rate having increased since August.

Several factors have slowed down and mitigated the intensity of the impact of the tightening of financial conditions on the loan repayment burden. First, fixed interest rates are applied to two-thirds of loans to households in whole or in part during the term of the loan agreement, which protects consumers permanently, or at least temporarily, from an increase in the cost of loan repayment (Figure 1). Although a significant number of the loans were granted with variable interest rates, the Recommendation of the CNB from 2017 contributed to the more frequent use of fixed interest rates, which required banks to offer consumers who contracted loans with variable interest rates the possibility of changing the loan terms precisely in order to protect them against interest risks, and without additional costs. Along these lines, banks started to grant more and more loans with fixed interest rates, at least for part of the repayment period, also through the offer of new loans. That is why in late 2022 more than two-thirds of loans to households have interest rates that are fixed for a certain part of the repayment period (Figure 2).


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FIGURE 1 Structure of existing loans according to interest rate variability, for non-housing (left) and housing (right) loans



Notes: Credit card debt and transaction account overdrafts are excluded from the above presentation. Since 2017, three additional categories have been created from the category of loans with variable interest rates, depending on the remaining period of interest rate fixation: up to 3 years, over 3 years and less than 5 years, and over 5 years. Source: CNB.

Second, the largest part (about 74%) of loans contracted with a variable interest rate is linked to the **national reference rate (NRR)** , while only a smaller part is linked to EURIBOR (about 17%). Since the NRR reflects the average cost of financing of the Croatian banking sector and mainly follows the trend of deposit interest rates, in the past it has been slower to adapt to changes in international financing conditions. In late 2022, the NRR denominated in the euro was at its historically lowest levels (between 0.05% and 0.17% for different NRR scopes), while the EURIBOR, after several years of negative values, began to increase during 2022, and strongly accelerated in the second half of the year. Thus, EURIBOR 6M¹, which is the most common reference interest rate for domestic loans to households, increased by 3.2 percentage points (from -0.5% to 2.7%) from early January to late December 2022.

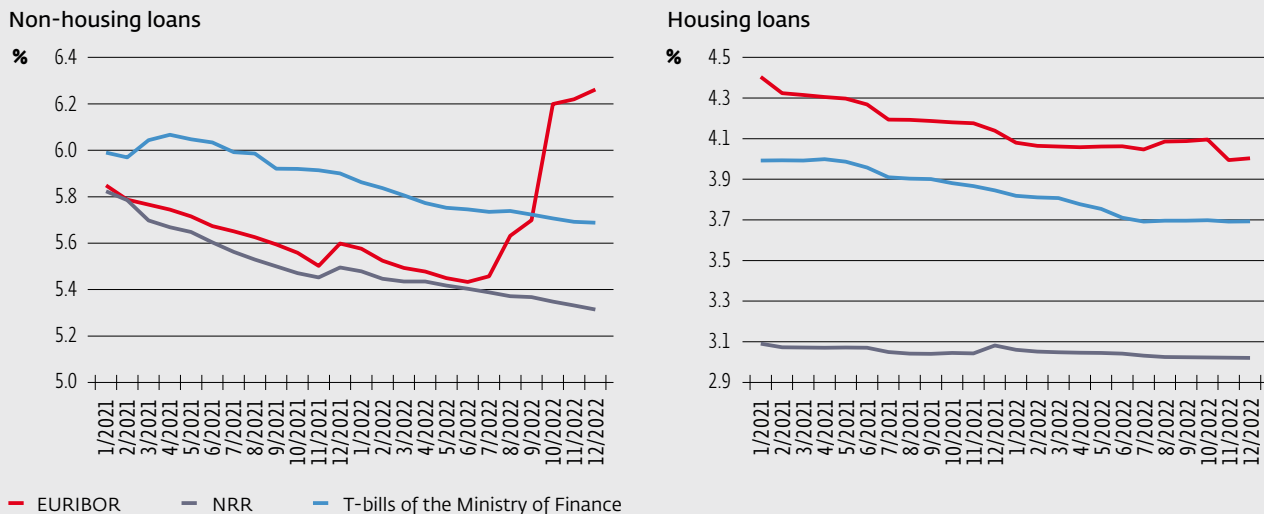
Third, consumers who contracted loans with variable interest rates are protected from a strong increase in interest rates by legal restrictions, which are particularly strict for housing loans². Given the inertia built into the calculation of

- 1 About 70% of the principal of loans the interest rate of which is currently variable and linked to the EURIBOR is linked to the six-month EURIBOR.
- 2 The provisions on the basis of which the maximum allowed interest rates on housing and other consumer loans contracted with a variable interest rate are determined are given in Articles 11b and 11c of the Consumer Credit Act (OG 75/2009, 112/2012, 143/2013, 147/2013, 9/2015, 78/2015, 102/2015, 52/2016 and 128/2022), and Article 25 of the Act on Consumer Housing Loans (OG 101/2017 and 128/2022), whereby the base for calculating those rates is published by the Croatian National Bank semi-annually in the Official Gazette (on 1 January and 1 July of the current year). According to these provisions, the highest allowed

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FIGURE 2 Average interest rates on existing loans (non-housing – left and housing – right) with variable interest rates, according to the reference parameter



Notes: The average interest rates on loans with variable rates are shown; in addition to the nominal interest rate, they also include default interest on the loans on which default interest is calculated. Credit card debt and transaction account overdrafts are excluded from the above presentation.

Source: CNB.

legal restrictions applied to variable interest rates, these restrictions continued to decrease in 2022, reflecting the drop in the average interest rate on loan balances granted with a variable interest rate. Since for most of the existing housing loans with a variable interest rate linked to EURIBOR a rate that was very close to, or at the very limit of, the interest rate was applied, the specified rates increased only slightly.

Regardless of the factors that mitigate and slow down the transfer of higher market rates in the short term, an increase in the loan repayment burden for a larger number of consumers can be expected in the medium term. Therefore, during 2022 the Croatian National Bank continuously simulated the effects of higher interest rates on consumers and published the analyses conducted in regular publications (**Financial Stability No. 23** ¹ and **Macprudential Diagnostics No. 18** ²). Although these assessments show that the effect of interest rate growth on the increase in repayment costs is moderate on average, they also indicate that there are more vulnerable segments of consumers with long-term loans, whose repayment costs could increase significantly.

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interest rate on housing loans with a variable interest rate must not be higher than the average weighted interest rate on housing loan balances in a certain currency (separately for the euro and Swiss franc) increased by a third; in the first half of 2022 this amounted to 4.19% for euro, and 4.2% for kuna housing loans, while from 1 July 2022, it amounted to 4.05% for euro, and 4.09% for kuna housing loans. For other consumer loans, the maximum allowed interest rate is significantly higher, and in the second half of 2022 it amounted to 8.22% for euro loans and 9.11% for kuna loans. Namely, according to legal provisions, the interest rate on other consumer loans with a variable interest rate must not be higher than the average weighted interest rate on balances of other consumer loans denominated in a certain currency (separately for the euro and Swiss franc) increased by one half.

8

Statistics



During 2022, the Statistics Area carried out final preparations for the inclusion of the statistical function of the CNB in the statistical function of the Eurosystem. The development of new sets of statistical indicators and reports has been completed, and sets of historical series of statistical indicators expressed in the new reporting currency, the euro, have been prepared, which will be delivered to the European Central Bank and the Statistical Office of the European Union (Eurostat) in 2023. The existing sets of statistical indicators were also expanded with more detailed data. The publication of summarised statistical reports with comments on the developments in selected statistical indicators continued, and were well received by the experts, as well as by the general public and the media.

THE ROLE OF THE STATISTICS AREA OF THE CROATIAN NATIONAL BANK

As the second most important producer of official statistics of the Republic of Croatia, next to the Croatian Bureau of Statistics, the Croatian National Bank makes continuous efforts to improve the methods for the collection and processing of data, as well as for the calculation and presentation of statistical indicators based on these data. The CNB's Statistics Area collects data from statistical reporting entities and administrative data holders and processes them to produce and publish indicators of official statistics of the Republic of Croatia within its area of competence. All of these activities during 2022 were aimed at preparing the integration of CNB statistics into Eurosystem statistics. This process will mostly take place during the first half of 2023 through the national publication and delivery to the ECB and Eurostat of audited sets of statistical indicators, now expressed for the first time in the new reporting currency, the euro, with the inclusion of the Republic of Croatia in a geographical sense in the euro area and according to the new, somewhat different, rules for the euro area.

DEVELOPMENT OF NEW AND ALIGNMENT OF EXISTING STATISTICS

In 2023, the CNB will for the first time report to the ECB on the details of the credit relationships that credit institutions maintain with their clients who are legal entities as part of the AnaCredit report, which contains detailed information about individual loans and credit risk in the euro area, and whose content and form are aligned in all member states. During 2022, the CNB established communication channels with the ECB as the end user of these data and with domestic banks, as a data source, for the aforementioned purpose. The CNB published detailed instructions and methodology for the establishment of a new reporting process. Furthermore, the initial list of legal entities that are involved in credit

relationships, on which the banks will report, has been coordinated with the banks, the source of which is the Register of Institutions and Affiliates Data (RIAD register) of the ECB. In this register, the identifiers and status data on legal entities from the Republic of Croatia are updated by the CNB. During 2022, the CNB continued to improve the sources and algorithms for updating these data for more than 250,000 entities from the Republic of Croatia.

In 2023, the CNB will, also for the first time, begin to submit to the ECB statistical indicators regarding the business activities of insurance companies and pension funds in accordance with the common methodology of the ESCB. By doing so, the CNB will improve the existing statistics of the financial sector, which until now have been oriented towards credit institutions. With this aim, in 2022 the CNB processed HANFA's regulatory reports relating to the aforementioned entities and calculated a new set of very detailed statistical indicators of the business activities of these institutions, which the CNB will start submitting to the ECB in 2023.

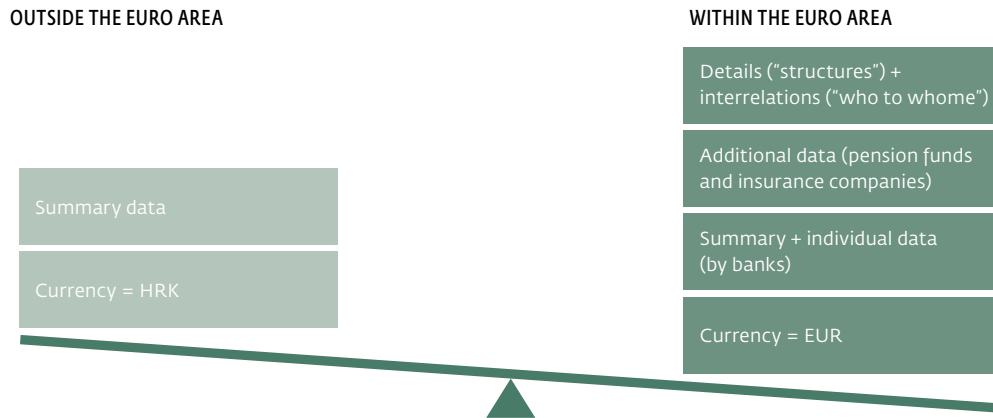
During 2022, the CNB continued to align the indicators of external statistics with the statistics of government finance and financial accounts with the aim of reducing the differences between comparable values in different sets of indicators. The most important alignment of this kind related to the recording of financial liabilities and claims arising due to the time lag between the inflow from EU funds and their distribution to end beneficiaries. Thus, from the third quarter of 2022 these liabilities and claims in the external statistics are recorded on the so-called gross basis, which means that net liabilities or claims are reported for each fund, and not collectively for all funds as before. Some additional time series of indicators of quarterly financial accounts and government finance statistics were also produced according to the reporting requirements of the ECB.

PUBLICATION OF NEW STATISTICAL DATA AND STATISTICAL REPORTS

In the last quarter of 2022, the CNB recalculated all previously published statistical indicators from the kuna to the euro currency, and began publishing statistical indicators in both currencies. The conversion was performed using the fixed conversion rate of kuna to euro, which is 7.5345 kuna to 1 euro. The external statistics indicators are an exception: in the past they were not published in the kuna, but in the euro, or in the euro and the US dollar, depending on the particular set of indicators. During 2023, the CNB will cease publishing statistical indicators in the kuna for new reporting dates and periods, and the last date to which published kuna indicators will refer is 31 December 2022.

During 2022, the CNB continued publishing statistical releases with comments on selected statistical indicators earlier commented on only occasionally. The statistical releases provide a quarterly analysis of the current developments in the values of statistical indicators on general government sector debt, financial assets and liabilities of the institutional sectors of the Croatian economy and interest rates of credit institutions. The monthly publication of statistical indicators of monetary

FIGURE 8.1 The most important changes to CNB statistics after the accession of the Republic of Croatia to the euro area



Source: CNB.

developments and the quarterly publication of statistical indicators of international trade and the international investment position were also followed by the publication of an analytical overview of recent developments in these indicators. These releases were well received by experts and the general public, and were often covered in the media. The CNB will continue publishing such releases in 2023.

CONTINUED SURVEY EFFORTS

The CNB conducted the **Household Finance and Consumption Survey**, in the context of the so-called “fourth wave” of this research at EU level. The publication of the results is planned for 2023 and will include a comparison with the results from other EU member states. This survey enables economic policy makers and the academic community to better understand the impact of financial shocks and the effects of economic and other policies on certain groups of households in certain countries, as well as at the level of the entire euro area and of the EU.

During 2022, the CNB continued to conduct the bank lending survey. The aim of this survey is to gain an insight into the developments in lending standards of commercial banks and the trend of changes in supply and demand for loans in Croatia. The results serve as support for making monetary policy decisions, and their publication constitutes an added value for the business community and the general public. Given Croatia's entry into the euro area on 1 January 2023, the way this survey is conducted, the processing of the data collected and the appearance of the publication of the results will partially change during 2023, in accordance with the needs of the ECB as the common monetary policy maker of the euro area. However, the purpose of its implementation will remain the same, that is, the results of the survey will continue to indicate recent trends and expectations regarding supply, demand and lending standards of commercial banks with head offices in the Republic of Croatia.

9

Research



The research activities of the CNB in 2022 were focused on three areas: the issue of high inflation and measures to slow it down, preparations for the introduction of the euro and participation in the management of the common monetary policy, and the development of indicators and analyses of financial stability and credit policy of banks in conditions of the tightening of monetary policy.

RESEARCH OBJECTIVES OF THE CNB

The Croatian National Bank conducts research primarily for the purpose of support for the fulfilment of its objectives and tasks. The bulk of the research focuses on monetary policy implementation, financial stability, supervision and payment operations. Research results are published in analytical articles in regular and occasional CNB publications, scientific journals and other professional and scientific publications, the HNBlog, and presentations at professional conferences and meetings. The conclusions obtained are integrated into the presentations of members of CNB management, official announcements and regular publications.

LINK NO 1



RESEARCH AREAS IN 2022

Research activities in 2022 covered a number of areas of interest to the CNB, three areas standing out: the causes and consequences of high inflation and measures to slow it down, preparations for the introduction of the euro and participation in the joint management of monetary policy, and the development of indicators and analyses of the financial stability and credit policy of banks in the conditions of the tightening of monetary policy.

Inflation fuelled by the post-pandemic recovery and Russian aggression against Ukraine has placed the question of price movements at the centre of the central bank's analytical activities. Thus, in 2022 we continued to develop the system for monitoring and analysing inflation, based on the real-time prices of a large number of products. In addition to making it possible to gain a better understanding of price movements, the results obtained were particularly interesting in the context of forecasting the **possible effects of the rounding of food product prices on inflation when adopting the euro 1** and of the **assessment of potential growth in prices after the adoption of the euro due to their rounding to attractive levels 2**. Rising interest rates and tightening of monetary policy affect economic activity, so **models for monitoring the developments in economic activity and real-time recession identification 3** have been further improved. **Household consumption in the conditions of high inflation 4** was also analysed.

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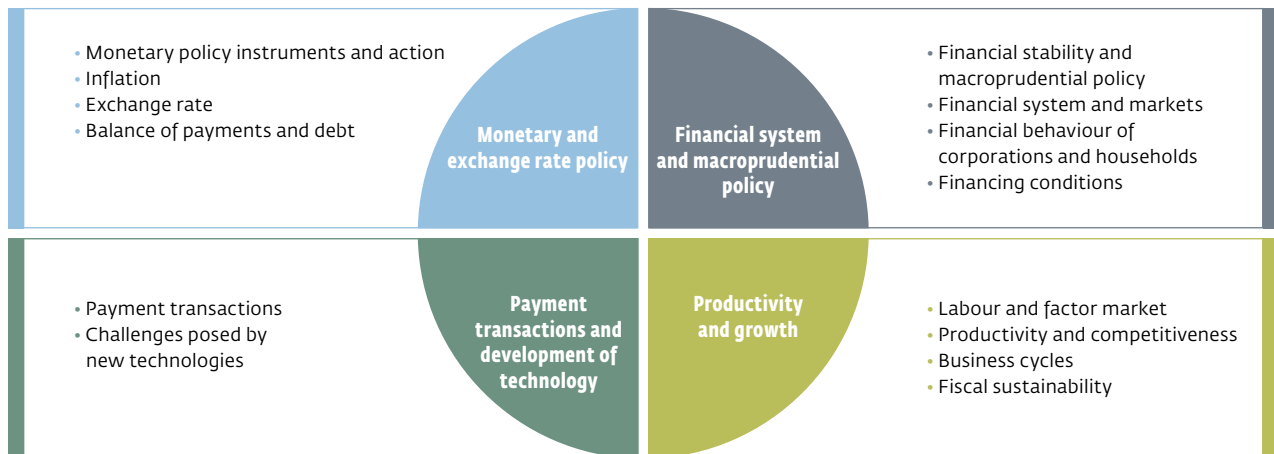


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FIGURE 9.1 Research areas of the CNB

Source: Research objectives and priorities of the Croatian National Bank.

Research activities in 2022 were also marked by preparatory activities for the adoption of the euro, as well as by an active contribution to the governance of the common monetary policy. In this sense, tools were developed for the analysis of developments in financial markets and interest rates through which the effects of the common monetary policy are transferred to the Croatian economy. It has been shown that **the process of accession to the euro area has positively affected the borrowing costs of Croatia already in 2022** ❶. Research into the transmission of the common monetary policy to the Croatian financial system and economy is underway.

The CNB continuously analyses and develops a risk assessment system for financial stability, which was strongly influenced by price growth and the tightening of financing conditions on international markets in the past year. The tools for the assessment of cyclical systemic risks important for managing the macroprudential policy were improved by **correcting credit gap indicators** ❷ and developing **national specific credit gap indicators** ❸ and **new composite indicators** ❹, incorporated into decisions on increasing the countercyclical capital buffer (see the chapter on **Financial Stability and Macroprudential Policy**). **The effects of the war** ❺ and **energy shocks** ❻ on financial stability were analysed, as was the impact of **the tightening of financing conditions for borrowers** ❼ paying variable interest rates (see **Box 2**). At the same time, **the impact of new technologies on financial stability** ❽ is continuously monitored.

The CNB conducts the aforementioned research independently, but also in the context of international cooperation and in cooperation with the academic community and other central banks within the Eurosystem. Regarding the results, participation in the preparation of a **new optimum currency area index for the euro area** ❾ stands out. CNB employees also participated in the work of research groups of the European System of Central Banks in the areas of productivity, price

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movements, machine learning, business cycles, macroprudential policy, stress testing and climate change.

CONFERENCES AND PUBLICATIONS

The CNB publishes the results of research by employees and external contributors in different formats – from analytical contributions in **regular publications** ❶ and **occasional publications** ❷ where the first results of research are published, to publications of the European Central Bank and other central banks, scientific journals and other scientific publications, and the **author blog** ❸ on the central bank website. During 2022, six new Working Papers and four HNBlog posts were published. Some of the papers by CNB employees were also published in scientific journals and other publications. In 2022, some twenty papers authored by CNB employees were published in scientific journals and other types of scientific publications (Table 9.1).

The Croatian National Bank organised the traditional **28th Dubrovnik Economic Conference** ❹, the main topic of which was monetary policy and financial stability in the context of rising inflation and tightening of monetary policy. Twelve Economic Workshops were held in 2022.

LINK NO ❶



LINK NO ❷



LINK NO ❸



LINK NO ❹



TABLE 9.1 Selected papers according to priority areas published in 2022

Priority area 1: Monetary and exchange rate policy

Brkić, M. (2022): **Preserving Economic and Financial Stability in an Emerging Market Country during the Pandemic Crisis: Croatia's Experience**, Public Sector Economics, 46(3)

Kunovac, D., D. Rodriguez Palenzuela, and Y. Sun (2022): **A new optimum currency area index for the euro area**, ECB Working Paper Series, 2730

Priority area 2: Financial system and macroprudential policy

Huljak, I., R. Martin, and D. Moccero (2022): **The Productivity Growth of Euro Area Banks**, Journal of Productivity Analysis, 58(1)

Huljak, I., R. Martin, D. Moccero, and C. Pancaro (2022): **Do non-performing loans matter for bank lending and the business cycle in euro area countries?**, Journal of Applied Economics, 25(1)

Škrinjarić, T. (2022): **Introduction of the composite indicator of cyclical systemic risk in Croatia: possibilities and limitations**, CNB Working Papers, W-68

Škrinjarić, T. (2022): **Augmented credit-to-GDP gap as a more reliable indicator for macroprudential policy decision-making**, CNB Working Papers, W-65

Škrinjarić, T. (2022): **Macroeconomic effects of systemic stress: a rolling spillover index approach**, Public Sector Economics, 46(1)

Škrinjarić, T., and M. Bukovšak (2022): **Unapređenje kalibracije protucikličkog zaštitnog sloja kapitala: Novi pokazatelji kreditnog jaza**, *Ekonomska misao i praksa*, 31(2)

Vlašić, G., A. Gugić, and R. Šubić (2022): **Financijska pismenost i spremnost na učenje o financijama kao čimbenici sklonosti pripadnika generacije Z poduzetništvu i ulaganju na tržištu kapitala**, *Ekonomska misao i praksa*, 31(2)

Vlašić, G., K. Kelemenić, and R. Šubić (2022): **Understanding Drivers of Consumer Loyalty in the Banking Industry: A Comparative Study of Generation Z Individuals Exhibiting High vs. Low Financial Literacy**, *Management*, 27(1)

Zauder, K., and M. Rosan (2022): **Which Loans Do We Take? A Micro-Level Analysis of Croatian Households' Debt Participation**, *Croatian Economic Survey*, 24(1)

Priority area 3: Productivity and growth

Banić, F., M. Deskar-Škrbić, and H. Šimović (2022): **Fiscal Response to the COVID-19 Shock in Croatia**. In: Olgjić Draženović, B., V. Buterin, and S. Suljić Nikolaj (eds): *Real and Financial Sectors in Post-Pandemic Central and Eastern Europe. Contributions to Economics*. Springer, Cham. https://doi.org/10.1007/978-3-030-99850-9_3

Barišić, P., and T. Kovač (2022): **The effectiveness of the fiscal policy response to COVID-19 through the lens of short and long run labor market effects of COVID-19 measures**, *Public Sector Economics*, 46(1)

Božić, M., and J. Zrnc (2022): **The Trade Credit Clearinghouse: Liquidity and Coordination**, *CNB Working Papers*, W-66

Deskar-Škrbić, M., A. Grdović Gnip, and H. Šimović (2022): **Makroekonomski učinci diskrecijskih izmjena u sustavu poreza na dodanu vrijednost (PDV) u Hrvatskoj: narativni pristup**, *Ekonomski pregled*, 73(6)

Kunovac, D., and I. Žilić (2022): **The Effect of Housing Loan Subsidies on Affordability: Evidence from Croatia**, *Journal of Housing Economics*, 55

Srdelić, L., and M. J. Davila-Fernandez (2022): **International trade and economic growth in Croatia**, *CNB Working Papers*, W-64

Priority area 4: Payment operations and technological development

Hrbić, R., and T. Grebenar (2021): **Assessment of Readiness of Croatian Companies to Introduce I4.0 Technologies**, *Journal of Risk & Financial Management*, 15(12)

Source: CNB.

10



Consumer protection

As part of the implementation of the consumer protection policy, the Croatian National Bank monitors and determines whether the institutions under its jurisdiction comply with the applicable legal and other provisions on consumer protection and whether they apply good business practices and ensure that consumers are clearly provided with accurate and up-to-date information. Raising the level of consumers' awareness about the products and services offered to them is a prerequisite for the successful protection of their rights and interests. The CNB places great emphasis not only on regular communication with consumers by responding to complaints, but also on training aimed at improving consumers' financial literacy.

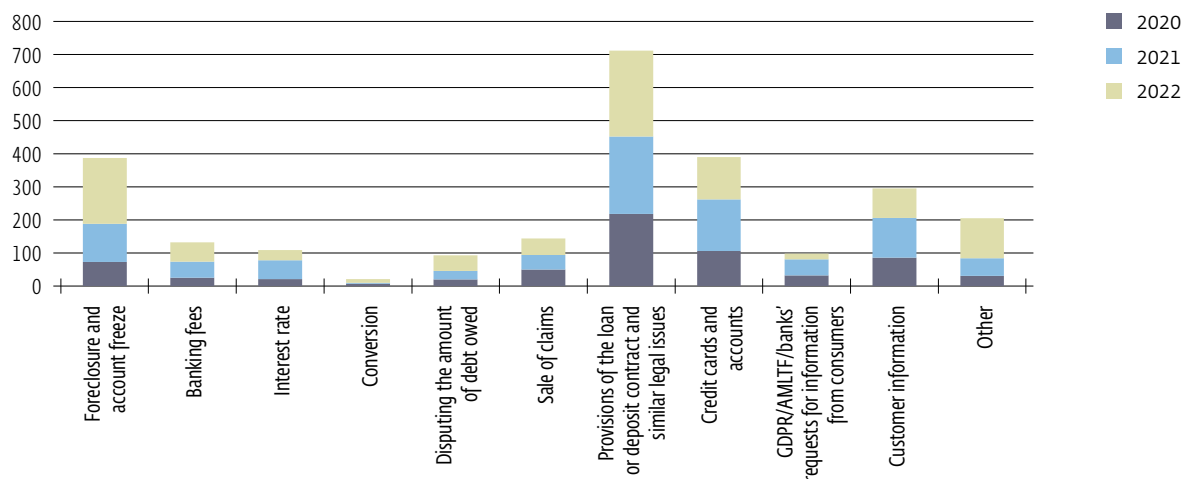
CONSUMER COMPLAINTS

The CNB receives notifications about complaints from consumers in cases in which they have had either no or an unsatisfactory response from a credit institution. All notifications received are handled by the CNB requesting a statement or relevant documentation from the credit institution to which the complaint relates, or else by responding directly to the consumer. In doing so, the CNB is not authorised to act as an arbitrator in the exercise of consumer rights that may arise from individual contractual relationships, but it does monitor the actions of credit institutions based on the content of complaints.

Complaints received by the CNB

In 2022, the CNB received and processed 669 complaints, which is 26% less than in the previous year. The largest number of complaints, as in previous years, refer

FIGURE 10.1 Structure of complaints received by the CNB



Source: CNB.

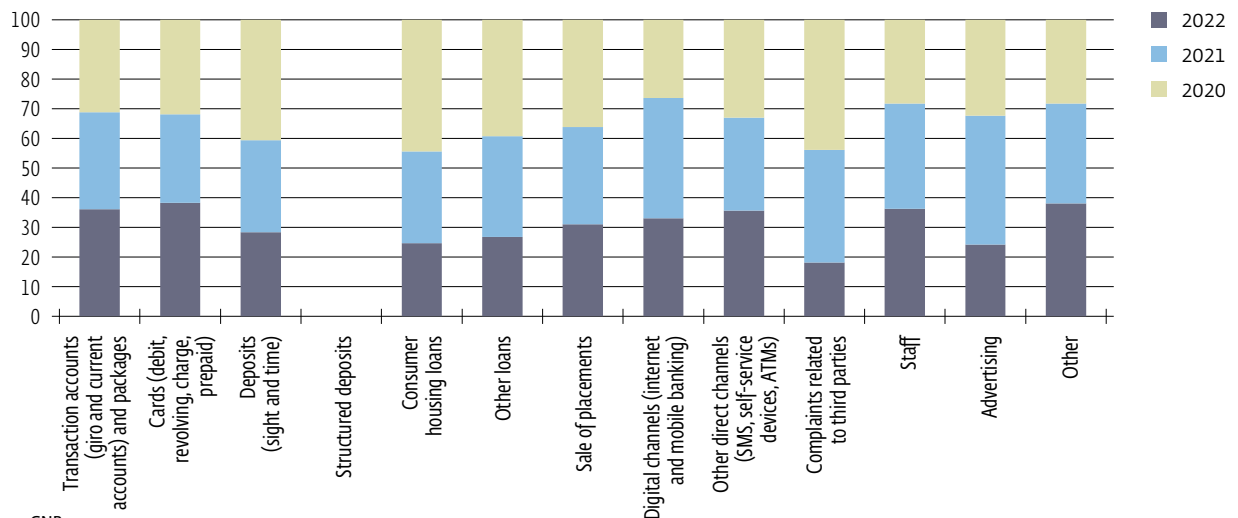
to legal issues, that is, to the provisions of contracts governing loans or deposits (31%). A significant number (16%) of complaints are related to credit cards and payment accounts. In relation to this type of complaint, the trend of continuous growth over the last four years was reversed in 2022. The decrease in the number of complaints occurred in almost every segment, with the exception of a significant increase in complaints related to the sale of claims, which increased by 12% compared to 2021. The most significant decrease compared to 2021 is recorded for complaints related to interest rates (-64%), banking fees (-49%) and account freezes or initiated foreclosure proceedings (-37%).

The dynamics and range of complaints in 2022 confirm the conclusion from the previous year regarding the increase in the level of consumers' awareness about the products and services they use and about the rights they have in the protection of their own interests.

Complaints received by institutions within the CNB's competence

From year to year, credit institutions have been receiving an increasing number of complaints from their customers, and in 2022 they received 9% more complaints than in 2021, amounting to a total of 151,209 complaints. The most common complaints in the structure of complaints are still those related to credit, debit and other cards (40%), the number of which increased by 28% from the previous year. Unlike in 2021, the second most numerous group of complaints (14.5%) consists of complaints related to other direct channels (ATMs, self-service devices, SMS, etc.), followed by complaints related to transaction accounts and packages (14%). Complaints related to digital service provision channels (internet and mobile banking) make up 12% of total complaints, and they were 18% down from the previous year, when a fully 54% increase of such complaints was recorded making them the second largest group of complaints. Although they make up a relatively smaller

FIGURE 10.2 Structure of complaints received by credit institutions



Source: CNB.

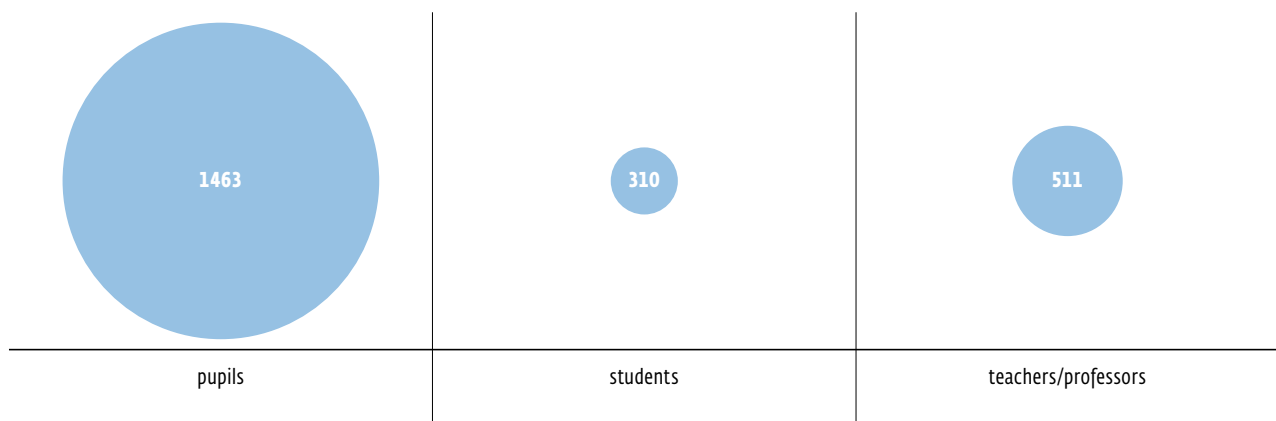
part of the total complaints, complaints against the staff of credit institutions remained at approximately the same level, and account for about 4% of the total complaints. It is interesting that consumers are lodging fewer and fewer complaints related to deposits and loans, and in the previous year the level of their dissatisfaction with advertising content and services provided by third parties (distributors, intermediaries) has roughly halved.

FINANCIAL EDUCATION

In its education activities, the CNB continues to place special emphasis on financial literacy in the context of contracting basic banking products. The largest number of organised training events, then, is aimed at the future users of these products – primary and secondary school pupils, and in 2022 they included a total of 1,146 pupils and 81 teachers. Thematic presentations were also held for a total of 414 teachers organised by the Ministry of Science and Education, and the Education and Teacher Training Agency.

As part of the marking of Global Money Week and European Money Week, presentations were held for 217 pupils, 197 students and 15 professors at workshops of the project “Više znamo, bolje razumijemo” (The more we know, the better we understand) organised by the Croatian Chamber of Economy (CCE). A student debate was also held in cooperation with HANFA and the Faculty of Economics in Rijeka, in which 113 students and one professor participated. One hundred students from all over Croatia took part in the debate, which traditionally takes place in cooperation with the CNB and the Croatian Debating Society, the topic of which was “The convenience of saving vs. the adventure of investing”. High school pupils from all over Croatia followed the debate live via internet broadcast on the CNB’s YouTube and Facebook channels.

FIGURE 10.3 Education of consumers of financial services in 2022



Source: CNB.

World Consumer Rights Day on 15 March 2022 was marked by activities organised by the Ministry of the Economy, namely presentations as part of the conference and panel “Potrošač u svijetu digitalnih financija” (The consumer in the world of digital finance) and the preparation of the **leaflet marking the occasion** ❶.

In 2022, the CNB continued its cooperation with Croatian Television in the show “Good Morning, Croatia”, in which the “Financial Literacy” section addressed topics of interest to consumers, including informing consumers about the introduction of the euro as the official currency in the Republic of Croatia. Cooperation with Croatian Catholic Radio also continued, with participation in the “Financial ABC” radio shows. The aim of these activities is to familiarise the general public with the tasks and the role of the CNB in the field of consumer protection and financial literacy.

CNB representatives participated in conferences, workshops, educational gatherings, panels and seminars on the topic of financial literacy and other topics of interest to consumers or consumer service providers, such as the introduction of the euro, FinTech, etc. In September 2022, the CNB organised an international conference under the title of “**Financial education in uncertain times**” ❷, as part of which recent experiences and practices in raising consumer financial literacy were discussed and in which, in addition to lecturers from numerous international institutions, representatives of other important stakeholders from the Republic of Croatia in this area participated: of the Ministry of Finance, HANFA and the Ministry of the Economy.

SUPERVISORY ACTIVITIES

In 2022, supervisory activities in the field of consumer protection were carried out on the basis of reports and information from the supervised entities, the content published on their websites, questionnaires submitted and complaints received. Six inspections were carried out, covering all credit institutions on the Croatian market. The areas covered by the inspections related to informing the consumer before and during the contractual relationship, terms and practices of lending, banking fees and cooperation with third parties.

During 2022, the CNB issued a total of five reports due to illegalities established, as well as 22 decisions on the provision of credit intermediation services and 23 decisions on the revocation of decisions granting authorisation for the provision of credit intermediation services.

Based on the results of the inspections, three circular letters were issued. In relation to the application of the general terms and conditions of business operations of credit institutions to contractual relationships concluded before the entry into force of the amended general terms and conditions, the CNB has warned credit institutions about detected practices that are unacceptable when the general terms and conditions applied to consumer contracts are changed unilaterally. In this connection, the CNB also expressed its expectations regarding the need for the control of contractual provisions and general terms and conditions for consumers

LINK NO ❶



LINK NO ❷



by credit institutions and the need for correcting them for the purpose of harmonisation with the CNB's positions. The CNB also conveyed to credit institutions its expectations regarding the improvement of clarity in the area of recording and calculating transactions and interest on revolving credit cards, as well as regarding the development of good business practices in the area of responsible lending. As part of its supervisory activities, the CNB checks whether credit institutions have fulfilled the CNB's expectations in an appropriate manner.

REGULATORY ACTIVITIES

CNB's regulatory activities ❶ in 2022 very largely stem from two very important initiatives for consumers: the introduction of the euro as the official currency in the Republic of Croatia and the correction of credit institutions' business practices regarding tacit overdraft facilities on citizens' current accounts, which was prompted by the CNB's expectations set out in a circular letter addressed to credit institutions in the previous year.

The transition from tacit to an explicitly granted overdraft facility, the calculation of the effective interest rate and the method of using explicitly granted and tacit overdraft facilities are established in the **Memorandum of Understanding Regarding Current Account Overdraft Facilities** ❷ that was signed in July 2022 between the Government of the Republic of Croatia, the CNB and 13 Croatian banks in order to reintroduce the explicitly granted overdraft facilities that protect the interests of consumers in a better way.

Previous initiatives have also resulted in amendments to subordinate regulations in the field of consumer protection, which regulate the area of the pre-contractual provision of information, i.e. the calculation and presentation of the effective interest rate. The CNB also actively cooperated with the Ministry of Finance regarding proposals for amendments to relevant laws.

