Austrian banks benefited from rising interest rates in 2022, while nonbanks were hit by the financial market downturn

High inflation affects the banking sector in multiple ways

Inflation reduces disposable incomes and causes monetary policymakers to raise interest rates. The rapid increase in inflation, predominantly driven by higher import costs (e.g. for energy), was the main macrofinancial challenge in 2022. Annual consumer price inflation in Austria reached double-digit levels not seen since the 1970s,[1] which proved to be a challenging environment for many households and firms. As inflation expectations rose and central banks hiked rates to bring inflation back to target, borrowing costs for the real economy increased. Despite the higher nominal interest rates, real rates are deeply negative.

In general, rapidly rising interest rates are likely to increase both credit and interest rate risk for banks. Lower disposable real incomes and higher financing costs make loans more likely to become nonperforming, raising banks' credit risk costs. Banks' maturity mismatch and their holdings of long-term fixed income assets also expose them to interest rate and market risk. When interest rates rise, funding costs can adjust faster than the income from assets and the market value of long-term fixed income assets drops. Therefore, inflation and correspondingly rising interest rates can exert pressure on banks' profitability via higher risk costs and lowered margins, not only in the interest business, but also due to rising operating costs.

But so far credit risk has remained low at Austrian banks and higher interest rates have created a tailwind for profitability. As this report highlights, nonperforming loan ratios at Austrian banks decreased to a historic low by the end of 2022 and credit risk costs stayed moderate. Default risks for borrowers have

Figure 3.1

Inflation and its impact on financial stability

Source: OeNB.

[1] *A study in this Financial Stability Report takes a closer look at the effects the inflation shocks in the 1970s had on the Austrian banking sector.*

so far been mitigated by strong fiscal support measures, high saving buffers and the post-pandemic recovery as well as the fact that real interest rates remain negative. However, as these factors are easing off and given the relatively high share of variable rate loans in Austria, credit risks could materialize in the medium term. As documented in this issue of the Financial Stability Report, rising interest rates have in fact had a positive impact on Austrian banks' profitability. On the one hand, due to the high share of variable rate loans, banks were able to pass on most of the interest rate increases to their borrowers. On the other hand, despite their short maturity, customer deposits, especially from households, prove to be sticky and rather insensitive to changes in the interest rate. As a consequence, deposit repricing is slow. So far, the interest rate increases have markedly improved the Austrian banking sector's net interest margin.

Box 1

Austria still has numerous banks despite continuing consolidation efforts

The size of the Austrian banking sector relative to GDP is above the EU average, and Austrian banks account for almost one-fifth of all EU banks.[2] *In the aftermath of the 2008 global financial crisis, many banks entered a consolidation period and their balance sheets shrank. In 2008, Austrian banks' total assets amounted to EUR 1,176 billion and declined by almost one-fifth over the next eight years. However, this trend reversed in 2016 and balance sheets started to grow again, along with brisk credit growth. In 2021, Austrian banks' total assets already surpassed their 2008 level, and stood at EUR 1,199 billion at end-2022. With respect to GDP, the balance sheet of the Austrian banking sector is still larger than the EU average. In 2008, the ratio between total assets and GDP equaled 400% for Austria and 303% for the EU. Latest figures show a ratio of 268% for Austria compared to 227% for the EU (see chart 3.1, left-hand panel). The average Austrian credit institution holds assets worth around EUR 2.4 billion, while the assets per bank in the EU average out at EUR 13 billion, according to the latest available data. The median size of Austrian banks, however, is a mere EUR 400 million, as the sector is quite concentrated, with just five banks accounting for close to 40% of total assets. Since 2008, the number of banks in Austria has decreased substantially, namely by more than 40%, totaling 493 at end-2022, while the EU recorded a reduction in banks of 36% (by the third quarter of 2022; see chart 3.1, right-hand panel). Currently, Austrian banks still account for almost one-fifth of all banks in the EU, which reflects the high number of small cooperative banks. In terms of total assets, by contrast, the Austrian banking sector accounts for just 3% of the EU banking sector.*

From a euro area perspective, the total assets-to-GDP ratio stands at 250%, which also remains below Austria's ratio. *The number of euro area banks decreased over the past years and totaled 2,055 (in the third quarter of 2022), while the number of euro area branches decreased by 39% to 114,000 as at end-2021.*[2] *In comparison, the number of Austrian bank branches decreased by 22% from 2008 to end-2022, when it totaled 3,297 (see chart 3.2, left-hand panel). Nonetheless, a high density of banks remains; on average any Austrian citizen can reach a bank branch in less than two kilometers and in Vienna in less than one kilometer.*[3] *The average Austrian bank served 18,470 clients in 2022 compared to the euro area average of almost 161,000 (as at end-2021). Back in 2008, an Austrian bank served around 9,600 clients, compared to the euro area average of 115,200.*

Since 2008, Austrian and euro area banks reduced their staff by around 16% and 22%, respectively (see chart 3.2, right-hand panel).[4] *In 2022, 67,422 employees*

[2] *Here, Austria refers to Austrian banks and branch offices of foreign banks in Austria and these data are sourced from the OeNB. The EU/euro area (EA) refers to domestic banking groups and stand-alone banks, foreign (non-EU/EA)-controlled subsidiaries and foreign (non-EU/EA)-controlled branches and these data are sourced from the ECB.*

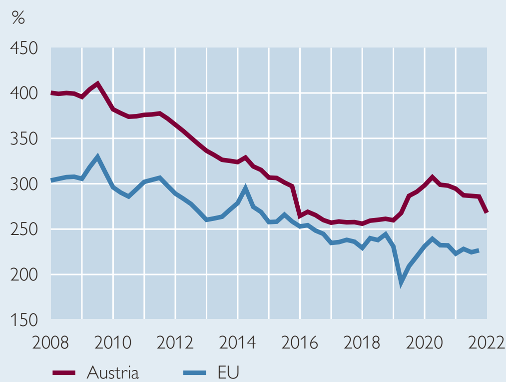
[3] *Interactive dashboard (German only): https://oenb.shinyapps.io/EntwicklungBankstellen*

[4] *All the information in this subparagraph refers to end-2022 for Austria and end-2021 for the euro area.*

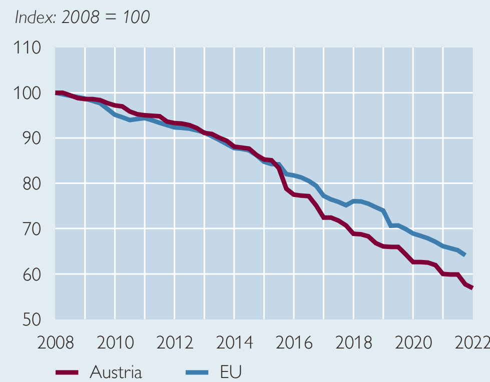
Chart 3.1

Comparison of the Austrian and the EU banking sector

Total assets to GDP



Number of credit institutions



Source: ECB, Eurostat, OeNB.

worked in the Austrian banking sector, accounting for less than 1% of the total population. On average, Austrian banks had 137 employees, while the average euro area bank had seven times more staff. This translates to one Austrian bank employee serving around 135 customers, while the euro area average is 197 customers.