The CNB also recognised the need to further improve its supervisory practices in order the better to monitor the risks that consumers are exposed to by service providers and evaluate their market behaviour. Consequently, a new subordinate regulation was adopted in 2022 - Decision on conducting oversight of credit institutions and credit intermediaries and imposing measures in the area of consumer protection.

INTER-INSTITUTIONAL COOPERATION

Cooperation with other national and European stakeholders is an important element in implementing a successful CNB consumer protection policy.

The CNB participates in the work of the European Banking Authority (EBA), by being a member of the **Standing Committee on Consumer Protection and Financial Innovation** ❸. The CNB also continuously cooperates with the Ministry of Finance and, from 2022, participates in the work of the national working group for amending the EU directive, the provisions of which have been transposed to the

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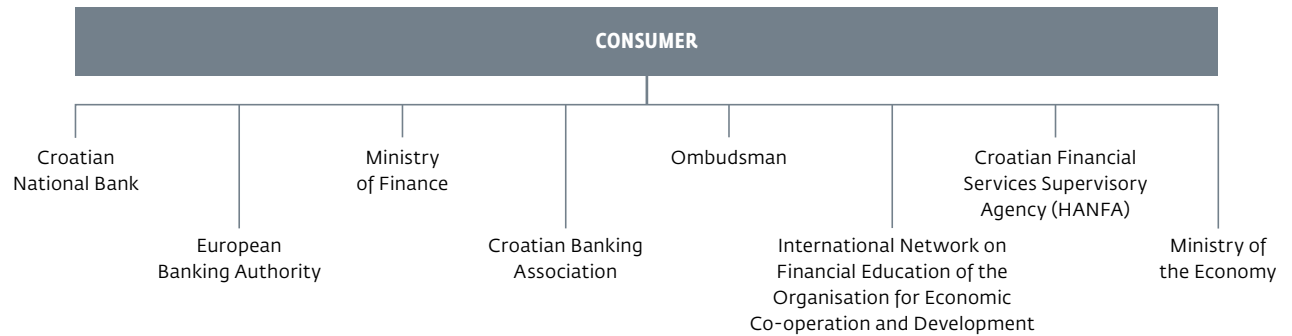


LINK NO ❷



LINK NO ❸



FIGURE 10.4 Cooperation as the foundation of effective consumer protection

Source: CNB.

legislative framework of the Republic of Croatia by means of the Consumer Credit Act. The CNB is also involved in activities for the implementation of the directive on credit servicers and credit purchasers.

The CNB actively cooperates with the Croatian Banking Association and the Ombudsman, and it participates in the activities of the regional working group for financial education and financial inclusion, as well as in the work of the National Council for Consumer Protection and other institutions and consumer associations dealing with the protection of a broad spectrum of consumer rights, as well as in the work of the Ministry of Finance operational working group responsible for monitoring the implementation of measures and activities in the field of financial education.

11



Payment operations



One of the basic tasks of the Croatian National Bank is to ensure smooth operation of the payment system, which includes payment services providers, payment system infrastructure, payment services users and regulations governing the payment system. The CNB plays a central role in ensuring the implementation of regulations, particularly as regards protection of the rights of payment system users. It also performs the function of payment system operator and supervisor of systemically important payment systems and facilitates safe and efficient payment flows. The payment system and the retail payment market are influenced by innovation-led changes and the digitalisation process. Consequently, the role of the Croatian National Bank is twofold: as a catalyst, it has to encourage the integration of innovation while promoting payment safety at the same time.

INTRODUCTION OF THE EURO AS THE OFFICIAL CURRENCY AND PAYMENT OPERATIONS

The introduction of the SEPA standards in the execution of all credit transfer and direct debit payment transactions, the determination of payment account numbers in IBAN format and the establishment of the infrastructure for carrying out payments in the euro in 2016 greatly facilitated the introduction of the euro as the official currency of the Republic of Croatia.

With the foundations thus established, in 2022 the Croatian National Bank could devote itself to a number of remaining tasks in the area of payment operations to ensure the preconditions for the introduction of the euro: amendments to the required regulations, preparations and adjustments for the use of the euro infrastructure in the role of a central bank that is a member of the Eurosystem, preparations related to keeping the accounts maintained by the Croatian National Bank – closing kuna accounts and transferring funds to euro accounts, closing the payment systems for the calculation and settlement of payment transactions in kuna, the final adjustment of the payment systems for the calculation and settlement of payment transactions in the euro, the registration of the new currency code of the Republic of Croatia with international standardisation authorities, the commencement of the collection of statistical data in the field of payment operations in accordance with the requirements of the European Central Bank, as well as other adjustments related to the change of the status of the Croatian National Bank to a national central bank of an EU member state the currency of which is the euro.

Due to the previously accepted Euro standards for the execution of payments and the existence of a payment infrastructure, the introduction of the euro did not require significant adjustments for the users of the payment system, while all of the advantages of payment operations in the common currency, such as the single

initiation of domestic and cross-border payment transactions, one IBAN account that is sufficient for all payments in the euro in the SEPA area, etc. come to the fore.

THE IMPACT OF THE INTRODUCTION OF THE EURO ON REGULATIONS IN THE FIELD OF PAYMENT OPERATIONS

For the purposes of introducing the euro as the official currency of the Republic of Croatia, it was necessary to amend certain regulations in the field of payment operations, both laws¹ and subordinate regulations².

The amendments to the decisions³ regulating the Croatian component of the TARGET2-HR payment system and the participation in the TIPS instant payment system reflect the change in the status of the Croatian National Bank, which from the day of the introduction of the euro as the official currency in the Republic of Croatia becomes the national central bank of a member state the currency of which is the euro.

Apart from the changes due to the introduction of the euro, the **Amendments to the Decision on transaction accounts 1** of 1 February 2023 modifies the publication of *Annex 1 Alphabetical State and Country Code List* and *Annex 2 List of Currencies and Currency Codes*. These annexes no longer form an integral part of the Decision, but are now kept in electronic form and are published on the **website of the Croatian National Bank 2** as the *Alphabetical State and Country Code List* and the *List of Currencies and Currency Codes* (as an excel file in csv and xlsx format)⁴. By this modification, the CNB modernised the presentation of the above-mentioned annexes so that the data would be more accessible, more up-to-date and be amenable to machine reading.

LINK NO 1



LINK NO 2



LINK NO 3



LINK NO 4



LINK NO 5



LINK NO 6



TABLE 11.1 List of currencies and currency codes for the Republic of Croatia

Entity	Currency – Croatian name	Currency – English or original name	Alphabetic code	Numeric code	Subunit
Croatia	euro	Euro	EUR	978	2

Source: CNB.

- 1 Act on Amendments to the Payment System Act (OG 114/2022) and Act on Amendments to the Electronic Money Act (OG 114/2022) 1
- 2 Decision on amendments to the Decision on own funds of electronic money institutions (OG 148/2022) 2, Decision on amendments to the Decision on own funds of payment operations institutions (OG 148/2022) 2, and other decisions referred to in this chapter
- 3 Decision on amendments to the Decision on the conditions for the opening and operation of a PM account in TARGET2-HR (OG 137/2022) 3, Decision on the amendments to the Decision on the conditions for the opening and operation of a TIPS dedicated cash account (TIPS DCA) in TARGET2-HR (OG 137/2022) 3, Decision on the amendments to the Decision on the conditions for the opening and operation of a T2S dedicated cash account (T2S DCA) in TARGET2-HR (OG 137/2022), Decision on the amendments to the Decision on settlement procedures for ancillary systems (OG 137/2022) 3 and Decision on the amendments to the Decision on TIPS service for ancillary system settling instant payments (OG 137/2022) 3
- 4 See the New method of publishing the Alphabetical State and Country Code List and the List of Currencies and Currency Codes 4.

LINK NO 7



LINK NO 8



LINK NO 9



LINK NO 10



On 1 January 2023, the currency code: EUR/978/2 became the official code of the legal tender in the Republic of Croatia, in accordance with the international standard HRN ISO 4217:2005.

NEW EU REGULATIONS IN THE AREA OF PAYMENT OPERATIONS

LINK NO 1



In 2022, the **Delegated Regulation (EU) 2022/2360** 1 was adopted, amending the **Delegated Regulation with regard to strong customer authentication and common and secure open standards of communication** 2 and regulating in more detail the application of the 90-day exemption for account access when providing account information services.

LINK NO 2



The European Banking Authority (EBA) adopted the **Guidelines on the limited network exclusion** 3, which regulate by means of a single method the application of provisions on the provision of services based on payment instruments that can be used only in a limited way (for example, fuel purchase cards, gift cards in stores, etc.) in all EU member states, which are not payment services within the meaning of the **Payment Service Directive** 4, or of the Payment System Act and the Electronic Money Act.

LINK NO 3



NEW PAYMENT SERVICE PROVIDERS AND ELECTRONIC MONEY ISSUERS

The market of payment service providers has further expanded in 2022. One authorisation for a payment institution and one authorisation for a registered account information service provider was granted, while one existing payment institution was converted to an electronic money institution. One payment institution expanded its operations by providing cross-border payment services in other member states.

LINK NO 4



The list of payment service providers and electronic money issuers, the type of services provided and the EU member states in which they operate is publicly available in the **register of payment service providers and electronic money issuers** 5 on the CNB's website, as well as in the **central register of EBA** 6.

LINK NO 5



PAYMENT INFRASTRUCTURE – PAYMENT SYSTEMS

The payment infrastructure allows settlement of financial obligations among participants by providing the services of clearing and settlement of payment transactions in a secure and standardised manner.

LINK NO 6



As payment infrastructure, payment systems are the key component of any financial system since they provide the services necessary for a smooth and efficient functioning of payment operations. Payment systems function according to regulations, operational procedures, business processes and technical solutions that enable the transfer of cash among system participants. In 2022, payment

infrastructure in the Republic of Croatia comprises five payment systems: the Croatian Large Value Payment System (CLVPS), the National Clearing System (NCS), NKSInst, TARGET2-HR and EuroNCS systems.

The Croatian Large Value Payment System (CLVPS) commenced its operation on 6 April 1999, and until its closure on 30 December 2022, it was the payment system for settling payment transactions of large amounts in kuna among its participants, payment transactions being settled in real time on a gross basis. The CLVPS is administered by the CNB. Payment transactions are settled in the CLVPS for the purpose of implementing the monetary policy measures of the CNB, the supply of cash to banks, the final settlement of other payment systems, the execution of payment transactions linked to participation in the capital market and other payment transactions of system participants. As of 1 January 2023, the function of the system for settling large value payment transactions will be completely transferred to TARGET2.

The National Clearing System (NCS) ❶ commenced its operation on 5 February 2001, and until its closure on 30 December 2022, it was the payment system for the clearing of a large number of credit transfer and direct debit payment transactions in kuna that are of relatively low value, based on a multilateral net principle and processed in accordance with the national scheme that adheres to SEPA standards. The Financial Agency (FINA) was the operating manager of the NCS, and the CNB had a special role of a bank – settlement agent in the NCS, since the settlement of clearings from the NCS was carried out in the CLVPS. As of 1 January 2023, the function of the payment system for relatively low values will be transferred to the EuroNCS.

NKSInst ❷ is a payment system that, as of 29 October 2020, enables the execution of the so-called instant payment transactions that are executed in almost real time, i.e. within a standard period of no more than ten seconds. The maximum amount of an individual instant payment transaction is set at HRK 100,000.

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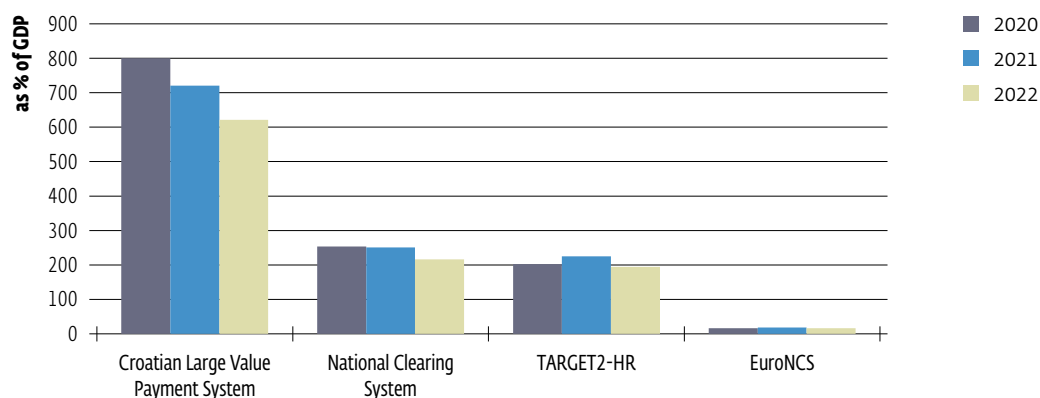


LINK NO ❷



Payment operations

FIGURE 11.1 Payment systems in the Republic of Croatia – overview of turnover



Source: CNB.

NKSInst enables the execution of payment transactions 24 hours a day, 7 days a week and 365 days a year (24/7/365). The NKSInst payment system is administered by the Financial Agency. In late 2022, seven banks participated in the NKSInst system. As of 1 January 2023, the system continues to operate under the name EuroNKSInst in the euro.

TARGET2-HR 1 is a component of the TARGET2 payment system that serves for the settlement of payment transactions of large amounts in euro in real time on a gross basis, consisting of national components operated by the central banks of the EU member states with a single technical platform that offers the same level of service to all participants. The CNB is the TARGET2-HR operator.

TIPS¹, is a new service, available from 30 November 2018 within TARGET2-HR, enabling its users to settle instant transactions, i.e. payment transactions in euro, within seconds, at any time of the day, throughout the year (24/7/365). At the moment, no Croatian bank is a participant in the TIPS service, but the EuroNKSInst payment system, the successor of the NKSInst system, and its participants will access the aforementioned service during June 2023.

LINK NO 1



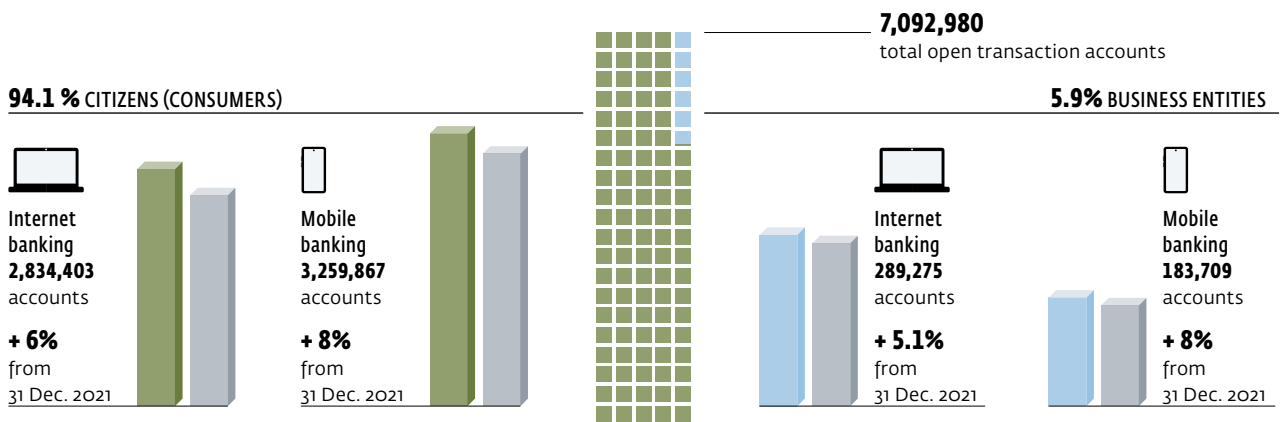
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PAYMENT STATISTICS REPORTS

In accordance with the **Decision on the obligation to submit data on the payment system and electronic money 2**, the Croatian National Bank collects from payment service providers statistical data in the area of payment operations and processes and publishes those data.

FIGURE 11.2 Open transaction accounts and use of payment services in 2022



Note: Data do not include blocked transaction accounts.
Source: CNB.

1 TARGET Instant Payment Settlement

As at 31 December 2022, payment service providers had a total of 848 business units, most of which were bank branches. They accepted payment transactions at 125,677 EFTPOS terminals and 4,184 ATMs. At the same time, at the end of 2022, individuals (consumers) and business entities held a total of 7,092,980 transaction accounts with banks¹. Of the total number of accounts, 94.1% were held by individuals, while the remaining 5.9% were held by business entities.

The habits of payment services users are changing in favour of a steady increase in the number and value of cashless payments. This can largely be attributed to the development of internet and mobile banking and card payments.

This is supported by the data as at 31 December 2022, according to which individuals (consumers) had contracted internet banking for 2,834,403 accounts, an increase of 6% from 31 December 2021, while mobile banking had been contracted for 3,259,867 accounts, an increase of 8% from 31 December 2021. Business entities had contracted internet banking for 289,275 accounts (an increase of 5.1% from 31 December 2021), and mobile banking for 183,709 accounts (an increase of 8% from 31 December 2021).

The increase in the number of users of mobile banking was accompanied by an increase in the number of payment transactions executed through this channel. Thus in 2022, individuals in the Republic of Croatia initiated a total of 125,288,701 mobile banking transactions, which is an increase of 17.2% from 2021, with this type of transaction in 2022 accounting for 49% of the total number of transactions and 45% of the total value of payment transactions by channels of initiation shown in Table 11.1.

The second most commonly used channel by individuals for initiating payment transactions was still the over-the-counter channel, which accounted for 21% of

TABLE 11.2 Channels and methods of initiation of payment transactions of individuals (consumers) for 2022

Channel/method	Number of transactions	Share	Value of transactions (in HRK billion)	Value of transactions (as % of GDP)	Share
Over-the-counter ^a	54,712,766	21	70.97	14	30
Mobile banking	125,288,701	49	107.03	19	45
Internet banking	18,310,761	7	25.1	6	10
Direct debits	20,557,008	9	13.7	3	6
Standing orders	23,778,332	9	16.2	4	7
Bill-paying service	13,367,693	5	4.7	1	2
Total	256,015,261	100	237.67	47	100

^a Paper-based payment orders initiated over-the-counter at credit institutions or other persons that, on the basis of a contract, are acting on behalf of and for the account of credit institutions (e.g. FINA, HP, etc.)
Note: GDP in current prices for 2022 stood at HRK 507.75bn.

Sources: CBS and CNB.

¹ Not including blocked transaction accounts.

the total number and 30% of the total value of transactions shown in Table 11.1, followed by transactions initiated through internet banking, which accounted for 7% of the total number and 10% of the total value of transactions. In the context of a comparison between internet banking transactions in 2022 and 2021, when they accounted for 9% of the total number and 13% of the total value of transactions, the data indicate that users increasingly prefer mobile banking to internet banking when initiating transactions.

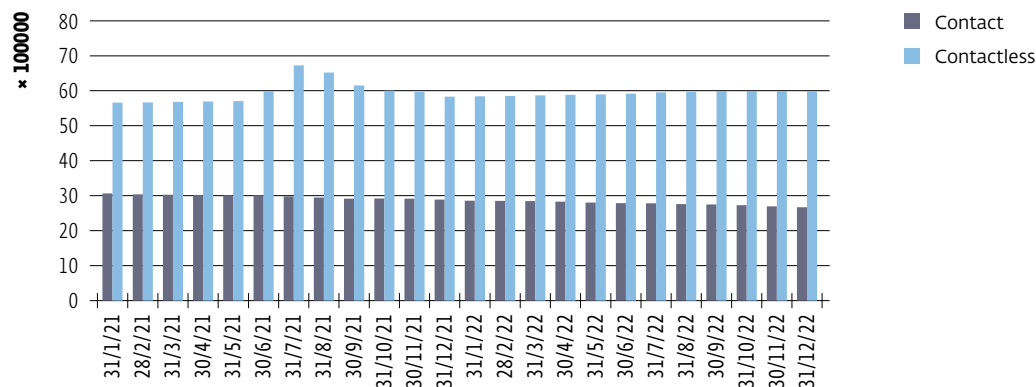
Business entities in the Republic of Croatia most often use electronic methods to initiate payment transactions as well. Thus, of all payment transactions initiated by business entities in 2022, 96% of them in number and 98% of them in value were initiated electronically. Internet banking is still the most widely used channel for the initiation of transactions by business entities, although there is a noticeable considerable increase in the use of mobile banking by business entities, which was used to initiate 25% more in number and 43% more in the value of transactions in 2022 than in 2021.

The most frequently used payment instrument in the Republic of Croatia is the payment card, with 8,662,571¹ payment cards in circulation as at 31 December 2022. Of the total number, 94.5% of payment cards were issued to individuals (consumers), and the remaining 5.5% to business entities.

However, out of the total number of cards on 31 December 2022, 3,295,953, or 38%, had not been used at all in the past year. These data indicate that debit cards are still the most widely used cards, accounting for 79.1% of the total number of all cards issued in the Republic of Croatia.

The card market in the Republic of Croatia has undergone technology-related and functionality-related changes in the past two years. One of these changes is a marked increase in the number of contactless payment cards, with 5,993,532 such cards being issued as at 31 December 2021 in the Republic of Croatia, accounting for 69% of the total payment cards issued.

FIGURE 11.3 Number of contact and contactless payment cards in the Republic of Croatia

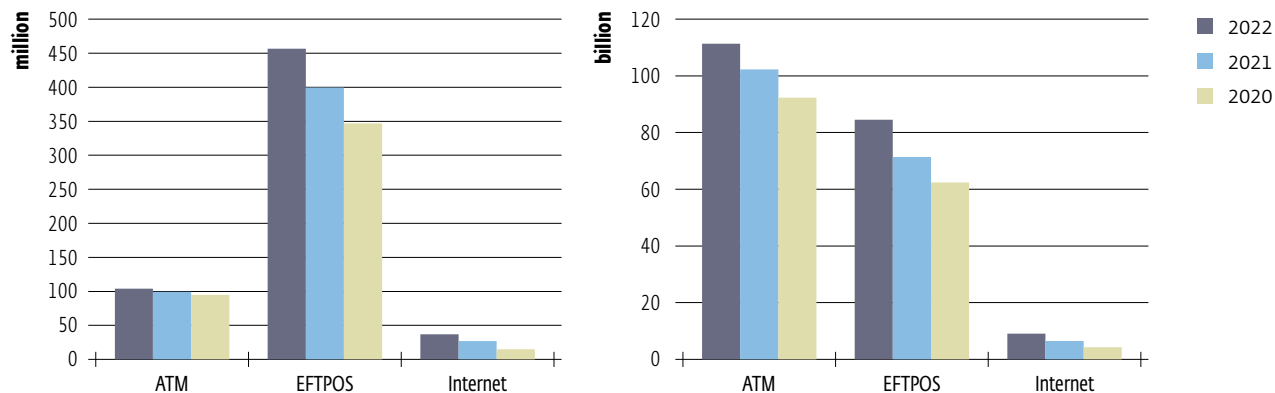


Notes: Data refer to the total number of contact and contactless payment cards on the last day of each reporting month. Includes used, unused and blocked payment cards.

Source: CNB.

¹ Includes used, unused and blocked payment cards in circulation.

FIGURE 11.4 Number and value of acquiring transactions in the Republic of Croatia executed using payment cards issued in the RC



Note: Data refer to acquiring transactions using payment cards issued in the Republic of Croatia at accepting devices in the Republic of Croatia (ATM, EFTPOS and the Internet).

Source: CNB.

Data on the number and value of card transactions by accepting devices in the past three years confirm the status of the payment card as the most frequently used payment instrument in the Republic of Croatia. Transactions at EFTPOS terminals account for the largest share of the number of transactions executed using payment cards issued in the Republic of Croatia (77.9% of the number and 45.6% of the value), followed by ATM transactions (16.1% of the number and 48.8% of the value) and internet transactions (5.7% of the number and 4.5% of the value).

A more detailed overview and an analysis of data compiled within the payment statistics are published in the publications [Payment Cards and Card Transactions](#), [Payment Transactions and Accounts](#) and [Cashless Payment Transactions](#) .

LINK NO 



FinTech and central bank digital currency



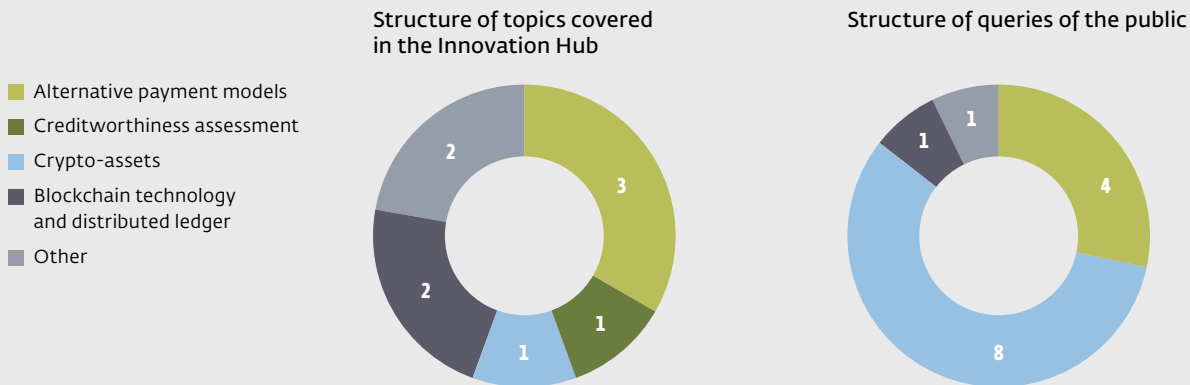
03

In 2022 the CNB conducted its activities regarding FinTech – the application of technological innovations to the provision of financial services and products – through participation in regulatory initiatives at the EU level, informative presentations aimed at the general public, and encouragement of and support to the development of innovative solutions in the field of finance. With regard to regulatory initiatives, the final text of the draft Regulation on Markets in Crypto-assets was prepared in 2022, on the basis of which an endeavour is made to ensure uniform regulation of crypto-asset issuers and service providers in the European Union. Support for the development of innovative financial solutions was provided as part of the Innovation Hub of the CNB.

THE WORK OF THE CNB INNOVATION HUB

The CNB Innovation Hub is a communication and information platform established in 2019 with the aim of providing non-binding and informal support to business entities developing an innovative FinTech product or service. In view of the past three years of work of the Innovation Hub, the decision was made to present the work of the Innovation Hub to the general public during the FinTech conference in Split entitled Startup Europe 2023. At the same time, during the conference local companies with an innovative financial product or service in the field of finance were given the opportunity to meet representatives of the CNB participating in the work of the Innovation Hub and to discuss the regulatory framework of their future business venture.

FIGURE 1 Structure of topics covered in the Innovation Hub (left panel) and structure of queries of the public (right panel)



Notes: In all, eight FinTech topics were covered in the Innovation Hub in 2022. There were 14 FinTech-related queries from the public in 2022.

Source: CNB.

In addition to the above, the Innovation Hub continuously provided support during 2022 either in writing or through meetings with applicants via the Innovation Hub web form. It became apparent that there was an increased interest in alternative forms of payment and in the establishment of a digital bank in the Republic of Croatia. The structure of topics covered in the Innovation Hub and FinTech-related queries of the public is presented in Figure 1.

ISSUING OF CENTRAL BANK DIGITAL CURRENCY

In 2022, the European Central Bank (ECB) continued its intensive activities regarding the possible future issuance of the digital euro as the common central bank digital money of the Eurosystem. After the preparatory stage in 2020 and public consultations held in 2021, in 2021 the ECB initiated the so-called research stage that continued in 2022. The goal of this stage of the project is to review all aspects and design options regarding the digital euro in order to provide a basis for a possible decision by the ECB to move to the next stage of the project by late 2023. The basic idea is that the digital euro should become a kind of supplement or complement to cash/banknotes and coins, and not their replacement.

Since the commencement of the research stage at the ECB involved the establishment of a high level task force for the digital euro project, the members of which are representatives of the ECB and all national central banks in the Eurosystem (**High Level Task Force on Digital Euro** ❶, HLTF), which discusses and harmonises all topics related to the design of the digital euro, in 2021 the CNB received the right to participate in the work of the HLTF with standing observer status. During 2022, the HLTF has held a large number of meetings and consultations, and issued a number of written procedures by which the basic features of the digital euro were agreed. All of this was a great opportunity for the CNB to familiarise itself with the project in a timely manner, especially considering that with the entry into the euro area at the beginning of 2023 the status of the CNB in the HLTF was changed from that of standing observer to that of regular participant, i.e. a member of this joint Eurosystem project.

LINK NO ❶



LINK NO ❷



LINK NO ❸



In addition, in 2022 the CNB continued to monitor the topic of central bank digital currency in the context of the Bank for International Settlements (BIS), within which it participates in the work of the BIS network of innovation hubs (**Bank for International Settlements Innovation Network** ❷, BISIN), namely in the working group dealing with the topic of central bank digital currency, while in 2022 the CNB became involved in the maintenance of the repository of legal regulations related to the area of FinTech, which is managed in the context of the BIS (so-called FinRep; FinTech repository). In 2022, the CNB continued to participate in the work of the **European Forum for Innovation Facilitators** ❸ (EFIF), as a joint forum of the three European financial market regulators EBA/ESMA/EIOPA, the European Commission and the European Central Bank that is responsible for monitoring and establishing best practices related to innovation facilitators in the EU.

12



Currency department
operations



One of the tasks of the Croatian National Bank is to facilitate the smooth supply of cash, which includes the manufacturing, delivery, storage, processing and organisation of the distribution of cash, its protection against counterfeiting and the destruction of cash unfit for circulation, as well as management of the logistic and strategic cash reserves. During 2022, important preparations were made for the euro changeover, and the Croatian National Bank was responsible for operational management of the entire process: from the preparation and drafting of subordinate regulations, the borrowing of euro banknotes, the procurement and manufacture of euro coins, euro frontloading to banks, which includes euro coin starter kits for individuals and business entities, to the organisation of the withdrawal of kuna banknotes and coins from circulation.

CASH ISSUANCE AND SUPPLY

The issuance of banknotes and coins and the supply of banknotes and coins in circulation in the Republic of Croatia is one of the CNB's main tasks. The supply of banks with cash means ensuring a sufficient amount of cash for banks and their clients (consumers and business entities), and it is based on the [Decision on the supply of banks with cash ❶](#). It is organised through eight cash supply centres, which cover all parts of the Republic of Croatia.

Pursuant to the [National Euro Changeover Plan ❷](#), the Croatian National Bank completed the selection of the design of the national side of future Croatian euro coins by April 2022, which fulfilled the key preconditions for the manufacture of test euro coins at the Croatian Mint.

In order to fulfil all of the preconditions for the smooth euro changeover as regards cash at banks, the Financial Agency and HP-Hrvatska pošta d.d., the Croatian National Bank acquired the necessary amount of euro banknotes and coins on the basis of the [Act on the Introduction of the Euro as the Official Currency in the Republic of Croatia ❸](#) and frontloaded euro cash to banks.

In order to ensure sufficient quantities of euro banknotes for frontloading to banks and for meeting part of the needs in 2023, the Croatian National Bank borrowed 346 million banknotes from the Austrian central bank with a total value of EUR 9bn. A contract was concluded with the Croatian Mint for the manufacture of 432 million euro coins with a total value of EUR 145.08m, which includes 1,197,630 starter kits for individuals with a total value of EUR 15.9m, and 148,800 starter kits for business entities with a total value of EUR 21.65m. The central banks of the euro area supplied 226.78 million euro coins with a total nominal value of EUR 105.43m.

As part of the final activities for the introduction of the euro, the Croatian National Bank concluded frontloading contracts with all banks and, on that basis,

LINK NO ❶



LINK NO ❷



LINK NO ❸



frontloaded the banks with a total of 61.6 million banknotes with a total value of EUR 1.14bn, and 126.6 million euro coins with a total value of EUR 126.6 million. The Croatian National Bank frontloaded the banks with 1.12 million starter kits for consumers and 128,059 starter kits for business entities.

Currency outside banks

The trend of growth in the amount of cash in circulation, which has been continuously recorded since 2011 and resulted in the doubling of the amount in 2021, was reversed during 2022. The above can be explained by the increase in deposits in bank accounts for easier conversion as part of preparations for the introduction of the euro on 1 January 2023. Thus, on 31 December 2022, there was HRK 14.3bn in circulation, which is a decrease of 60.46% compared to the end of 2021. Circulation is the amount of cash outside the CNB vault and cash centres (CCs) less the amount of cash in bank cash desks.

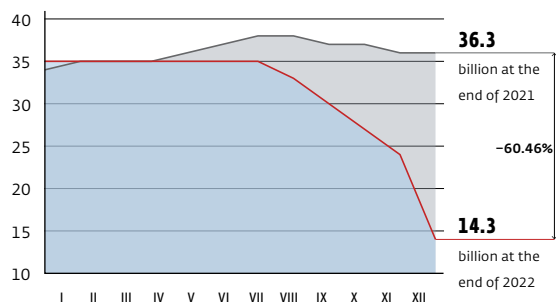
Withdrawal of banknotes and coins

The CNB withdraws banknotes and coins unfit for circulation and replaces them. A total of 65.9 million banknotes were processed in 2022, of which 99.8% or 65.8 million banknotes were destroyed as they failed to meet the quality standards required for circulation banknotes. In addition, 105,562 million banknotes or 0.16% of the processed banknotes were sorted as damaged, to be destroyed subsequently.

If the balance at banks' cash desks and in their vaults is added to the circulation, on 31 December 2022, there were 210.89 million banknotes outside the CNB vault and CCs, worth HRK 24.5bn. In 2022, the quantity of banknotes outside the CNB vault and CCs fell by 27.7% and their total value decreased by 42.4% from the end of 2021. This can be interpreted through the lens of increased deposits at banks for easier conversion into euro.

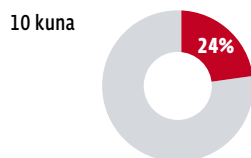
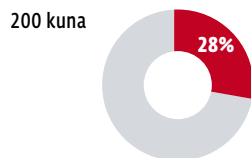
FIGURE 12.1 Cash in circulation

CASH IN CIRCULATION AT THE END OF THE PERIOD



On 31 December 2022, outside the CNB vault and CCs – **210.89 million** items, worth HRK 24.5 billion

MOST REPRESENTED BANKNOTES:



worth in total HRK 12 billion or 50% of the total value of banknotes in 2022

MOST REPRESENTED COINS:

BY QUANTITY:
10 lipa
23%
or 605 million items

BY VALUE:
5 kuna
35%
or HRK 544 million

Source: CNB.

Of banknotes outside the CNB vault and CCs, 200 kuna banknotes, with a share of 28%, and 10 kuna banknotes, with a share of 24%, were the most numerous in 2022 and accounted for HRK 12bn, or 50% of the total value of banknotes that year.

The large share of 200 kuna banknotes in total banknotes outside the CNB vault and CCs is due to their widespread use in ATM withdrawals.

Of coins in circulation, the most numerous were 10 lipa coins (605 million pieces, or 23% of the total number of coins outside the CNB vault and CCs). In terms of value, 5 kuna coins accounted for the largest share (HRK 545m, or 35% of the total value of coins outside the CNB vault and CCs).

ISSUES OF COMMEMORATIVE COINS AND NUMISMATIC COIN SETS

In 2022, the CNB released one issue of 25 kuna commemorative circulation coins: marking the “Pelješac Bridge, 2022” on the occasion of the opening of the Pelješac Bridge for traffic, fully integrating the south of the country into the road system of the Republic of Croatia.

In addition to the 25 kuna commemorative circulation coin, the CNB also released issues of commemorative gold and silver coins marking important historical, political, scientific and cultural events for the Republic of Croatia.

Following the Golden Kuna in 2020 and the commemorative gold 2 kuna coin, commemorative gold coins of 5 kuna are the third issue of coins in the investment gold series featuring a motif of circulation coins.

FIGURE 12.2 Numismatic sets and commemorative coins

a) Commemorative gold coins of 5 kuna



b) Numismatic set of the commemorative gold coin of 1,000 kuna featuring the basic motif of “Višnjan Observatory” and the commemorative gold coin of 1 kuna featuring the basic motif of “Hum”



The year 2022 was concluded with the issue of a numismatic set of Croatian coins in circulation with the year of issue 2022, which contains all kuna and lipa coins.

Issues of commemorative circulation coins

25 kuna – "Pelješki Bridge, 2022"



COUNTERFEIT BANKNOTES AND COINS AND THEIR PREVENTION

In 2022, a total of 133 counterfeit kuna banknotes, worth a total of HRK 70,090.00, were registered, of which 71.4% were counterfeits of low reproduction quality. The number of registered counterfeit kuna bank notes decreased by 32.8% from 2021. In 2022, the number of banknotes outside the CNB vault and CCs averaged 288.4m, and 0.5 counterfeits were detected per 1 million kuna circulation banknotes. In 2021, 0.7 counterfeit banknotes were detected per 1 million kuna circulation banknotes.

In 2022, no counterfeit kuna coins were detected, while one counterfeit coin (5 kuna) was detected in 2021.