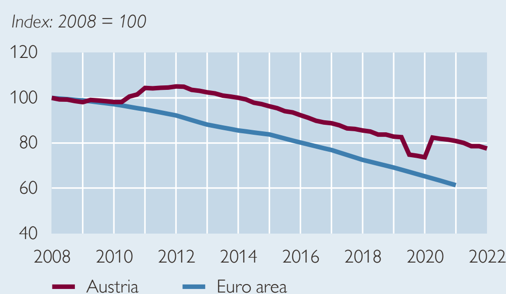
***Cash remains the preferred means of payment in Austria, which is unique in the euro area.**[5] The dense network of both bank branches and automated teller machines (ATMs) ensures easy access to cash. Austria ranked among the few countries that increased the number of ATMs over the last five years. In contrast, ATMs decreased in the euro area by around 10%. According to the most recent data available, Austria had 981 ATMs per million inhabitants, while the euro area average was 713.[6]*

***Austrian banks' consolidation efforts are well in line with European developments.** The consolidation effort in the Austrian banking sector is thus well aligned with EU and euro area developments. Nevertheless, the sector remains large in terms of its balance sheet, the number of banks and the dense branch network.*

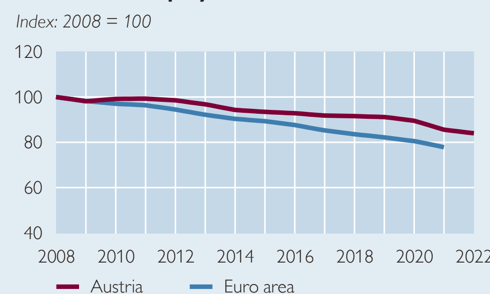
Chart 3.2

Comparison of the Austrian and the euro area banking sector

Number of branches



Number of employees



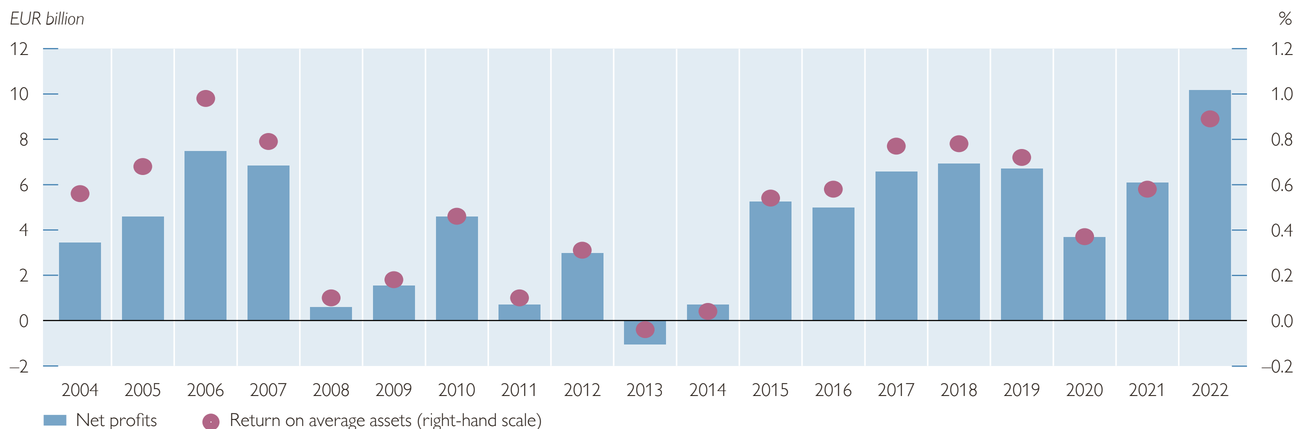
Source: ECB, OeNB.

[5] *ECB. 2022. Study on the payment attitudes of consumers in the euro area (SPACE) – 2022. https://www.ecb.europa.eu/stats/ecb_surveys/space/html/ecb.spacereport202212~783ffdf46e.en.html*

[6] *Interactive dashboard (German only) showing the distance to the nearest ATM in Austria: https://oenb.shinyapps.io/ErreichbarkeitGeldautomaten*

Chart 3.3

Austrian banking sector: profitability in a long-term perspective



Source: OeNB.

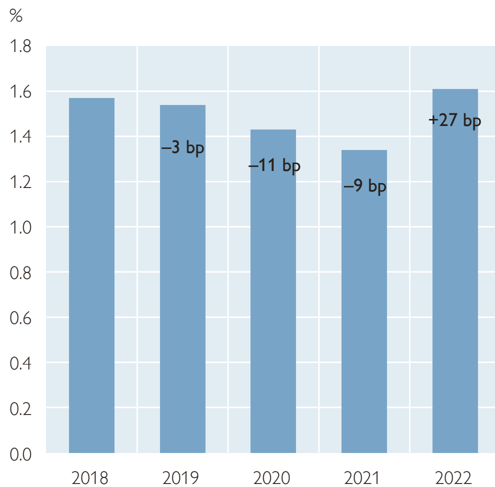
Austrian banks' profit is at a record high, with rising rates boosting net interest margins

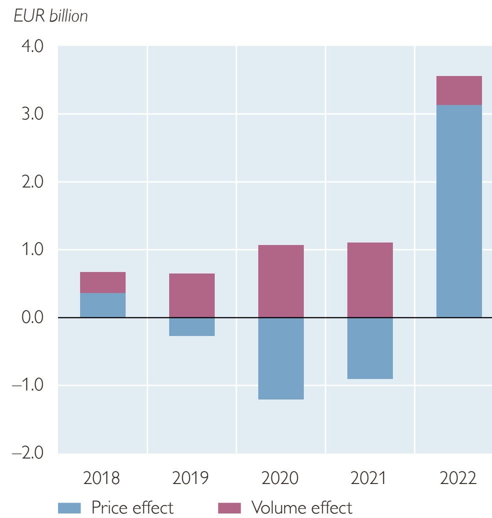
The Austrian banking sector's profit in 2022 came in at a record high. Banks generated consolidated net profits – including profits of foreign subsidiaries – of EUR 10.2 billion, which was the first double-digit billion profit in history. This corresponds to a profitability level of 0.9% of average total assets, which was surpassed just once before, when a strong one-off effect in 2006 propelled proceeds from divestment.

Rising interest rates caused the consolidated net interest margin to increase. The cost-to-income ratio of the Austrian banking sector improved in 2022 thanks to strongly rising operating income and a moderate lift in operating expenses. Operating income expanded by almost one-quarter compared to the previous year. This was driven by a rise in net interest income that was propelled by continued lending, but especially the increase in the interest margin. After three consecutive years of falling interest margins, 2022 marked a turning point. Rising interest rates drove up the consolidated net interest margin by 27 basis points to 161 basis points (see chart 3.4, left-hand panel). As can be seen in chart 3.4 (right-hand panel), the price effect, which was negative in the three years from 2019 to 2021, pushed net interest income up and by far outpaced the effect of new lending (volume effect). Compared to other European banks, the margin of Austrian banks continued to be well above the average of 139 basis points thanks to higher margins at foreign subsidiaries. Fees and commissions income also grew markedly, while Austrian banks' trading income was negative for the second year in a row. The comparatively moderate lift in operating expenses was caused by elevated impairments on participations, whereas personnel expenses almost stagnated and other administrative expenses went up gradually. Consequently, the relation between costs and income improved significantly to 59%, which is tantamount to the lowest (i.e. best) result since 2010. Much of the improvement came from businesses in CESEE and especially Russia (see details below).

Chart 3.4

Austrian banking sector: results from interest business



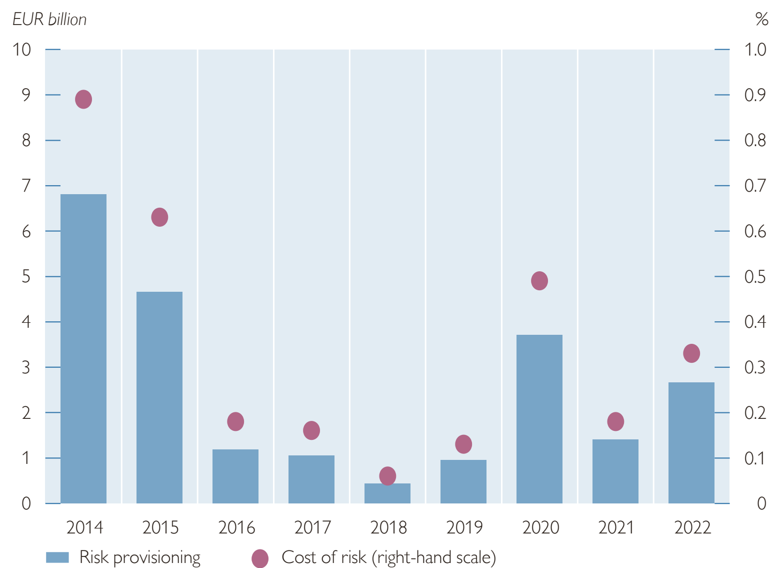


Source: OeNB.

The doubling of risk costs was almost offset by profits from investments in subsidiaries, joint ventures and other affiliates. Austrian banks' operating profit was EUR 12.9 billion in 2022, up more than 40% year over year. Although risk provisioning nearly doubled and pushed up the cost of risk to a still moderate 0.3%,[7] this increase was almost offset by extraordinary profits that resulted from investments in subsidiaries, joint ventures and other affiliates accounted for using the equity method. While no large-scale credit defaults materialized, credit risk is still looming. Amid quickly rising rates, the high share of loans with variable interest rates exposes borrowers to considerably higher interest expenses. Together with high inflation, this jeopardizes debtors' repayment capacity and might weigh on the cost of risk in the medium term.

Chart 3.5

Austrian banking sector: annual risk provisioning



Source: OeNB.

While Austrian banks remained unaffected by the recent turmoil triggered by international bank failures, it remains to be seen whether the record high profits recorded by the Austrian banking sector in 2022 are sustainable going forward. Short-term macroeconomic developments are

[7] *Cost of risk is defined as annual loan loss provisioning to total gross loans.*

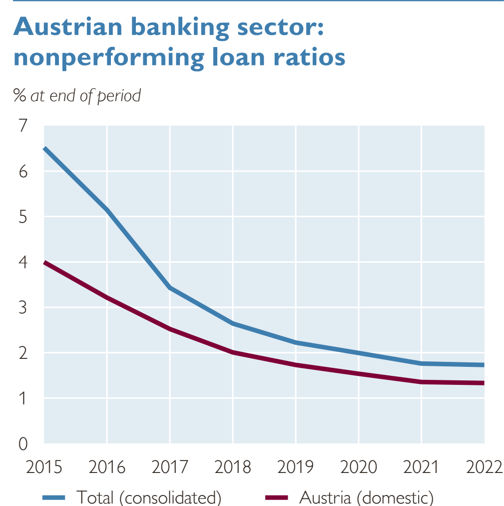
forecast to be weak. Besides, the increase in interest income was propelled by monetary policy effects that are going to fade, while, for instance, the results from activities in Russia will be difficult to repeat and to collect. On the positive side, international bank turbulences in the spring of 2023 did not impact the Austrian banking sector, as no losses were incurred in the course of the closure of US medium-sized banks or Credit Suisse's acquisition by UBS. Therefore, these bank failures posed no direct risk to Austrian financial stability. But the rapid increase in interest rates caused market participants to pay greater attention to banks' interest rate risks and to hidden losses arising from debt securities, measured at amortized cost (not marked to market). However, Austrian banks' exposure to debt securities is limited in an international comparison, which has to do with their retail-oriented business model. At end-2022, total debt securities amounted to about 12% of total assets, whereas total cash stood at over 13% of total assets. In addition, valuation risk is mitigated by banks' hedging measures. Importantly, Austrian banks command a solid liquidity position, and confidence in the Austrian banking sector has been high throughout the turbulences in the United States and Switzerland.

Credit quality still unaffected by inflation's impact, but provisions are on the rise

Credit quality at Austrian banks remained good. At end-2022, the share of NPLs in total loans remained at its historic low level of 1.7%. At 1.3%, the equivalent figure for domestic business was even lower. This development was reflected in all customer segments. Furthermore, forward-looking indicators do not point to a sea change, as for instance the proportion of stage 2 loans decreased from 18.2% to 17.8% in the course of 2022.[8] Nevertheless, this share is still elevated compared to other European countries, since some Austrian banks, during the pandemic in 2020, had classified entire portfolios in stage 2 and only slightly

Chart 3.6

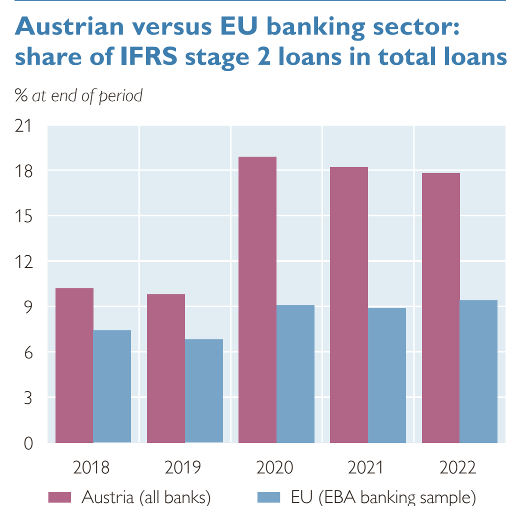
Austrian banking sector: nonperforming loan ratios



Source: OeNB.

Chart 3.7

Austrian versus EU banking sector: share of IFRS stage 2 loans in total loans



Source: OeNB, EBA.

[8] *Loans are classified in stage 2 if their "credit risk has increased significantly since initial recognition and is not considered low". https://www.bis.org/fsi/fsisummaries/ifrs9.pdf*

reduced their share after related risks subsided or more single customer-based assessments had been conducted.

NPL coverage declined, although the volume of general risk provisions rose. Stepped-up provisioning enlarged Austrian banks' general risk provisions in 2022. Nevertheless, the coverage of NPLs with specific provisions declined slightly to 46%. Despite this decline, NPL coverage at Austrian banks remained above average in a European context, where the weighted average was 43%.[9]

Subsidiaries in CESEE recorded rising profits, contribution from Russia exceptionally high

Austrian banking subsidiaries in CESEE predominantly operate in EU member states. With four-fifths of their total assets and more than half of their profits originating from inside the EU, Austrian banks' CESEE subsidiaries predominantly operate within the common European framework and under a harmonized rule book. But in 2022, amid Russia's war against Ukraine and geopolitical tensions, the spotlight was directed on business activities in Russia. Russia accounts for less than one-tenth of the Austrian banking sector's total assets in CESEE, whereas profits coming from this business were considerable, making up close to 40% of all profits from the region.

Austrian banking subsidiaries in CESEE earned more than EUR 5 billion in 2022, substantially up from EUR 3 billion in 2021. Net interest income, which made up 60% of operating income, rose by almost one-third, due to a strong pickup in the net interest margin (2.8% in 2022, back to pre-pandemic levels). This substantial increase was strongly linked to local monetary policy tightening, translated into a price boost for banks and changed their net interest income dynamics (see chart 3.8, left-hand panel). Fees and commissions were up even more strongly, by two-thirds year on year. Overall, operating income rose by nearly half to around EUR 13 billion; and the operating profit surged to EUR 7.7 billion (as the cost-to-income ratio fell to 40% in 2022). This very strong result more than compensated for the doubling in risk provisioning and led to a profit of EUR 5.2 billion.