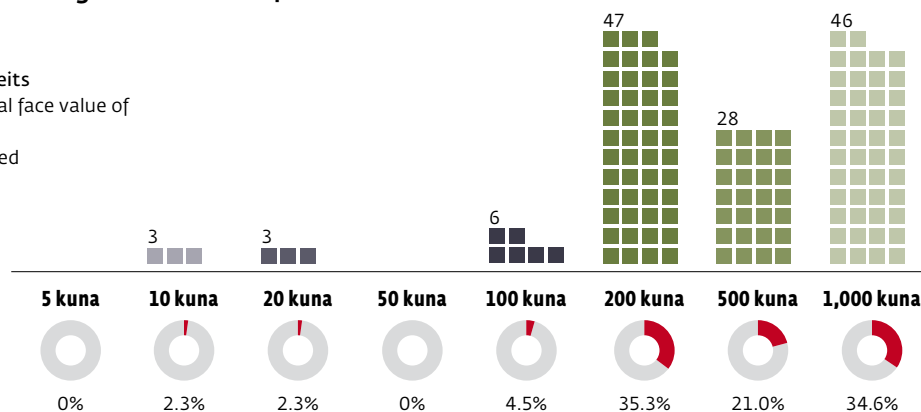
With regard to foreign currencies, 304 counterfeits were registered in 2022 of which 260 were counterfeits of the euro, 35 of the US dollar, eight of the pound sterling and one of the Swedish krona. The number of counterfeit euro banknotes increased by 32 pieces or 14.0% from 2021. The share of counterfeit euro banknotes of poor quality was 47.3%, or 123 banknotes, the share of those of medium quality was 29.6% or 77 banknotes and the share of good quality counterfeits was 18.5% or 48 banknotes, while 12 banknotes or 4.6% were of very good quality.

In 2022, there were 2,025 counterfeit euro coins registered, which is a decrease of 6,049 coins or 74.9% from 2021.

The Croatian National Bank, in accordance with its legal obligations, continuously organises and implements training for employees of financial institutions and all other interested participants who handle banknotes and coins in order to prevent counterfeiting and detect counterfeits.

FIGURE 12.3 Registered counterfeit kuna banknotes in 2022

A total of 133 counterfeits with a nominal face value of **HRK 70,090** were registered



In 2022, **0.5** counterfeits were detected per million genuine banknotes in circulation, fewer than in **2021**, when **0.7** counterfeits were registered per million

Source: CNB.

The National Training Programme for Employees of Banks and Financial Institutions for Kuna, Euro and Dollar Banknote and Coin Authentication has been systematically implemented since 2009.

As part of the project of introducing the euro as legal tender in the Republic of Croatia, the Croatian National Bank initiated intensive education of target groups in July 2021. During 2022, 6,713 employees of financial institutions have attended training sessions. Specialist training was also conducted for employees of the Ministry of the Interior – Office for the Suppression of Corruption and Organised Crime, the Ministry of Finance – Customs Administration and the State Attorney's Office of the Republic of Croatia.

In addition, during the second half of 2022 the Croatian National Bank organised a series of seminars, lectures, workshops and online seminars in cooperation with the Croatian Chamber of Economy, the Croatian Employers' Association and the Croatian Banking Association, which were held in 16 cities with more than 2,000 participants attending them. Special attention was paid to the education of children, and lectures were held for primary and secondary school pupils and university students throughout the Republic of Croatia, with special materials prepared for all ages.

The website [Euro-edukacija](#) ¹ (Euro-education) was launched for the general public and the retail sector. It has been available since July 2022, and from 1 July 2022 to 31 December 2022, more than 82,500 participants have completed the training.

LINK NO ¹



Through the Euro on Wheels educational exhibition in 27 cities and the Euro Days event in the four largest Croatian cities, the general public had the opportunity to learn about a simple way to authenticate euro banknotes and receive materials regarding euro banknotes and coins.

LINK NO ²



Through the Euro on Wheels educational exhibition in 27 cities and the Euro Days event in the four largest Croatian cities, the general public had the opportunity to learn about a simple way to authenticate euro banknotes and receive materials regarding euro banknotes and coins.

Text- and image-based materials ² regarding the appearance and security features of euro banknotes and coins are available at the website of the Croatian National Bank, and they can be viewed, downloaded and printed.

13

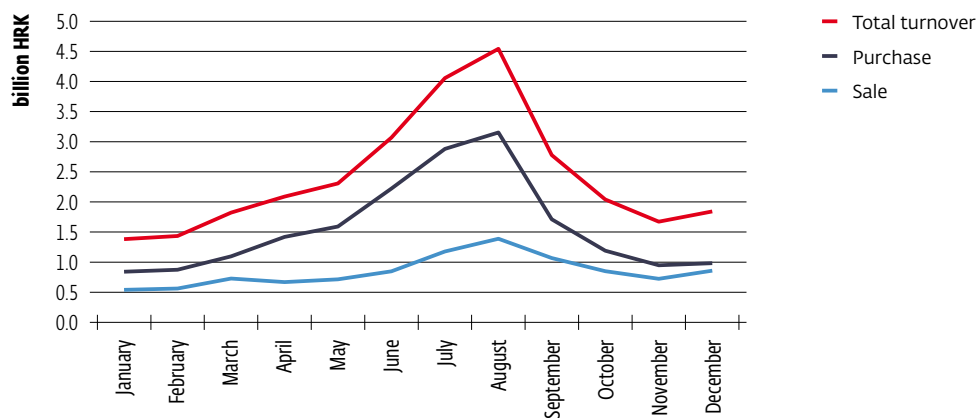
Currency exchange offices



security features of banknotes and coins and to draw attention to the need for permanent implementation of the procedure for authenticating banknotes and coins, all in order to reduce the possibility of receiving counterfeit money and its re-circulation.

13 Currency exchange offices

FIGURE 13.1 Movement of total turnover and purchase and sale of foreign cash in 2022

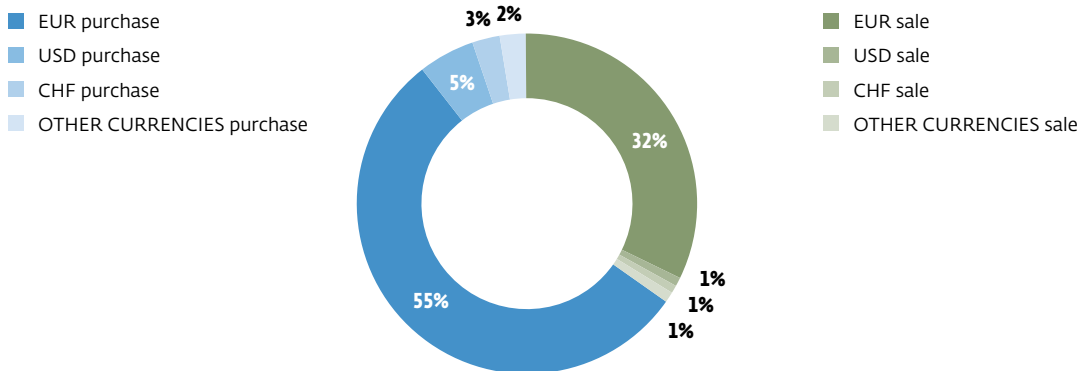


Source: CNB.

During 2022, there were approximately 800 authorised currency exchange offices operating in Croatia, trading in 31 currencies and generating a turnover of HRK 29.04bn, of which 87% was generated in euro.

As at 31 December 2022, a total of 1,065 authorised exchange offices to which the Croatian National Bank had issued authorisations to conduct currency exchange transactions operated in the Republic of Croatia. About 750 of them actively provided the service of foreign cash exchange transactions, both throughout the year or seasonally.

In 2022, the Croatian National Bank issued a total of 12 authorisations to conduct

FIGURE 13.2 Share of purchase and sale of foreign cash by currency in total turnover in 2022

Source: CNB.

currency exchange transactions and 46 decisions on the withdrawal of authorisation to conduct currency exchange transactions. The CNB also recorded 47 authorisations that ceased to be valid as a matter of law, most frequently because a currency exchange office had been removed from the register of crafts. In 2022, authorised currency exchange offices traded in 31 currencies and purchased from or sold to natural persons foreign cash equivalent to HRK 29.04bn. Of that amount, purchase accounted for HRK 18.91bn, or 65.12%. Most of the total authorised currency exchange offices' transactions (87%) were in euro. The kuna equivalent of the authorised currency exchange offices' total turnover in foreign cash was HRK 3.92bn greater (15.62%) than the year before, while the share of the euro in total turnover fell by 0.61 percentage point (a decrease from 87.61% to 87%).

The majority of authorised currency exchange offices provided the currency exchange service as part of the range of services they offer, that is, currency exchange transactions are not their main activity. Given the fact that the turnover of authorised currency exchange offices is largely related to the euro, it is expected that after the introduction of the euro as the official currency in the Republic of Croatia the currency exchange service will mainly continue to be provided by authorised currency exchange offices that offer this service as part of their range.

14



CNB in the EU and the
international environment

As a member of the European System of Central Banks, the CNB actively participates in the execution of the tasks falling within the competence of the General Council of the European Central Bank. Since the Governor would be a member of the Governing Council of the ECB from the introduction of the euro, from 1 September 2022 he participated in the work of that body as an observer. As part of close cooperation with the ECB in the field of supervision, representatives of the CNB are involved in the work of the Supervisory Board of the ECB and the Single Resolution Board. The Governor of the CNB also participates in the work of the European Systemic Risk Board. Vicegovernors and experts of the CNB are involved in the work of numerous structures and sub-structures of the ESCB and the European Banking Authority, as well as the working bodies of the Council of the European Union and the European Commission. The CNB's cooperation with the IMF, BIS and other international financial institutions continued in 2022, and the cooperation with the OECD was especially intensified after the opening of negotiations on the accession of the Republic of Croatia to that organisation in January 2022.

ACTIVITIES CONNECTED WITH EU MEMBERSHIP

European System of Central Banks (ESCB)

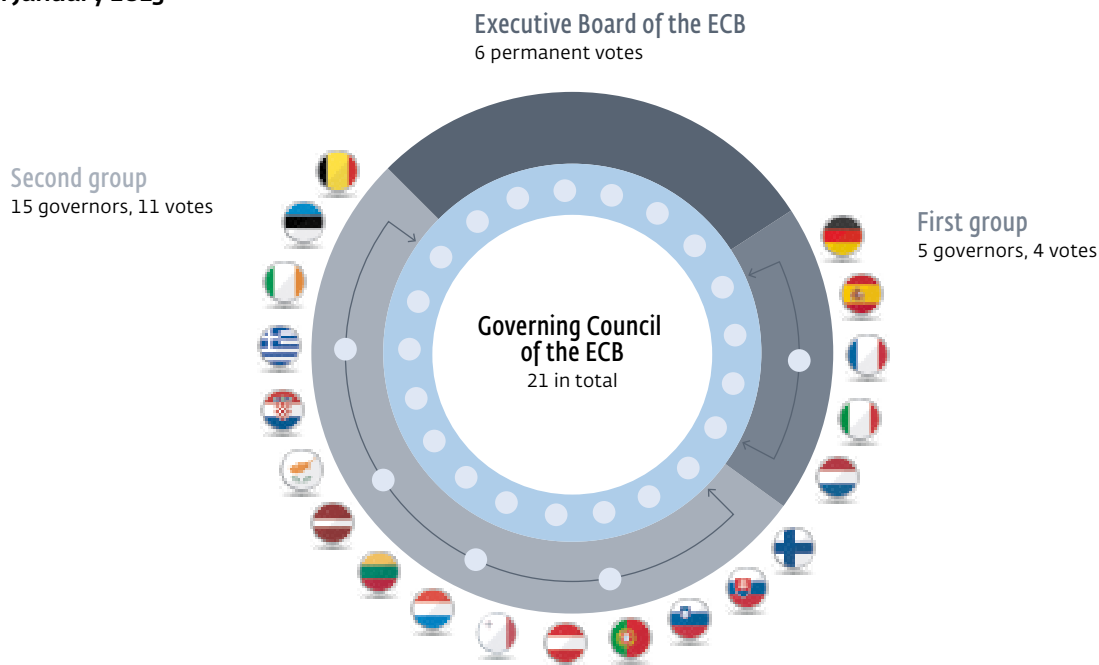
The CNB has been an integral part of the European System of Central Banks (ESCB) as of the date of its EU accession, and the CNB Governor is a full member of the General Council of the European Central Bank (ECB). Since September 2022, the Governor has also participated in the meetings of the Governing Council of the ECB as an observer as part of the preparations for the CNB's accession to the Eurosystem¹ on 1 January 2023.

During 2022, one extraordinary and four regular meetings of the General Council were held, dealing with macroeconomic, monetary and financial developments in the EU, monetary policy measures, the effect of the war in Ukraine on the EU economy, imbalances and vulnerabilities in non-euro area member states and the functioning of ERM II. In December 2022, the Governor presented to the General Council the activities undertaken in preparation for the introduction of the euro in Croatia.

After the Council of the European Union made a decision on the introduction of the euro in Croatia on 1 January 2023, and thus on the accession of the CNB to the Eurosystem, from September 2022 the Governor participated as an observer in the meetings of the Governing Council of the ECB, the highest body of the ECB

¹ The Eurosystem consists of the ECB and the national central banks of the EU member states that have adopted the euro.

FIGURE 14.1 The system of rotation of voting rights in the Governing Council of the ECB from 1 January 2023



Notes: Euro area member states are divided into two groups according to the size of the economy and the financial sector. The governors of the national central banks of the five largest member states share four votes among them, and the other 15 governors share 11 votes among them. The first group (clockwise) consists of: Germany, Spain, France, Italy and the Netherlands. The second group (counter-clockwise) consists of: Belgium, Estonia, Ireland, Greece, Croatia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Austria, Portugal, Slovenia, Slovakia and Finland. The governors' use of voting rights rotates among them every month.

Source: CNB.

competent for decision-making. The Governing Council shapes the monetary policy of the euro area and adopts the guidelines and decisions necessary to ensure the execution of the tasks assigned to the ECB and the Eurosystem. It consists of six members of the Executive Board of the ECB and the governors of the national central banks of the EU member states that have introduced the euro, with the Governor of the CNB among them from 1 January 2023. The system of rotation of the voting rights of the governors of national central banks is applied in the Governing Council (Figure 14.1).

CNB experts took part in the work of 18 ESCB and Eurosystem committees, as well as numerous sub-committees and working groups that provide expert assistance to ECB decision-making bodies. As a member of the ESCB, the CNB also takes part in the formulation of ECB opinions concerning draft legislative proposals of the EU and individual member states.

European System of Financial Supervision

As a member of the European System of Financial Supervision, the CNB is actively involved in the work of the European Systemic Risk Board (ESRB). The Governor and the chief economist of the CNB participate in regular quarterly meetings of the ESRB General Board dealing with systemic risks to the EU financial system and macroprudential policy measures.

At the meetings held during 2022, it was assessed that due to the impact of the Russian invasion of Ukraine the overall level of systemic risk in the EU financial system had increased significantly. That is to say, the outbreak of the war in Ukraine resulted in strong disturbances in the world markets for raw materials, which further fuelled global inflationary pressures and increased the probability of recession in key economies. The further strengthening of inflation caused by the Russian invasion was the trigger for a noticeable tightening of monetary policy in the euro area and in other key economies, which increased the likelihood of a sudden price correction in the financial and real estate markets. Croatia is one of the member states to which the ESRB issued a warning in February 2022 on the risks arising from developments in the real estate market, the main sources of vulnerability being the strong growth of housing loans and the rising overvaluation of real estate.

The CNB also participates in the work of the European Banking Authority (EBA). The competent vicegovernors are members of the **Board of Supervisors 1** and the Resolution Committee, and experts participate in the meetings of numerous committees and working bodies of the EBA.

EU banking union

After Croatia joined the banking union as part of process of accession to the euro area, a designated CNB representative continued to participate in the work of the **Supervisory Board 2** of the ECB with full voting rights. Furthermore, CNB representatives participate in all plenary and executive meetings of the Single Resolution Board at which decisions related to resolution planning and Single Resolution Fund management are made. CNB experts are included in the work of more than 30 committees and working groups providing expert assistance to the Supervisory Board of the ECB and the Single Resolution Board.

EU Council and the European Commission (EC)

In 2022, CNB experts continued with their regular activities in the working bodies of the EU Council and the European Commission (EC). The activities included the discussion of draft legislation and other EU acts and the participation in the preparation of the positions of the RC related to topics in the fields of competence of central banks, such as improving the quality of financial services and the stability of the EU financial system. The Governor and Deputy Governor took part in informal meetings of the EU Economic and Financial Affairs Council (ECOFIN). The designated CNB representatives participated in the work of the Economic and Financial Committee (EFC) of the EU Council, which promotes the coordination of national economic policies and discusses EU initiatives, such as completing the establishment of the banking union and building a capital market union.

A significant part of the discussions in the EU Council during 2022 related to the economic and financial aspects of the war in Ukraine. EU member states have on several occasions adopted decisions on sanctions packages against Russia and on the provision of financial aid to Ukraine. They also discussed the implications of the war for the European economy and the financial stability of the EU and agreed

LINK NO 1



LINK NO 2



on measures to prevent excessive fluctuations in gas prices on the EU energy market. The EC presented a new energy plan (REPowerEU), which will aim to increase energy savings, reduce the EU's dependence on fossil fuel imports from Russia and increase the generation of clean energy in the EU. At the same time, activities continued in the field of adapting the macroprudential framework to climate risks.

Furthermore, the working bodies of the EU Council discussed the further mitigation of risks in the banking system, the focus of which was placed on completing the common EU framework for crisis management and further harmonisation of national rules for the winding up of banks. Discussions on new measures to continue the development and integration of the EU capital market, such as facilitating access to equity financing for corporations and encouraging a more active role of retail investors, were intensified. The work on defining new rules for the functioning of the crypto-asset market continued.

Republic of Croatia and coordination of economic policies within the European Union

The coordination of national economic policies in the EU is achieved through the European Semester, a process in which the EC analyses the national strategic documents of the member states and provides appropriate recommendations, which are then adopted by the EU Council. In addition to national reform programmes, convergence programmes and stability programmes, the EC also analyses national recovery and resilience plans (NRRP) in which projects and reforms financed from the Recovery and Resilience Facility (RRF) are defined. Due to rising uncertainties, the EC decided to extend the validity of the general escape clause, allowing member states to depart from budgetary requirements and providing more fiscal space to implement measures aimed at stimulating economic recovery, until the end of 2023.

In May 2022, the EC published the Country Report for Croatia in which it stated that macroeconomic imbalances are no longer present in Croatia. The EC highlighted the progress made in reducing private sector debt, while public debt remained high, but well on the path to a reduction. In May 2022, the EC provided special recommendations for Croatia, adopted by the EU Council in July 2022. These recommend, inter alia, that during 2023 the granting of budget-financed support be aligned with the development of the situation on the energy market, and that public investment for the green and digital transitions, energy security and the increase in the use of energy from renewable sources be expanded, especially by making use of available EU funds. In late 2022, at the beginning of the new European Semester cycle, the EC concluded that it was not necessary to carry out a detailed analysis of the Croatian economy.

The key event for Croatia's participation in the European Semester last year was the EU Council Decision of 12 July 2022 on the adoption by Croatia of the euro in which, based on EC and ECB convergence reports, it was determined that Croatia satisfied all the criteria of nominal and legal convergence, thus fulfilling the conditions for the adoption of the euro on 1 January 2023. In November 2022, at the beginning of the new European Semester cycle, the EC provided an opinion on

the draft budgetary plan of the Republic of Croatia for the first time, stating that the draft budgetary plan of the Republic of Croatia for 2023 was generally in line with the fiscal recommendations of the EU Council from July 2022. The EC pointed out that, during periods of high energy price pressures, it is important that support is better focused on the most vulnerable households and exposed firms to preserve incentives to reduce energy demand, and that they are withdrawn as these pressures diminish.

Other activities connected with the European Union

In addition to participating in the work of EU institutions and bodies, in 2022, the CNB continued to make contact with representatives of EU member state central banks and representatives of the ECB and other EU institutions and bodies. Particularly worth noting were the meetings with the representatives of the ECB and European Commission, particularly those related to preparations for the introduction of the euro, and the sixteenth annual dialogue between the CNB and the Austrian central bank.

INTERNATIONAL MONETARY FUND (IMF)

The Republic of Croatia is a member of the constituency that is alternately headed by the Netherlands and Belgium. This constituency comprises 16 countries: Andorra, Armenia, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Georgia, Israel, Luxembourg, Moldova, Montenegro, the Netherlands, North Macedonia, Romania and Ukraine. This constituency, with 5.46% of the total votes in the Fund, has, after the USA, Japan and China, the fourth largest voting power in the IMF Executive Board, which consists of 24 Executive Directors. In addition, Croatia has the right to appoint a permanent representative at the Office of the Executive Director at the position of advisor to the Executive Director; since April 2021 it has been held by a CNB representative.

The CNB is the fiscal agent of the Republic of Croatia for the IMF and a depository of the IMF, which means that it represents Croatia in relations with the IMF, keeps deposit accounts of the IMF in the RC and executes payments based on IMF membership in the name and for the account of the RC. The quota of the Republic of Croatia in the IMF is SDR 717.4m (EUR 898.8m¹), based on which Croatia holds 0.17% of total voting rights in the IMF.

As part of the IMF's supervisory activities, the expert team in charge of Croatia made a virtual visit to the Republic of Croatia in March 2022. In the [press release of the head of the IMF Mission](#) ¹ after the visit, three main messages were emphasised: macroeconomic policy should be handled competently with respect to the effects of the war in Ukraine and the increase in inflationary risks, a strong public investment management system is needed to maximise the benefits of EU funds which will play a decisive role in future growth, and that although the banking system is stable, well-capitalised and liquid, continued vigilance is essential due to the rise in global risks.

LINK NO ¹



¹ According to the EUR/SDR exchange rate as at 31 December 2022.

Regular annual consultations under Article IV of the IMF's Articles of Agreement between the IMF and Croatia, during which the IMF's expert team holds a series of bilateral meetings with economic policy makers and representatives of the public and private sector, did not take place in 2022, but were postponed until next year, taking into account the activities related to the adoption of the euro. The next consultations under Article IV are planned for May 2023.

Cooperation and exchange of opinions with IMF experts during 2022 took place through the participation of Croatian representatives in regular Spring Meetings in April and the IMF and World Bank Annual Meeting in October. The main discussion topics were related to the economic consequences of the Russian invasion of Ukraine and the related energy and food supply crisis. The focus was on measures to support the most vulnerable countries, which, are facing a threefold financial shock in addition to high food and energy prices – the rise in the value of the US dollar, high borrowing costs due to the tightening of financial conditions, and large and volatile capital outflows.

Regarding the IMF's initiative for the voluntary redirection of SDRs from developed to the most vulnerable of its members¹, in April 2022 the IMF established the Resilience and Sustainability Trust (RST), the purpose of which is to provide long-term financing for structural adjustments related to climate change and the fight against the pandemic. After collecting a sufficient amount of financial contributions, the RST became operational in October 2022, and by the end of 2022, the first three loans to member countries were approved from this trust. In addition, developed countries were invited to provide additional financial contributions to the Poverty Reduction and Growth Trust (PRGT), as part of which the poorest IMF member countries can be financed on preferential terms.

In response to the consequences of the war in Ukraine, the IMF, along with other international financial institutions, provided emergency aid to Ukraine and neighbouring countries and developed new short- and medium-term aid strategies. During 2022, the IMF approved a total of about SDR 2bn in emergency aid to Ukraine, first in March as part of the Rapid Financing Instrument (RFI), and then in October as part of the new Food Shock Window. In addition, a special account has been opened with the IMF in which member countries can voluntarily deposit funds to support Ukraine (the Administered Account for Ukraine). In late 2022, the newly introduced Program Monitoring with Board Involvement (PMB) was also approved for Ukraine, which does not include financing, but aims to create and implement appropriate economic policies and attract donor assistance.

Discussions continued during 2022 on the adequacy of IMF funds and the possible demand for IMF funds in the medium term, as well as on the 16th general review of quotas. The review should be completed by 15 December 2023.

¹ The SDR is an international reserve asset created by the IMF in 1969 to supplement international foreign reserves. Funds are allocated by general allocation to IMF member countries in proportion to each country's quota. SDR value is based on a basket of five currencies – the US dollar, euro, yuan renminbi, yen and pound sterling. SDR also serves as a unit of account by the IMF and some other international institutions. In 2021, the IMF made a general allocation in the amount of SDR 456.5bn, which is the largest amount allocated in history, and the largest portion of these funds was allocated to developed countries.

COOPERATION WITH THE BANK FOR INTERNATIONAL SETTLEMENTS (BIS) AND OTHER INTERNATIONAL FINANCIAL INSTITUTIONS

The Governor of the Croatian National Bank also participated in the work of the BIS in 2022, at which current issues in the area of international banking and finance were discussed by governors of BIS member central banks. At the BIS Annual General Meeting in June, attended by the Governor, a decision was made to pay a dividend of SDR 275 per share to BIS shareholders. Given that the CNB holds 2,441 BIS shares, on 30 June 2022 the CNB was paid a dividend in the equivalent of SDR 671,275, amounting to EUR 0.8m, or HRK 6.4m¹.

In 2022, the Croatian National Bank, within its competence, continued to cooperate with other international financial institutions and organisations. In addition to regular cooperation with multilateral development banks of which the Republic of Croatia is a member, cooperation with the Organisation for Economic Co-operation and Development (OECD) was especially intensified in 2022. Namely, in January 2022 the OECD opened accession negotiations with the Republic of Croatia, and in June it also adopted the Accession Plan for the Republic of Croatia, after which the OECD accession process began operationally. As part of its competence, the CNB participated in the preparation of the Initial Memorandum, which was followed by participation in completing the OECD questionnaires by which the Republic of Croatia declared its compliance with the legal instruments of the OECD. The answers provided in the questionnaires serve as a basis for OECD experts to prepare a report on Croatia's compliance with the OECD's legal instruments, which are one of the key elements for adopting a decision on Croatia's readiness to accede to the OECD. In addition, from autumn 2022 representatives of the CNB began to participate in the work of OECD committees and working groups, as well as in meetings of OECD missions in Croatia as part of accession negotiations.

OTHER ACTIVITIES

The Governor of the CNB chairs the Steering Committee of the **Vienna 2.0 Initiative** , a unique private-public sector platform bringing together international financial institutions, home and host country supervisory authorities and principal banking groups operating in Central, Eastern and South-eastern Europe, established to contribute to the preservation of financial stability in the region. The Vienna 2.0 Initiative was established at the peak of the global financial crisis with the aim of preventing a sudden outflow of capital from the banking systems of the countries of Central and Eastern Europe, and in the post-crisis period, it proved to be a useful platform for cross-border supervisory cooperation.

CNB representatives also participate in interdepartmental activities as part of the Working Group for Cooperation between the Republic of Croatia and Ukraine and

LINK NO 



¹ Recalculated according to the EUR/HRK exchange rate as at 30 June 2022.

the Commission for International Development Cooperation and Humanitarian Aid Abroad.

Technical cooperation programmes

In the past few years, CNB experts participated in several twinning projects and the Regional Programme for Central Banks in the Western Balkans. Most of these projects were completed during the period of the COVID-19 pandemic. During the pandemic, the interest of potential users in technical cooperation decreased, but in the first half of 2022 there was an increase in the number of activities in this area. In the beginning, the increase mostly related to meetings and consultations held via online platforms, but as the year progressed an increasing number of activities were held live, mostly at the central bank that initiated the cooperation. The largest number of realised activities was held bilaterally – based on a direct agreement between two institutions – and was therefore financed from own budgets. However, in 2022 a significant number of activities took place with the support of TAIEX (Technical Assistance and Information Exchange), which is an instrument of the European Commission for the transposition of legislation and familiarisation with the best practices of the EU. Most of these activities were carried out for the Central Bank of Montenegro, mainly in the area of implementation of subordinate legislation related to Credit Institutions Act.

In general, in 2022 the CNB's technical cooperation with the Central Bank of Montenegro was the most intensive, both in terms of the number and duration of activities, and the number of engaged experts. In addition, several activities with the National Bank of Ukraine (NBU) were undertaken. It should be noted that CNB experts are also engaged in the twinning project implemented by the National Bank of Poland for the NBU. The area of their work on that project is the transfer of experience in preparations for accession to the Single Euro Payments Area (SEPA).

After the two-year Regional Programme for Strengthening the Central Bank Capacities in Six Western Balkans Countries with a View to the Integration to the European System of Central Banks was successfully completed in December 2021, it was agreed that the programme would continue, which it did in September 2022. The CNB participates in this programme together with 19 other central banks of EU member states and the ECB, under the leadership of the Deutsche Bundesbank. It is planned for the programme to last until September 2025, with a budget of EUR 3m. Similar to its predecessor, this programme consists of two components: the first component provides for a total of 20 training events for experts from beneficiary countries and three high-level policy workshops on topics from the field of central banking; the second component provides for six bilateral measures and three internships in ESCB central banks for employees of each of the beneficiary institutions. CNB experts are expected to participate as lecturers in two training events, one workshop and as many as a dozen bilateral measures, which makes the CNB one of the most active central banks in the programme.


The CNB contribution to tackling climate change



04

The CNB has continued to incorporate environmental risks and concerns about environmental sustainability into various areas of its activity, and the focus of this work during 2022 was on supervisory activities and dialogue with credit institutions.

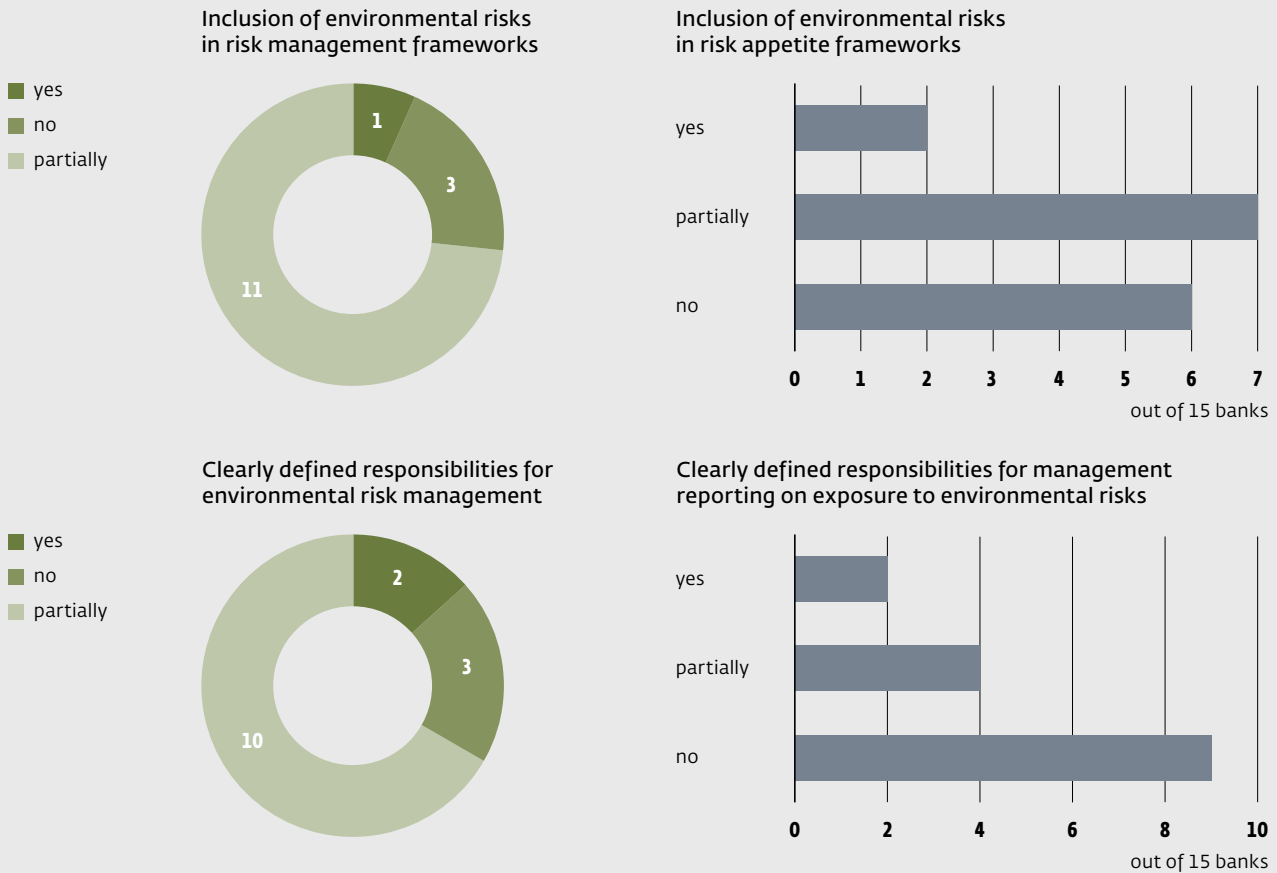
Environmental risks are increasingly important for the operations of credit institutions, and due to the uncertainty and the time horizon in which they can materialise, these risks require special attention. Just as the European Central Bank expects significant credit institutions at the level of the Single Supervisory Mechanism to include these risks in their management policies and business strategies, so the CNB expects all less significant credit institutions to take a proactive stance regarding these risks.

Accordingly, in December 2021 the CNB issued the [Circular letter on the identification and management of environmental risks](#)  to less significant supervised entities (hereinafter: banks) laying down the four fundamental supervisory expectations regarding: the business model and strategy, management and tendencies to take on risks, and management and disclosure of risk. During 2022, the CNB analysed banks' compliance with the expectations referred to in the Circular letter. The banks have made some progress regarding the inclusion of environmental risks in business processes, but to an insufficient extent.

The majority of banks consider environmental risks the drivers of other financial risks, mostly credit and operational risks, for which reason they have defined and included them in their business processes. Furthermore, at the moment, no bank fully complies with the aforementioned supervisory expectations, but progress has been noted in the adaptation of business practices. Certain banks have established processes for the identification and measurement of environmental risks, but the inclusion of short-term, medium-term and long-term impacts of environmental risks when determining the business strategy and adopting business decisions still needs to be developed. The vast majority of banks believe that they partially comply with the expectations for the inclusion of environmental risks in the management systems and the framework for taking on risks although the key indicators for monitoring environmental risks are not fully defined due to a lack of appropriate data. Some progress is noted in relation to determining the organisational structure for environmental risk management, as a greater number of banks have established all three lines of defence (sales, risk management and internal audit). However, due to limitations in defining quantitative indicators, it is

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FIGURE 1 Climate changes and their importance to credit institutions

necessary to improve reporting on exposure to environmental risks. Since the need for progress in the inclusion of environmental risks in banks' business processes has been established, during 2022 the CNB held four workshops to familiarise banks in more detail with the regulatory framework and good practices for managing environmental risks, as well as with supervisory expectations and the results of analysis. One of the workshops was aimed at highlighting the business opportunities arising from prudent environmental risk management. In addition to banks and the CNB, representatives of the Croatian Banking Association, the Financial Agency and the Croatian Bank for Reconstruction and Development also participated in the workshop. At that workshop, CBRD's financial instruments from the National Recovery and Resilience Plan (NRRP) were also presented; they provide an additional opportunity to finance investments related to climate transition.

The CNB also participated in the European Commission's exercise, which related to the greenwashing risk arising from the practice in which statements or

messages related to sustainability (including environmental, social and governance aspects) in connection with a bank, financial instrument, product or service can mislead consumers, investors or the public, as they do not reflect sustainability-based features or characteristics. Since the greenwashing risk can result in reputational and litigation risk and can affect the overall credibility of a bank's sustainable financial policies/products, the European Commission and the European Banking Authority deem it necessary for competent authorities to monitor the greenwashing risk and how banks manage that risk.

The exercise showed that credit institutions have a certain level of knowledge about this risk, but their approach is not adequate. Due to the importance of environmental risks with regard to the operations of banks, the CNB has conducted training events for the banks on this topic as well.

In 2022, the number of CNB experts working in various fields who are involved in working groups established for various aspects of climate risk analysis, the fight against climate change, and sustainable financing increased as part of the European Central Bank, the European Banking Authority the Network for Greening the Financial Systems (NGFS) and the Vienna 2.0 Initiative. Banks and supervisors from Central and Eastern Europe are part of the Vienna 2.0 Initiative, and the Initiative is supported by international institutions – EBRD, EIB, the European Commission, IMF and World Bank. As part of the Vienna 2.0 Initiative, a working group was established to promote the ability of supervisors and financial institutions to identify and assess climate change risk and propose methods to include this assessment in supervision and specific policies to maintain financial stability. The group's work is divided into three key areas: the availability and quality of data on the effects of climate change, regulatory changes, supervisory practices and expectations, and the development of scenarios and strategies for a transition to more sustainable business operations.

15

Public relations



The introduction of the euro was the focus of the Croatian National Bank's communication during 2022; the CNB, together with the Government of the Republic of Croatia, conducted a national information campaign on the changeover to the euro. The main goal of the campaign was to convey to citizens all of the important information about the conversion process.

COMMUNICATION ACTIVITIES

As part of the regular provision of information to and education of the public, in 2022 we published 96 press releases, ranging from regular press releases on the decisions of the CNB Council that were published after the sessions held to reports on the operations of the CNB. Comments and analyses of data collected by the CNB are published regularly, and the public is informed about them in a simple way. The CNB also responded to numerous queries from journalists to acquaint them with the work of the central bank and the activities preceding the introduction of the euro.

Officials and employees of various organisational units of the CNB appeared in the media and attended thematic meetings during 2022 much more often than in previous years, with the aim of informing the general public not only about the euro changeover, but also about numerous tasks within the purview of the Croatian National Bank.