The 2022 surge in profit generally rests on a broad geographical base but was also caused by a large contribution from banking operations in Russia. Excluding the Russian business, Austrian banks' CESEE subsidiaries delivered higher operating profits and meaningfully improved profits, with each rising by more than one-quarter. These trends highlight the importance of rising net interest margins during a year when total assets stayed flat, while operating and risk costs were under control. The profitability of operations in Russia, however, was exceptionally high, as operating income more than trebled, while the operating result and overall profit more than quadrupled (in euro terms).[10] The right-hand panel of chart 3.8 retraces year-on-year trends in the CESEE subsidiaries' main profit indicators and the contribution from Russian activities.

As economic developments in Russia and the ruble's exchange rate are difficult to predict, exceptionally high profits from CESEE may prove

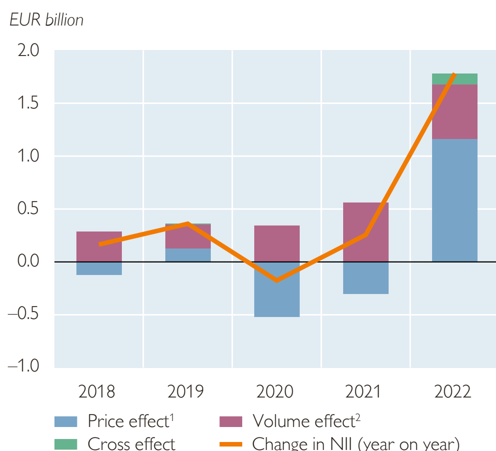
[9] *Source: EBA Risk Dashboard (Q4 2022).*

[10] *Source: Raiffeisen Bank International's Annual Report 2022 (page 81). https://www.rbinternational.com/resources/RBI-Investor/rbi-investor/2023/fy-22/2023-02-23%202022%20Annual%20Report%20RBI.pdf*

Chart 3.8

Austrian banking subsidiaries in CESEE

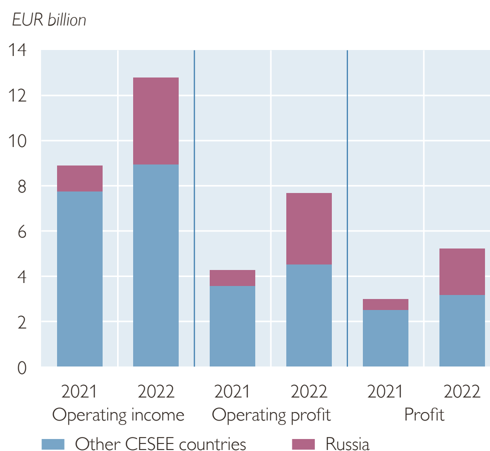
Drivers of net interest income (NII)



Source: OeNB.

[1] Due to changing net interest margins.
[2] Due to changing average total assets.

Main profit indicators and the contribution from Russia

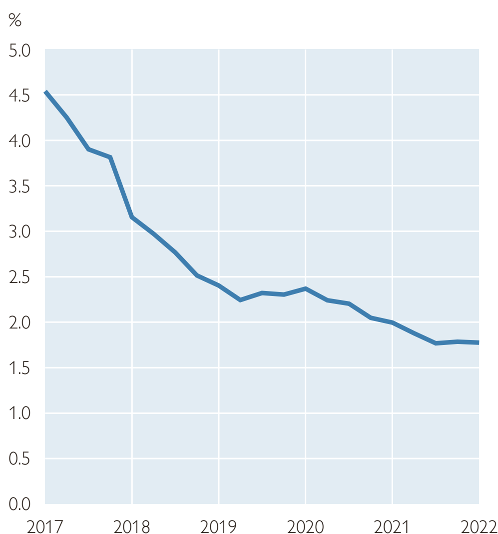


Source: Raiffeisen Bank International (data for Russia), OeNB (data for other CESEE countries).

not to be sustainable. The war in Ukraine and its consequences as well as still strong inflationary pressures in CESEE are substantial challenges, probably for years to come, especially when the benign effects of higher interest rates fade, banks' net interest margins peak, credit risk costs start rising and/or the business activities in Russia cease to be an important profit driver. Despite such potential headwinds, Austrian banks should benefit from their well-diversified CESEE exposure.

Chart 3.9

Austrian banking subsidiaries in CESEE: nonperforming loan ratio



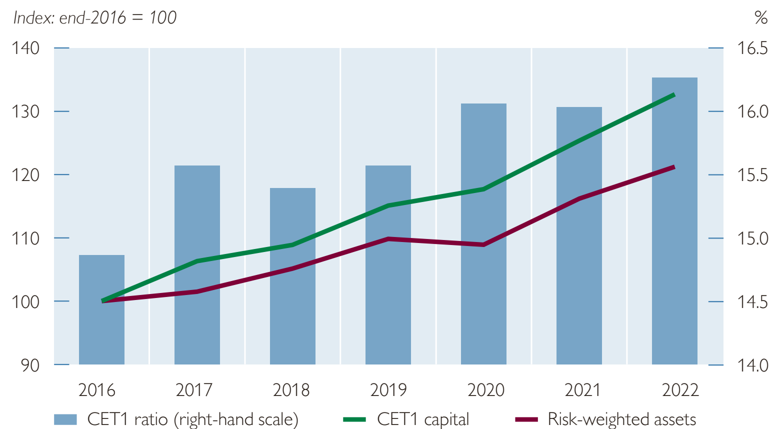
Source: OeNB.

Austrian banking subsidiaries in CESEE recorded low credit risks and a high risk-bearing capacity in 2022. Despite the war in Ukraine and the initial impact of high inflation, realized credit risk was low at Austrian banking subsidiaries in CESEE. At end-2022, the NPL ratio stood at a historically low 1.8% (see chart 3.9), and above 80% of loans were classified in stage 1. Austrian banking subsidiaries' risk-bearing capacity was also strong on aggregate, resting on robust local profitability in 2022 (as described above), an adequate NPL coverage ratio above 64% and strong capitalization, with a common equity tier 1 (CET1) ratio above 16% at the end of 2022. Further-

more, Austrian banks' CESEE subsidiaries are predominantly self-funded through local deposits from nonbanks, as highlighted by a loan-to-deposit ratio of 72% at end-2022, which is also attributable to the timely implementation of a macroprudential measure to this end in 2012.[11]

Chart 3.10

Austrian banking sector: CET1 ratio



Source: OeNB.

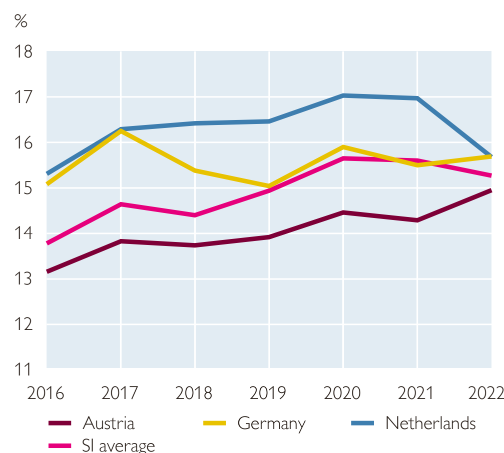
Note: All data points are year-end values.

Austrian banking sector reaches highest capitalization on record, but large banks trail behind

EU banks' capitalization declined slightly in 2022, while the Austrian banking sector reached its highest capitalization level. The transitional common equity tier 1 (CET1) ratio of the EBA's European bank sample, which exhibits a bias for larger banks, fell slightly year on year to 15.5%, with large Austrian banks just below the average.[12] At the same time, the entire Austrian banking sector increased its CET1 capital to more than EUR 87 billion, which translated into its highest CET1 ratio on record (16.3%). As chart 3.10 depicts, the underlying positive trend over the last years reflects growth in banks' CET1 capital outstripping the rise of risk-weighted assets (RWAs). This development was not gradual, however, featuring also major jumps. During the pandemic, for example, profits were retained due to an ECB recommendation not to pay dividends or buy back shares. Given that this restrictive stance has lapsed and profit distributions are gaining traction again, competent authorities are closely supervising banks' payout plans.

Chart 3.11

European significant institutions: transitional CET1 ratio



Source: ECB.

Note: SI = significant institutions.

Despite improvements in their capitalization, large banks trail behind their smaller competitors. At an average CET1 ratio of below 15%, large European banks are, according to EBA data, significantly less well capitalized than medium-sized (above 17%) or small banks (above 20%). This occurs even though their systemic importance is typically higher and supervisory authorities addressed

[11] *For further details, refer to https://www.oenb.at/en/financial-market/financial-stability/sustainability-of-large-austrian-banks-business-models.html*

[12] *Source: EBA Risk Dashboard (Q4 2022).*

too big to fail issues by implementing additional capital buffers. Regarding Austria's significant institutions (SIs), two trends are noteworthy. First, chart 3.11 shows that the capitalization of Austrian (domestically owned) SIs is still slightly below the SI average, including those from Germany and the Netherlands, which can partly be explained by differing business models. On a positive note, this gap narrowed substantially in 2022, as the SI average declined slightly, while Austrian SIs improved their capitalization. Also, Austrian banks display a higher leverage ratio than the SI average. Second, Austrian (including foreign-owned) SIs display lower capital ratios than their smaller local competitors, despite their overall supervisory capital demand being higher. The reason is that SIs operate with smaller capital surpluses than smaller banks. Consequently, the CET1 ratio of Austrian SIs stood at 15.2%, while less significant institutions were at 18.2% (as at end-2022). This underlines the importance of the OeNB's long-standing recommendation that banks strengthen their capital base in a sustainable and forward-looking manner, with a focus on the largest, systemically important banks. Gradually phasing in increased structural buffer requirements until 2024 is an important step in this direction, not least because a strong capital base is crucial in times of high inflation, sharply rising interest rates, geopolitical tensions and a clouded economic outlook.

Austrian banks are well equipped to weather central banks' reduced liquidity provision, but they must remain vigilant

Recent international bank failures have brought funding liquidity risks back to market participants' minds and illustrated how an unsustainable business model can morph into a liquidity event that quickly causes a bank's failure. It is noteworthy, however, that these cases occurred outside the EU's regulatory framework and that liquidity risk regulations are tighter in the EU, especially for medium-sized and smaller banks.

Austrian banks' liquidity ratios retreated somewhat, but they are comfortably above minimum requirements. The banks' endowment with collateral, which had allowed them to make extensive use of the Eurosystem's targeted longer-term refinancing operations (TLTROs), also shielded them from liquidity stress when central banks started withdrawing liquidity in response to rising inflation. Their liquidity coverage ratios (LCRs) and net stable funding ratios (NSFRs) have retreated somewhat, however, as a contraction of central bank reserves reduced highly liquid assets and cutting the TLTRO's residual terms reduced stable funding. Still, with a median LCR of 146% and a median NSFR of 123% as at end-2022, Austrian banks have comfortably remained above the minimum requirements of 100%, and TLTRO repayments free up collateral. Austrian banks thus correspond to or slightly outperform the European average when it comes to liquidity ratios, while central bank reserves remain a major part of liquid assets.

Austrian banks repaid TLTRO funding early, which was in line with a European trend. Amid negative interest rates and potential repercussions for the banking system, generous liquidity provision by the Eurosystem in the wake of the pandemic allowed Austrian banks to generate risk-free profits of about EUR 1 billion from 2020 to 2022. Following adaptations in the TLTRO's conditions at end-2022, these profits are no longer replicable, and Austrian banks markedly reduced their liabilities against the Eurosystem in response. At slightly below

EUR 50 billion at end-February 2023, their funding from the Eurosystem still remains markedly above pre-pandemic levels. A further drawdown is due in June 2023, when the bulk of TLTRO III operations expires. At more than EUR 110 billion, Austrian banks' excess liquidity reserves at the Eurosystem remain high, which provides a solid safety margin come June.

Austrian banks have so far managed the transition to higher interest rates and lower systemic liquidity well. This is exemplified by a record issuance of Austrian bank bonds in January 2023, both in terms of gross and net issuance. Macroprudential measures have also helped safeguard Austrian banks' credit quality and raise their risk-bearing capacity. It is crucial for banks to comply with these measures and follow the OeNB's recommendations to secure a sound funding base at competitive costs. The latter is a vital prerequisite for banks' success, as driven home by recent international bank failures.

Box 2

Macroprudential policy, bank ratings and banks' funding costs are closely intertwined

Standard and Poor's (S&P) confirmed the very positive BICRA rating of the Austrian banking industry in February 2023.[13] *According to the recent update of S&P's Banking Industry Country Risk Assessment (BICRA), the Austrian banking sector continues to be among the most stable banking sectors worldwide, expressed in rating class 2. Beside banks' resilience regarding the pandemic and secondary effects of the war in Ukraine, the agency based its assessment inter alia on the recent increase in the structural macroprudential buffers and the introduction of binding borrower-based measures. The buffer increases strengthened the resilience of the Austrian banking industry to financial or economic shocks. S&P also argued that, with the implementation of borrower-based measures, Austria had finally caught up to international best practices in lending standards. In a challenging environment, prudent lending practices help avoid a strong deterioration in credit quality. Prudent macroprudential supervision helped improve the international perception of the Austrian banking system, as confirmed by Cehajic and Kosak in 2021 for a sample of 43 European countries from 2000 to 2017.*[14] *They found that the activation of macroprudential instruments is significantly associated with lower costs of bank funding. In addition to macroprudential measures, improvements in bank profitability also affected S&P's rating decision. However, caution is warranted. The capitalization of the Austrian banking sector is still significantly lower than that of other banking systems in the BICRA rating class 2.*

Better banking industry and country ratings lead to better individual bank ratings.[15] *In case of S&P, the BICRA is "a relative ranking of creditworthiness across national banking markets" and provides the basis for a bank's individual rating.*[16] *It combines an assess-*

[13] *The BICRA rating groups banking industries in ten groups with group 1 being the countries with the least economic and industry risk (no country in BICRA group 1). Austria's banking system is classified in BICRA group 2, together with countries like Belgium, Finland or Sweden (BICRA group 3 contains countries such as Germany, France, or the United States). See S&P. 2023. Banking Industry Country Risk Assessment Update. January, and S&P. 2023. Various Rating Actions Taken on Austrian Banks on Stabilization of Operating Performance. February.*

[14] *Cehajic, A. and M. Kosak. 2021. Macroprudential measures and developments in bank funding costs. In: International Review of Financial Analysis 78.*

[15] *The important role of regulatory quality for banks' funding cost is shown in a worldwide study of 118 banks between 2004 and 2011 (Benbouzid, N., S. Mallick and R. Sousa. 2017. An international forensic perspective of the determinants of banks' CDS spreads. In: Journal of Financial Stability 33. 60–70.) and in Babihuga, R. and M. Spaltro. 2014. Bank funding costs for international banks. IMF Working Paper 14/71.*