In 2022, we regularly published news regarding CNB work, regulations and measures related to central bank areas of operation on the [CNB website](#) ¹, alongside regular publications and the research and working papers of the Bank's employees. The Croatian National Bank maintains official accounts on YouTube, Facebook, Twitter, LinkedIn and Flickr, and in 2022 it had 423 posts in which information about the work of the CNB was provided in an easy-to-understand manner. Topics related to the introduction of the euro, and especially the appearance of euro coins, sparked the most interest this year.

The [mHNB](#) ² mobile application providing users with service information (exchange rate list, information list with the offer of loans to consumers and bank fee comparison) was installed on a total of 17,052 devices from its launch to the end of 2022.

Over the course of 2022, the CNB answered more than 4,500 queries submitted to the central bank by citizens, corporations, media representatives, government institutions, embassies, and others.

After the official decision on Croatia's accession to the euro area was adopted in

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July 2022, a national information campaign on the changeover was launched, the CNB conducting it in cooperation with the Government. The main goal of the campaign was to convey to citizens all of the important information regarding the introduction of the euro, such as the fixed conversion rate, information about where and when they will be able to exchange kuna banknotes and coins for euro banknotes and coins, what will happen to kuna deposits and loans, and how they will be protected from improper recalculation and rounding of prices. The information campaign was carried out in two rounds, from 15 October to 6 December 2022, and from 14 December 2022 to 15 January 2023. Important information about the euro changeover was published at the www.euro.hr ¹ website and on the official campaign accounts on social media. A leaflet ² containing key information was delivered to all households, and citizens could learn about everything they were interested in about the conversion process via the free info phone. Citizens installed the mobile application for the euro changeover on more than 315,000 devices, and 60,000 physical conversion calculators were distributed to our elderly fellow citizens, and especially vulnerable groups.

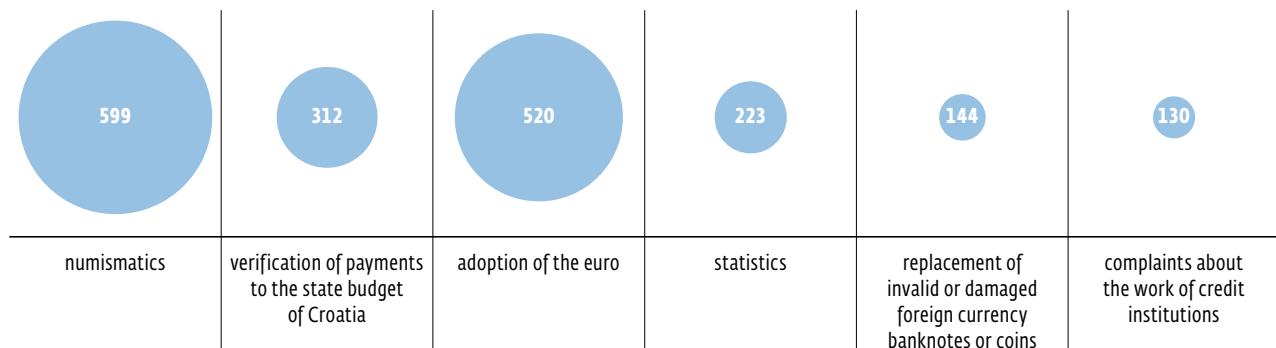
Euro Days ³, which were held in Osijek, Rijeka, Split and Zagreb in October, offering citizens the opportunity to familiarise themselves with the euro in the context of an entertainment and information programme, were attended exceptionally well.

A significant project as part of the campaign was the **travelling exhibition “Euro on Wheels”** ⁴, which travelled through Croatia from September to mid-December 2022, from Vukovar in the east to Poreč in the west, and from Varaždin in the north to Dubrovnik in the south. This interactive exhibition toured Croatia in 62 days and was set up in 27 major towns. It was visited by a total of 27,665 citizens. Mobile teams, in which students from four faculties of economics and CNB employees took part, visited 67 smaller towns as part of the travelling exhibition. The intensive communication campaign was also featured in TV and radio spots, the Internet and outdoor advertising.

Three TV spots were broadcast, two of which were dedicated to **dual price display** ⁵, the fixed conversion rate, **exchange of cash and automatic changeover on accounts** ⁶, and the third one, an animated spot entitled **“Snaga zajedništva” (The Power of Unity)** ⁷ involved Croatian euro coins and conveyed the message about the benefits of the euro for the whole of Croatia. The results of a survey on the results of the campaign showed that, after the second campaign round, 90% of citizens rated their level of information as good, very good or excellent, while in September this rating was at the level of 81.5 percent. Furthermore, fully 81% of citizens stated that they received information through television commercials, and 55% received information through radio commercials. The campaign achieved the information goals that were set. It is estimated that the total reach of 94.97% (among the 15+ population) was achieved through the combination of all media, which means that a total of 3,210,029 people were reached.

On 18 July, the Croatian Mint officially marked the start of the production of

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FIGURE 15.1 Citizen queries lodged with the CNB according to the most prominent topics in 2022

Source: CNB.

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euro coins with the Croatian national side. The Prime Minister of the Republic of Croatia, Andrej Plenković, and the Governor of the Croatian National Bank, Boris Vujčić, visited the facilities where euro coins are minted and learned about the minting process. On that occasion, along with numerous media reports and interviews, [a special video on the beginning of euro coin minting](#) 1 was also promoted for euro coins with the national Croatian side.

LINK NO 2



In 2022, the CNB continued to publish professional articles by CNB employees at its [HNBlog](#) 2. Current topics were discussed in the texts, and topics related to the impact of the introduction of the euro from different aspects attracted the most attention. The authors explained how the introduction of the euro had a favourable effect on Croatia's borrowing costs, the possible effects of rounding the prices of food products on inflation upon the introduction of the euro, and what will happen to international reserves when we introduce the euro. In the blog, they explained the criteria on the basis of which the beginning of a recession is most often determined and reflected on whether the Croatian economy has already entered a recession. The traditional annual [Dubrovnik Economic Conference](#) 3, the 28th in a row, was held in July. At the conference, eminent [academics from Croatia and from abroad](#) 4 discussed macroprudential issues, fiscal rules in the European Union, the resilience of supply chains and stagflation, as well as monetary policy with representatives of international financial institutions, central banks and the financial sector. Real estate markets and private finance markets were also discussed at the panel discussions.

LINK NO 3



Furthermore, ten economic workshops were held in 2022, at which authors presented their papers.

LINK NO 4



In December, the CNB organised a civil society seminar "Adoption of the euro. What happens next?" in cooperation with the European Central Bank. The CNB and the ECB explained the work of both institutions to the participants in more detail, explained the challenges facing the euro area and clarified what entry into the euro area means for the Croatian National Bank. The seminar, which was held for the first time, aims to achieve an open exchange of opinions with representatives of associations and other civil society organisations.

16



Activities of the Visitors' Centre



During 2022, the Croatian National Bank continued to educate interested citizen groups, mostly young people, on topics within its purview in the Visitors' Centre, striving to contribute to the strengthening of general economic literacy. CNB presentations and workshops were an opportunity not only for education but also for pupils and students to meet central bank experts and receive information about their work and careers, which can help young people in their professional orientation. For lecturers and CNB employees, education is also an opportunity to have conversations with different citizen groups, as well as to get to know their ideas and attitudes better. In addition, cooperation with teachers and secondary school teachers contributes to the diversity and improvement of the central bank's educational content.

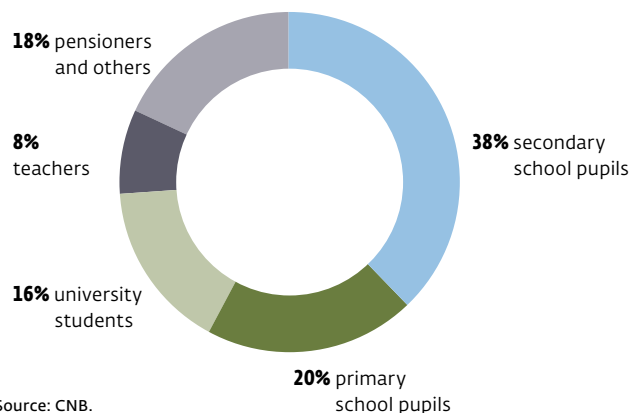
TRAINING

In 2022, the interest in the training events organised by the CNB Visitors' Centre was extraordinarily high: a total of 8,424 participants attended them, almost twice as many as in the previous record-breaking, pre-pandemic year of 2019. The majority of attendees of presentations and workshops were secondary school and primary school pupils and university students, but they were also attended by teachers, pensioners, members of various associations, participants of the Diplomatic Academy of the Ministry of Foreign and European Affairs of the Republic of Croatia, as well as others.

"Euro - naš novac" (The euro - our currency), the training on the tasks of the CNB, the euro changeover process, and the features of euro banknotes and coins, with an emphasis on the security features, was conducted by experts from the Currency

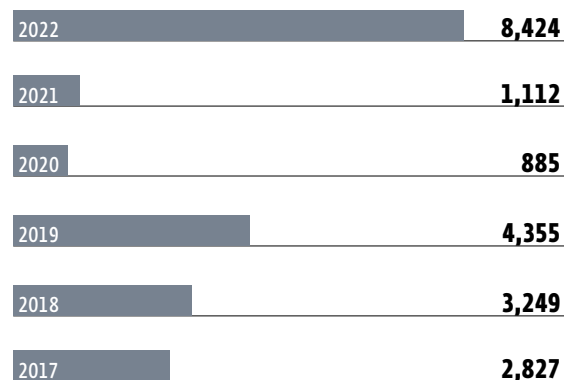
FIGURE 16.1 Number and structure of attendees of CNB educational programmes

Structure of attendees of educational programmes in 2022:




Source: CNB.

Number of attendees of educational programmes by year:



Area and the Visitors' Centre, and it attracted the interest of the largest number of attendees, primarily secondary school pupils, primary school pupils and their teachers. In addition to the focus on the features of euro banknotes and coins and the euro changeover process, training was also held for members of the Association of the Deaf and Hard of Hearing of the City of Zagreb, as well as for pensioners in a number of retirement homes. Great interest was also noted with regard to "Uvođenje eura u Republici Hrvatskoj" (Introduction of the Euro in the Republic of Croatia), a presentation organised by the European Relations Department, which explains the process of introducing the euro, as well as the benefits and costs of joining the euro area. This topic was of interest not only to pupils and students, but also to secondary school teachers, including inter-county expert councils of teachers of economics and other subjects.

Instruments of the CNB's monetary policy, current economic trends, inflation, crypto-assets, digital currency, prevention of money laundering and terrorist financing, supervision of credit institutions, the state of the banking system, management of credit and market risks in banks, resolution, the CNB's role in preserving financial system stability, the operations of international financial institutions and cash management were also topics of interest to the attendees of the CNB's educational programmes. Attendees who were interested in improving financial literacy in the narrower sense were educated on personal finance management, money development and banking basics, banking products and services, and the risks of internet and mobile payment. A few of the educational programmes was held online, while most were held live at the Croatian National Bank. In addition, CNB lecturers were engaged in schools, faculties, retirement homes, as well as at various meetings.

The Visitors' Centre also collaborated with the **Museum of the National Bank of Belgium** , which welcomed the Republic of Croatia to the euro area with a small exhibition marking the occasion, dedicated to the Croatian kuna and Croatian euro coins.

LINK NO 

17



Human resources
and organisation

Human resources participate directly in the business development of every organisation, including the Croatian National Bank. The goal of human resource management at the CNB is, as before, to attract, select, develop and retain experts of various profiles whose professional approach to work, knowledge, skills and competences coupled with a high level of commitment and performance will contribute to the fulfilment of the operational objectives of the organisational units in which they work and of the CNB as a whole. Organisational development and changes during 2022 were primarily focused on organisational effectiveness and adjustment related to the introduction of the euro. Employees of CNB organisational units and of the whole of the CNB as institution, that is, as the central bank of the Republic of Croatia, were able, because of their particular knowledge, skills and abilities, to respond successfully to the demands and business dynamics of the very challenging period in which the euro was introduced.

ORGANISATION OF OPERATIONS IN THE CONDITIONS OF THE PANDEMIC CONTINUES

As the COVID-19 pandemic did not end even in 2022, the CNB continued with the previously introduced activities aimed at preserving employees' health and ensuring business continuity. It kept up the application of the one-off rules of conduct in terms of the implementation of protection measures regulated by the *Instruction on the implementation of additional protection measures in order to prevent the spread of possible COVID-19 infection among employees of the Croatian National Bank*, which ensured the continuity of operations of all functions of the CNB.

Furthermore, as regards the promotion of the principle of mutual aid, two voluntary blood donation campaigns were organised in the premises of the CNB in 2022, thus nurturing the long-standing cooperation with the Red Cross Society of the City of Zagreb and the Croatian Institute of Transfusion Medicine.

AMENDMENTS TO THE RULES ON INTERNAL ORGANISATION

In order to successfully achieve the goals and tasks of the CNB, and thus to improve business processes, the CNB is continuously harmonising its internal organisation. During 2022, amendments to the Rules on internal organisation encompassed: Office of the Governor, Internal Audit Office, Currency Area (Currency Operations Regulation, Development and Control Department and National Counterfeit, National Analysis and Coin National Analysis Centres), Payment Operations Area (Payment Operations Supervision Department), Prudential Supervision Area (Supervision Departments I, II and III), Expert Supervision and Oversight

Area (Information Systems Supervision Department) and Consumer Protection Monitoring Office.

The Office of the Governor has been reorganised due to the enlargement of the scope of activities following the accession to the euro area and in order to focus the competence of the Office primarily on the performance of tasks representing coordinatory, advisory, professional and administrative support to the Governor and Deputy Governor, and professional and administrative support to the work of the Bank's Council.

With regard to the Internal Audit Office, the amendments were related to a clearer definition of its competence. The amendments were prompted by the expansion of the scope of cooperation activities with the Eurosystem/European System of Central Banks (ES/ESCB) and work on joint audit projects, as well as requests from the Bank's external environment.

With regard to the Currency Area, i.e. the Currency Operations Regulation, Development and Control Department and the National Counterfeit, National Analysis and Coin National Analysis Centres, the amendments related to the expansion and more precise definition of the Departments' competences.

Amendments encompassing the Payment Operations Area (Payment Operations Supervision Department), Prudential Supervision Area (Supervision Departments I, II and III) and Expert Supervision and Oversight Area (Information Systems Supervision Department) related to the distribution of responsibilities for supervision of the Act on Enforcement Against Monetary Assets, while the amendments related to the competences of the Consumer Protection Monitoring Office related to the supervision of the implementation of the Consumer Protection Act in payment institutions, electronic money institutions and account information service providers.

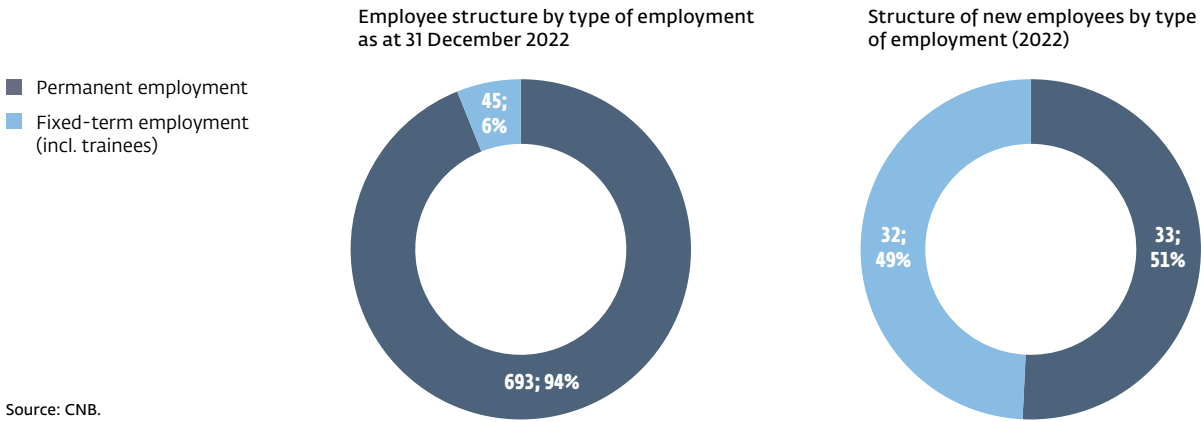
At the end of the year, the necessary activities were undertaken regarding the drafting of the new Rules on internal organisation of the Croatian National Bank, which entered into force on 1 January 2023, thus fulfilling the preconditions for the functioning of the CNB in the Eurosystem.

RECRUITMENT AND EMPLOYMENT RELATIONSHIPS

As at 31 December 2022, the Croatian National Bank had a staff of 738, or 4% more than at the end of 2021 (711). Of this number, 693 employees (94%) were in permanent employment and 45 in fixed-term employment, accounting for 6% of the total number of employees.

The majority of employees are women (470 or 64%). Given this circumstance, the CNB remains one of the few central banks in the ESCB that has a higher share of women in the structure of employees according to gender. With a 50% share, women participate in management at all levels, and they work in all types of jobs – research, analytical, supervisory, legal, IT, etc.

FIGURE 17.1 Employee number and structure according to type of employment



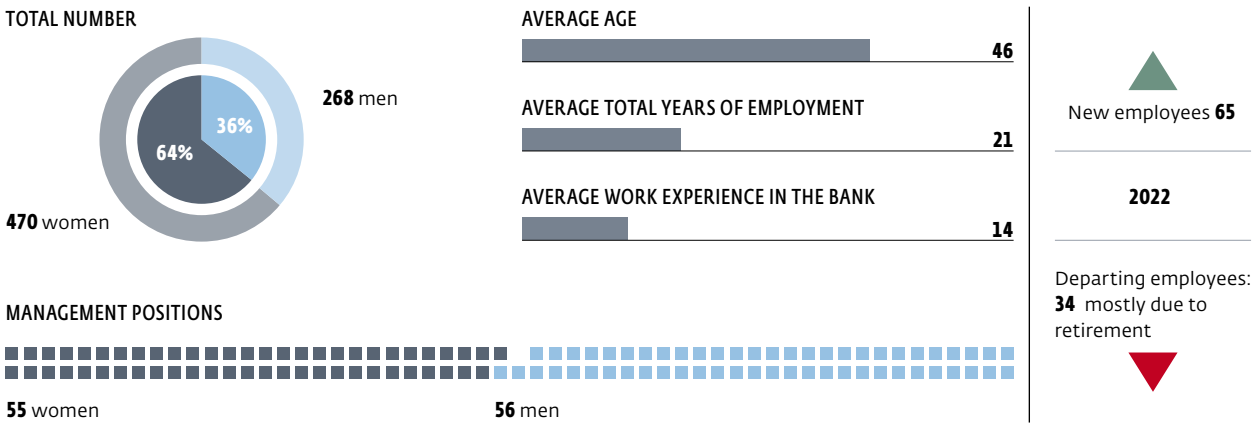
Source: CNB.

The effect of euro adoption on human resources

In 2022, mainly as a result of new positions arising from the close cooperation with the ECB and the introduction of the euro, the CNB took on 65 new employees (of whom there are equal proportions in permanent and in fixed-term employment: 33 in permanent and 32 in fixed-term employment). Analysis of the total number of employees with regard to the reason for the hiring, shows that the largest share of new employment was due to the increased volume of work and the introduction of new positions (31), while the share of replacements of employees who have permanently left the Bank is slightly lower (24), and the smallest share is that of employment for other reasons. The largest share of the total number of fixed-term employment employees was that of trainees (17).

In 2022, there was a noticeable increase in employment in the Currency Area, which, during the preparatory activities for the introduction of the euro and the realisation of the introduction of the euro, is associated with a significant increase

FIGURE 17.2 Employee structure at the Croatian National Bank in 2022



Source: CNB.

in the scope of activities of storage, processing and supply of banknotes and coins. In 2022, new employees were, by and large, professional economists, although in 2022 there was also a large share of employees from technical professions, mainly due to the business need for employment in storage, processing and supply of banknotes and coins.

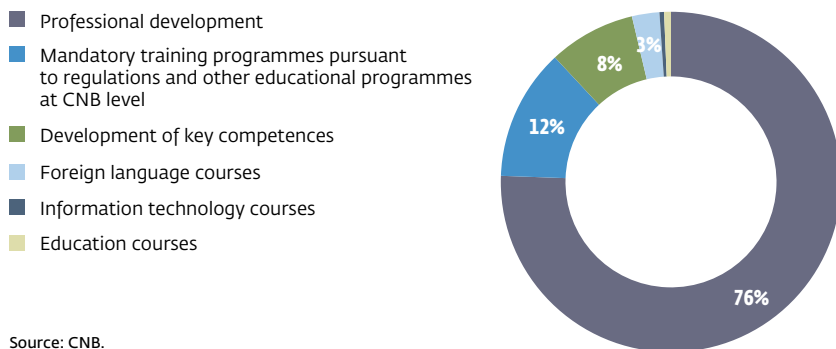
In 2022, a total of 34 employees left the CNB permanently, mostly due to retirement.

In 2022, the average age of employees is 46, the average total years of employment is 21, with the average number of years of work experience in the Bank being 14. Given that the CNB supports and fosters an interdisciplinary approach to work, although most of the employees with higher education qualifications are professionals who come from the economics profession, the CNB employs a relatively large number of professionals from other natural, technical, social, and other disciplines.

Out of a total of 593 employees with higher education qualifications, 151 have completed doctoral studies, master's studies or another type of postgraduate study.

EMPLOYEE DEVELOPMENT

FIGURE 17.3 Employee development by type of education (2022)



Source: CNB.

The CNB becomes open yet again to the classic manner of participating in programmes

Although most participation in educational programmes continued to take place virtually, during 2022 there has been a noticeable trend of increase in the number of programmes held in a classic way.

More than half of the planned attendees took part in various forms and contents of educational programmes for professional development, foreign languages courses, development of competences, education courses and the like.

Almost all the programmes were related to professional development in the field of supervision, mostly organised by the ECB and SSM.

The year 2022 marked by training and development of competences

In early 2022, development of competences was systematically organised and accomplished.

With the assistance of a consulting company, as part of the so-called 360° feedback assessment of competences, an assessment of the target group of Bank managers, at the department director level, was organised and accomplished as a pilot project of the CNB's management development programme. Each director was assessed from several sources (based on their own self-assessment and assessment of various groups: the so-called subordinates or associates, the group consisting of superior managers, and the group of colleagues – associates who are at the same level, but work in other organisational units of the Bank). Based on the average and comparative assessment by group, as well as on the insight into the results and/or the largest discrepancy between the assessment groups, a professional development interview with a psychologist was conducted for each director, as part of which room for personal development was clearly determined, with precisely defined goals and methods of achieving them.

Training in the area of pitch presentations was also held for the employees of the Currency Area for the purpose of development of competences. Training attendees got to know each other and tried several powerful presentation models and tools, and learned how to structure their speech and how to support it with their body and voice, which was particularly useful for them in public presentations related to the introduction of the euro.

CNB hosts events and seminars in the Bank's premises

In 2022, after a two-year break the Croatian National Bank hosted lecturers and participants from abroad for two significant training courses in its premises. Two seminars were held: one in early June 2022, coordinated by the Federal Reserve System and the CNB, on supervision and risk assessment for CNB supervisors, and the second one in October 2022, coordinated by the European Central Bank and the CNB, dealing with topics in the field of accounting and reporting, for participants from the Eurosystem.

STUDENT INTERNSHIP

Internship also due to the introduction of the euro

During July and August 2022, the Croatian National Bank announced a competition for student internships and 6 students were selected.

In addition, some of the student professional internships were also implemented according to the special Decision on the implementation of student professional internships for the Euro on Wheels project. Thus, a total of 26 internships were provided. In addition to meeting the basic conditions specified in the Decision, the selected students also had to successfully master the exhibition material and demonstrate appropriate communication and presentation skills, as well as skills for working with people.

Ethics and
integrity



05

The ethical values of the Croatian National Bank, paramount to its independent, professional and public role, are set out in the Code of Conduct of the Employees of the Croatian National Bank **1**. The purpose of the Code is to create the preconditions for ethical behaviour and responsible business conduct and promote organisational culture values, and the CNB promotes responsible conduct, professionalism, independence, impartiality and transparent conduct among its employees.

EDUCATION AND PROVISION OF INFORMATION TO EMPLOYEES

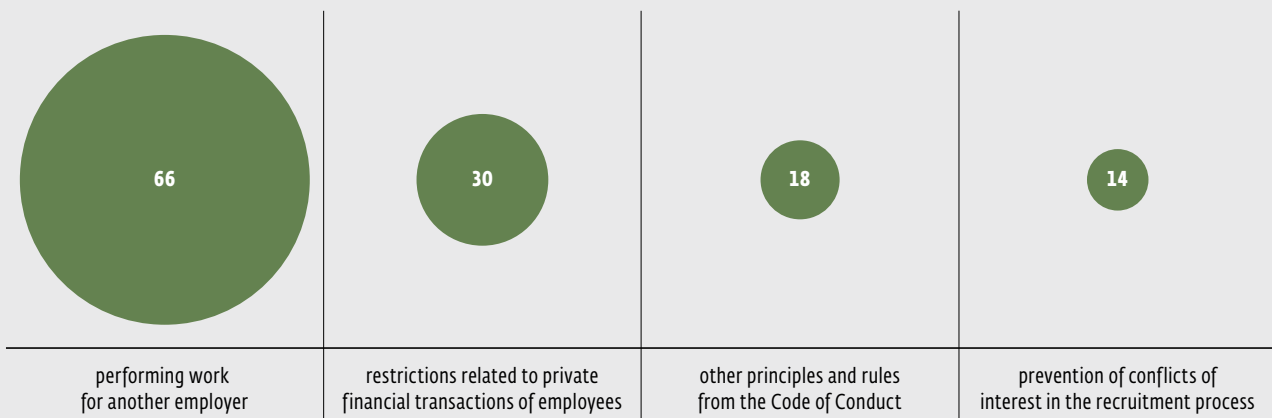
One of the most important tasks of the Compliance Office is to bring ethical rules and principles closer to the Bank's employees through ethics training, holding workshops, delivering presentations, individual employee counselling, answering inquiries, and providing opinions and recommendations.

The Office promotes ethical principles and encourages the Bank's employees to adhere to the rules of the Code of Conduct. This primarily relates to the rules on the prevention of conflicts of interest, the prohibition of receiving benefits and the prohibition of the misuse of inside information. In 2021, the e-Learning platform was launched for learning about topics in the field of ethics and business compliance, and in 2022, more than 500 employees of the Bank received training on the Code of Conduct through the platform. Specialised workshops on ethics in business operations were also organised for the Bank's employees, and at the end of the year the first specialised training events on investment ethics was held,

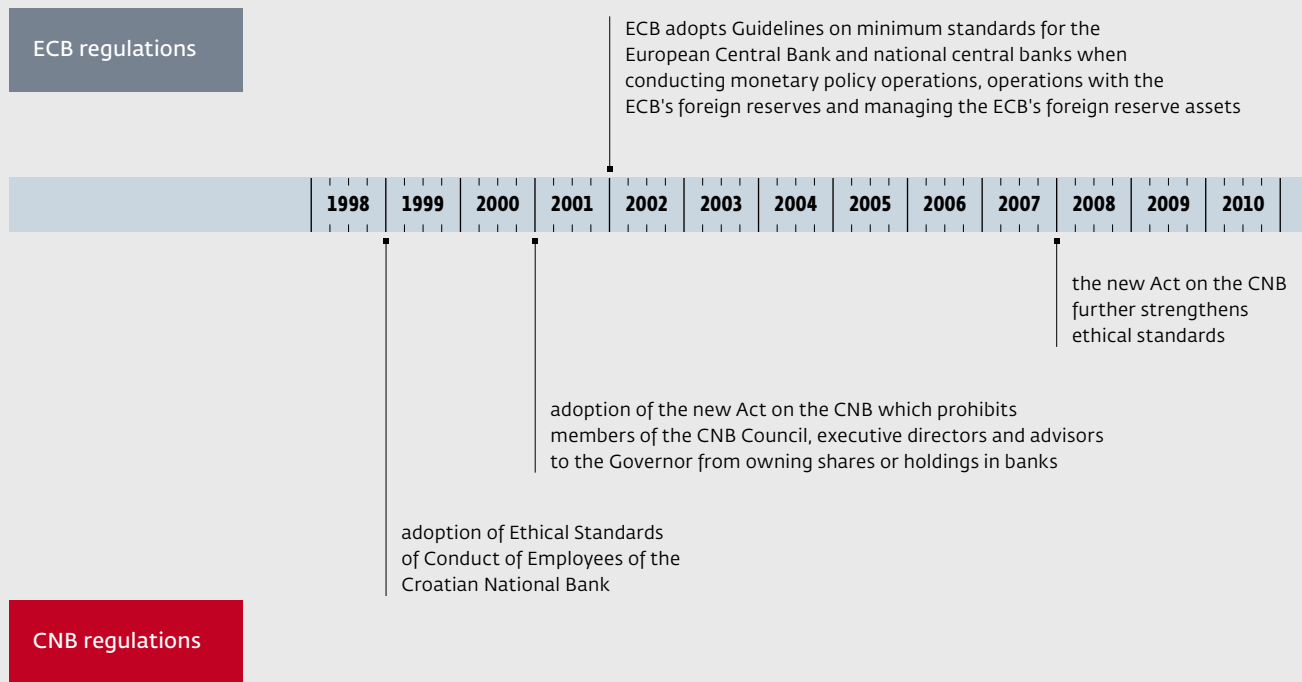
LINK NO **1**



FIGURE 1 Overview of received queries related to ethics by area



Source: CNB.

FIGURE 2 Timeline of the introduction and development of CNB ethical standards

planned to be continued in 2023. At the beginning of the year, the Office held several internal training courses related to the entry into force of the act regulating the private financial transactions of employees.

Continuous promotion and presence of ethical topics was ensured through the internal communication channels of the CNB by the distribution of several texts on topics from the area of business ethics and compliance.

During 2022, recommendations and opinions were issued in relation to questions posed by employees and organisational units of the Bank in the field of ethics and integrity, primarily in relation to work for a second employer, financial transactions of employees and the prevention of conflicts of interest in the recruitment process. Over the course of 2022, 128 queries were received and answered.

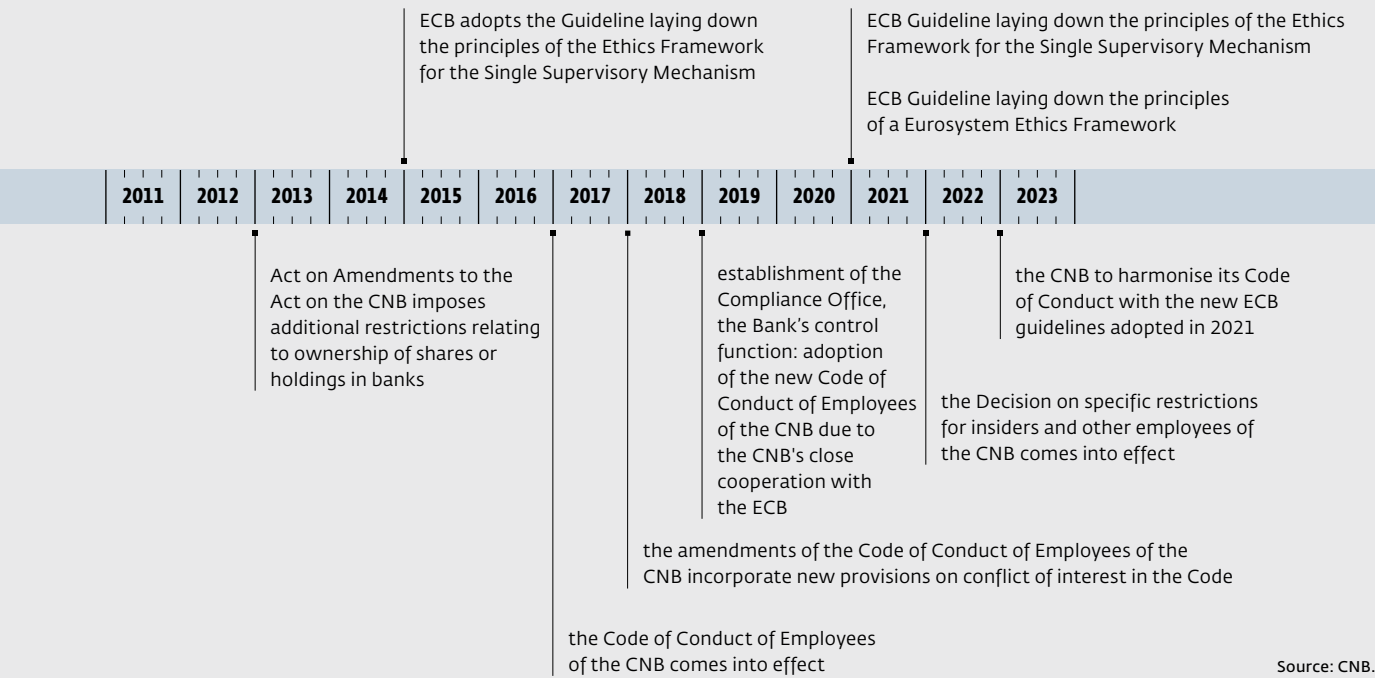
HARMONISATIONS WITH EUROPEAN CENTRAL BANK GUIDELINES

LINK NO 1



Because of the close cooperation with the European Central Bank initiated in 2020, the **Guideline laying down the principles of an Ethics Framework for the Single Supervisory Mechanism¹**  began applying to the CNB, on the basis of which the new Code of Conduct was adopted in late 2020. At the end of 2021, the Decision on specific restrictions for insiders and other employees of the CNB came into effect,

1 (EU) 2015/856



and during 2022 it was fully implemented, another step in the process of the CNB's adaptation to the provisions of the Guideline. The Decision elaborated the rule on the prohibition of the misuse of inside information so that special restrictions for executing key personal financial transactions for employees of the Bank who have access to inside information are regulated in more detail.

The new ECB guidelines from 2021, the **Guideline laying down the principles of the Ethics Framework for the Single Supervisory Mechanism¹** ¹ and the **Guideline laying down the principles of the Eurosystem Ethics Framework²** ² enhance the transparency of the work of central banks, strengthen and standardise the ethical frameworks of European central banks, and tighten the rules related to employee financial transactions. The CNB is obliged to comply with the new Guidelines by April 2023.

The CNB participates in the work of the Ethics and Compliance Committee (ECC), and the regular exchange of best practices contributes to the harmonisation of the actions of all central banks of the Eurosystem and the SSM.

LINK NO ¹LINK NO ²

² (EU) 2021/2256

³ (EU) 2021/2253

SUPERVISION OF ETHICAL COMPLIANCE

In early 2022, the Croatian Financial Services Supervisory Agency (HANFA) initiated the procedure for supervising the trading of CNB employees in securities issued by credit institutions with head offices in the Republic of Croatia. Media articles about private financial transactions of employees involving credit institutions' securities were the immediate reason for supervision. At the same time, the CNB initiated a procedure for supervising ethical compliance on the basis of the Governor's order.

As part of the comprehensive extensive ten-month supervision procedure carried out by HANFA, an in-depth analysis of the financial transactions of the Bank's employees over a period of more than twenty years was carried out. The Bank actively cooperated with HANFA during the procedure, providing all the data and documents requested and providing additional explanations if asked. HANFA regularly reported on the progress of the supervision to the Croatian Parliament, the Finance and Budget Committee, and the procedure was completed with the delivery of data on the 3rd stage of supervision, which were presented at a **public meeting of the Committee** held in November 2022. In the future, the CNB will continue to implement activities aimed at building a system of internal rules related to ethics and compliance, conduct procedures for supervising ethical compliance, and ensure the continuous implementation of employee training.