[16] *S&P. 2022. How we rate financial institutions. February.*

ment of economic risk, including economic resilience, economic imbalances and credit risk in the economy, as well as industry risk which accounts for the institutional framework, competitive dynamics and system-wide funding.[17] *The stand-alone credit rating of the individual bank is deduced from BICRA by considering a bank's specific strengths and weaknesses. Emphasis is put on its business position in the market, its capital and earnings, its risk position and funding and liquidity situation. In the case of the recent evaluation of Austria's BICRA rating, the confirmation of the system-wide rating resulted in improved outlooks and partly rating upgrades of many individual ratings of Austrian banks.*

Better ratings can reduce banks' debt funding costs. *Besides several other bank and country-related factors, better ratings can reduce banks' debt funding costs.*[18] *The main channel of interaction is the perceived credit risk of the debt-issuing bank. Credit default swap (CDS) spreads, often used to proxy the cost of risk for investors and thus an important part of funding cost, are rating sensitive. Drago et al. (2017) find that a one-notch higher bank-specific credit risk rating reduces CDS spreads on average by around 80 basis points in a sample of 63 European and US banks from 2007 to 2016.*[19] *Schmitz et al. (2020) find a lower effect of between 30 basis points and 40 basis points for a sample of 33 banks from the US, Austria, Canada, the Netherlands and Scandinavia from 2004 to 2013.*[20] *The differences between funding costs across rating classes are larger under stress than in normal times. The literature also finds that capitalization directly affects funding costs.*[21] *Hence, prudent macroprudential buffers have a twofold positive effect on debt funding costs, directly via better capitalization and indirectly via improved ratings. Aymanns et al. (2016) find that a banks' capital position is particularly important for funding costs under stress. Based on evidence for US banks from 1993 to 2013, the authors show that wholesale investors are particularly sensitive to banks' solvency in crisis times. Higher macroprudential capital buffers thus pay off and also stabilize the flow of credit to the real economy under stress.*

Higher lending rates made housing loans less affordable, macroprudential measures address systemic risks from unsustainable lending standards

Dynamics in the residential real estate market in Austria have been slowing since mid-2022, while demand for residential real estate loans is fading. Real residential property price increases had been particularly high in the period from 2020 to mid-2022, when real prices peaked. Their recent decline coincides with a slowing demand of households for housing loans amid higher bank lending rates and the uncertain economic situation. In March 2023, the growth rate for housing loans fell to 2.6% compared to the previous year.

Several aspects have contributed to currently low default rates in residential real estate (RRE) lending: Household indebtedness is low in Austria compared to other euro area countries and Austrian households mainly

[17] *The BICRA rating does not take into account banks' foreign operations. They are considered in the composition of bank's individual ratings by weighting the BICRA ratings of those countries where a bank is most active in.*

[18] *E.g. Hull, J., M. Predescu and A. White. 2004. The relationship between credit default swap spreads, bond yields, and credit rating announcements. In: Journal of Banking and Finance 28. 2789–2811.*

[19] *Drago, D., C. Tommaso and J. Thornton. 2017. What determines bank CDS spreads? Evidence from European and US banks. In: Finance Research Letter 22. 140–145.*

[20] *Schmitz, S. W., M. Sigmund and L. Valderrama. 2020. Bank Solvency and Funding Cost: New Data and New Results. In: Jobst, A. and L. L. Ong (eds.). The IMF Approach to stress testing II. Washington D. C. 2020. 155–181.*

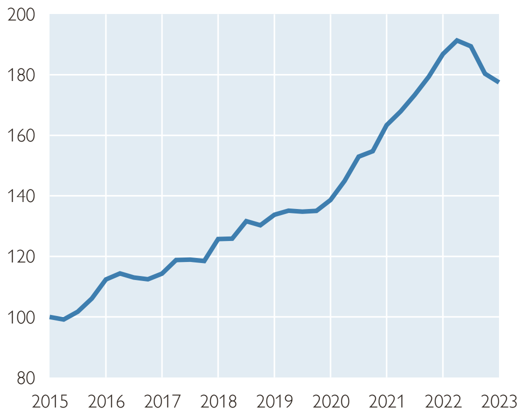
[21] *See e.g. Babihuga, R. and M. Spaltro. 2014. Bank funding cost for international banks. IMF Working Paper 14/71; or Aymanns, C. et al. 2016. Bank solvency and funding cost. IMF Working Paper 16/64.*

Chart 3.12

Austria: residential real estate market

Real residential property prices

Index: Q1 15 = 100



Bank housing loans to households

Annual change in %

Source: OeNB, TU Wien.

Source: OeNB.

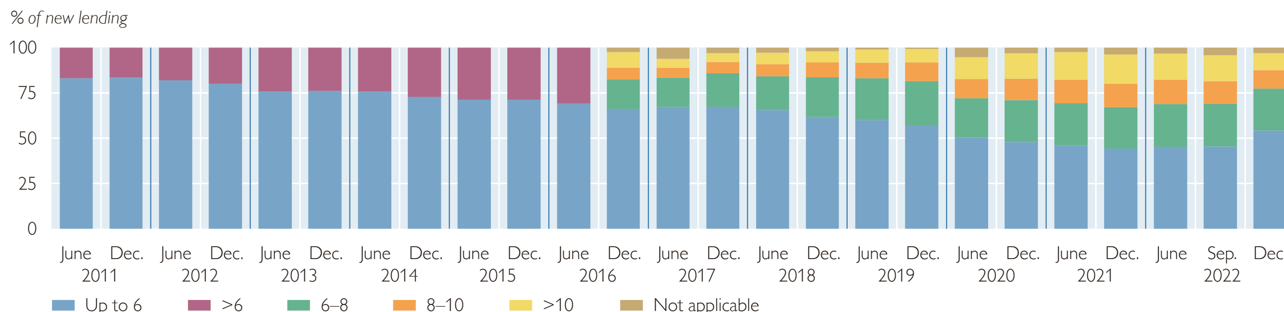
Note: Prices are HICP adjusted, quarterly data.

take out housing loans to purchase their main residence. Further, Austria has a well-developed rental market with a high share of nonprofit providers that offers an alternative for households that are not able to purchase a house or apartment. Over the past years, Austrian households increasingly took out loans with long interest rate fixation periods to lock in low interest rates, while lending at variable rates decreased markedly. However, this trend reversed in 2022, and as of end-2022, half of the new RRE lending volume was granted at a variable rate, which makes borrowers vulnerable to increased debt service payments when interest rates rise.

Systemic risks from residential real estate lending have been continuously rising in recent years. Over the past ten years, RRE prices doubled in Austria, which reduced the affordability of housing. When real estate prices rise considerably more strongly than incomes and wealth, many households incur higher debt relative to their income and wealth to buy property. As a result, the lending standards of the flow of new loans deteriorate. For instance, in the first half of 2011, the loan amount was smaller than six times borrowers' annual net household incomes for around 80% of the volume of new lending for RRE (see chart 3.13). By 2022, this share had dropped below 50%, which means that the predominant part of new real estate loans was taken out by households incurring debt that exceeds six times their net income to buy property. For a non-negligible volume of new loans, debt even exceeded ten times households' annual net income. Making compliance with borrower-based measures mandatory in August 2022 stopped this trend.

Chart 3.13

RRE lending in Austria: debt-to-income (DTI) ratio, 2011–2022



Source: OeNB.

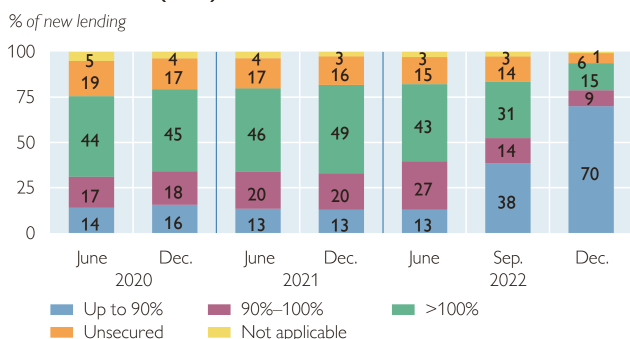
From the introduction of the reporting of the loan-to-value (LTV) ratio[22] in the first half of 2020 to the first half of 2022, the share of new loans with an unsustainable LTV ratio above 90% remained very high at 86% to 87% (see chart 3.14, left-hand panel). After borrower-based measures had become mandatory, it decreased markedly to 30% in the second half of 2022. The share of new lending with a debt service-to-income (DSTI) ratio above 40% also decreased from 18% in the first half of 2020 to 13% in the second half of 2022 (see chart 3.14, right-hand panel).

Over time, low standards for new lending can lead to a deterioration in the overall quality of the stock of outstanding loans, thereby increasing systemic risk, particularly when the cost of living, interest rates or unemployment rise. These developments made the market vulnerable for credit-driven exuberance and price corrections. Indeed, in the fourth quarter of 2022, the OeNB RRE price index declined for the first time in many years. Furthermore, interest rates started to rise rapidly in 2022, as the average interest rate on new housing loans more than tripled from 1.25% in March 2022 to 3.8% in March 2023 (new loans excluding renegotiations). As a consequence, new lending volumes shrank in Austria in the

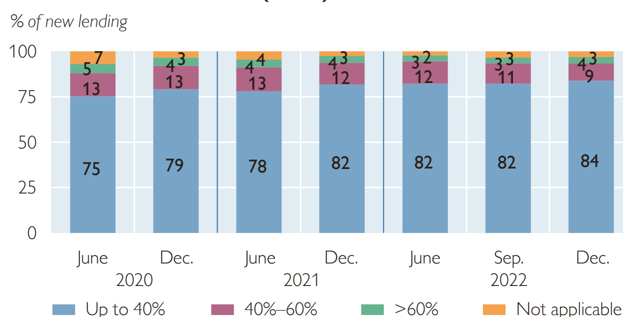
Chart 3.14

RRE lending in Austria: LTV and DSTI ratios

Loan-to-value (LTV) ratio



Debt service-to-income (DSTI) ratio



Source: OeNB (as at December 31, 2022).

[22] *The loan-to-value ratio measures the total level of debt in relation to mortgage collateral or other financial assets securing the repayment of debt.*

second half of 2022, as lending to households for house purchases – that had grown strongly over the past years – had slowed down to 5% by end-2022 year on year. The role that binding lending standards have to play for preserving the quality of the RRE lending portfolio is highlighted by the fact that lending standards improved following the activation of borrower-based macroprudential instruments in 2022. Add to that the observation that a relatively high share of new mortgages was offered at elevated debt service-to-income and loan-to-value ratios[23] before these measures became binding (see charts 3.13 and 3.14).

In times of crisis, systemic risks in the RRE segment may prove critical to Austria's financial stability and should therefore be addressed. Housing loans are an important credit segment and source of revenue for banks. Further, real estate became increasingly important as a form of collateral for bank loans in all segments. Given that the construction and real estate industries are economically important, the risk of spillovers to the real economy increases in the event of a crisis. Borrower-based instruments are macroprudential tools that are commonly used to address systemic risks from RRE financing in a timely manner, i.e. when identified vulnerabilities are increasing. They directly target the composition of new lending according to commonly used indicators, such as LTV, DSTI or DTI ratios, and, hence, prevent a deterioration of lending standards for new lending and, thus, safeguard the credit quality of banks' loan portfolios (stock of loans). In times of crisis, the measures reduce banking sector losses from real estate exposures and the related risks to financial stability and the real economy. In addition, they protect borrowers from the consequences of taking on excessive debt.

Since August 2022, Austrian banks must adhere to legally binding borrower-based measures when granting RRE loans.[24] Austria's Financial Market Authority (FMA) issued a regulation that includes upper limits for loan-to-value ratios (LTV of 90%), debt service-to-income ratios (DSTI of 40%) and loan maturities (below 35 years), subject to comparatively generous exemptions that give credit institutions adequate operational flexibility. This regulation implements the Financial Market Stability Board's guidance on sustainable lending standards from 2018[25] and applies to new mortgage lending above EUR 50,000. Furthermore, the FMSB adjusted its guidance on sustainable lending standards in its 35th meeting in February 2022[26] to include an upper limit for the DSTI ratio of 30% for loans with an interest rate fixation period below half of a loan's maturity. Following the FMSB's recommendation, the FMA relaxed the borrower-based measures by excluding bridge loans and by increasing the de minimis threshold for couples to EUR 100,000. This amendment, which became effective in April 2023, allows for even greater flexibility as already provided for by the initial regulation.

Commercial real estate (CRE) lending warrants increased scrutiny. In Austria, the bulk of CRE debt financing is provided by banks. CRE mortgage loans granted by Austrian banking groups to nonfinancial corporations made up

[23] *Loan-to-value ratio according to Article 23h (2)1 Austrian Banking Act ("Beleihungsquote").*

[24] *The Austrian Financial Market Authority (FMA) issued a regulation on borrower-based measures that took effect on August 1, 2022, and was adapted on April 1, 2023 (regulation for sustainable lending standards for residential real estate financing; in German: "Kreditinstitute-Immobilienfinanzierungsmaßnahmen-Verordnung – KIM-V").*

[25] *Press release of the 17th meeting of the Financial Market Stability Board.*

[26] *Press release of the 35th meeting of the Financial Market Stability Board.*

EUR 135 billion at the end of 2022. At 13% of total assets, the share of CRE mortgage loans in business activities stands out in an EU comparison. Having lagged behind over the past years, the annual growth rates of CRE loans had surpassed those of RRE loans by end-2022: CRE mortgage loans by banking groups grew by 7.6% (RRE mortgage loans by 6.1%), CRE loans to domestic borrowers by 8.4% (RRE loans to domestic borrowers by 5%). One-third of CRE loans provide the funding for acquiring or developing residential premises. The extraordinary profits experienced by this sector – that were fueled by very low debt service costs both for real estate corporates themselves and their clients – are currently normalizing. CRE borrowers structurally exhibit lower ratings indicating lower loan quality, but there were no critical rating migrations until end-2022. Headwinds to borrowers' ratings and associated property valuations are arising from higher interest rate levels as well as structural shifts, such as the increasing prominence of environmental criteria or changes in demand due to online shopping and remote work. Lenders are therefore called upon to ensure appropriate valuations and provide for adequate risk provisioning.

Structural capital buffers in Austria are gradually being increased, while the countercyclical capital buffer (CCyB) remains at zero

Austrian macroprudential supervision took preventive policy action in 2022 to foster the resilience of Austrian banks against systemic financial shocks. Capital buffers such as the other systemically important institutions buffer (O-SII buffer), the systemic risk buffer (SyRB) and the CCyB are part of the macroprudential toolkit. Banks subject to those buffers must hold more capital proportional to risks on their balance sheet. As a result, they become more resilient to systemic risks in the financial system and contagion effects are mitigated. Macroprudential capital buffers also provide incentives for banks to reduce their risk-taking, which improves the systemic risk structure of the banking sector. In the first half of 2023, the turmoil in financial markets, induced by the collapse of Silicon Valley Bank, has once more shown that ex post crisis management is more costly than ex ante capital buffers and that preference should be given to preventive supervisory measures.