LINK NO 1



Members of the Council and management of the Croatian National Bank



Members of the Council of the Croatian National Bank

Boris Vujčić, Governor
Sandra Švaljek, Deputy Governor
Michael Faulend, Vicegovernor
Bojan Fras, Vicegovernor
Tomislav Ćorić, Vicegovernor (since 27 May 2022)
Slavko Tešija, Vicegovernor
Roman Šubić, Vicegovernor
Ivana Jakir-Bajo, Vicegovernor

Chief Economist: Vedran Šošić
Chief Operating Officer: Tomislav Presečan

Executive directors

Research Area
 Controlling and Accounting Area
 Information Technology Area
 Support Services Area
 Central Banking Operations Area
 Communications Area
 Statistics Area
 Prudential Regulation and Methodology Area
 Expert Supervision and Oversight Area
 Prudential Supervision Area
 Legal Area
 Payment Operations Area
 International Relations Area
 Currency Area

Davor Kunovac (since 1 May 2022)

Diana Jakelić
Mario Žgela
Boris Zaninović
Irena Kovačec
Alemka Lisinski
Tomislav Galac
Sanja Petrinić Turković
Damir Blažeković
Renata Samodol
Dražen Odorčić
Ivan Biluš
Sanja Tomičić
Tihomir Mavriček

Directors of the Offices

Security Office
 Internal Audit Office
 Foreign Exchange Regulation Office
 Compliance Office
 Consumer Protection Monitoring Office
 Credit Institutions Resolution Office
 Succession Issues Coordination Office
 Office of the Governor
 Office for Coordination of Prudential Supervision,
 Oversight and Risk Management Activities

Zoran Bogdanović
Ivana Krečak
Zoran Jurak
Vjekoslav Kozina
Snježana Levar
Lidija Pranjić
Snježana Raić
Nina Srkalović

Mario Varjačić

Director of the Visitors' Centre

Visitors' Centre

Dejana Rebernik

Organisational scheme



GOVERNOR		Deputy Governor	Vicegovernor
Chief Economist	Chief Operating Officer	Central Banking Operations Area	Statistics Area
Research Area	Controlling and Accounting Area	Monetary Operations Department Liquidity Forecasts Division Open Market Operations Division Transactions Processing Division	Monetary and Financial Statistics Department Monetary Financial Institutions Statistics Division Securities and Non-Monetary Financial Institutions Statistics Division Financial Accounts and Government Finance Statistics Division
Economic Analysis Department Monetary Analysis Division External Sector Analysis Division Real Sector and Budget Analysis Division	Controlling Department Accounting Department Central Accounting Division Domestic Currency Analytical Bookkeeping Division Foreign Exchange Analytical Bookkeeping Division Internal Accounting Operations Division Finance and Administrative Accounting Division	International Reserves and Foreign Exchange Liquidity Department Foreign Exchange Trading and Investment Division (front office) Foreign Exchange Settlement Division (back office) Investment Research and Performance Evaluation Division (middle office) Market Strategy Division	External Statistics Department Balance of Payments Statistics Division External Debt and International Investment Position Statistics Division
Modelling Department	Information Technology Area	Communications Area	General Economic Statistics and Statistical Information Systems Department
Financial Stability Department	Application Systems Development Department Data Warehouse Division Business Application Systems Development Division Quality Assurance Division	External, Internal and Digital Communications Department External and Internal Communications Division Digital Communications Division	Credit Institutions Resolution Office
Compliance Office	IT Operations Department Network and Operating Systems Management Division User Support Division Information System Security and Protection Division Database, Enterprise Reporting Systems and Document Management Division	Publications Department	
Payment Operations Area	Support Services Area	Language and Documentation Department Translating and Language-Editing Division Information and Documentation Division	
Payment Operations Regulation and Development Department	Human Resources Department	Office of the Governor	
Payment Operations Supervision Department Payment Operations Supervision Division Payment Operations Statistics Division	Technical Services Department Technical Support Services Division Maintenance Division	Internal Audit Office	
Payment Systems Operations Department Payment Systems Division Client Operations Division	General Services Department General Support Services Division Mail Services Division Facilities Supply and Storage Services Division	Visitors' Centre	
	Procurement Department		
	Business Protocol Department		
	Security Office		

Vicegovernor	Vicegovernor	Vicegovernor	Vicegovernor	Vicegovernor
Prudential Regulation and Methodology Area	International Relations Area	Legal Area	Foreign Exchange Regulation Office	Currency Area
Prudential Regulation and Crisis Management Department	European Relations Department ESCB and ESRB Division EU Policies Division	Financial and Supervisory Law Department Financial Law Division Supervisory Law Division	Succession Issues Coordination Office	Currency Operations Regulation, Development and Control Department Currency Operations Regulation and Development Division Currency Operations Control Division
Risk Modelling Department	International Financial Institutions Department International Financial Institutions Policies Division Division for Financial Relations with International Financial Institutions	General Legal Affairs Department		Currency Safekeeping, Processing and Supply Department Currency Safekeeping and Supply Division Currency Processing Division
Prudential Reporting, Methodology and Analysis Department Prudential Reporting Division Prudential Methodology and Analysis Division		Consumer Protection Monitoring Office		National Counterfeit, National Analysis and Coin National Analysis Centres National Counterfeit Centre National Analysis and Coin National Analysis Centres
Prudential Supervision Area				
Supervision Department I Supervision Department II Supervision Department II On-site Supervision Department				
Expert Supervision and Oversight Area				
Information Systems Supervision Department Anti-Money Laundering and Terrorist Financing Supervision Department				
Office for Coordination of Prudential Supervision, Oversight and Risk Management Activities				



Climate Report **2022**



Climate Report

By reporting on climate metrics, the CNB contributes to enhancing transparency regarding potential climate risks and the climate compatibility of its own investments.

Eurosystem central banks agreed on a common framework for climate-related disclosures for non-monetary portfolios from the first quarter of 2023, accepting the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), the Partnership for Carbon Accounting Financials (PCAF) and the Network for Greening the Financial System (NGFS). Although the above-mentioned reporting is not obligatory for the Croatian National Bank since it refers to 2022, when it was not yet part of the Eurosystem, the CNB decided to publish climate metrics for the portfolio of net international reserves. The disclosures in this Annual Report refer to the portfolio of net international reserves as it is part of the assets of the Croatian National Bank that will almost coincide with the non-monetary portfolio after the introduction of the euro. Of the four recommended TCFD areas: (i) governance, (ii) strategy, (iii) risk management and (iv) metrics and targets, in this first publication the CNB has limited itself to the area of metrics and targets. Disclosures for 2023 will cover all four areas.

INDICATORS AND TARGETS

In accordance with the recommendations of the Eurosystem and TCFD, the following indicators are calculated for the purpose of measuring climate risks:

- **Weighted average carbon intensity (WACI)** measures a portfolio's exposure to issuers, i.e. their greenhouse gas emission intensity, and is expressed in tons of CO₂e¹ per million euro of revenue (for corporate issuers, supranational institutions and agencies) or per million euro of GDP according to purchasing power parity or per population or per million euro of final general government spending (for government issuers), the value being normalised by the specified parameters. Data on the emission intensity of corporate, supranational and agency issuers includes Scope² and Scope 2³ data, but not Scope 3 data⁴. The metric is used to compare corporations, states and sectors, or to make a compa-

1 Carbon dioxide equivalent or CO₂ equivalent (CO₂e) is a metric used to compare the emissions of different greenhouse gases based on their global warming potential, by converting amounts of other gases into an equivalent amount of carbon dioxide with the same global warming potential. The Kyoto Protocol covers seven categories of greenhouse gases: carbon dioxide, methane, nitrous oxide, fluorinated hydrocarbons and sulphur hexafluoride. Carbon dioxide makes up about 74% of global greenhouse gas emissions, methane about 17%, nitrous oxide about 6%, and other gases about 2%.

2 Scope 1 includes emissions for which an organisation is directly responsible by using its resources. Most often, these are natural gas for heating, the use of own vehicles, etc.

3 Scope 2 includes indirect emissions generated from the generation of electricity or heat used by an organisation (e.g. how many gases are released to generate the amount of electricity consumed).

4 Scope 3 includes all other indirect emissions that occur throughout the entire value chain used by an organisation (ranging from resources used by suppliers to emissions that will occur as customers use the products).

parison with a reference portfolio. It provides the so-called outside-in-perspective, which provides an insight into the portfolio's exposure to climate transition risks, i.e. their financial significance.

- **Total carbon emissions (TCE)** measures the total carbon emissions of a portfolio, and is expressed in tons of CO_{2e}. This metric is not normalised and cannot be used for comparison, and the size of the portfolio itself mostly affects the level of this metric. It provides the so-called inside-out-perspective, i.e. an insight into the environmental footprint of a portfolio, i.e. its environmental significance.
- **Carbon footprint (CF)** serves to normalise the Total Carbon Emissions (TCE) by portfolio market value, expressed in tons of CO_{2e} per one million of investment. It allows for a comparison between portfolios of different sizes over time.
- **Carbon intensity (CI)** serves to normalise the Total Carbon Emissions (TCE) by revenue or GDP according to purchasing power parity or the population or the value of central government spending, expressed in tonnes of CO_{2e} per one million of revenue/GDP. This metric measures the carbon efficiency of a portfolio in financing economic activity.

All three metrics are based on a standardised methodology and are often used in financial sector climate reports. The normalised metrics (WACI, CF and CI) and the absolute metric (TCE) complement each other and together provide a high degree of transparency in terms of determining a portfolio's exposure to climate risks.

Metrics for government investments are interpreted separately from metrics for non-government investments due to different emission allocation methods. The common framework for climate-related disclosures of the Eurosystem includes, for the purpose of achieving a higher level of transparency, three different methods for allocation of emissions for government issuers:

- **Production emissions** that include greenhouse gas emissions on the domestic market, and include domestic consumption and export. This definition is based on the territorial approach to emissions adopted by the United Nations Framework Convention on Climate Change (UNFCCC) for annual national emission inventories.
- **Consumption emissions** that include all emissions related to domestic demand, which is adjusted so that the emission of imported goods is added and the emission of exported goods is subtracted. This metric gives a broader view of countries' emissions and solves the problem of carbon leakage, which arises as a result of shifting production from countries where the goods are subsequently consumed.
- **Central government emissions** include direct emissions (e.g. from buildings, vehicles) and indirect emissions (e.g. emissions related to energy consumption, but also costs, subsidies and investments) of the central government.

The CNB, like other central banks of the Eurosystem, uses the services of two climate data providers: Institutional Shareholder Services, Inc. (ISS) and Carbon4 Finance (C4F). The guiding rule is to use data published by the issuer, and if these data are not available, modelled data from the specified providers is used. In addition, World Bank data for countries (GDP according to purchasing power parity, population, central government spending) are also used. This ensures comparability of data within the Eurosystem. All data included in the calculation of the metrics should have the same reference years, but the disclosures of greenhouse gas emissions and economic data are published with a time gap so the reference years do not match for newer reporting periods. In addition, data on greenhouse gas emissions are not fully available for all issuers, therefore the comparability of individual metrics is reduced. Data coverage is greater for government issuers, while data availability for supranational institutions and agencies is limited. The percentage of data coverage is expressed as a percentage next to each metrics.

CLIMATE METRICS AND TARGETS OF NET INTERNATIONAL RESERVES

In the investment structure of net international reserves, the safest and highly liquid instruments, such as government securities, make up the largest share of investments. This also means that the behaviour of the governments issuing these securities significantly affects the carbon footprint of the reserve portfolio itself.

In the period under observation, a strong growth of net international reserves was recorded, which reached EUR 22bn at the end of 2022. Investments in government securities were stable and amounted to about half of net international reserves. In 2022, the share of other securities (securities of international financial institutions, government agencies and other issuers, and covered bonds) increased with a simultaneous decrease in the share of other instruments (deposits, reverse repo agreements, funds entrusted to the management of an international financial institution and others) due to preparations for entry into the euro area in early 2023. In the foreign currency structure, the largest share was that of the euro with 87%, while the share of the US dollar was 13%.

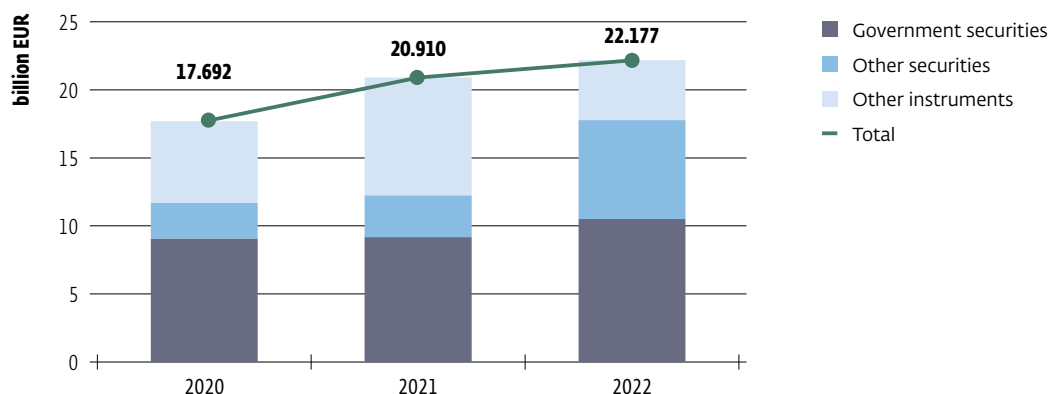
The calculation of climate metrics included slightly less than EUR 18bn of net international reserves since other instruments were excluded from the calculation.

As at 31 December 2022, **WACI** for government issuers was 181 tCO₂e per EUR million of GDP according to purchasing power parity (production emissions), 11 tCO₂e per capita (consumption emissions) and 87 tCO₂e per EUR million of central government spending (central government emissions). The total WACI for other issuers, based on Scope 1 and Scope 2 emissions, was 3 tCO₂e per one million of revenue.

Total carbon emissions (TCE) for government issuers at the end of 2022 amounted to 1.95 million tCO₂e by production emissions, 2.30 million tCO₂e by consumption emissions and 0.19 million tCO₂e by central government emissions. The total TCE for other issuers was 243 tCO₂e.

As at 31 December 2022, **the carbon footprint (CF)** for government issuers was 181 tCO₂e per EUR million of investment by production emissions, 214 tCO₂e per EUR million of investment by consumption emissions and 17 tCO₂e per EUR million of investment by central government emissions. The total carbon footprint for other issuers was close to zero, but it should be noted that the data coverage was below 50%.

FIGURE 1 Net international reserves and their structure



Source: CNB.

TABLE 1 Climate metrics of net international reserves as at 31 December 2022

	Government issuers			Other issuers		
	Government and government institution securities			Total	Securities of int. fin. inst. and agencies	Covered bonds
	Production emission	Consumption emission	Central government emission			
Portfolio size (EUR billion)		10.8		7.2	6.8	0.4
WACI (tCO ₂ e per EUR million of revenue, PPP of GDP, per capita or consumption)	181.1 100%	10.7 100%	87.4 100%	3.1 60%	3.2 59%	0.9 78%
TCE (tCO ₂ e)	1,950,952.2 100%	2,302,435.1 100%	187,770.8 100%	242.8 42%	229.7 42%	13.1 56%
Carbon footprint (tCO ₂ e per EUR million of investment)	181.1 100%	213.7 100%	17.4 100%	0.1 42%	0.1 42%	0.0 56%
Carbon intensity (tCO ₂ e per EUR million of revenue, PPP of GDP, per capita or consumption)	181.1 100%	10.2 100%	81.7 100%	3.7 100%	4.3 42%	1.1 56%

Notes: Portfolio size excludes deposits, reverse repo agreements, funds entrusted to the management of an international financial institution and others. The percentage of data coverage is expressed as a percentage next to each metrics.
Sources: ISS, C4F, World Bank, Bloomberg, ECB and CNB.

As at 31 December 2022, **carbon intensity (CI)** for government issuers was 181 tCO₂e per EUR million of GDP according to purchasing power parity (production emissions), 10 tCO₂e per capita (consumption emissions) and 82 tCO₂e per EUR million of central government spending (central government emissions). The total carbon intensity for other issuers was 4 tCO₂e per EUR million of revenue.

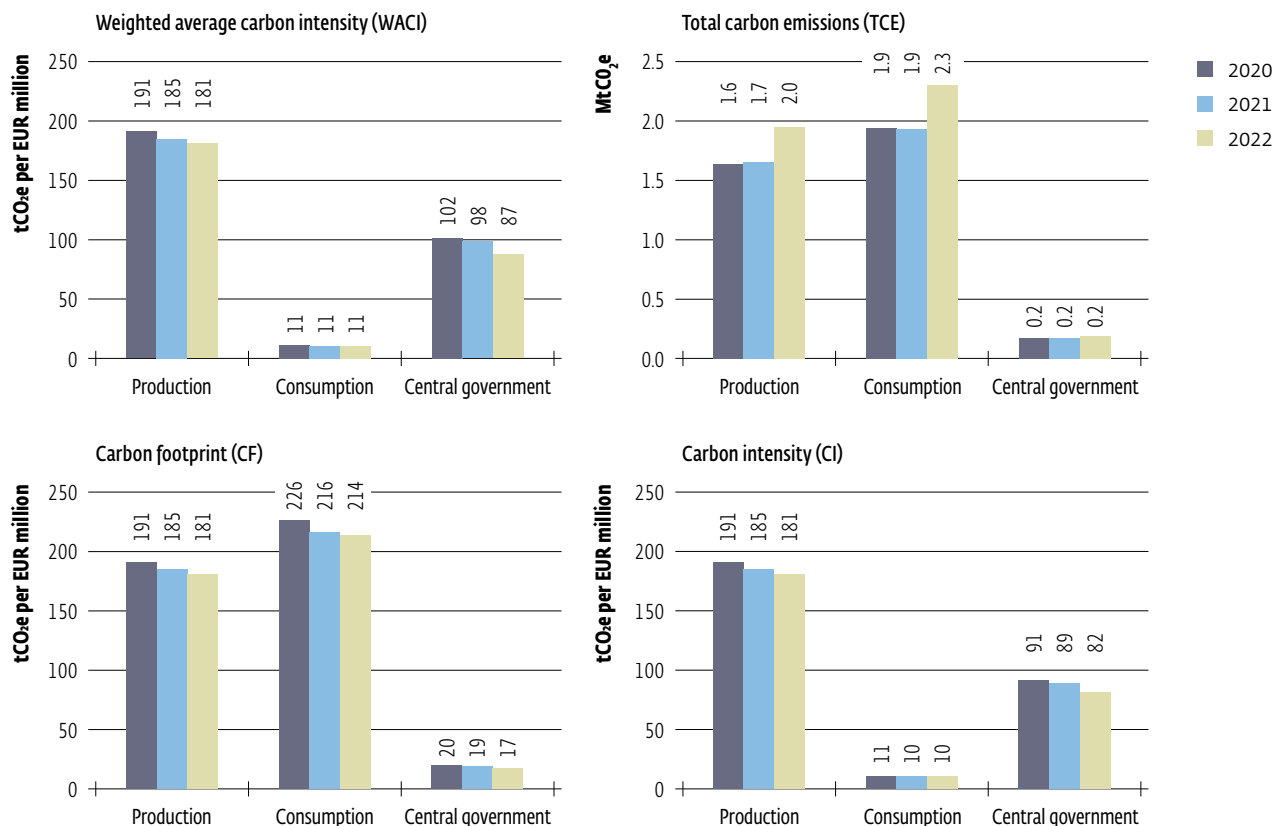
Figure 2 shows the developments in climate metrics in the period from 2020 to 2022. The WACI, CF and CI metrics for government issuers recorded a decline since the data for the allocation of emissions in the period under observation remained the same, and the data used for normalisation grew. The TCE metric was affected by the growth of net international reserves.

For other issuers, the WACI, CI and TCE metrics increased due to a strong increase in reserves and a change in the portfolio structure during the preparations and adjustments that had to be carried out due to the entry into the euro area on 1 January 2023. The CF metric remained stable.

In the coming years, the CNB will strive to:

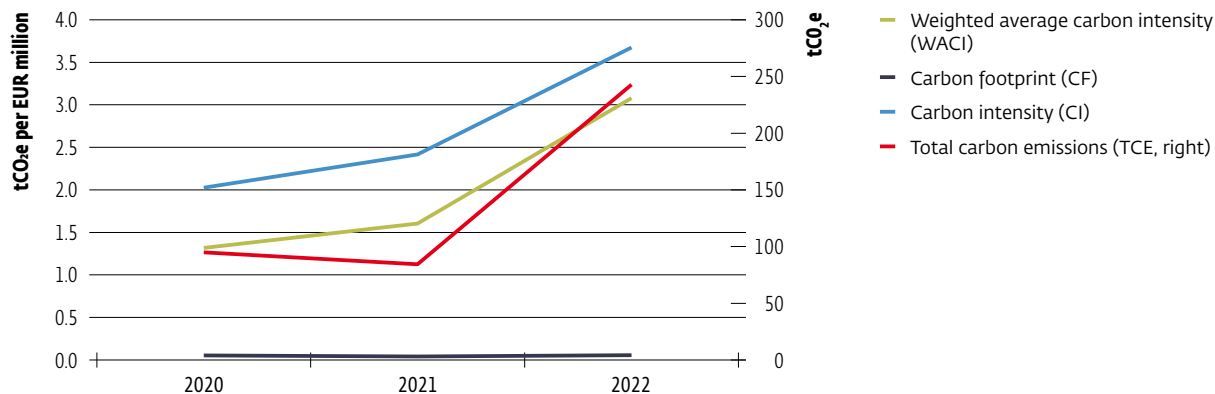
- deepen the understanding of the effects of climate change on the portfolios it manages
- identify challenges and solutions, and improve analyses with the aim of evaluating the potential exposure of portfolios managed by the CNB to climate risks, taking into account the quality, reliability and availability of relevant data
- promote compliance of reporting with Eurosystem recommendations on climate impacts and other factors related to sustainability.

FIGURE 2 Developments in climate metrics of net international reserves for government issuers



Sources: ISS, C4F, World Bank, Bloomberg, ECB and CNB.

FIGURE 3 Developments in climate metrics of international reserves for other issuers



Sources: ISS, C4F, World Bank, Bloomberg, ECB and CNB.

APPENDIX – COMMON EUROSISTEM METRICS

INDICATOR 1 Weighted average carbon intensity (WACI)

$$WACI = \sum_n^i \left(\frac{\text{current value of investment}_i}{\text{current portfolio value}} \right) \times \left(\frac{\text{issuer's GHG emissions}_i}{\text{issuer's €M revenue or PPP adj GDP, population, total consumption expenditure}_i} \right)$$

INDICATOR 2 Total carbon emissions (TCE)

$$TCE = \sum_n^i \left(\frac{\text{current value of investment}_i}{\text{EVIC or PPP adj GDP}_i} \right) \times \text{issuer's GHG emissions}_i$$

INDICATOR 3 Carbon footprint (CF)

$$CF = \frac{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{EVIC or PPP adj GDP}_i} \right) \times \text{issuer's GHG emissions}_i}{\text{current portfolio value (€M)}}$$

INDICATOR 4 Carbon intensity (CI)

$$CI = \frac{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{EVIC or PPP adj GDP}_i} \right) \times \text{issuer's GHG emissions}_i}{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{EVIC or PPP adj GDP}_i} \right) \times \left(\frac{\text{issuer's €M revenue or PPP adj GDP, population, total consumption expenditure}_i}{\text{total consumption expenditure}_i} \right)}$$



FINANCIAL STATEMENTS
For the year ended 31 December 2022



Independent Auditors' Report to the Council of the Croatian National Bank

Opinion

We have audited the financial statements of the Croatian National Bank, which comprise the balance sheet as at 31 December 2022, the profit and loss account for the year then ended, and notes, comprising significant accounting policies and other explanatory information.

In our opinion, the accompanying financial statements give a true and fair view of the financial position of the Croatian National Bank as at 31 December 2022, and of its financial performance for the year then ended, in accordance with Article 60 of the Act on the Croatian National Bank (Official Gazette 75/2008, 54/2013 and 47/2020), which regulates the application of Guideline (EU) 2016/2249 of the European Central Bank of 3 November 2016 on the legal framework for accounting and financial reporting in the European System of Central Banks (ECB/2016/34), with amendments ("the basis of preparation").

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing. Our responsibilities under those standards are further described in *the Auditors' Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Croatian National Bank in accordance with the ethical requirements that are relevant to our audit of the financial statements in Croatia 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.

Responsibilities of the Council of the Croatian National Bank for the Financial Statements

The Council of the Croatian National Bank is responsible for the preparation of the financial statements that give a true and fair view in accordance with the basis of preparation, and for such internal control as the Council of the Croatian National Bank determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Council of the Croatian National Bank is responsible for assessing the Croatian National 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 in accordance with the relevant legislation.

The Council of the Croatian National Bank is responsible for overseeing the Croatian National Bank's financial reporting process.



Independent Auditors' Report to the Council of the Croatian National Bank (continued)

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' 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 International Standards on Auditing 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 financial statements.

As part of an audit in accordance with International Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the 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 controls.
- 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 Croatian National Bank's internal controls.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Council of the Croatian National Bank.
- Conclude on the appropriateness of the Council of the Croatian National bank'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 Croatian National 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 auditors' report to the related disclosures in the 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 auditors' report. However, future events or conditions may cause the Croatian National Bank to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.



Independent Auditors' Report to the Council of the Croatian National Bank (continued)

Auditors' Responsibilities for the Audit of the Financial Statements (continued)

We communicate with the Council of the Croatian National Bank 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.

KPMG Croatia d.o.o. za reviziju
Ivana Lučića 2a
10000 Zagreb
Hrvatska

For and on behalf of KPMG Croatia d.o.o.:


Goran Horvat
President of the Management Board,
Croatian certified auditor

KPMG Croatia
d.o.o. za reviziju
Eurotower, 17. kat
Ivana Lučića 2a, 10000 Zagreb

Zagreb, 8 March 2023

BALANCE SHEET

(All amounts are expressed in thousands of kuna)

Assets	31/12/2022	31/12/2021
1 Gold and gold receivables	804,668	4,601
2 Claims on residents outside Croatia denominated in foreign currency	226,508,374	200,179,428
2.1 Receivables from the International Monetary Fund (IMF)	9,376,663	9,253,337
2.2 Balances with banks and security investments, external loans and other external assets	217,131,711	190,926,091
3 Claims on residents in Croatia denominated in foreign currency	128,731	–
4 Claims on residents outside Croatia denominated in kuna	–	–
4.1 Balances with banks, security investments and loans	–	–
4.2 Claims arising from the credit facility under Exchange Rate Mechanism (ERM) II	–	–
5 Lending to credit institutions from Croatia related to monetary policy operations denominated in kuna	2,827,000	3,067,000
5.1 Regular operations	–	–
5.2 Structural operations	2,827,000	3,067,000
5.3 Fine-tuning operations	–	–
5.4 Overnight loans	–	–
6 Other claims on credit institutions from Croatia denominated in kuna	–	–
7 Securities of residents in Croatia denominated in kuna	16,206,272	18,357,930
7.1 Securities held for monetary policy purposes	16,206,272	18,357,930
7.2 Other securities	–	–
8 Other assets	1,497,921	1,332,428
8.1 Tangible and intangible fixed assets	689,095	645,652
8.2 Other financial assets	129,087	120,224
8.3 Off-balance-sheet instruments revaluation differences	–	27,336
8.4 Accruals and prepaid expenditure	593,212	506,635
8.5 Sundry	86,527	32,581
9 Loss for the year	–	–
Total	247,972,966	222,941,387

The notes on pages 155 to 210 form an integral part of these financial statements.

(All amounts are expressed in thousands of kuna)

Payables	31/12/2022	31/12/2021
1 Banknotes and coins in circulation	26,017,847	44,260,230
2 Liabilities to credit institutions from Croatia related to monetary policy operations denominated in kuna	123,017,830	103,934,113
2.1 Current accounts (covering the reserve requirement system)	123,017,830	103,934,113
2.2 Overnight deposits	–	–
2.3 Fixed-term deposits	–	–
2.4 Deposits related to margin calls	–	–
3 Other liabilities to credit institutions from Croatia denominated in kuna	11,104,338	92,888
4 Debt securities of the Croatian National Bank	–	–
5 Liabilities to other residents in Croatia denominated in kuna	9,366,135	14,385,151
5.1 General government	9,207,863	14,142,448
5.2 Other liabilities	158,272	242,703
6 Liabilities to residents outside Croatia denominated in kuna	889,426	474,754
7 Liabilities to residents in Croatia denominated in foreign currency	29,669,186	16,843,088
8 Liabilities to residents outside Croatia denominated in foreign currency	21,638,745	17,224,820
8.1 Deposits, balances and other liabilities	21,638,745	17,224,820
8.2 Liabilities arising from the credit facility under ERM II	–	–
9 Counterpart of special drawing rights allocated by the IMF	9,353,867	9,227,912
10 Other liabilities	471,392	1,472,000
10.1 Off-balance-sheet instruments revaluation differences	151,137	–
10.2 Accruals and income collected in advance	42,954	17,811
10.3 Sundry	277,301	1,454,189
11 Provisions	3,766,771	3,563,833
12 Revaluation accounts	8,650,483	7,877,426
13 Capital and reserves	3,544,719	3,528,784
13.1 Capital	2,500,000	2,500,000
13.2 Reserves	1,044,719	1,028,784
14 Profit for the year	482,227	56,388
Total	247,972,966	222,941,387

The notes on pages 155 to 210 form an integral part of these financial statements.

PROFIT AND LOSS ACCOUNT

(All amounts are expressed in thousands of kuna)

	2022	2021
1.1 Interest income	2,149,234	1,777,024
1.2 Interest expense	(1,162,403)	(1,478,329)
1 Net interest income/expense	986,831	298,695
2.1 Realised gains/losses arising from financial operations	566,093	380,961
2.2 Write-downs on financial assets and positions	(165,452)	(3,489)
2.3 Transfer to/from provisions for financial risks	(200,000)	-
2 Net result of financial operations, write-downs and risk provisions	200,641	377,472
3.1 Fees and commissions income	68,381	64,115
3.2 Fees and commissions expense	(41,250)	(23,505)
3 Net income/expense from fees and commissions	27,131	40,610
4 Income from equity shares and participating interests	6,394	11,425
5 Other income	10,647	7,962
Total net income	1,231,644	736,164
6 Staff costs	(247,752)	(218,756)
7 Administrative expenses	(180,656)	(110,992)
8 Depreciation of tangible and intangible fixed assets	(54,795)	(40,045)
9 Costs of production of kuna banknotes and coins	(265,057)	(161,664)
10 Other costs	(1,157)	(148,319)
Total operating expenses	(749,417)	(679,776)
11 PROFIT/(LOSS) FOR THE YEAR	482,227	56,388

The financial statements set out on pages 152 to 210 were approved on 8 March 2023:

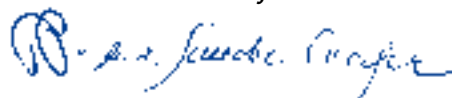
Director of the Accounting Department:

Mario Varović



Governor:

Boris Vujčić



Note 1 – General information and accounting policies

1.1 GENERAL INFORMATION

The Croatian National Bank is the central bank of the Republic of Croatia with headquarters in Zagreb, Trg hrvatskih velikana 3. Its status has been defined by the Act on the Croatian National Bank (Official Gazette 75/2008, 54/2013 and 47/2020). The Croatian National Bank forms part of the European System of Central Banks.

The Republic of Croatia entered the European Exchange Rate Mechanism (ERM II) on 10 July 2020, which was a key step in the process of introducing the euro in the Republic of Croatia. At the same time, the European Central Bank adopted a decision to establish close cooperation with the Croatian National Bank, which made the CNB part of the Single Supervisory Mechanism (SSM). As of the date of entry into force of the decision of the European Central Bank on close cooperation, the Republic of Croatia has also taken part in the Single Resolution Mechanism (SRM).

The Croatian National Bank is owned by the Republic of Croatia. The Croatian National Bank is autonomous and independent in fulfilling its objective and carrying out its tasks.

The primary objective of the Croatian National Bank is maintaining price stability. The Croatian National Bank reports to the Croatian Parliament on the financial condition, the degree of price stability and the fulfilment of monetary policy goals, and is represented by the Governor of the Croatian National Bank.

The tasks performed by the Croatian National Bank include:

- determining and implementing monetary and foreign exchange policies;
- maintaining and managing international reserves of the Republic of Croatia;
- issuing banknotes and coins;
- issuing and withdrawing authorisations and approvals as well as adopting other decisions in accordance with laws regulating the operations of credit institutions, credit unions, payment service providers, electronic money issuers and payment systems as well as payment operations, electronic money issuance, foreign exchange operations and the operations of authorised foreign exchange offices;
- performing supervision and oversight in accordance with laws regulating the operations of credit institutions, credit unions, payment service providers, electronic money issuers and payment systems as well as payment operations and electronic money issuance;
- exercising resolution powers in accordance with regulations on the resolution of credit institutions;
- maintaining accounts of credit institutions and performing payment transactions on those accounts, issuing loans to and receiving deposit funds from credit institutions;
- regulating and improving payment operations and ensuring their smooth functioning;
- performing tasks on behalf of the Republic of Croatia as defined by law;

- promulgating subordinate regulations from its area of competence;
- implementing macroprudential policy to preserve the stability of the whole financial system;
- performing other tasks specified by law.

The bodies of the Croatian National Bank are the Council of the Croatian National Bank and the Governor of the Croatian National Bank. The Council of the Croatian National Bank comprises eight members: Governor, Deputy Governor and six Vicegovernors of the Croatian National Bank. The Council of the Croatian National Bank is competent and responsible for the achievement of the objective and for the carrying out of the tasks of the Croatian National Bank and defines policies with respect to the activities of the Croatian National Bank.

Members of the Council of the Croatian National Bank:

- Prof. D. Sc. Boris Vujčić, Governor
- D. Sc. Sandra Švaljek, Deputy Governor
- D. Sc. Michael Faulend, Vicegovernor
- Bojan Fras, Vicegovernor
- M. Sc. Slavko Tešija, Vicegovernor
- D. Sc. Roman Šubić, Vicegovernor
- M. Sc. Ivana Jakir-Bajo, Vicegovernor
- D. Sc. Tomislav Ćorić, Vicegovernor (since 27 May 2022)

The consolidated financial statements are not prepared and the financial statements of the Croatian National Bank do not comprise the financial statements of the subsidiary Croatian Mint because they are not material for the financial statements of the Croatian National Bank.

1.2 ACCOUNTING POLICIES

1.2.1 Basis of preparation

The financial statements of the Croatian National Bank for 2022 have been prepared in accordance with Article 60 of the Act on the Croatian National Bank (Official Gazette 75/2008, 54/2013 and 47/2020), which regulates the application of Guideline (EU) 2016/2249 of the European Central Bank of 3 November 2016 on the legal framework for accounting and financial reporting in the European System of Central Banks (ECB/2016/34), with all amendments (hereinafter: ECB Guideline). Article 60 of the Act on the Croatian National Bank states that the Croatian National Bank prepares the financial statements in accordance with the ECB Guideline and reports on transactions that are not regulated by the ECB Guideline applying, providing that there is no contrary decision of the Council of the Croatian National Bank, valuation principles in accordance with the International Financial Reporting Standards as adopted in the European Union that are material for the operations and reports of the Croatian National Bank. In the reporting period there were no decisions of the Council of the Croatian National Bank under Article 60 of the Act on the Croatian National Bank. The valuation principles of International Financial Reporting Standards as adopted in the European Union for the purpose of preparation of these financial statements include measurement and impairment principles.

The accounting policies of the Croatian National Bank in the part that is not applicable until Croatia introduces the euro as the official currency, are the following:

1. In the balance sheet and the profit and loss account the terms “euro area” and “euro” are replaced by the terms “Croatia” and “kuna”.
2. In the period until Croatia introduces the euro as the official currency, the financial statements of the Croatian National Bank cannot contain all line items prescribed by the ECB Guideline, so that line items in the financial statements are adjusted with the current operation of the CNB.
3. Balance sheet line items related to monetary policy operations are adjusted with the Decision on monetary policy implementation of the Croatian National Bank.
4. Kuna coins in circulation are reported together with banknotes in circulation within the balance sheet item Banknotes and coins in circulation. According to the ECB Guideline, after the introduction of the euro as the official currency of the Republic of Croatia banknotes shall be reported under the balance sheet item Banknotes in circulation and coins under Other liabilities.

The layout of the balance sheet and profit or loss account is presented in accordance with the structure prescribed by the ECB Guideline.

The Financial Statements of the Croatian National Bank are presented in kuna.

1.2.2 Qualitative characteristics and accounting assumptions

The following qualitative characteristics apply in line with the ECB Guideline:

- The accounting methods and financial reporting reflect economic reality, are transparent and respect the qualitative characteristics of understandability, relevance, reliability and comparability. Transactions are accounted for and presented in accordance with their substance and economic reality and not merely with their legal form.
- The valuation of assets and liabilities and income recognition are carried out prudently, which implies that unrealised gains are not recognised as income in the profit and loss account, but are recorded directly in a revaluation account and that unrealised losses are taken at year end to the profit and loss account if they exceed previous revaluation gains registered in the corresponding revaluation account. Hidden reserves or the deliberate misstatement of items in the balance sheet and in the profit and loss account are inconsistent with the assumption of prudence.
- Deviations from the accounting rules are only allowed if they can be reasonably considered as immaterial in the overall context and presentation of the reporting entity’s financial accounts.
- The criteria for balance sheet valuation and income and expense recognition are applied consistently to ensure the comparability of data in the financial statements.

The following accounting assumptions apply:

- Accounts are prepared on a going concern basis.
- Income and expenses are recognised in the accounting period in which they are earned or incurred and not in the period in which they are received or paid.
- Assets and liabilities are adjusted for events that occur between the annual balance sheet date and the date on which the financial statements are approved by the Council of the Croatian National Bank if they affect the condition of assets or liabilities at the balance sheet date. No adjustment is made for

assets and liabilities, but disclosure is made of those events occurring after the balance sheet date if they do not affect the condition of assets and liabilities at the balance sheet date, but are of such importance that non-disclosure would affect the ability of the users of the financial statements to make proper evaluations and decisions.

1.2.3 Basis of measurement

The financial statements have been prepared under the accrual basis of accounting and using the historical cost convention, except for marketable securities (other than those held to maturity and for monetary policy purposes), gold, assets under management with international institutions and silver, which are measured at their market value and land and buildings measured at revalued amount, which is their fair value at the revaluation date less subsequent accumulated depreciation of buildings and subsequent accumulated impairment losses, if any.

1.2.4 Recording of transactions

The economic approach is used as the basis for recording foreign exchange transactions, financial instruments denominated in foreign currency and related accruals, which is implemented using the regular approach.

Securities transactions including equity instruments denominated in foreign currency are recorded according to the cash/settlement approach. The related accrued interest, including premiums or discounts, are recorded on a daily basis from the spot settlement date.

All specific kuna-denominated transactions, financial instruments and related accruals are recorded according to the cash/settlement approach.

1.2.5 Recognition of assets and liabilities

A financial or other asset or liability is recognised in the CNB balance sheet only if all of the following conditions are met:

- it is probable that any future economic benefit associated with the asset or liability item will flow to or from the CNB;
- substantially all of the risks and rewards associated with the asset or liability are transferred to the CNB;
- the cost or value of the asset to the CNB or the amount of the obligation can be measured reliably.

1.2.6 Balance sheet valuation rules

The revaluation of gold, foreign currency instruments, securities (other than securities classified as held-to-maturity, non-marketable securities, and securities held for monetary policy purposes that are accounted for at amortised cost), as well as financial instruments, both on-balance-sheet and off-balance-sheet, is performed at mid-market rates and prices at the reporting date.

No distinction is made between price and currency revaluation differences for gold, but a single gold revaluation difference is accounted for, based on the kuna price per defined unit of weight of gold, derived from the HRK/US dollar exchange rate at the reporting date.

For foreign exchange, including on-balance-sheet and off-balance-sheet transactions, revaluation

takes place on a currency-by-currency basis. Holdings of special drawing rights, including designated individual foreign exchange holdings underlying the XDR basket, are treated as one holding.

The exchange rates of major foreign currencies at 31 December 2022 were as follows:

1 USD = 7.064035 HRK (2021: 6.643548 HRK)

1 EUR = 7.53450 HRK (2021: 7.517174 HRK)

1 XDR = 9.441364 HRK (2021: 9.314231 HRK).

For securities, revaluation takes place on a code-by-code basis, i.e. same International Securities Identification Number/type, while any embedded options will not be separated for valuation purposes. Securities held for monetary policy purposes or included in the items Other financial assets or Sundry are treated as separate holdings.

Marketable securities held for monetary policy purposes are treated as separate holdings and valued at amortised cost (subject to impairment).

Held-to-maturity securities are securities with fixed or determinable payments and a fixed maturity, which the Croatian National Bank intends to hold until maturity. Securities classified as held-to-maturity are treated as separate holdings and valued at amortised cost (subject to impairment). The same treatment applies to non-marketable securities. Securities classified as held-to-maturity may be sold before their maturity when any of the following occurs:

- (a) if the quantity sold is considered not significant in comparison with the total amount of the held-to-maturity securities portfolio;
- (b) if the securities are sold during one month before maturity date;
- (c) under exceptional circumstances, such as a significant deterioration of the issuer's creditworthiness.

1.2.7 Recognition and valuation of financial assets

Financial asset is any asset that is:

- (a) cash;
- (b) a contractual right to receive cash or another financial instrument from another undertaking;
- (c) a contractual right to exchange financial instruments with another undertaking under conditions that are potentially favourable; or
- (d) another undertaking's equity instrument.

Gold is valued at market value.

Foreign currency marketable debt securities other than held-to-maturity are valued at the market price and market rate, with all premiums or discounts amortised.

Foreign currency marketable debt securities classified as held-to-maturity are valued at cost subject to impairment and market rate, with all premiums or discounts amortised.

Marketable debt securities held for monetary policy purposes are valued at cost subject to impairment, with all premiums or discounts amortised.

Receivables, balances with banks and loans are valued at nominal value, and foreign currencies are translated at market rate.

Participating interests, illiquid equity shares and all other equity instruments held as permanent investments are valued at cost subject to impairment.

Investments in subsidiaries or significant interests are valued under the net asset value principle. Net value of these assets is calculated and recorded in the accounts once a year, at the end of a business year, based on the data available at the time.

Assets under management with international financial institutions are valued at the market price and market rate. The revaluation is performed on a net basis, and not on the underlying assets.

Market price

Market price is the price that is quoted for a gold, foreign exchange or securities instrument usually excluding accrued or rebate interest either on an organised market, e.g. a stock exchange, or a non-organised market, e.g. an over-the-counter market.

Impairment of financial assets

Financial assets are reviewed at the balance sheet date to determine whether there is objective evidence of impairment. Impairment is a decline of the recoverable amount below the carrying amount. The recoverable amount is the present value of estimated future cash flows discounted at the financial investment's original effective interest rate.

1.2.8 Repo agreements

The Croatian National Bank enters into securities purchase/sale agreements under which it agrees to resell/repurchase the same instrument on a specific future date at a fixed price.

A reverse transaction conducted under a reverse repo agreement is recorded as a collateralised outward loan on the assets side of the balance sheet for the amount of the loan. Securities acquired under reverse repo agreements are not revalued and no profit or loss arising thereon is taken to the profit and loss account by the Croatian National Bank.

A reverse transaction conducted under a repo agreement is recorded as a collateralised inward deposit on the liabilities side of the balance sheet, while the item that has been provided as collateral remains on the assets side of the balance sheet. Securities sold which are to be repurchased under repo agreements are treated by the Croatian National Bank as if the assets in question were still part of the portfolio from which they were sold.

1.2.9 Recognition and valuation of liabilities

Liability is a present obligation of the Croatian National Bank arising from past events, the settlement of which is expected to result in an outflow from the Croatian National Bank of resources embodying economic benefits, while the amount of such settlement can be measured reliably.

Financial liability is any liability that is a legal obligation to deliver cash or another financial instrument to another undertaking or to exchange financial instruments with another undertaking under conditions that are potentially unfavourable.

Banknotes and coins in circulation, liabilities on loans taken and deposits received, current account liabilities, liabilities to suppliers, liabilities on salaries and other employee liabilities as well as other liabilities are recorded in the business books and reported in the financial statements at the nominal value of a transaction based on a contract or another authentic document confirming the occurrence of a liability.

The costs of production of kuna banknotes and coins are reported in the profit and loss account when they are invoiced or occur in any other way.

1.2.10 Income recognition

Realised gains and realised losses are taken to the profit and loss account.

Unrealised gains are not recognised as income, but recorded directly in a revaluation account.

At year end, unrealised losses are taken to the profit and loss account if they exceed previous revaluation gains recorded in the corresponding revaluation account. Unrealised losses taken to the profit and loss account are not reversed in subsequent years against new unrealised gains. There is no netting of unrealised losses in any one security, or in any currency or in gold holdings against unrealised gains in other securities or currencies or gold.

At year end, impairment losses are taken to the profit and loss account and must not be reversed in subsequent years, unless the impairment decreases and the decrease can be related to an observable event that occurred after the impairment was first recorded.

Foreign exchange gains/losses on IMF accounts linked to foreign currency (XDR) and expressed in kuna as well as foreign exchange gains or losses on deposits for housing loans with a currency clause are recognised in the profit and loss account.

Premiums or discounts arising on issued and purchased securities are calculated and presented as part of interest expense or income and are amortised over the remaining contractual life until the maturity of the securities according to the internal rate of return method (effective interest rate).

Accruals denominated in foreign currencies are translated at the exchange rate of the recording date and have an impact on the foreign currency position.

Currency outflows that entail a change in the holding of a given currency may give rise to realised foreign exchange gains or losses.

Accrued interest on financial assets with negative interest rate is reported as interest expense. Accrued interest on financial liabilities with negative interest rate is recognised as interest income.

1.2.11 Cost of transactions

The average cost method is used on a daily basis for gold, foreign currency instruments and securities, to compute the acquisition cost of items sold, having regard to the effect of exchange rate and/or price movements.

The average cost of the asset or liability is reduced or increased by unrealised losses taken to the profit and loss account at year end.

For the purpose of calculating the average purchase cost of a security, all purchases made during the day are added, at their purchase price, to the previous day's holding to produce a new weighted average cost before applying the sales for the same day.

Where a long position exists, net inflows of currencies and gold made during the day are added to the previous day's holding, at the average rate or gold price of the inflows of the day for each respective currency and gold, to produce a new weighted average cost. In the case of net outflows, the calculation of the realised gain or loss is based on the average cost of the respective currency or gold holding for the preceding day, so that the average cost remains unchanged.

1.2.12 Revaluation accounts

The Croatian National Bank establishes revaluation accounts for the purpose of revaluation of assets and liabilities. Revaluation accounts are established from unrealized gains on the revaluation of assets and liabilities.

1.2.13 Provisions

Provisions for future liabilities

The Croatian National Bank recognizes a provision if it has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation, and when a reliable estimate can be made of the obligation. No provision is recognised unless all of these conditions have been met.

Provisions are reviewed at the end of each reporting period and adjusted to reflect current best estimates. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed. Income or expenses arising from provisions are recognized in the profit and loss account at the end of the accounting period to which they relate.

Provisions for financial risks

The Croatian National Bank may establish provisions for financial risks in accordance with a decision of the Council of the Croatian National Bank.

The decision to increase or decrease provisions for financial risks is made by the Council of the Croatian National Bank. The amount of provisions for financial risks and the further need for them is reviewed once a year on the basis of the Croatian National Bank's assessment of its own exposure to these risks. Income and/or expenses from risk provisions are recorded on the reporting date in accordance with the Decision of the Council of the Croatian National Bank.

1.2.14 Accounting rules for off-balance sheet instruments

Foreign exchange forward transactions, forward legs of foreign exchange swaps and other currency instruments involving an exchange of one currency for another at a future date are included in the net foreign currency positions for calculating average costs and foreign exchange gains and losses.

Profits and losses arising from off-balance-sheet instruments are recognised and treated in a similar manner to on-balance-sheet instruments.

Foreign exchange forward transactions

Forward purchases and sales are recognised in off-balance-sheet accounts from the trade date to the settlement date at the spot rate of the forward transaction. Realised gains and losses on sale transactions are calculated using the average cost of the foreign currency position on the trade date in accordance with the daily netting procedure for purchases and sales.

The difference between the spot and the forward rates is treated as interest payable or receivable on an accruals basis. At the settlement date the off-balance-sheet accounts are reversed. The foreign currency position is affected by forward transactions from the trade date at the spot rate.

The forward positions are valued in conjunction with the spot position of the same currency, offsetting any differences that may arise within a single foreign currency position. A net loss balance is debited to the profit and loss account when it exceeds previous revaluation gains recorded in the revaluation account. A net profit balance is credited to the revaluation account.

Foreign exchange swaps

Forward and spot purchases and sales are recognised in on-balance-sheet accounts at the respective settlement date.

Forward and spot purchases and sales are recognised in off-balance-sheet accounts from the trade date to the settlement date at the spot rate of the forward transaction.

Sale transactions are recognised at the spot rate of the transaction. Therefore no gains or losses arise.

The difference between the spot and the forward rates is treated as interest payable or receivable on an accruals basis for both purchases and sales. At the settlement date the off-balance-sheet accounts are reversed. The foreign currency position changes only as a result of accruals denominated in foreign currency.

The forward position is valued in conjunction with the related spot position.

1.2.15 Taxation

In accordance with relevant legislation the Croatian National Bank is not subject to the Croatian income tax.

1.2.16 Tangible and intangible fixed assets

Tangible and intangible fixed assets are recognised in the balance sheet at cost less accumulated depreciation and impairment losses. The exceptions are land and buildings which are carried at revalued amount, representing their fair value at the revaluation date, decreased by accumulated depreciation for buildings and any impairment losses. Depreciation is provided under the straight-line method. Fair value of land and buildings was determined based on appraisals performed by independent experts and certain significant inputs for valuation were not observable market data.

Gains on revaluation of land and buildings are included as a separate item in the Revaluation accounts. Losses on revaluation are charged to the revaluation reserve account to the extent of the revaluation surplus previously recognised in equity, and any loss in excess of the previously recognised surplus is charged to the profit and loss account for the reporting period.

The revaluation surplus is transferred as the asset is used. In such a case, the amount of the surplus transferred is the difference between depreciation based on the revalued carrying amount of the asset and depreciation based on the asset's original cost. The revaluation surplus included in equity in respect of land and buildings is transferred directly to general reserves when the asset is derecognised. This includes transferring the whole of the surplus when the asset is retired or disposed of. Transfers from revaluation surplus to general reserves are not made through profit or loss.

Useful life of tangible and intangible fixed assets:

Asset class	Expected useful life in 2022 (number of years)	Expected useful life in 2021 (number of years)
Property	20 – 50	20 – 50
Computers and computing infrastructure	5 – 8	5 – 8
Furniture and equipment	2 – 20	2 – 20
Motor vehicles	4	4
Software and licences	up to 10	up to 10

Leases

At the commencement date, the Croatian National Bank recognises a right-of-use asset and a lease liability.

At the commencement date the right-of-use asset is measured at cost and lease liability is measured at the present value of the lease payments that are not paid at that date. The present value of the lease liability is calculated using the discount rate of the Croatian National Bank. After the commencement date the right-of-use asset is measured applying a cost model.

The Croatian National Bank does not recognise the right-of-use assets for short-term leases and leases for which the underlying asset is of low value. The lease payments associated with short-term leases and leases for which the underlying asset is of low value are recognised as an expense on a straight-line basis over the lease term.

Non-lease components are not separated from lease components and instead each lease component and any associated non-lease components are accounted for as a single lease component.

The right-of-use asset is depreciated under the straight-line method, from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term.

Impairment of non-financial assets

The net carrying amount of non-financial assets is assessed at the end of each reporting period to determine whether there is any indication that the assets may be impaired. If any such indication exists, the recoverable amount of those assets is estimated. For assets with indefinite useful life and intangible assets not yet available for use, the recoverable amount is estimated on every reporting date.

An impairment loss is recognised if the net carrying amount of an asset or cash-generating unit is greater than its recoverable amount. A cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The cash-generating unit for the Croatian National Bank is the Croatian National Bank as a whole. Impairment loss is recognised in profit or loss.

The recoverable amount of an asset or a cash-generating unit is the higher of its fair value less costs of disposal and its value in use. Value in use is the present value of the future cash flows expected to be derived from an asset or cash-generating unit. Value in use is estimated by discounting expected future cash flows with the discount rate that reflects current market assessments of time value of money and the risks specific to these assets.

An impairment loss recognised in prior periods is assessed on every reporting date to determine if there is any indication that impairment may have decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the asset's recoverable amount. An impairment loss is reversed only up to the carrying amount of an asset net of accumulated amortisation or depreciation that would have been determined had no impairment loss been recognised.

1.3 Use of judgements and estimates

In preparing the financial statements for 2022, the management made judgements, estimates and assumptions that affect the application of accounting policies and reported amounts of assets and liabilities, income and expense. The estimates are based on the management's best estimate of current events and operations, and actual results may differ from these estimates. The estimates are used to assess the useful life of tangible and intangible fixed assets, the amount of provisions for future liabilities and the exposure of the Croatian National Bank to financial risks for the purpose of establishing provisions for financial risks.

1.4 Allocation of profit and coverage of losses

The allocation of profit and the coverage of losses of the Croatian National Bank are performed in accordance with Article 57 of the Act on the Croatian National Bank. The profit of the Croatian National Bank reported in the financial year is allocated to general reserves and to the State Budget in accordance with the decision of the Council of the Croatian National Bank in such a manner that 20% of the profit is allocated to general reserves and 80% of the profit constitutes revenue to the State Budget. By way of exception, if the amount of general reserves on the last day of the financial year is lower than the lower bound of general reserves established pursuant to Article 55, paragraph (2) of the Act on the Croatian National Bank, the Council of the Croatian National Bank adopts a decision stipulating that the required amount of profit is allocated to general reserves until their lower bound is reached, while the remaining profit is allocated in such a manner that 20% of the profit is allocated to general reserves and 80% of the profit constitutes revenue to the State Budget.

The loss of the Croatian National Bank is firstly covered from general reserves and if the loss of the Croatian National Bank is higher than the amount of general reserves, the loss amount exceeding the amount of general reserves is covered from the profit of the following years. The profit of the Croatian National Bank to be reported in the following years is firstly used for the coverage of loss from the previous years.

If the total capital of the Croatian National Bank decreased by the loss from the previous years is over a longer period lower than the capital of the Croatian National Bank, the required amount up to the amount of the capital is covered from the State Budget in the following medium-term period. Within the meaning of this provision, the total capital of the Croatian National Bank is constituted of the capital, general reserves, revaluation accounts and provisions for financial risks.

Note 2 – Items of assets

1 GOLD AND GOLD RECEIVABLES

	31/12/2022	31/12/2021	Change	
			Absolute	%
Quantity in gold ounces	62,450.25	378.78	62,071.47	16,387.21
Price				
USD/gold ounce	1,824.02	1,828.45	(4.43)	(0.24)
HRK/USD	7.064035	6.643548	0.42	6.33
Carrying amount in thousands of kuna	804,668	4,601	800,067	17,388.98

Council Decision (EU) 2022/1211 of 12 July 2022 on the adoption by Croatia of the euro on 1 January 2023 stipulates that Croatia fulfils the necessary conditions for the adoption of the euro and that the derogation referred to in Article 5 of the 2012 Act on Accession is abrogated with effect from 1 January 2023. Article 48.1 in conjunction with Article 30.1 of the Statute of the ESCB and of the ECB prescribes that the central bank of a Member State whose derogation has been abrogated must transfer foreign reserve assets to the ECB. On 30 December 2022, the ECB adopted Decision (EU) 2023/135 on the paying-up of capital, transfer of foreign reserve assets, and contributions by Hrvatska narodna banka to the ECB's reserves and provisions (ECB/2022/51).

The foreign reserve assets expressed in euro at the exchange rate applicable on 30 December 2022 to be transferred to the ECB amount to EUR 639,850 thousands, with the structure of the transfer defined as follows: 15% in gold and 85% in US dollars. Accordingly, 15% of the amount of EUR 639,850 thousands is transferred in gold, which at the exchange rate applicable on 30 December 2022 amounts to EUR 96,978 thousands, i.e., 56,256.29 ounces of gold, and 85% is transferred in US dollars, which at the stated exchange rate amounts to EUR 543,872 thousands, i.e., USD 580,094 thousands. The Croatian National Bank acquired gold for this need during December 2022, and transferred it to the ECB on January 3, 2023.

2 CLAIMS ON RESIDENTS OUTSIDE CROATIA DENOMINATED IN FOREIGN CURRENCY

2.1 Receivables from the International Monetary Fund (IMF)

(All amounts are expressed in thousands of kuna)

	31/12/2022	31/12/2021	Change	
			Absolute	%
Kuna-denominated balances with the IMF				
Membership quota	6,773,228	6,682,066	91,162	1.36
Kuna-denominated bills of exchange	(6,752,796)	(6,662,142)	(90,654)	1.36
IMF account no. 1	(16,947)	(16,705)	(242)	1.45
<i>Reserve position with the IMF</i>	3,485	3,219	266	8.26
IMF account no. 2	(109)	(72)	(37)	51.39
<i>Total</i>	3,376	3,147	229	7.28
Balances with the IMF denominated in special drawing rights				
Foreign currency current account with the IMF	9,368,385	9,245,354	123,031	1.33
PRG-HIPC fund deposit	4,902	4,836	66	1.36
<i>Total</i>	9,373,287	9,250,190	123,097	1.33
Total	9,376,663	9,253,337	123,326	1.33

The Croatian National Bank is the fiscal agent of the Republic of Croatia for the International Monetary Fund and the International Monetary Fund's depository.

The current account and deposit as well as net cumulative allocations with the International Monetary Fund are denominated in special drawing rights (XDR) and measured at their nominal value.

The membership quota, bills of exchange and International Monetary Fund accounts number 1 and 2 are measured at cost, denominated in kuna and linked to XDR (they are revalued on the reporting date at the XDR exchange rate applicable on that date).

Pursuant to the Decision on granting approval to conclude the new Agreement on the non-interest bearing deposit with the International Monetary Fund (IMF) for the Poverty Reduction and Growth-Heavily Indebted Poor Countries Trust (PRG-HIPC Trust), adopted by the Government of the Republic of Croatia at the meeting held on 20 December 2018, the Agreement on the non-interest bearing deposit was signed between the Croatian National Bank and the IMF as the manager of the PRG-HIPC Trust, which provides for depositing a non-interest bearing amount of XDR 519.161 thousands for the PRG-HIPC Trust until 31 December 2023. The PRGT-Poverty Reduction and Growth Trust is a special fund within the IMF that provides financial support to low-income countries under very favourable (concessional) conditions.

2.2 Balances with banks and security investments, external loans and other external assets

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Securities	133,522,020	91,745,493	41,776,527	45.54
Balances with banks, external loans and other external assets	83,609,691	99,180,598	(15,570,907)	(15.70)
Total	217,131,711	190,926,091	26,205,620	13.73

Investments in held-to-maturity securities increased in 2022, mostly due to the diversion of investments from effective foreign currency to securities.

2.2.1 Securities

The table below shows investments in securities outside Croatia denominated in foreign currency.

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Marketable debt securities other than held-to-maturity	34,804,356	54,365,256	(19,560,900)	(35.98)
Marketable held-to-maturity securities	98,717,664	37,380,237	61,337,427	164.09
Total	133,522,020	91,745,493	41,776,527	45.54

Investments in securities by currency

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
EUR	118,680,109	74,326,039	44,354,070	59.68
USD	12,913,202	15,757,524	(2,844,322)	(18.05)
Other currencies	1,928,709	1,661,930	266,779	16.05
Total	133,522,020	91,745,493	41,776,527	45.54

2.2.2 Balances with banks, external loans and other external assets

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Cash and current accounts	49,201	59,659,098	(59,609,897)	(99.92)
Deposits with other banks	14,720,538	8,164,056	6,556,482	80.31
Reverse repo agreements	48,063,174	17,569,486	30,493,688	173.56
Assets under management with international financial institutions	1,407,656	1,326,339	81,317	6.13
Balance of CNB's TARGET2 account	1,776,624	70,134	1,706,490	2,433.19
Balances of other TARGET2 participants	17,592,498	12,391,485	5,201,013	41.97
Total	83,609,691	99,180,598	(15,570,907)	(15.70)

In 2022, the Croatian National Bank sold euro-denominated foreign cash in the amount of EUR 4,338,891 thousands and investments in deposits with other banks and reverse repo agreements increased.

Balances with banks, external loans and other external assets by currency

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
EUR	75,509,802	95,995,230	(20,485,428)	(21.34)
USD	8,065,060	3,107,730	4,957,330	159.52
Other currencies	34,829	77,638	(42,809)	(55.14)
Total	83,609,691	99,180,598	(15,570,907)	(15.70)

3 CLAIMS ON RESIDENTS IN CROATIA DENOMINATED IN FOREIGN CURRENCY

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Claims on residents in Croatia denominated in foreign currency	128,731	-	128,731	-
Total	128,731	-	128,731	-

The initial package of euro coins is a package of euro coins that contains a precisely determined amount of different denominations of euro coins with the national side of the Republic of Croatia in a predetermined value, and the initial packages are supplied by banks. Initial packages of euro coins cannot be put into circulation or used as legal tender before the day of introduction of the euro. Sold initial packages of euro coins are recorded in the balance sheet in position A3 Receivables from residents in Croatia denominated in foreign currency and P10 Other liabilities.

5 LENDING TO CREDIT INSTITUTIONS FROM CROATIA RELATED TO MONETARY POLICY OPERATIONS DENOMINATED IN KUNA

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Regular operations	-	-	-	-
Structural operations	2,827,000	3,067,000	(240,000)	(7.83)
Fine-tuning operations	-	-	-	-
Overnight loans	-	-	-	-
Total	2,827,000	3,067,000	(240,000)	(7.83)

In accordance with the Decision on monetary policy implementation of the Croatian National Bank, the Croatian National Bank conducts monetary policy by means of: monetary policy operations, reserve requirements, in accordance with the decision on reserve requirements, and other instruments and measures in accordance with special decisions of the Croatian National Bank.

The monetary policy operations of the CNB are open market operations and standing facilities. Open market operations are initiated by the CNB, while standing facilities are initiated by a counterparty.

The CNB conducts open market operations by means of reverse and outright transactions to regulate credit activities and liquidity of credit institutions, as well as money supply. The types of open market operations are: regular operations, fine-tuning operations and structural operations.

5.1 Regular operations

Regular operations are conducted weekly, they normally have a one week maturity and are conducted by means of standard tenders.

5.2 Structural operations

Structural operations are of non-standardised frequency and maturity, they are conducted by means of standard tenders, quick tenders or bilateral procedures, depending on the CNB decision.

5.3 Fine-tuning operations

Fine-tuning operations are of non-standardised frequency and maturity, they are as a rule conducted by means of quick tenders, but the CNB may decide to conduct fine-tuning operations by means of other procedures (standard tenders or bilateral procedures).

5.4 Overnight loans

The CNB enables access to standing facilities by means of overnight credit. An overnight credit is a collateralised credit with one business day maturity. The amount of liquidity that may be provided by an overnight credit is limited only by the value of the pool of eligible assets.

7 SECURITIES OF RESIDENTS IN CROATIA DENOMINATED IN KUNA

7.1 Securities held for monetary policy purposes

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Bonds of the Republic of Croatia	16,206,272	18,357,930	(2,151,658)	(11.72)
Total	16,206,272	18,357,930	(2,151,658)	(11.72)

In an effort to maintain the liquidity and stability of the financial system, the Croatian National Bank responded to the coronavirus pandemic (COVID-19) by implementing a set of monetary policy measures, including the purchase of bonds of the Republic of Croatia.

8 OTHER ASSETS

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Tangible and intangible fixed assets	689,095	645,652	43,443	6.73
Other financial assets	129,087	120,224	8,863	7.37
Off-balance-sheet instruments revaluation differences	–	27,336	(27,336)	(100.00)
Accruals and prepaid expenditure	593,212	506,635	86,577	17.09
Sundry	86,527	32,581	53,946	165.58
Total	1,497,921	1,332,428	165,493	12.42

8.1 Tangible and intangible fixed assets

(All amounts are expressed in thousands of kuna)	Property owned by the CNB (land and buildings)	Right-of-use buildings (office buildings)	Computers	Furniture and equipment	Motor vehicles	Assets under development – property, plant, equipment
Balance at 1 January 2021						
Cost or revaluation	481,443	9,170	252,515	49,283	8,977	10,208
Accumulated depreciation/ amortisation	(7,384)	(3,745)	(188,146)	(40,344)	(8,674)	–
Net book value	474,059	5,425	64,369	8,939	303	10,208
For the year ended 31 December 2021						
Opening net book amount	474,059	5,425	64,369	8,939	303	10,208
Additions	–	13,414	–	–	–	56,477
Brought into use	322	–	38,339	5,041	235	(43,937)
Revaluation	–	–	–	–	–	–
Impairment	–	–	–	–	–	–
Net written off	(905)	–	(1)	(19)	–	–
Depreciation/amortisation (charge for the year, Note 5 point 6)	(7,370)	(3,715)	(18,319)	(2,854)	(205)	–
Closing net book amount	466,106	15,124	84,388	11,107	333	22,748
Balance as at 31 December 2021						
Cost or revaluation	480,779	22,145	214,645	53,516	8,906	22,748
Accumulated depreciation/ amortisation	(14,673)	(7,021)	(130,257)	(42,409)	(8,573)	–
Net book value	466,106	15,124	84,388	11,107	333	22,748

TOTAL TANGIBLE FIXED ASSETS	Software and licences	Assets under development – intangible assets	TOTAL INTANGIBLE FIXED ASSETS	TOTAL TANGIBLE AND INTANGIBLE FIXED ASSETS
811,596	100,965	18,725	119,690	931,286
(248,293)	(72,825)	–	(72,825)	(321,118)
563,303	28,140	18,725	46,865	610,168
563,303	28,140	18,725	46,865	610,168
69,891		6,563	6,563	76,454
–	3,388	(3,388)	–	–
–	–	–	–	–
–	–	–	–	–
(925)	–	–	–	(925)
(32,463)	(7,582)	–	(7,582)	(40,045)
599,806	23,946	21,900	45,846	645,652
802,739	68,422	21,900	90,322	893,061
(202,933)	(44,476)	–	(44,476)	(247,409)
599,806	23,946	21,900	45,846	645,652

(All amounts are expressed in thousands of kuna)	Property owned by the CNB (land and buildings)	Right-of-use buildings (office buildings)	Computers	Furniture and equipment	Motor vehicles	Assets under development – property, plant, equipment
Balance as at 1 January 2022						
Cost or revaluation	480,779	22,145	214,645	53,516	8,906	22,748
Accumulated depreciation/ amortisation	(14,673)	(7,021)	(130,257)	(42,409)	(8,573)	–
Net book value	466,106	15,124	84,388	11,107	333	22,748
For the year ended 31 December 2022						
Opening net book amount	466,106	15,124	84,388	11,107	333	22,748
Additions	1,814	36,754	27,293	2,437	–	26,989
Brought into use	651	–	17,921	715	–	(19,287)
Revaluation	–	–	–	–	–	–
Impairment	–	–	–	–	–	–
Net written off	–	–	(4)	(5)	–	–
Depreciation/amortisation (charge for the year, Note 5, item 6)	(7,362)	(9,101)	(29,499)	(3,173)	(163)	–
Closing net book amount	461,209	42,777	100,099	11,081	170	30,450
Balance as at 31 December 2022						
Cost or revaluation	483,244	53,888	259,124	54,529	8,906	30,450
Accumulated depreciation/ amortisation	(22,035)	(11,111)	(159,025)	(43,448)	(8,736)	–
Net book value	461,209	42,777	100,099	11,081	170	30,450

TOTAL TANGIBLE FIXED ASSETS	Software and licences	Assets under development - intangible assets	TOTAL INTANGIBLE FIXED ASSETS	TOTAL TANGIBLE AND INTANGIBLE FIXED ASSETS
802,739	68,422	21,900	90,322	893,061
(202,933)	(44,476)	–	(44,476)	(247,409)
599,806	23,946	21,900	45,846	645,652
599,806	23,946	21,900	45,846	645,652
95,287	2,835	125	2,960	98,247
–	37	(37)	–	–
–	–	–	–	–
–	–	–	–	–
(9)	–	–	–	(9)
(49,298)	(5,497)	–	(5,497)	(54,795)
645,786	21,321	21,988	43,309	689,095
890,141	71,294	21,988	93,282	983,423
(244,355)	(49,973)	–	(49,973)	(294,328)
645,786	21,321	21,988	43,309	689,095

8.2 Other financial assets

(All amounts are expressed in thousands of kuna)

	31/12/2022	31/12/2021	Change	
			Absolute	%
BIS shares	41.914	41.914	–	0,00
SWIFT shares	80	80	–	0,00
ECB paid-up capital	19.954	19.954	–	0,00
Investment in the Croatian Mint	67.139	58.276	8.863	15,21
Total	129.087	120.224	8.863	7,37

Based on the ownership holding of 2,441 shares of the Bank for International Settlements (BIS), in the nominal value of XDR 5,000 per share, the Croatian National Bank is a member of the BIS, which enables it to use services the BIS provides to central banks and other financial organisations. In accordance with the Statute of the BIS, 25% of the shares subscribed was paid, while the remaining 75% is payable upon call for payment. In 2022, the Croatian National Bank received a dividend in the amount of HRK 6,394 thousands (31 December 2021: HRK 11,425 thousands).

The Croatian National Bank is also a member of the Society for Worldwide Interbank Financial Telecommunication (SWIFT) Based on this membership, the Croatian National Bank participates in international transfers of financial messages. Six SWIFT shares in the nominal value of EUR 125 per share, which the Croatian National Bank holds, are fully paid in.

The paid-up capital of the European Central Bank (ECB) represents the participating interest of the Croatian National Bank in the ECB. Pursuant to Article 28 of the Statute of the European System of Central Banks (ESCB), the national central banks (NCBs) of the ESCB are the sole subscribers to the ECB's capital. The subscriptions of capital depend on the shares established in accordance with Article 29 of the Statute of the ESCB, which are adjusted every five years and whenever there is a change in the number of NCBs that contribute to the ECB's capital. Since the Republic of Croatia is not part of the euro area, transitional provisions of Article 47 of the Statute of the ESCB apply, according to which the Croatian National Bank had an obligation to pay 3.75% of the subscribed capital as a contribution to the ECB's operational costs. The Croatian National Bank, as a non-euro area national central bank, is not entitled to receive an appropriate share of the ECB's profit distribution and there is no obligation to cover the ECB's loss.

As a result of the departure of the United Kingdom from the European Union on 31 January 2020 and the consequent withdrawal of the Bank of England from the European System of Central Banks, the weightings assigned to the remaining NCBs in the key for subscription of the ECB's capital were adjusted with effect from 1 February 2020.

TABLE 1: CONTRIBUTIONS OF NATIONAL CENTRAL BANKS TO THE ECB CAPITAL

NCB	Capital subscription key % (in thousands of euro)	Paid-up capital
Nationale Bank van België/Banque Nationale de Belgique	2.9630	320,745
Deutsche Bundesbank	21.4394	2,320,817
Eesti Pank	0.2291	24,800
Central Bank of Ireland	1.3772	149,082
Bank of Greece	2.0117	217,767
Banco de España	9.6981	1,049,820
Banque de France	16.6108	1,798,120
Banca d'Italia	13.8165	1,495,637
Central Bank of Cyprus	0.1750	18,944
Latvijas Banka	0.3169	34,304
Lietuvos bankas	0.4707	50,953
Banque centrale du Luxembourg	0.2679	29,000
Central Bank of Malta	0.0853	9,234
De Nederlandsche Bank	4.7662	515,941
Oesterreichische Nationalbank	2.3804	257,679
Banco de Portugal	1.9035	206,054
Banka Slovenije	0.3916	42,391
Národná banka Slovenska	0.9314	100,824
Suomen Pankki – Finlands Bank	1.4939	161,715
Subtotal for euro area NCBs	81.3286	8,803,827
Българска народна банка (Bulgarian National Bank)	0.9832	3,991
Česká národní banka	1.8794	7,629
Danmarks Nationalbank	1.7591	7,141
Hrvatska narodna banka	0.6595	2,677
Magyar Nemzeti Bank	1.5488	6,287
Narodowy Bank Polski	6.0335	24,492
Banca Națională a României	2.8289	11,484
Sveriges Riksbank	2.9790	12,093
Subtotal for non-euro area NCBs	18.6714	75,794
TOTAL	100.00	8,879,621

The ECB's total subscribed capital comes from the national central banks of all EU member states and amounts to EUR 10,825,007 thousands. The amounts of the subscribed capital of individual euro area national central banks, increased due to the withdrawal of the Bank of England from the European System of Central Banks, were divided into two annual instalments. The first instalment was paid at the end of 2021, and the remaining one is due at the end of 2022.

The share of the Croatian National Bank in the subscribed capital of the European Central Bank is 0.6595%. The Croatian National Bank thus subscribed EUR 71,391 thousands of the ECB's capital and paid up EUR 2,677 thousands.

The Croatian Mint is a domestic company whose core operation is the production of coins and medals of gold and other precious metals, production of coins and commemorative circulation coins, manufacturing of jewellery and related products, trade in gold and other precious metals, trade in jubilee coins and in medals of gold and other precious metals. The share ownership of the Croatian National Bank in the capital of the Croatian Mint is 100%, valued under the net asset value principle. Net value of these assets is calculated and recorded in the accounts once a year, at the end of a business year, based on the data available at the time. The consolidated financial statements are not prepared as the investment in the Croatian Mint is not significant from either a qualitative or quantitative perspective.

(All amounts are expressed in thousands of kuna)

Net asset value as at 1/1/2022	58,276
Revaluation in 2022	8,863
Net asset value as at 31/12/2022	67,139

8.3 Off-balance-sheet instruments revaluation differences

This line item shows the net results of the valuations of off-balance sheet instruments in foreign currencies from the trading date to the settlement date. The table below shows the valuation differences of derivative instruments by instrument and currency that are recognised in the balance sheet.

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Foreign exchange swaps (FX SWAP) in JPY	-	15,195	(15,195)	(100)
Foreign exchange swaps (FX SWAP) in USD	-	8,552	(8,552)	(100)
Foreign exchange swaps (FX SWAP) in EUR	-	3,589	(3,589)	(100)
Total	-	27,336	(27,336)	(100)

8.4 Accruals and prepaid expenditure

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Deposits with other banks	3,728	95	3,633	3,824.21
Foreign currency denominated securities not held to maturity	25,592	139,279	(113,687)	(81.63)
Foreign currency denominated securities held to maturity	340,283	178,825	161,458	90.29
Securities held for monetary policy purposes	114,741	136,796	(22,055)	(16.12)
Lending to credit institutions from RC related to monetary policy operations	22,008	23,576	(1,568)	(6.65)
Foreign currency reverse repo agreements	53,754	61	53,693	88,021.31
Foreign exchange swaps (FX SWAP)	14,286	795	13,491	1,696.98
Negative remuneration for TARGET2 participants	–	1,779	(1,779)	(100.00)
Negative interest rates (repo deposits)	–	8,047	(8,047)	(100.00)
Prepaid expenditure	17,636	15,801	1,835	11.61
Other	1,184	1,581	(397)	(25.11)
Total	593,212	506,635	86,577	17.09

The largest part of this position refers to accrued interest on various bases. Due to the increase in investments in deposits with other banks and reverse repo agreements and increase in interest rates in 2022, income from investments in deposits with other banks and in foreign exchange repo reverse contracts increased.

8.5 Sundry

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Cash on hand	–	286	(286)	(100.00)
Numismatics	10,767	11,180	(413)	(3.69)
Receivables	7,356	6,840	516	7.54
Advances given	55,709	2,520	53,189	2,110.67
Other tangible assets	9,887	9,351	536	5.73
Other	2,808	2,404	404	16.81
Total	86,527	32,581	53,946	165.58

The largest amount within the item Advances given in the line item Sundry, HRK 54,889 thousands, is accounted for by advances given for the production of euro coins.