In 2023, higher O-SII buffer and SyRB requirements entered into force for individual Austrian banks. The O-SII buffer and SyRB apply to banks of systemic importance for Austria's financial system and to those banks that are particularly exposed to systemic structural risks in the Austrian financial sector.[27] Both structural buffers were first introduced in 2016. They are evaluated regularly by considering the respective systemic risk environment as well as the interaction with other supervisory measures.[28] Since end-2020, the O-SII buffer and SyRB have been additive, as stipulated in the Capital Requirements Directive V (CRD V). But at that time, given the high economic uncertainty surrounding the coronavirus pandemic, the Austrian Financial Market Stability Board (FMSB) recommended that the effective buffer requirements were not to rise before end-2022 solely

[27] *A detailed list of banks subject to the O-SII buffer and the SyRB and the respective buffer sizes can be found on the website of the FMSB (FMSB – Risk warnings and recommendations 2022).*

[28] *More information on the OeNB's methodology applied in its systemic risk analysis and macroprudential buffer calibration can be found on its website (Maßnahmen und Methoden – Oesterreichische Nationalbank (OeNB)).*

because of a change in the legal framework. At end-2022, the O-SII buffer and SyRB were thus re-evaluated. While both buffers address different systemic structural risks, these risks are interdependent. For example, the O-SII buffer addresses the too big to fail issue of individual banks. As such, it builds up resilience in banks. In turn, the heightened resilience is considered in the assessment of systemic structural risks, which are addressed by the SyRB. A thorough analysis corrects for any overlap in the calibration of both buffers. The FMSB recommended a phase-in of the increased buffer requirements over the years 2023 and 2024, inter alia given uncertainties in connection with Russia's war against Ukraine and high inflation. The structural buffers therefore have been raised by no more than 25 basis points as of the beginning of 2023, and the overall increase per bank will not exceed 50 basis points until January 2024.

The credit-to-GDP gap of Austrian banks narrowed in 2022, but cyclical risks remain high. In the last quarter of 2022, the credit-to-GDP gap in Austria dropped to –9.9 percentage points on the back of high GDP growth and declining credit growth. The gap is therefore well below the critical threshold of +2 percentage points. However, other indicators continue to signal elevated cyclical risks in the financial system. These indicators relate to bank balance sheets, the real estate indicators and growth of loans to corporates. New housing loans have declined notably with the increase of mortgage interest rates. As GDP growth has proven increasingly volatile in the last few years, the standardized CCyB indicator has become less reliable as an indicator of the buildup of cyclical risk. All in all, the FMSB advised the FMA in April 2023 to maintain the CCyB at its current rate of 0% of risk-weighted assets for the time being, despite the risks signaled by certain indicators.

New oversight legislation reflects developments in electronic payments

Regulation (EU) 2022/858 on a pilot regime for market infrastructures based on distributed ledger technology (DLT) is currently being implemented into Austrian law. This regulation is part of the digital finance package of the European Commission. The OeNB (in its oversight function) will be involved in the permission and supervision regarding the settlement aspects of the newly regulated DLT financial market infrastructures.

The framework for the oversight of electronic payment instruments, schemes and arrangements (PISA) became applicable as of November 2022. PISA updates and consolidates the existing oversight standards for electronic payment instruments.[29] The overseen entities responsible for payment instruments are either schemes (e.g. card schemes) or arrangements (wallets). While the list of currently identified schemes has already been published by the ECB, further fine-tuning of the definition and identification of arrangements is still ongoing and due to be finalized by summer 2023. Arrangements shall also cover crypto asset-related services and stablecoins. Newly identified entities should adhere to the framework no later than one year after being informed by the oversight authority. Due to the exemption of entities given their small size and market penetration, no Austrian schemes or arrangements currently fall under the PISA oversight.

[29] *https://www.ecb.europa.eu/paym/pol/activ/instr/html/index.en.html*

Austrian nonbank financial intermediaries were hit by financial market downturn in 2022

The performance of Austrian insurers, pension and investment funds was noticeably affected by the difficult macroeconomic environment in 2022. The sharp rise of inflation and volatile capital markets noticeably affected the value of financial assets, whereas the premium volume of Austrian insurers increased slightly. Even though the tough investment environment took its toll, the financial conditions of Austrian insurers, pension and investment funds remained solid.

Austrian insurers' profits from ordinary business halved in 2022, while investment profits fell by almost one-third. The Austrian insurance sector's total premium volume slightly increased to EUR 21 billion in 2022, which may be broken down into EUR 13 billion revenues from property and casualty insurance policies, EUR 5 billion from life insurance policies and EUR 3 billion from health insurance policies. The underwriting result stagnated, while the financial result declined by one-third. Overall, the result from ordinary business activities halved to EUR 1 billion. Solvency remained good, with a median solvency capital requirement ratio of 244% at end-2022.

The market downturn in 2022 affected the Austrian insurance sector as the market value of its financial asset holdings decreased. Total assets of the Austrian insurance sector declined moderately in 2022 to EUR 128 billion. A breakdown shows that nearly one-third were debt securities, one-quarter were investment funds, while shares and other equity amounted to one-fifth, and loans to less than 6%.[30] The recent increase of risk-free rates has benefited the insurance sector in terms of its solvability. However, the decline in stock markets led to falling own funds and own funds requirements.

The exposure of Austrian insurance companies to the banking sector and sovereigns is on the decline but could still be a channel of risk transmission. The sector's total exposure to the banking sector via debt securities and loans continued its decline in 2022. At end-2022, it amounted to just under 10% of total assets (2016: 16%); to domestic banks it declined from 7% to 3%. The sovereign exposure came close to 15% of total assets and remained unchanged against end-2016. The home country bias decreased to 2% of total assets.

Assets under management of Austrian investment funds decreased in 2022. Large price corrections due to capital market turbulences reduced the funds' assets by 13% or EUR 30 billion year on year, with assets under management amounting to EUR 200 billion at end-2022. Net outflows accounted for only EUR 0.5 billion. At the end of 2022, Austria's asset managers managed 1,143 mixed funds with EUR 93 billion in assets, 423 bond funds with EUR 53 billion, 347 equity funds with EUR 37 billion, 48 short-term bond funds with EUR 5 billion, 42 private equity funds with EUR 1 billion, 47 other funds with EUR 0.4 billion as well as 20 real estate funds with managed assets of EUR 11 billion. Funds in accordance with the Sustainable Finance Disclosure Regulation (SFDR) reached a volume of EUR 82 billion, or 41% of the total net asset value.[31]

Austrian pension funds recorded a negative return in 2022. In 2022, the overall return on investment of Austrian pension funds fell to –9.7%, compared

[30] *The rest consists predominantly of nonfinancial assets.*

[31] *Source: FMA Annual report on Asset management in the Austrian funds market.*

to an average return of 3.1% per annum over the past ten years.[32] The largest exposure of the sector are equities (37% of the portfolio), followed by debt securities (32%), and almost all assets are invested via investment funds. Assets under management by Austrian pension funds decreased to EUR 24 billion, whereas the number of beneficiaries (prospective and current recipients) increased by 2.5% to just over 1 million. Currently, 13% of the beneficiaries receive a pension under an occupational pension scheme. Given their defined contribution business model, risks related to liability-driven investment strategies are of no relevance for Austrian pension funds.

[32] *Source: FMA: Quarterly Report on pension funds Q4 2022.*