Note 3 – Items of liabilities

1 BANKNOTES AND COINS IN CIRCULATION

(All amounts are expressed in thousands of kuna)	2022	Change (%)
Banknotes and coins in circulation – as at 1 January	44,260,230	–
Increase/(decrease)	(18,242,383)	(41.22)
Banknotes and coins in circulation – total as at 31 December	26,017,847	–

The table below shows the denomination structure of banknotes and coins in circulation:

In HRK	Nominal value	31/12/2022		31/12/2021	
		Pieces	Value in thousands of kuna	Pieces	Value in thousands of kuna
Coins	0.01	129,620,531	1,296	128,917,880	1,289
Coins	0.02	86,297,680	1,726	85,940,198	1,719
Coins	0.05	426,104,497	21,305	433,722,399	21,686
Coins	0.10	604,994,906	60,500	619,830,928	61,983
Coins	0.20	470,045,484	94,009	488,997,610	97,800
Coins	0.50	271,920,708	135,960	283,957,151	141,979
Coins	1	301,288,137	301,288	320,952,373	320,952
Coins	2	181,549,514	363,099	201,374,879	402,750
Coins	5	108,947,644	544,738	135,057,778	675,289
Coins	25	1,472,941	36,824	1,404,104	35,103
Banknotes	5	4,118,141	20,591	4,120,763	20,604
Banknotes	10	50,496,028	504,960	55,801,984	558,020
Banknotes	20	35,410,799	708,216	40,265,969	805,319
Banknotes	50	16,393,195	819,660	20,012,423	1,000,621
Banknotes	100	36,206,252	3,620,625	50,303,499	5,030,350
Banknotes	200	58,891,527	11,778,305	101,430,201	20,286,040
Banknotes	500	4,415,745	2,207,873	9,698,321	4,849,160
Banknotes	1,000	4,796,872	4,796,872	9,949,566	9,949,566
Total			26,017,847		44,260,230

2 LIABILITIES TO CREDIT INSTITUTIONS FROM CROATIA RELATED TO MONETARY POLICY OPERATIONS DENOMINATED IN KUNA

2.1 Current accounts (covering the reserve requirement system)

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Reserve requirements	–	22,550,089	(22,550,089)	(100.00)
Settlement accounts	123,017,830	68,031,877	54,985,953	80.82
Accounts for National Clearing System (NCS) limits	–	675,000	(675,000)	(100.00)
Cash accounts	–	12,677,147	(12,677,147)	(100.00)
Total	123,017,830	103,934,113	19,083,717	18.36

Pursuant to the Decision amending the Decision on reserve requirements (Official Gazette 83/2022), in the maintenance period from 14 December 2022 to 31 December 2022 banks were obliged to maintain the foreign exchange component of reserve requirements by the average daily balance of funds in own foreign exchange (euro) settlement accounts with the Croatian National Bank.

The Decision on the termination of operation of the Croatian Large Value Payment System and the National Clearing System (Official Gazette 133/2022) prescribes the termination of operation of the Croatian Large Value Payment System (hereinafter referred to as 'CLVPS') and the National Clearing System (hereinafter referred to as 'NCS') at the end of the clearing day 30 December 2022. At the end of a clearing day 30 December 2022, the Croatian National Bank closed the accounts of all CLVPS participants, the technical account of the instant payment system operator and the clearing account for the final settlement of payment transactions cleared in the NCS. After the closure of the accounts of CLVPS participants, the funds of CLVPS participants transferred to the account of the Croatian National Bank pursuant to Article 3, paragraph (2), item (c) of this Decision continue to be recorded as the funds in the settlement accounts of banks and other former participants of the CLVPS with the Croatian National Bank. After conversion to the euro at the fixed exchange rate of the amount of kuna funds of an individual participant of the CLVPS, the Croatian National Bank, as at 2 January 2023, credits the PM account of this participant in the TARGET2-HR system in the euro equivalent of the transferred kuna amount.

3 OTHER LIABILITIES TO CREDIT INSTITUTIONS FROM CROATIA DENOMINATED IN KUNA

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Cash deposits – collateral for the frontloading of euro cash	11,032,851	–	11,032,851	–
Court-mandated deposits	71,487	92,888	(21,401)	(23.04)
Total	11,104,338	92,888	11,011,450	11,854.55

Pursuant to the Act on the Introduction of the Euro as the Official Currency in the Republic of Croatia (Official Gazette 57/2022) credit institutions concluded frontloading agreements with the Croatian National Bank, after which the Croatian National Bank started frontloading euro cash to credit insti-

tutions. For the purpose of establishing financial collateral on funds, credit institutions were obliged to transfer funds in the kuna to the account of the Croatian National Bank for the amount of the euro to be received in the frontloading as well as for fulfilling the obligations assumed under the agreement. Financial collateral is considered financial collateral in the sense of the regulation governing financial collaterals, which is based on the transfer of these funds to the account of the Croatian National Bank, and these funds may not be subject to enforcement. The amount of funds transferred by a credit institution to the account of the Croatian National Bank for the purpose of establishing financial collateral on those funds as well as the use and return of funds are regulated by the stated agreement between the Croatian National Bank and the credit institution.

Court-mandated deposits are assets foreclosed pursuant to the Act on the Execution of Enforcement over Monetary Assets.

5 LIABILITIES TO OTHER RESIDENTS IN CROATIA DENOMINATED IN KUNA

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
General government	9,207,863	14,142,448	(4,934,585)	(34.89)
Other liabilities	158,272	242,703	(84,431)	(34.79)
Total	9,366,135	14,385,151	(5,019,016)	(34.89)

6 LIABILITIES TO RESIDENTS OUTSIDE CROATIA DENOMINATED IN KUNA

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Due to European Commission	889,354	474,611	414,743	87.39
Other liabilities	72	143	(71)	(49.65)
Total	889,426	474,754	414,672	87.34

Liabilities to residents outside Croatia denominated in kuna include deposits and transaction accounts of other banks, central banks and international/supranational institutions, including the European Commission. The European Commission has opened HRK transaction account with the Croatian National Bank for the performance of payment transactions.

7 LIABILITIES TO RESIDENTS IN CROATIA DENOMINATED IN FOREIGN CURRENCY

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Due to the State and State institutions	11,910,871	4,434,304	7,476,567	168.61
Bank accounts for EuroNCSInst limits	151,444	–	151,444	–
Foreign currency accounts of TARGET2 participants	17,592,498	12,391,485	5,201,013	41.97
Other liabilities	14,373	17,299	(2,926)	(16.91)
Total	29,669,186	16,843,088	12,826,098	76.15

EuroNCSInst is a payment system for the execution of payment transactions in euro, between the payer and the payee, in almost real time (SEPA instant credit transfer). A SEPA instant credit transfer is a credit transfer that is executed in a very short period (in almost real time, in just a few seconds) – 24 hours a day, 7 days a week and 365 days a year (24/7/365). The Financial Agency (FINA) is the owner and operator of the EuroNCSInst payment system. Instant payment transactions in euro are executed up to the amount of available funds in the bank's clearing account in EuroNCSInst. The bank's available funds in its clearing account consist of the amount of funds the bank allocates as coverage for the execution of instant payment transactions with the Croatian National Bank plus the amount for executed instant payment transactions credited to the bank's clearing account in EuroNCSInst and minus the executed instant payment transactions debited from the bank's clearing account in EuroNCSInst.

Liabilities to residents in Croatia denominated in foreign currency comprise foreign currency accounts of participants in the TARGET2 system. TARGET2 (Trans-European Automated Real-time Gross Settlement Express Transfer system) is a payment system for the settlement of payment transactions in euro on a gross basis in real time. TARGET2 is a system with the Single Shared Platform (SSP), jointly administered by Banca d'Italia, Banque de France and Deutsche Bundesbank on behalf of the Eurosystem. In addition to this Note to the financial statements, business activities related to TARGET2 are presented in Note 2, under 2.2.2 Balances with banks, external loans and other external assets.

8 LIABILITIES TO RESIDENTS OUTSIDE CROATIA DENOMINATED IN FOREIGN CURRENCY

8.1 Deposits, balances and other liabilities

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Foreign currency repo agreements	21,627,740	17,224,021	4,403,719	25.57
Due to European Commission	11,005	799	10,206	1,277.35
Total	21,638,745	17,224,820	4,413,925	25.63

The European Commission has opened the EUR transaction account and the European Development Fund Account in euro with the Croatian National Bank.

9 COUNTERPART OF SPECIAL DRAWING RIGHTS ALLOCATED BY THE IMF

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Net cumulative allocations	9,353,867	9,227,912	125,955	1.36
Total	9,353,867	9,227,912	125,955	1.36

This balance sheet line item is the kuna equivalent of XDR 990,733 thousands (31 December 2021: XDR 990,733 thousands).

10 OTHER LIABILITIES

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Off-balance-sheet instruments revaluation differences	151,137	–	151,137	–
Accruals and income collected in advance	42,954	17,811	25,143	141.17
Sundry	277,301	1,454,189	(1,176,888)	(80.93)
Total	471,392	1,472,000	(1,000,608)	(67.98)

10.1 Off-balance-sheet instruments revaluation differences

This line item shows the net results of the valuations of off-balance sheet instruments in foreign currencies from the trading date to the settlement date. The table below shows the valuation differences of derivative instruments by instrument and currency that are recognised in the balance sheet.

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Foreign exchange swaps (FX SWAP) in JPY	38.031	–	38.031	–
Foreign exchange swaps (FX SWAP) in USD	113.106	–	113.106	–
Total	151.137	–	151.137	–

10.2 Accruals and income collected in advance

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Deposits of RC	2,336	994	1,342	135.01
Repo agreements	15,066	–	15,066	–
Foreign exchange swaps (FX SWAP)	–	316	(316)	(100.00)
Negative remuneration in TARGET2	–	1,811	(1,811)	(100.00)
Negative interest rates	29	13,291	(13,262)	(99.78)
Other	25,523	1,399	24,124	1,724.37
Total	42,954	17,811	25,143	141.17

Negative interest includes accrued negative interest on current accounts, deposits and reverse repo agreements. The largest part of the item Other is accounted for by accrued costs for the received euro coins in the amount of HRK 20,912 thousands.

10.3 Sundry

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Amounts due to employees	19,908	9,869	10,039	101.72
Taxes and contributions	12,679	7,956	4,723	59.36
Due to the Ministry of Finance	16,807	16,341	466	2.85
Trade payables	52,522	49,885	2,637	5.29
Other	175,385	1,370,138	(1,194,753)	(87.20)
Total	277,301	1,454,189	(1,176,888)	(80.93)

The item Other in 2022 comprises the present value of the lease liability in the amount of HRK 43,158 thousands (31 December 2021: HRK 14,885 thousands). The present value of the lease liability is calculated using the discount rate of the Croatian National Bank, which stood at 3% on 31 December 2022 (on 31 December 2021 it was 3%).

The item Other as at 31 December 2021 also includes the existing unrealised gains on financial assets at fair value through other comprehensive income and financial assets at amortised cost in the amount of HRK 1,353,165 thousands, generated during transition to the ECB Guideline and amortised under the straight-line method until the derecognition of the corresponding assets. These unrealised gains were completely realised in 2022 (Note 5, under 1, Net interest income/expense and under 2, Net result of financial operations, write-downs and risk provisions).

11 PROVISIONS

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Provisions for financial risks	3,700,000	3,500,000	200,000	5.71
Provisions for court cases	36,535	36,535	–	0.00
Provisions for employee benefits	30,236	27,298	2,938	10.76
Total	3,766,771	3,563,833	202,938	5.69

Pursuant to the decision of the Council of the Croatian National Bank, provisions for financial risks as at 31 December 2022 increased from the amount of provisions for financial risks as at 31 December 2021 by the amount of HRK 200,000 thousands on the basis of the Croatian National Bank's assessment of its own exposure to financial risks. The amount of provisions for financial risks of the Croatian National Bank is assessed taking into account risk assessment models, the expectations of changes in risk exposure due to new investments or the reduction of existing investments as well as expectations of interest rate trends, currency exchange rates and other market factors, and other expert assessments.

The exposure of the Croatian National Bank to financial risks is described in more detail in Note 6 – Risk management.

12 REVALUATION ACCOUNTS

The table below shows revaluation account balances.

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Securities	2,423	2,149	274	12.75
Foreign currency positions	2,522,251	1,431,162	1,091,089	76.24
Gold	5,426	197	5,229	2,654.31
Other precious metals	457	–	457	–
Significant interests	16,064	7,200	8,864	123.11
Revaluation reserves for fixed assets	331,762	336,419	(4,657)	(1.38)
Revaluation accounts pursuant to the CNB Act	5,772,100	6,100,299	(328,199)	(5.38)
Total	8,650,483	7,877,426	773,057	9.81

The table below shows revaluation accounts for foreign currency positions by currency.

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
EUR	289,836	–	289,836	–
USD	2,232,105	1,430,887	801,218	55.99
XDR	306	238	68	28.57
Other currencies	4	37	(33)	(89.19)
Total	2,522,251	1,431,162	1,091,089	76.24

The table below shows balances in the revaluation accounts established pursuant to the Decision of the Council of the Croatian National Bank, adopted under the provisions of the Act on the Croatian National Bank on transition to reporting in accordance with the ECB Guideline.

(All amounts are expressed in thousands of kuna)	31/12/2022	31/12/2021	Change	
			Absolute	%
Securities	–	328,168	(328,168)	(100.00)
Foreign currency positions	5,772,100	5,772,131	(31)	0.00
Total	5,772,100	6,100,299	(328,199)	(5.38)

The revaluation accounts are used to cover the negative impacts of changes in prices and exchange rates, and the exposure of the Croatian National Bank to these risks is described in more detail in Note 6 – Risk management.

13 CAPITAL AND RESERVES

(All amounts are expressed in thousands of kuna)

	31/12/2022	31/12/2021	Change	
			Absolute	%
Initial capital	2,500,000	2,500,000	–	0.00
General reserves	1,044,719	1,028,784	15,935	1.55
Total	3,544,719	3,528,784	15,935	0.45

The initial capital in the amount of HRK 2,500,000 thousands may not be transferred or pledged. General reserves are established to cover general business risks of the Croatian National Bank. The lower bound of general reserves was determined by the Decision on the determination of the lower bound of the general reserves of the Croatian National Bank, adopted by the Council of the Croatian National Bank, in the amount of HRK 500,000 thousands.

General reserves as at 31 December 2022 amounted to HRK 1,044,719 thousands, which is an increase of HRK 15,935 thousands from 31 December 2021, when they stood at HRK 1,028,784 thousands. The increase in general reserves was due to the transfer of revaluation reserves for fixed assets (buildings) to general reserves (realisation of the revaluation reserve due to depreciation and disposal of assets) in the amount of HRK 4,657 thousands and the allocation of profit for 2021 according to which a part of the profit in the amount of HRK 11,278 thousands was allocated to general reserves.

Note 4 – Off-balance-sheet accounts and treasury inventory system

FOREIGN EXCHANGE SWAPS (FX SWAP)

In 2022, the Croatian National Bank concluded foreign exchange swaps, and the amounts of receivables and payables arising from these transactions as at 31 December 2021 are shown in table below.

(All amounts are expressed in thousands of kuna)

Foreign exchange swaps	31/12/2022		
	USD	JPY	Total
Receivables	1,778,236	–	1,778,236
Payables	–	(1,929,373)	(1,929,373)
Total	1,778,236	(1,929,373)	(151,137)

(All amounts are expressed in thousands of kuna)

Foreign exchange swaps	31/12/2021			Total
	USD	EUR	JPY	
Receivables	1,224,530	464,989	–	1,689,519
Payables	–	–	(1,662,183)	(1,662,183)
Total	1,224,530	464,989	(1,662,183)	27,336

COLLATERAL

Total fair value of collateral obtained for collateralised credits as at 31 December 2022 amounted to HRK 3,471,755 thousands (31 December 2021: HRK 3,539,437 thousands).

Total fair value of collateral obtained by foreign currency reverse repo agreements (sovereign bonds of countries and state institutions rated AAA to A- and securities of international financial institutions rated AAA to AA+) as at 31 December 2022 amounts to HRK 43,387,430 thousands (31 December 2021: HRK 17,542,969 thousands).

Total fair value of collateral given in repo agreements as at 31 December 2022 amounts to HRK 21,221,004 thousands (31 December 2021: HRK 17,182,851 thousands).

CONTINGENT ASSETS

In the previous civil proceedings terminated by a final judgement, in which the claimant was the Croatian National Bank, the Supreme Court of the Republic of Croatia issued a decision annulling the final judgement and the case was referred back to the first instance court for retrial. As the outcome of the reopened civil proceedings is uncertain, these contingent assets were recorded in off-balance sheet records in the amount of HRK 170,788 thousands.

CONTINGENT LIABILITIES AND COMMITMENTS

Legal actions: At 31 December 2022, there were several legal actions outstanding. In the opinion of the management and internal legal advisers of the Croatian National Bank, the Bank may lose certain cases. As a result, provisions for potential losses on such cases were made by the Bank in the amount of HRK 36,535 thousands (see Note 3, under 11, Provisions).

Capital commitments: As at 31 December 2022, the capital commitments of the Croatian National Bank amounted to HRK 18,632 thousands (31 December 2021: HRK 7,298 thousands).

Note 5 – Notes to the Profit and Loss Account

1 NET INTEREST INCOME/EXPENSE

(All amounts are expressed in thousands of kuna)	2022	2021	Change	
			Absolute	%
Foreign currency interest income:				
Foreign currency deposits	58,561	558	58,003	10,394.80
Foreign currency reverse repo agreements	166,274	1,369	164,905	12,045.65
Foreign currency denominated securities not held to maturity	219,543	299,299	(79,756)	(26.65)
Foreign currency denominated securities held to maturity	978,222	494,549	483,673	97.80
Foreign exchange swaps	36,596	797	35,799	4,491.72
Foreign currency repo agreements (negative interest)	82,179	79,158	3,021	3.82
Remuneration of TARGET2 HR component	1,391	–	1,391	–
Other	124,072	367,260	(243,188)	(66.22)
Total	1,666,838	1,242,990	423,848	34.10
Kuna interest income:				
Loans to domestic banks	9,750	11,721	(1,971)	(16.82)
Securities held for monetary policy purposes	472,646	522,311	(49,665)	(9.51)
Other	–	2	(2)	(100.00)
Total	482,396	534,034	(51,638)	(9.67)
Total interest income	2,149,234	1,777,024	372,210	20.95
Foreign currency interest expense				
Ministry of Finance deposits	(2,459)	(38)	(2,421)	6,371.05
Foreign currency repo agreements	(119,141)	(26)	(119,115)	458,134.62
Amortised premium on securities not held to maturity	(250,957)	(615,157)	364,200	(59.20)
Amortised premium on held-to-maturity securities	(286,416)	(254,613)	(31,803)	12.49
Foreign exchange swaps (FX SWAP)	(1,512)	(315)	(1,197)	380.00
Foreign exchange forward (FX FORWARD)	–	(108)	108	(100.00)
Current accounts of CNB clients	(24,972)	–	(24,972)	–
Foreign currency deposits (negative interest)	(53,969)	(81,062)	27,093	(33.42)
Foreign currency reverse repo agreements (negative interest)	(85,892)	(144,188)	58,296	(40.43)
Other	(239)	(381)	142	(37.27)
Total	(825,557)	(1,095,888)	270,331	(24.67)
Kuna interest expense:				
Ministry of Finance deposits	(1,152)	(7,744)	6,592	(85.12)
Amortised premium on securities held for monetary policy purposes	(334,889)	(374,476)	39,587	(10.57)

(All amounts are expressed in thousands of kuna)	2022	2021	Change	
			Absolute	%
Leases	(805)	(221)	(584)	264.25
Total	(336,846)	(382,441)	45,595	(11.92)
Total interest expense	(1,162,403)	(1,478,329)	315,926	(21.37)
Total net interest income/(expense)	986,831	298,695	688,136	230.38

The increase in interest income from foreign currency deposits and foreign currency repo agreements was influenced by the increase in investments in these instruments, as well as the increase in interest rates in 2022, which also affected the increase of interest expenses from foreign currency repo agreements.

2 NET RESULT OF FINANCIAL OPERATIONS, WRITE-DOWNS AND RISK PROVISIONS

(All amounts are expressed in thousands of kuna)	2022	2021	Change	
			Absolute	%
Realised gains/(losses) arising from financial operations				
Foreign exchange differences	499,697	42,558	457,139	1,074.16
Securities	66,396	338,403	(272,007)	(80.38)
Total	566,093	380,961	185,132	48.60
Write-downs on financial assets and positions:				
Foreign exchange:				
Foreign exchange differences	(31)	(277,869)	277,838	(99.99)
Income from the release of revaluation reserves for foreign exchange differences	31	277,869	(277,838)	(99.99)
<i>Total foreign exchange differences</i>	-	-	-	-
Change in prices:				
Securities	(490,990)	(371,832)	(119,158)	32.05
Income from the release of revaluation reserves for change in the prices of securities	328,169	371,832	(43,663)	(11.74)
Assets under management with international financial institutions	(2,631)	(3,266)	635	(19.44)
Gold	-	-	-	-
Other precious metals	-	(223)	223	(100.00)
Significant interests	-	-	-	-
<i>Total change in prices</i>	<i>(165,452)</i>	<i>(3,489)</i>	<i>(161,963)</i>	<i>4,642.10</i>
Total	(165,452)	(3,489)	(161,963)	4,642.10
Transfer to/from provisions for financial risks				
Income from the release of provisions for financial risks	-	-	-	-
Provisions for financial risks	(200,000)	-	(200,000)	-
Total	(200,000)	-	(200,000)	-
Total net result of financial operations, write-downs and risk provisions	200,641	377,472	(176,831)	(46.85)

Foreign exchange losses were covered completely and losses from the prices of securities were covered partially from revaluation accounts established pursuant to the decision of the CNB Council, adopted under the provisions of the Act on the CNB on transition to reporting in accordance with the ECB Guideline.

3 NET INCOME/EXPENSE FROM FEES AND COMMISSIONS

(All amounts are expressed in thousands of kuna)	2022	2021	Change	
			Absolute	%
Fees and commissions income				
Fees for the supervision of credit institutions	58,293	55,426	2,867	5.17
Other	10,088	8,689	1,399	16.10
Total	68,381	64,115	4,266	6.65
Fees and commissions expense				
Securities deposit and custody costs	(13,222)	(11,402)	(1,820)	15.96
Obligatory contribution to EBA budget	(4,913)	(4,881)	(32)	0.66
Other	(23,115)	(7,222)	(15,893)	220.06
Total	(41,250)	(23,505)	(17,745)	75.49
Net fees and commissions income/(expense)	27,131	40,610	(13,479)	(33.19)

The Croatian National Bank charges a fee for the supervision of credit institutions pursuant to the Credit Institutions Act. Entities subject to supervision fees are credit institutions with registered offices in the Republic of Croatia and branches of credit institutions with registered offices outside the Republic of Croatia. The level, calculation method and payment method for the supervision fee is determined by the Decision on supervision fees for credit institutions, issued by the Governor of the Croatian National Bank.

Regulation (EU) No 1093/2010 establishing a European Supervisory Authority (*European Banking Authority* – EBA) defines that competent authorities form part of a European System of Financial Supervision (ESFS), which also comprises the European Banking Authority (EBA). In accordance with the above Regulation, the Croatian National Bank, as the authority competent for the supervision of credit institutions, forms part of the European System of Financial Supervision (ESFS) and a representative of the Croatian National Bank participates as a member in the Board of Supervisors (BoS), the EBA's managing authority. Every year, the Board of Supervisors, in the manner prescribed by Article 63 of the said Regulation, adopts the EBA's budget. The revenues of the EBA funding the budget consist, among other things, of obligatory contributions from the national competent authorities, which are made in accordance with a formula based on the weighting of votes.

The item Other shows the costs of the frontloading of euro cash to banks and of the withdrawing of kuna cash from banks in the amount of HRK 15,561 thousands.

4 INCOME FROM EQUITY SHARES AND PARTICIPATING INTERESTS

(All amounts are expressed in thousands of kuna)	2022	2021	Change	
			Absolute	%
BIS dividend income	6,394	11,425	(5,031)	(44.04)
Total	6,394	11,425	(5,031)	(44.04)

5 OTHER INCOME

(All amounts are expressed in thousands of kuna)	2022	2021	Change	
			Absolute	%
Sale of numismatics and investment gold	2,312	1,653	659	39.87
Other income	8,335	6,309	2,026	32.11
Total	10,647	7,962	2,685	33.72

6 TOTAL OPERATING EXPENSES

(All amounts are expressed in thousands of kuna)	2022	2021	Change	
			Absolute	%
Staff costs	(247,752)	(218,756)	(28,996)	13.25
Administrative expenses	(180,656)	(110,992)	(69,664)	62.76
Depreciation of tangible and intangible fixed assets	(54,795)	(40,045)	(14,750)	36.83
Costs of production of banknotes and coins	(265,057)	(161,664)	(103,393)	63.96
Other costs	(1,157)	(148,319)	147,162	(99.22)
Total	(749,417)	(679,776)	(69,641)	10.24

Administrative expenses include the costs of maintenance of office buildings and other fixed assets, overheads, network programmes maintenance costs, office supplies costs, small inventory costs, professional development costs, the costs of informing and educating the public on the introduction of the euro in the RC, provisions for court cases and other current costs. Depreciation costs for the right of use asset amount to HRK 9,101 thousands in 2022 (31 December 2021: HRK 3,715 thousands) and are reported under Depreciation and amortisation costs. In 2022, the costs of production of banknotes and coins include the amount of HRK 264,595 thousands related to the costs of the procurement and minting of euro coins.

6.1 Staff costs

(All amounts are expressed in thousands of kuna)	2022	2021	Change	
			Absolute	%
Net salaries	131,344	114,635	16,709	14.58
Contributions from and contributions on salaries	65,554	58,954	6,600	11.20
Taxes and surtaxes	24,225	21,060	3,165	15.03
Other employee related expenses	23,691	22,977	714	3.11
Provisions for employee benefits	2,938	1,130	1,808	160.0
Total	247,752	218,756	28,996	13.25

The average number of employees during 2022 was 727 (31 December 2021: 696).

11 PROFIT/(LOSS) FOR THE YEAR

The Croatian National Bank realised profit for 2022 in the amount of HRK 482,227 thousands. The allocation of profit will be performed in the next financial year in compliance with the decision of the Council of the Croatian National Bank on the financial statements of the Croatian National Bank for 2022.

In accordance with the decision of the Council of the Croatian National Bank on the financial statements of the Croatian National Bank for 2021, the realised profit in the amount of HRK 56,388 thousands was allocated as follows: 20% of the profit, i.e., the amount of HRK 11,278 thousands, was allocated to general reserves and 80% of the profit, i.e., the amount of HRK 45,110 thousands constitutes revenue to the State Budget.

Note 6 – Risk management

The Croatian National Bank manages international reserves of the Republic of Croatia based on the principles of liquidity and safety, which means that it maintains high liquidity of international reserves and appropriate risk exposures and seeks to achieve favourable return on its investments within the defined limits.

Risks inherent to managing international reserves consist primarily of financial risks such as credit risk, liquidity risk and market risk. However, considerable attention is given also to operating risk.

Operating risk is the risk of loss due to inappropriate or inefficient internal processes, employees or systems or due to the events external to the Bank. Operating risk is managed by strict segregation of duties and responsibilities, formalised methodologies and procedures and by conducting regular internal and external audits.

The revaluation accounts and provisions for financial risks are risk buffers, with the revaluation accounts used as the first level of protection against the risk of a fall in prices and exchange rates, while provisions for financial risks can be used to cover the negative impacts on the profit and loss account arising from all financial risks.

6.1 CREDIT RISK

Credit risk is the risk that the counterparty will not settle its liability i.e. the possibility that invested funds will not be recovered in full or within the planned schedule.

The Croatian National Bank manages its credit risk exposure by investing its international reserve funds into high-quality instruments with minimum risk, such as government bonds, government guaranteed bonds, bank bonds with government guarantees and guaranteed bonds, into instruments of international financial institutions with high credit rating and into both collateralised and non-collateralised deposits. Collateralised deposits represent deposits secured by government bonds in the amount equal to or in excess of the value of the deposit. Collateralised deposits represent deposits secured by government bonds in the amount equal to or in excess of the value of the deposit. Uncollateralised deposits are invested only with central banks and international financial institutions.

Its assessment of financial institutions' creditworthiness is based on the ratings of major internationally recognized rating agencies (Moody's, Standard & Poor's, and Fitch).

International reserves placements are limited per types of issuer and per types of financial institutions, which diversifies credit risk.

The Croatian National Bank invests international reserve funds in government bonds and government guaranteed bonds of countries rated Aaa to Baa3 (Moody's), guaranteed bonds with ratings from Aaa to Aa2, reverse repo agreements with commercial banks with ratings of Aaa to Baa3, deposits with central banks rated Aaa to Baa3, instruments with international financial institutions rated Aaa to A2, and deposits placed with commercial banks rated Aaa to A3 for the purpose of carrying out foreign currency transactions.

6.1.1 Maximum balance sheet exposure to credit risk

The tables below show maximum exposure to credit risk based on the amounts recognised in the balance sheet.

(All amounts are expressed in thousands of kuna)

Balance sheet line item			Accrued interest (Balance sheet line item A8.4)	Accrued negative interest (Balance sheet line item O10.2)	Maximum exposure to credit risk as at 31/12/2022
Description	Code	Amount			
Balance as at 31 December 2022					
Receivables from the International Monetary Fund	2.1	9,373,287	–	–	9,373,287
Foreign currency denominated securities not held to maturity	2.2	–	–	–	–
Government securities		34,427,854	25,592	–	34,453,446
Guaranteed bonds		–	–	–	–
Securities of international financial institutions		376,502	–	–	376,502
Bank bonds with government guarantees		–	–	–	–
Total foreign currency denominated securities not held to maturity		34,804,356	25,592	–	34,829,948
Foreign currency denominated securities held to maturity	2.2				
Government securities		80,685,456	277,470	–	80,962,926
Guaranteed bonds		3,029,611	16,226	–	3,045,837
Securities of international financial institutions		9,408,429	31,002	–	9,439,431
Bank bonds with government guarantees		5,594,168	15,585	–	5,609,753
Total foreign currency denominated securities held to maturity		98,717,664	340,283	–	99,057,947
Foreign currency deposits	2.2				
Current accounts		47,955	1	(29)	47,927
Deposits with other banks		14,720,538	3,727	–	14,724,265
Funds in TARGET2		19,369,122	547	–	19,369,669
Total foreign currency deposits		34,137,615	4,275	(29)	34,141,861
Foreign currency reverse repo agreements	2.2	48,063,174	53,754	–	48,116,928
Foreign exchange swaps	8.3	–	–	–	–
Other foreign currency financial assets	8.4 and 8.5	128,907	–	–	128,907

Balance sheet line item			Accrued interest	Accrued negative	Maximum
Description	Code	Amount	(Balance sheet line item A8.4)	interest (Balance sheet line item O10.2)	exposure to credit risk as at 31/12/2022
Kuna loans	5.2	2,827,000	22,008	–	2,849,008
Securities of the Republic of Croatia held for monetary policy purposes	7.1	16,206,272	114,741	–	16,321,013
Other kuna financial assets	8.4 and 8.5	6,085	–	–	6,085
TOTAL		244,264,360	560,653	(29)	244,824,984

Balance sheet line item			Accrued interest	Accrued negative	Maximum
Description	Code	Amount	(Balance sheet line item A8.4)	interest (Balance sheet line item O10.2)	exposure to credit risk as at 31/12/2022
Balance as at 31 December 2021					
Receivables from the International Monetary Fund	2.1.	9,250,190	–	–	9,250,190
Foreign currency denominated securities not held to maturity	2.2.				
Government securities		52,431,707	134,506	–	52,566,213
Guaranteed bonds		60,471	76	–	60,547
Securities of international financial institutions		774,566	3,131	–	777,697
Bank bonds with government guarantees		1,098,512	1,566	–	1,100,078
Total foreign currency denominated securities not held to maturity		54,365,256	139,279	–	54,504,535
Foreign currency denominated securities held to maturity	2.2.				
Government securities		30,997,487	154,372	–	31,151,859
Guaranteed bonds		1,815,087	1,941	–	1,817,028
Securities of international financial institutions		2,588,303	18,208	–	2,606,511
Bank bonds with government guarantees		1,979,360	4,304	–	1,983,664
Total foreign currency denominated securities held to maturity		37,380,237	178,825	–	37,559,062
Foreign currency deposits	2.2.				
Current accounts		27,041,120	–	(2,058)	27,039,062
Deposits with other banks		8,164,056	95	(4,014)	8,160,137
Funds in TARGET2		12,461,619	–	–	12,461,619
Total foreign currency deposits		47,666,795	95	(6,072)	47,660,818
Foreign currency reverse repo agreements	2.2.	17,569,486	61	(7,219)	17,562,328
Foreign exchange swaps	8.3	27,336	795	(316)	27,815
Other foreign currency financial assets	8.4 and 8.5	10,905	–	–	10,905
Kuna loans	5.2	3,067,000	23,576	–	3,090,576
Securities of the Republic of Croatia held for monetary policy purposes	7.1	18,357,930	136,796	–	18,494,726
Other kuna financial assets	8.4 and 8.5	6,928	–	–	6,928
TOTAL		187,702,063	479,427	(13,607)	188,167,883

6.2 LIQUIDITY RISK

Liquidity risk is the risk of inability to settle all the liabilities and obligations arising from the operations of the Croatian National Bank as they fall due. Hence, the Croatian National Bank has to ensure, through its strategy, sufficient liquid funds on a daily basis to settle all of its liabilities and commitments. Liquidity risk is controlled by investing the international reserve funds into highly marketable bonds and partly in deposit instruments with short maturities.

Liquid funds include all assets that are convertible into cash within a period of one to three days. The Croatian National Bank invests international reserves into deposits with maturities of up to three months and into securities, provided that securities not held to maturity are readily convertible into cash at any time. At 31 December 2022, 18.5% of net international reserves were liquid and at the 31 December of 2021 approximately 66% of net international reserves were liquid.

In accordance with the accounting policies of the Croatian National Bank, the tables below show the exposure of the Croatian National Bank to foreign currency liquidity risk. The tables classify the financial liabilities of the Croatian National Bank into relevant groupings by remaining contractual maturity from the reporting date. The tables have been drawn up based on the undiscounted cash flows of financial liabilities in foreign currency on the earliest date on which payment could be required, and include both interest and principal cash flows as well as future interest expenses.

(All amounts are expressed in thousands of kuna)	Up to 1 month	1 to 3 months	From 3 months to 1 year	From 1 to 5 years	Over 5 years	Total	Book value
Balance as at 31 December 2022							
7 Liabilities to residents in Croatia denominated in foreign currency	29,669,186	–	–	–	–	29,669,186	29,669,186
8 Liabilities to residents outside Croatia denominated in foreign currency	21,638,745	–	–	–	–	21,638,745	21,638,745
8.1 Deposits, balances and other liabilities	21,638,745	–	–	–	–	21,638,745	21,638,745
8.2 Liabilities arising from the credit facility under Exchange Rate Mechanism (ERM) II	–	–	–	–	–	–	–
9 Counterpart of special drawing rights allocated by the IMF	–	–	–	–	9,353,867	9,353,867	9,353,867
10 Other liabilities	151,702	–	–	–	–	151,702	151,731
10.1 Off-balance-sheet instruments revaluation differences	–	–	–	–	–	–	–
10.2 Accruals and income collected in advance	17,686	–	–	–	–	17,686	17,715
10.3 Sundry	134,016	–	–	–	–	134,016	134,016
Total liabilities	51,459,633	–	–	–	9,353,867	60,813,500	60,813,529

(All amounts are expressed in thousands of kuna)	Up to 1 month	1 to 3 months	From 3 months to 1 year	From 1 to 5 years	Over 5 years	Total	Book value
Balance as at 31 December 2021							
7 Liabilities to residents in Croatia denominated in foreign currency	16,843,088	–	–	–	–	16,843,088	16,843,088
8 Liabilities to residents outside Croatia denominated in foreign currency	17,209,728	–	–	–	–	17,209,728	17,224,820
8.1 Deposits, balances and other liabilities	17,209,728	–	–	–	–	17,209,728	17,224,820
8.2 Liabilities arising from the credit facility under Exchange Rate Mechanism (ERM) II	–	–	–	–	–	–	–
9 Counterpart of special drawing rights allocated by the IMF	–	–	–	–	9,227,912	9,227,912	9,227,912
10 Other liabilities	1,359,325	–	–	–	–	1,359,325	1,372,616
10.1 Off-balance-sheet instruments revaluation differences	–	–	–	–	–	–	–
10.2 Accruals and income collected in advance	2,403	–	–	–	–	2,403	15,694
10.3 Sundry	1,356,922	–	–	–	–	1,356,922	1,356,922
Total liabilities	35,412,141	–	–	–	9,227,912	44,640,053	44,668,436

Note: Liabilities to residents outside Croatia denominated in foreign currency comprise accrued negative interest reported as assets in the balance sheet line item A8.4. Other liabilities in the table above do not include accrued negative interest on financial assets, presented as other liabilities in the statement of financial position.

6.3 MARKET RISK

Market risk is the risk of fluctuations in the fair value or future cash flows of a financial instrument due to changes in market prices. Market risk includes foreign exchange risk, interest rate risk and other price risks.

Foreign exchange risk (risk of changes in value of one currency against another) is the risk of fluctuation in fair value or future cash flows of a financial instrument due to changes in foreign exchange rates.

Interest rate risk is the risk of fluctuations in fair value or future cash flows of a financial instrument due to changes in market interest rates.

Other price risks include the risk of fluctuations in fair value or future cash flows of financial instruments due to changes in market prices that do not arise from interest rate or foreign exchange risk.

6.3.1 Foreign exchange risk

The Croatian National Bank holds most of its assets in foreign currencies, which exposes it to foreign exchange risk in terms of fluctuations in the exchange rates of the kuna against the euro and the US dollar. These cross-currency changes affect the balances of revaluation accounts in the balance sheet and the profit and loss account result.

The Croatian National Bank takes on exposure to foreign exchange risk only in respect of net international reserves, covering part of the reserves it manages in accordance with its own guidelines (net international reserves exclude the Ministry of Finance and European Commission funds, XDR holdings

with the IMF and investments in repo agreements). A high proportion of the euro contributes to reducing volatility due to the stable exchange rate of the euro against the kuna. Although VaR analysis for foreign exchange risk and various stress tests are made, the currency structure is not defined by these measures, but primarily by the currency structure of debt and imports. Accordingly, VaR limits are not set, nor is back-testing implemented.

The portion of international reserves formed out of the allocated foreign exchange reserve requirement, the Ministry of Finance funds, repo deals and funds in special drawing rights (XDR) is managed passively by the central bank, based on the currency structure of foreign currency obligations; hence, there is no exposure to foreign exchange risk on this basis.

Currency VaR for a period of one year with a confidence level of 95% is HRK 5.1 billion.

6.3.1.1 Sensitivity analysis – impact of percentage fluctuations in exchange rates on the profit and loss account and balance sheet

Sensitivity analysis at 31 December 2022

(All amounts are expressed in thousands of kuna)

31/12/2022	USD	EUR
Exchange rate appreciation/depreciation	±5%	±1%
Effect of change in exchange rates on the revaluation account/profit and loss account	1,063,570/(1,063,570)	1,470,947/(1,470,947)

The table above shows the sensitivity of the Croatian National Bank balance sheet and profit and loss account result in the case of an increase/decrease in the EUR/HRK exchange rate by ±1% and in the case of an increase/decrease in the USD/HRK exchange rate by ±5%. Historically, the yearly volatility of the USD/HRK exchange rate has been about five times higher than the EUR/HRK exchange rate volatility.

A positive figure denotes an increase in the revaluation account in the balance sheet if the kuna exchange rate appreciates against the relevant currency by the selected percentage (i.e. the kuna value depreciates in relation to the relevant currency), and if the kuna exchange rate depreciates against the relevant currency (i.e. the kuna value appreciates in relation to the relevant currency) the negative figure denotes a decrease in the profit and loss account result (if it exceeds previous revaluation gains registered in the corresponding revaluation account).

In the case of a 1% decrease in the EUR/HRK exchange rate as at 31 December 2022, negative impact would be lower by approximately HRK 1,470,947 thousands, while in the case of a 5% decrease in the USD/HRK exchange rate, the negative impact would be lower by approximately HRK 1,063,570 thousands.

Calculation methodology

The amount of the net euro and net US dollar international reserves as at balance sheet date is multiplied by the difference between the EUR/HRK exchange rate or the USD/HRK exchange rate valid at that date and those rates increased/decreased by the relevant percentages.

Sensitivity analysis at 31 December 2021

(All amounts are expressed in thousands of kuna)

31/12/2021	USD	EUR
Exchange rate appreciation/depreciation	±5%	±1%
Effect of change in exchange rates on the revaluation account/profit and loss account	982,390/(982,390)	1,422,068/(1,422,068)

6.3.1.2 CNB exposure to foreign exchange risk – analysis of assets and liabilities by currency

(All amounts are expressed in thousands of kuna)

	EUR	HRK linked to EUR	USD	XDR	HRK linked to XDR	Other foreign currencies	HRK	Total
Balance as at 31 December 2022								
Assets								
1 Gold and gold receivables	-	-	-	-	-	-	804,668	804,668
2 Claims on residents outside Croatia denominated in foreign currency	194,189,911	-	20,978,262	9,373,287	3,376	1,963,538	-	226,508,374
2.1 Receivables from the International Monetary Fund (IMF)	-	-	-	9,373,287	3,376	-	-	9,376,663
2.2 Balances with banks and security investments, external loans and other external assets	194,189,911	-	20,978,262	-	-	1,963,538	-	217,131,711
3 Claims on residents in Croatia denominated in foreign currency	128,731	-	-	-	-	-	-	128,731
4 Claims on residents outside Croatia denominated in kuna	-	-	-	-	-	-	-	-
4.1 Balances with banks, security investments and loans	-	-	-	-	-	-	-	-
4.2 Claims arising from the credit facility under Exchange Rate Mechanism (ERM) II	-	-	-	-	-	-	-	-
5 Lending to credit institutions from Croatia related to monetary policy operations denominated in kuna	-	-	-	-	-	-	2,827,000	2,827,000
5.1 Regular operations	-	-	-	-	-	-	-	-
5.2 Structural operations	-	-	-	-	-	-	2,827,000	2,827,000
5.3 Fine-tuning operations	-	-	-	-	-	-	-	-
5.4 Overnight loans	-	-	-	-	-	-	-	-
6 Other claims on credit institutions from Croatia denominated in kuna	-	-	-	-	-	-	-	-
7 Securities of residents in Croatia denominated in kuna	-	2,365,739	-	-	-	-	13,840,533	16,206,272
7.1 Securities held for monetary policy purposes	-	2,365,739	-	-	-	-	13,840,533	16,206,272
7.2 Other securities	-	-	-	-	-	-	-	-
8 Other assets	359,006	12,688	80,438	-	-	665	1,045,124	1,497,921
8.1 Tangible and intangible fixed assets	1036	-	-	-	-	-	688,059	689,095
8.2 Other financial assets	-	-	-	-	-	-	129,087	129,087
8.3 Off-balance-sheet instruments revaluation differences	-	-	-	-	-	-	-	-
8.4 Accruals and prepaid expenditure	357,708	11,516	80,437	-	-	665	142,886	593,212
8.5 Sundry	262	1,172	1	-	-	-	85,092	86,527
9 Loss for the year	-	-	-	-	-	-	-	-
Total assets	194,677,648	2,378,427	21,058,700	9,373,287	3,376	1,964,203	18,517,325	247,972,966

(All amounts are expressed in thousands of kuna)	EUR	HRK linked to EUR	USD	XDR	HRK linked to XDR	Other foreign currencies	HRK	Total
Balance as at 31 December 2022								
Payables								
1 Banknotes and coins in circulation	–	–	–	–	–	–	26,017,847	26,017,847
2 Liabilities to credit institutions from Croatia related to monetary policy operations denominated in kuna	–	–	–	–	–	–	123,017,830	123,017,830
2.1 Current accounts (covering the reserve requirement system)	–	–	–	–	–	–	123,017,830	123,017,830
2.2 Overnight deposits	–	–	–	–	–	–	–	–
2.3 Fixed-term deposits	–	–	–	–	–	–	–	–
2.4 Deposits related to margin calls	–	–	–	–	–	–	–	–
3 Other liabilities to credit institutions from Croatia denominated in kuna	–	–	–	–	–	–	11,104,338	11,104,338
4 Debt securities of the Croatian National Bank	–	–	–	–	–	–	–	–
5 Liabilities to other residents in Croatia denominated in kuna	–	–	–	–	–	–	9,366,135	9,366,135
5.1 General government	–	–	–	–	–	–	9,207,863	9,207,863
5.2 Other liabilities	–	–	–	–	–	–	158,272	158,272
6 Liabilities to residents outside Croatia denominated in kuna	–	–	–	–	–	–	889,426	889,426
7 Liabilities to residents in Croatia denominated in foreign currency	29,587,524	–	34,214	14,373	–	33,075	–	29,669,186
8 Liabilities to residents outside Croatia denominated in foreign currency	20,107,519	–	1,531,226	–	–	–	–	21,638,745
8.1 Deposits, balances and other liabilities	20,107,519	–	1,531,226	–	–	–	–	21,638,745
8.2 Liabilities arising from the credit facility under Exchange Rate Mechanism (ERM) II	–	–	–	–	–	–	–	–
9 Counterpart of special drawing rights allocated by the IMF	–	–	–	9,353,867	–	–	–	9,353,867
10 Other liabilities	150,361	30,276	1,245	–	–	125	289,385	471,392
10.1 Off-balance-sheet instruments revaluation differences	–	–	–	–	–	–	151,137	151,137
10.2 Accruals and income collected in advance	16,506	–	1,208	–	–	1	25,239	42,954
10.3 Sundry	133,855	30,276	37	–	–	124	113,009	277,301
Total liabilities	49,845,404	30,276	1,566,685	9,368,240	–	33,200	170,684,961	231,528,766
Net position	144,832,244	2,348,151	19,492,015	5,047	3,376	1,931,003	(152,167,636)	16,444,200

(All amounts are expressed in thousands of kuna)

	EUR	HRK linked to EUR	USD	XDR	HRK linked to XDR	Other foreign currencies	HRK	Total
Balance as at 31 December 2021								
Assets								
1 Gold and gold receivables	-	-	-	-	-	-	4.601	4.601
2 Claims on residents outside Croatia denominated in foreign currency	170,321,269	-	18,865,254	9,250,190	3,147	1,739,568	-	200,179,428
2.1 Receivables from the International Monetary Fund (IMF)	-	-	-	9,250,190	3,147	-	-	9,253,337
2.2 Balances with banks and security investments, external loans and other external assets	170,321,269	-	18,865,254	-	-	1,739,568	-	190,926,091
3 Claims on residents in Croatia denominated in foreign currency	-	-	-	-	-	-	-	-
4 Claims on residents outside Croatia denominated in kuna	-	-	-	-	-	-	-	-
4.1 Balances with banks, security investments and loans	-	-	-	-	-	-	-	-
4.2 Claims arising from the credit facility under Exchange Rate Mechanism (ERM) II	-	-	-	-	-	-	-	-
5 Lending to credit institutions from Croatia related to monetary policy operations denominated in kuna	-	-	-	-	-	-	3,067,000	3,067,000
5.1 Regular operations	-	-	-	-	-	-	-	-
5.2 Structural operations	-	-	-	-	-	-	3,067,000	3,067,000
5.3 Fine-tuning operations	-	-	-	-	-	-	-	-
5.4 Overnight loans	-	-	-	-	-	-	-	-
6 Other claims on credit institutions from Croatia denominated in kuna	-	-	-	-	-	-	-	-
7 Securities of residents in Croatia denominated in kuna	-	3,260,725	-	-	-	-	15,097,205	18,357,930
7.1 Securities held for monetary policy purposes	-	3,260,725	-	-	-	-	15,097,205	18,357,930
7.2 Other securities	-	-	-	-	-	-	-	-
8 Other assets	251,423	25,449	78,835	-	-	314	976,407	1,332,428
8.1 Tangible and intangible fixed assets	-	-	-	-	-	-	645,652	645,652
8.2 Other financial assets	-	-	-	-	-	-	120,224	120,224
8.3 Off-balance-sheet instruments revaluation differences	-	-	-	-	-	-	27,336	27,336
8.4 Accruals and prepaid expenditure	251,281	23,930	78,835	-	-	314	152,275	506,635
8.5 Sundry	142	1,519	-	-	-	-	30,920	32,581
9 Loss for the year	-	-	-	-	-	-	-	-
Total assets	170,572,692	3,286,174	18,944,089	9,250,190	3,147	1,739,882	19,145,213	222,941,387

(All amounts are expressed in thousands of kuna)	EUR	HRK linked to EUR	USD	XDR	HRK linked to XDR	Other foreign currencies	HRK	Total
Balance as at 31 December 2021								
Payables								
1 Banknotes and coins in circulation	–	–	–	–	–	–	44,260,230	44,260,230
2 Liabilities to credit institutions from Croatia related to monetary policy operations denominated in kuna	–	–	–	–	–	–	103,934,113	103,934,113
2.1 Current accounts (covering the reserve requirement system)	–	–	–	–	–	–	103,934,113	103,934,113
2.2 Overnight deposits	–	–	–	–	–	–	–	–
2.3 Fixed-term deposits	–	–	–	–	–	–	–	–
2.4 Deposits related to margin calls	–	–	–	–	–	–	–	–
3 Other liabilities to credit institutions from Croatia denominated in kuna	–	–	–	–	–	–	92,888	92,888
4 Debt securities of the Croatian National Bank	–	–	–	–	–	–	–	–
5 Liabilities to other residents in Croatia denominated in kuna	–	–	–	–	–	–	14,385,151	14,385,151
5.1 General government	–	–	–	–	–	–	14,142,448	14,142,448
5.2 Other liabilities	–	–	–	–	–	–	242,703	242,703
6 Liabilities to residents outside Croatia denominated in kuna	–	–	–	–	–	–	474,754	474,754
7 Liabilities to residents in Croatia denominated in foreign currency	16,712,369	–	37,452	17,299	–	75,968	–	16,843,088
8 Liabilities to residents outside Croatia denominated in foreign currency	16,590,222	–	634,598	–	–	–	–	17,224,820
8.1 Deposits, balances and other liabilities	16,590,222	–	634,598	–	–	–	–	17,224,820
8.2 Liabilities arising from the credit facility under Exchange Rate Mechanism (ERM) II	–	–	–	–	–	–	–	–
9 Counterpart of special drawing rights allocated by the IMF	–	–	–	9,227,912	–	–	–	9,227,912
10 Other liabilities	1,221,382	14,885	151,228	–	–	6	84,499	1,472,000
10.1 Off-balance-sheet instruments revaluation differences	–	–	–	–	–	–	–	–
10.2 Accruals and income collected in advance	15,688	–	–	–	–	6	2,117	17,811
10.3 Sundry	1,205,694	14,885	151,228	–	–	–	82,382	1,454,189
Total liabilities	34,523,973	14,885	823,278	9,245,211	–	75,974	163,231,635	207,914,956
Net position	136,048,719	3,271,289	18,120,811	4,979	3,147	1,663,908	(144,086,422)	15,026,431

6.3.2 Interest rate risk

Interest rate risk is the risk of a decline in the value of the Croatian National Bank's foreign currency portfolios of international reserves due to possible changes in interest rates on the fixed-yield instrument markets.

Net international reserves, which are managed in accordance with the CNB's own guidelines, are invested in trading and investment portfolios. An investment portfolio of securities may be formed as a not held to maturity portfolio and as an available for sale portfolio. Both of such portfolios serve as long-term sources of stable income and are of long average maturity.

The Croatian National Bank has, through the profit and loss account, an open exposure to interest rate risk only with the trading portfolios, while with the investment portfolios it almost has no exposure to interest rate risk.

The part of the reserves that consists of the Ministry of Finance funds, funds based on repo agreements with banks, swap interventions in the domestic foreign exchange market, the membership in the IMF and other property owned by other legal entities, is operated by the CNB in accordance with commitments, in order to protect it against interest rate risk.

6.3.2.1 Sensitivity analysis – exposure of the CNB's net international reserves to fluctuations in interest rates

Sensitivity analysis at 31 December 2022

(All amounts are expressed in thousands of kuna)

31/12/2022	USD	EUR
Yield curve increase/decrease	±1% b.p.	±1% b.p.
Effect of change in the level of the yield curve on the revaluation account and profit and loss account	(827)/827	(3,275)/3,275

Should as at 31 December 2022 the entire USD yield curve increase by 1 basis point (0.01%), the Croatian National Bank profit and loss account result would be lower by approximately HRK 827 thousands, while in the case of the EUR yield curve increasing by 1 basis point, the result would be lower by approximately HRK 3,275 thousands.

In the case of a 1 basis point decrease of the yield curve, the result in the revaluation account in the Balance Sheet would be higher by approximately the same amounts.

Calculation methodology

The values of USD and EUR trade portfolios as at balance sheet date were multiplied by modified duration and by 1 basis point (0.01%). Modified duration denotes by how many basis points the value of the portfolio will decrease should the interest rate curve increase by 1 percentage point.

Sensitivity analysis at 31 December 2021

(All amounts are expressed in thousands of kuna)

31/12/2021	USD	EUR
Yield curve increase/decrease	±1% b.p.	±1% b.p.
Effect of change in the level of the yield curve on the revaluation account and profit and loss account	(551)/551	(4,615)/4,615

6.3.2.2 Interest rate risk analysis

(All amounts are expressed in thousands of kuna)

	Up to 1 month	1 to 3 months	3 months to 1 year	From 1 to 5 years	Over 5 years	Non-interest bearing	Total
Balance as at 31 December 2022							
Assets							
1 Gold and gold receivables	-	-	-	-	-	804,668	804,668
2 Claims on residents outside Croatia denominated in foreign currency	127,877,617	1,052,120	2,899,749	49,520,748	43,627,942	1,530,198	226,508,374
2.1 Receivables from the International Monetary Fund (IMF)	9,368,385	-	-	-	-	8,278	9,376,663
2.2 Balances with banks and security investments, external loans and other external assets	118,509,232	1,052,120	2,899,749	49,520,748	43,627,942	1,521,920	217,131,711
3 Claims on residents in Croatia denominated in foreign currency	-	-	-	-	-	128,731	128,731
4 Claims on residents outside Croatia denominated in kuna	-	-	-	-	-	-	-
4.1 Balances with banks, security investments and loans	-	-	-	-	-	-	-
4.2 Claims arising from the credit facility under Exchange Rate Mechanism (ERM) II	-	-	-	-	-	-	-
5 Lending to credit institutions from Croatia related to monetary policy operations denominated in kuna	-	-	67,000	2,760,000	-	-	2,827,000
5.1 Regular operations	-	-	-	-	-	-	-
5.2 Structural operations	-	-	67,000	2,760,000	-	-	2,827,000
5.3 Fine-tuning operations	-	-	-	-	-	-	-
5.4 Overnight loans	-	-	-	-	-	-	-
6 Other claims on credit institutions from Croatia denominated in kuna	-	-	-	-	-	-	-
7 Securities of residents in Croatia denominated in kuna	-	-	1,135,842	7,879,982	7,190,448	-	16,206,272
7.1 Securities held for monetary policy purposes	-	-	1,135,842	7,879,982	7,190,448	-	16,206,272
7.2 Other securities	-	-	-	-	-	-	-
8 Other assets	-	-	-	-	-	1,497,921	1,497,921
8.1 Tangible and intangible fixed assets	-	-	-	-	-	689,095	689,095
8.2 Other financial assets	-	-	-	-	-	129,087	129,087
8.3 Off-balance-sheet instruments revaluation differences	-	-	-	-	-	-	-
8.4 Accruals and prepaid expenditure	-	-	-	-	-	593,212	593,212
8.5 Sundry	-	-	-	-	-	86,527	86,527
9 Loss for the year	-	-	-	-	-	-	-
Total assets	127,877,617	1,052,120	4,102,591	60,160,730	50,818,390	3,961,518	247,972,966

(All amounts are expressed in thousands of kuna)	Up to 1 month	1 to 3 months	3 months to 1 year	From 1 to 5 years	Over 5 years	Non-interest bearing	Total
Balance as at 31 December 2022							
Payables							
1 Banknotes and coins in circulation	–	–	–	–	–	26,017,847	26,017,847
2 Liabilities to credit institutions from Croatia related to monetary policy operations denominated in kuna	–	–	–	–	–	123,017,830	123,017,830
2.1 Current accounts (covering the reserve requirement system)	–	–	–	–	–	123,017,830	123,017,830
2.2 Overnight deposits	–	–	–	–	–	–	–
2.3 Fixed-term deposits	–	–	–	–	–	–	–
2.4 Deposits related to margin calls	–	–	–	–	–	–	–
3 Other liabilities to credit institutions from Croatia denominated in kuna	–	–	–	–	–	11,104,338	11,104,338
4 Debt securities of the Croatian National Bank	–	–	–	–	–	–	–
5 Liabilities to other residents in Croatia denominated in kuna	7,778,374	–	–	–	–	1,587,761	9,366,135
5.1 General government	7,778,374	–	–	–	–	1,429,489	9,207,863
5.2 Other liabilities	–	–	–	–	–	158,272	158,272
6 Liabilities to residents outside Croatia denominated in kuna	–	–	–	–	–	889,426	889,426
7 Liabilities to residents in Croatia denominated in foreign currency	28,140,798	–	–	–	–	1,528,388	29,669,186
8 Liabilities to residents outside Croatia denominated in foreign currency	21,627,740	–	–	–	–	11,005	21,638,745
8.1 Deposits, balances and other liabilities	21,627,740	–	–	–	–	11,005	21,638,745
8.2 Liabilities arising from the credit facility under Exchange Rate Mechanism (ERM II)	–	–	–	–	–	–	–
9 Counterpart of special drawing rights allocated by the IMF	9,353,867	–	–	–	–	–	9,353,867
10 Other liabilities	1,064	2,135	9,739	30,220	–	428,234	471,392
10.1 Off-balance-sheet instruments revaluation differences	–	–	–	–	–	151,137	151,137
10.2 Accruals and income collected in advance	–	–	–	–	–	42,954	42,954
10.3 Sundry	1,064	2,135	9,739	30,220	–	234,143	277,301
Total liabilities	66,901,843	2,135	9,739	30,220	–	164,584,829	231,528,766
Net position	60,975,774	1,049,985	4,092,852	60,130,510	50,818,390	(160,623,311)	16,444,200

(All amounts are expressed in thousands of kuna)	Up to 1 month	1 to 3 months	3 months to 1 year	From 1 to 5 years	Over 5 years	Non-interest bearing	Total
Balance as at 31 December 2021							
Assets							
1 Gold and gold receivables	-	-	-	-	-	4,601	4,601
2 Claims on residents outside Croatia denominated in foreign currency	124,450,033	7,480,611	2,832,804	15,968,322	15,495,358	33,952,300	200,179,428
2.1 Receivables from the International Monetary Fund (IMF)	9,245,354	-	-	-	-	7,983	9,253,337
2.2 Balances with banks and security investments, external loans and other external assets	115,204,679	7,480,611	2,832,804	15,968,322	15,495,358	33,944,317	190,926,091
3 Claims on residents in Croatia denominated in foreign currency	-	-	-	-	-	-	-
4 Claims on residents outside Croatia denominated in kuna	-	-	-	-	-	-	-
4.1 Balances with banks, security investments and loans	-	-	-	-	-	-	-
4.2 Claims arising from the credit facility under Exchange Rate Mechanism (ERM) II	-	-	-	-	-	-	-
5 Lending to credit institutions from Croatia related to monetary policy operations denominated in kuna	-	-	150,000	2,917,000	-	-	3,067,000
5.1 Regular operations	-	-	-	-	-	-	-
5.2 Structural operations	-	-	150,000	2,917,000	-	-	3,067,000
5.3 Fine-tuning operations	-	-	-	-	-	-	-
5.4 Overnight loans	-	-	-	-	-	-	-
6 Other claims on credit institutions from Croatia denominated in kuna	-	-	-	-	-	-	-
7 Securities of residents in Croatia denominated in kuna	-	1,436,668	407,683	9,248,791	7,264,788	-	18,357,930
7.1 Securities held for monetary policy purposes	-	1,436,668	407,683	9,248,791	7,264,788	-	18,357,930
7.2 Other securities	-	-	-	-	-	-	-
8 Other assets	-	-	-	-	-	1,332,428	1,332,428
8.1 Tangible and intangible fixed assets	-	-	-	-	-	645,652	645,652
8.2 Other financial assets	-	-	-	-	-	120,224	120,224
8.3 Off-balance-sheet instruments revaluation differences	-	-	-	-	-	27,336	27,336
8.4 Accruals and prepaid expenditure	-	-	-	-	-	506,635	506,635
8.5 Sundry	-	-	-	-	-	32,581	32,581
9 Loss for the year	-	-	-	-	-	-	-
Total assets	124,450,033	8,917,279	3,390,487	28,134,113	22,760,146	35,289,329	222,941,387

(All amounts are expressed in thousands of kuna)

	Up to 1 month	1 to 3 months	3 months to 1 year	From 1 to 5 years	Over 5 years	Non-interest bearing	Total
Balance as at 31 December 2021							
Payables							
1 Banknotes and coins in circulation	-	-	-	-	-	44,260,230	44,260,230
2 Liabilities to credit institutions from Croatia related to monetary policy operations denominated in kuna	-	-	-	-	-	103,934,113	103,934,113
2.1 Current accounts (covering the reserve requirement system)	-	-	-	-	-	103,934,113	103,934,113
2.2 Overnight deposits	-	-	-	-	-	-	-
2.3 Fixed-term deposits	-	-	-	-	-	-	-
2.4 Deposits related to margin calls	-	-	-	-	-	-	-
3 Other liabilities to credit institutions from Croatia denominated in kuna	-	-	-	-	-	92,888	92,888
4 Debt securities of the Croatian National Bank	-	-	-	-	-	-	-
5 Liabilities to other residents in Croatia denominated in kuna	10,665,261	-	-	-	-	3,719,890	14,385,151
5.1 General government	10,665,261	-	-	-	-	3,477,187	14,142,448
5.2 Other liabilities	-	-	-	-	-	242,703	242,703
6 Liabilities to residents outside Croatia denominated in kuna	-	-	-	-	-	474,754	474,754
7 Liabilities to residents in Croatia denominated in foreign currency	12,391,485	-	-	-	-	4,451,603	16,843,088
8 Liabilities to residents outside Croatia denominated in foreign currency	17,224,021	-	-	-	-	799	17,224,820
8.1 Deposits, balances and other liabilities	17,224,021	-	-	-	-	799	17,224,820
8.2 Liabilities arising from the credit facility under Exchange Rate Mechanism (ERM) II	-	-	-	-	-	-	-
9 Counterpart of special drawing rights allocated by the IMF	9,227,912	-	-	-	-	-	9,227,912
10 Other liabilities	-	-	4,025	10,860	-	1,457,115	1,472,000
10.1 Off-balance-sheet instruments revaluation differences	-	-	-	-	-	-	-
10.2 Accruals and income collected in advance	-	-	-	-	-	17,811	17,811
10.3 Sundry	-	-	4,025	10,860	-	1,439,304	1,454,189
Total liabilities	49,508,679	-	4,025	10,860	-	158,391,392	207,914,956
Net position	74,941,354	8,917,279	3,386,462	28,123,253	22,760,146	(123,102,063)	15,026,431

6.3.3 Other price risks

The Croatian National Bank is exposed to other price risks on funds entrusted to the management of international financial institutions and precious metals since price risks affect the change in value of these financial instruments.

6.3.3.1 Sensitivity analysis – impact of changes in prices of financial instruments on the balance sheet and the profit and loss account

Sensitivity analysis at 31 December 2022 – assets under management with international financial institutions

(All amounts are expressed in thousands of kuna)

31/12/2022

Financial assets price exposed to price risk increase/decrease	±1%
Effect of change in the level of price on the revaluation account and the profit and loss account	14,077/(14,077)

The table shows the sensitivity of the balance sheet and profit and loss account result in the case of a rise or fall of prices of financial instruments by ± 1%.

A positive number implies an increase in the balance sheet revaluation accounts if there is an increase in the prices of financial instruments by the selected percentage, while a negative number implies a reduction in the profit and loss account result if the prices of financial instruments fall.

Should the prices of a financial instrument increase by 1% compared to the prices recorded on 31 December 2022, the balance sheet revaluation account would be higher by approximately HRK 14,077 thousands, while the fall in prices by 1% would result in the profit and loss account result being lower by approximately HRK 14,077 thousands.

Sensitivity analysis at 31 December 2022 – gold and other precious metals

(All amounts are expressed in thousands of kuna)

31/12/2022

Financial assets price exposed to price risk increase/decrease	±5%
Effect of change in the level of price on the revaluation account and the profit and loss account	40,498/(40,498)

The table shows the sensitivity of the balance sheet and profit and loss account result in the case of a rise or fall of prices of precious metals by ± 5%.

A positive number implies an increase in the balance sheet revaluation accounts if there is an increase in the prices of financial instruments by the selected percentage, while a negative number implies a reduction in the profit and loss account result if the prices of financial instruments fall.

Should the prices of precious metals increase by 5% compared to the prices recorded on 31 December 2022, the balance sheet revaluation account would be higher by approximately HRK 40,498 thousands, while a fall in prices of 5% would result in the profit and loss account result being lower by approximately HRK 40,498 thousands.

Calculation methodology

Investments in financial assets exposed to price risks as at balance sheet date have been increased or reduced by the selected percentage change in the price of financial instruments.

Sensitivity analysis at 31 December 2021 – assets under management with international financial institutions

(All amounts are expressed in thousands of kuna)

31/12/2021

Financial assets price exposed to price risk increase/decrease	±1%
Effect of change in the level of price on the revaluation account and the profit and loss account	13,263/(13,263)

Sensitivity analysis at 31 December 2021 – gold and other precious metals

(All amounts are expressed in thousands of kuna)

31/12/2021

Financial assets price exposed to price risk increase/decrease	±5%
Effect of change in the level of price on the revaluation account and the profit and loss account	469/(469)

Note 7 – Events after the reporting period

Council Decision (EU) 2022/1211 of 12 July 2022 on the adoption by Croatia of the euro on 1 January 2023 (OJ L 187, 14.7.2022) stipulates that Croatia fulfils the necessary conditions for adopting the euro and that the derogation referred to in Article 5 of Act on Accession from 2012 is abrogated with effect from 1 January 2023.

Pursuant to Article 5 of the Act on the Introduction of the Euro as the Official Currency in the Republic of Croatia (Official Gazette 57/2022), and in connection with Council Decision (EU) 2022/1211 of 12 July 2022 on the adoption by Croatia of the euro on 1 January 2023 and Council Regulation (EU) 2022/1208 of 12 July 2022 amending Regulation (EC) No 2866/98 as regards the conversion rate to the euro for Croatia (OJ L 187, 14.7.2022), the Government of the Republic of Croatia adopted the Decision on the announcement of the introduction of the euro in the Republic of Croatia (Official Gazette 85/2022). The Decision on the announcement of the introduction of the euro in the Republic of Croatia stipulates that the euro becomes the official currency and legal tender in the Republic of Croatia on 1 January 2023.

Accordingly, the Croatian National Bank becomes part of the Eurosystem on 1 January 2023.

On 30 December 2022, the ECB adopted Decision (EU) 2023/135 on the paying-up of capital, transfer of foreign reserve assets, and contributions by Hrvatska narodna banka to the European Central Bank's reserves and provisions (ECB/2022/51).

Pursuant to Article 48.1 of the Statute of the ESCB and of the ECB the national central bank of a Member State whose derogation has been abrogated must pay up its subscribed share of the capital of the

ECB to the same extent as the central banks of other Member States whose currency is the euro. With effect from 1 January 2023, the Croatian National Bank pays up the remaining part of its share in the subscribed capital of the ECB amounting to EUR 68,714 thousands.

Pursuant to Article 48.1 in conjunction with Article 30.1 of the Statute of the ESCB and of the ECB the national central bank of a Member State whose derogation has been abrogated must transfer to the ECB foreign reserve assets. The foreign reserve assets expressed in euro at the exchange rate applicable on 30 December 2022 transferred to the ECB by the Croatian National Bank with the settlement date of 3 January 2023 amount to EUR 639,850 thousands.

Pursuant to Article 48.2 of the Statute of the ESCB and of the ECB the national central bank of a Member State whose derogation has been abrogated must contribute to the reserves of the ECB, to those provisions equivalent to reserves, and to the amount still to be appropriated to the reserves and provisions corresponding to the balance of the profit and loss account as at 31 December of the year prior to the abrogation of the derogation. In accordance with the approved Financial Statements of the ECB for 2022, the Croatian National Bank is obliged to pay a contribution to the reserves and provisions of the ECB in the amount of HRK 349,126 thousands. Given that in accordance with the Agreement of 30 December 2022 between the Croatian National Bank and the ECB regarding the claim credited to Hrvatska narodna banka by the ESB under Article 30.3 of the Statute of the ESCB and of the ECB the amount of EUR 312,697 thousands was credited as an advance payment of the contribution to the reserves and provisions of the ECB, the Croatian National Bank paid up the remaining net amount of EUR 36,429 thousands on 24 February 2023.

After 31 December 2022 there were no other significant events that would have an impact on the financial statements of the Croatian National Bank.



Abbreviations and symbols



ABBREVIATIONS

AIIB	Asian Infrastructure Investment Bank
AIS	account information service
AMLSCO	Standing Committee on anti-money laundering and countering terrorist financing
AnaCredit	analytical credit database
API	application programming interface
AMLTF	Anti-Money Laundering and Terrorist Financing Act
APMLTF	Act on the Prevention of Money Laundering and Terrorist Financing
API	application programming interface
APN	Agency for Transactions and Mediation in Immovable Properties
AQR	asset quality review
BCBS	Basel Committee for Bank Supervision
BIS	Bank for International Settlements
BISIN	Bank for International Settlements Innovation Network
BRRD	Bank Recovery and Resolution Directive
bn	billion
CBDC	central bank digital currency
CBRD	Croatian Bank for Reconstruction and Development
CBS	Croatian Bureau of Statistics
CDCC	Central Depository and Clearing Company
CDIA	Croatian Deposit Insurance Agency
CESEE	Central, Eastern and Southeastern Europe
CF	carbon footprint
CHF	Swiss franc
CI	carbon intensity
CIR	cost-to-income ratio
CLVPS	Croatian Large Value Payment System
CNB	Croatian National Bank
CompNet	Competitiveness Research Network
CO ₂ e	carbon dioxide equivalent or CO ₂ equivalent
CPII	Croatian Pension Insurance Institute
CRD	Capital Requirements Directive
CRR	Capital Requirements Regulation
CSDB	Centralised Securities Database
DLT	distributed ledger technology
DWH	Data Warehouse
EA	euro area
EBA	European Banking Authority
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECB	European Central Bank
ECC	Ethics and Compliance Committee
ECL	expected credit loss
ECOFIN	Economic and Financial Affairs Council

EDIS	European deposit insurance scheme
EEA	European Economic Area
EFC	Economic and Financial Committee
EFIF	European Forum for Innovation Facilitators
EFTPOS	electronic funds transfer at point of sale
EGMLTF	Expert group on Money Laundering and Terrorist Financing
EIB	European Investment Bank
EIOPA	European Insurance and Occupational Pension Authority
ERM II	Exchange Rate Mechanism
ESCB	European System of Central Banks
ESG	environmental, social, governance
ESM	European Stability Mechanism
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
EUR	euro
Euro-NCS	Euro National Clearing System
Fed	Federal Reserve System
FINA	Financial Agency
FinTech	financial technology
GDP	gross domestic product
GDPR	General Data Protection Regulation
GVA	gross value added
HANFA	Croatian Financial Services Supervisory Agency
HFCN	Household Finance and Consumption Network
HLTF	High Level Task Force on Digital Euro
HRK	Croatian kuna
ICT	Information and Communicatio Technology
IFRS	International Financial Reporting Standards
ILAAP	Internal Liquidity Adequacy Assessment Process
IMF	International Monetary Fund
IMFC	International Monetary and Financial Commitee
IMI	internal model inspection
IRB	Internal Ratings Based Approach
IReF	Integrated Reporting Framework
IRT	Internal Resolution Team
ISS	Institutional Shareholder Services, Inc.
IT	information technology
LCR	liquidity coverage ratio
LGD	loss given default
m	million
MoF	Ministry of Finance
MREL	minimum requirement for own funds and eligible liabilities
NBU	National Bank of Ukraine
NCA	National Classification of Activities
NCS	National Clearing System

NGFS	Network for Greening the Financial System
NPE	non-performing exposures
NPL	non-performing loans
NRR	national reference rate
NRRP	National Recovery and Resilience Plan
OECD	Organisation for Economic Co-operation and Development
OSI	on-site inspection
O-SIIs	other systemically important institutions
PCAF	Partnership for Carbon Accounting Financials
PD	probability of default
PIS	payment initiation service
PMB	Program Monitoring with Board Involvement
PMLTF	prevention of money laundering and terrorist financing
PPP	purchasing power parity
PSD2	Second Payment Services Directive
RC	Republic of Croatia
RIAD	Register of Institutions and Affiliates Data
RIAD TS	RIAD transaction system
ROAA	return on average assets
ROAE	return on average equity
RRF	Resilience and Recovery Fund
RST	Resilience and Sustainability Trust
SCT SEPA	SEPA Credit Transfer
SCTInst	SEPA Credit Transfer Instant
SDR	special drawing rights
SEPA	Single Euro Payment Area
SGRE	Sub-Group on Resolution Execution
SGRPP	Sub-Group on Resolution Planning Preparedness
SHSDB	Securities Holdings Statistics Database
SMS	short message system
SRB	Single Resolution Board
SREP	Supervisory Review and Evaluation Process
SRM	Single Resolution Mechanism
SSM	Single Supervisory Mechanism
SudReg	Court Register
TAIEX	Technical Assistance and Information Exchange
TARGET2-HR	national component of the TARGET2 system
TARGET2	Trans-European Automated Real-time Gross Settlement Express Transfer system
TCE	Total Carbon Emissions
TCFD	Task Force on Climate-related Financial Disclosures
tCO ₂ e	tonnes of carbon dioxide equivalent or CO ₂ equivalent
thous.	thousand
TIPS	TARGET Instant Payment Settlement
TIPS DCA	TARGET Instant Payment Settlement Dedicated Cash Account
TREA	total risk exposure amount

UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
USD	US dollar
WACI	weighted average carbon intensity

SYMBOLS

-	no entry
....	data not available
0	value is less than 0.5 of the unit of measure being used average
a, b, c,...	indicates a note beneath the table and figure
*	corrected data
()	incomplete or insufficiently verified data

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