

Recent developments and macroprudential policy update

Austrian economy experiences second year of recession in 2024

Austria’s economy has been in recession almost continuously for two years. Economic output contracted by a total of 2.1% from its peak in the second quarter of 2022 to the second quarter of 2024. This downturn has been primarily driven by two factors: an industrial recession and a notable decline in consumer spending. The industrial sector has been particularly affected by the global economic slowdown, with the downturn in Germany – Austria’s key trading partner – having a significant impact on Austrian industry. In addition to weak foreign demand, domestic demand has underperformed across various sectors. The OeNB’s September 2024 Interim Economic Outlook highlights that energy-intensive and construction-related industries have been the main drivers of the industrial recession. Despite strong income growth, consumer spending has fallen short of expectations due to persistently low consumer confidence, which has led to a sharp increase in the saving rate. In light of the OeNB’s revised outlook for the second half of the year, the forecast for real GDP growth in 2024 has been downgraded by one percentage point to –0.7%, and by 0.8 percentage points to 1.0% for 2025. As a result of the weaker economic activity, the unemployment rate is projected to rise to 7.1% in 2024 and 7.5% in 2025.

The inflation shock is coming to an end, and HICP inflation is to fall below 3% in 2024. HICP inflation peaked at 11.6% in January 2023 and has since steadily declined, reaching 1.8% in September – a level last seen in early 2021. The drop in HICP inflation from 2023 to 2024 has been driven by all major components of the index, particularly industrial goods (excluding energy), energy and food. According to the OeNB’s latest forecasts, the annual average HICP inflation rate is expected to fall from 7.7% in 2023 to 2.9% in 2024. However, disinflation is anticipated to slow in subsequent years due to the expiration of fiscal measures in the energy sector. The OeNB projects HICP inflation to be 2.3% in 2025 and 2.2% in 2026.

Austria’s budget deficit will be higher than 3%, which is why the country is likely to face an excessive deficit procedure. The ongoing recession, coupled with declining inflation, is causing a further worsening of public finances. Without additional corrective measures, the budget deficit will exceed

Table 1

OeNB September 2024 outlook for Austria – main results

	2023	2024	2025	2026
<i>Annual change in % (real)</i>				
Gross domestic product (GDP)	–0.7	–0.7	1.0	1.5
Harmonised Index of Consumer Prices (HICP)	7.7	2.9	2.3	2.2
HICP excluding energy	7.8	3.8	2.6	2.2
%				
Unemployment rate (national definition)	6.4	7.1	7.5	7.3

Source: 2023: Statistics Austria; 2024 to 2026: OeNB September 2024 outlook.

the 3% target in 2024 and in the coming years. This increases the likelihood of the European Commission initiating an excessive deficit procedure against Austria.

The ECB lowered its deposit rate to 3.25% in October 2024. Inflation in the euro area has fallen more quickly than anticipated at the start of the year. According to the ECB's September forecast, inflation is projected to reach 2.2% in 2025 and 1.9% in 2026. In response, the ECB Governing Council decided to lower interest rates in June, September and October by 25 basis points each, marking the start of an easing cycle.

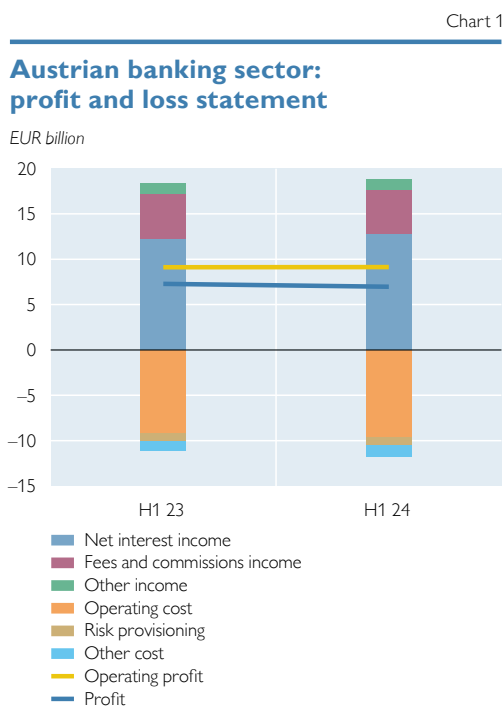
The Austrian banking sector's profitability and capitalization remain strong, but risks from commercial real estate loans intensify

The consolidation of the Austrian banking sector continued in the first half of 2024, while the sector's total assets registered moderate growth. The number of banks in Austria fell only marginally, as mergers typically take place in the second half of a year. However, total assets continued to grow moderately, reaching EUR 1,243 billion at the end of June 2024. On the asset side, loans and debt securities contributed to the increase, while banks slightly reduced their cash balances. On the liability side, growth was driven by both interbank and customer deposits.

Despite ongoing quantitative tightening, the liquidity position of the Austrian banking sector has improved and remained comfortable. Recent trends in Austrian banks' funding and liquidity positions have continued in the first half of 2024. Banks have responded to the continued reduction of excess reserves in the Eurosystem (quantitative tightening) by further substituting their cash and reserve holdings with government and covered bond holdings. The

banking sector managed to keep its overall liquidity risk metrics fairly constant: The liquidity coverage ratio, for instance, which measures the amount of high-quality liquid assets – like reserves or government bonds – that banks hold against expected short-term outflows in a liquidity stress scenario, stood at 174% on a consolidated level as of mid-2024, up 1.1 percentage points from end-2023 and up 9.2 percentage points year on year. On the liability side, the relative importance of sight deposits, which markedly decreased as interest rate hikes started in mid-2022, has stabilized in the first half of 2024. This could be a consequence of the narrowing interest rate differential between term and sight deposits due to recent interest rate cuts.

The Austrian banking system earned a EUR 7.0 billion profit in the first half of 2024, which is only



Source: OeNB.

slightly below the record set in the same period of 2023. Net interest income, which makes up around two-thirds of all income, was up by 4%, while fees and commissions recorded only a marginal decline. Consequently, operating income increased to EUR 18.8 billion in the first half of 2024. As operating costs rose in line with income – with noticeable reductions in contributions to resolution and deposit guarantee funds but higher impairments on participations – the operating profit stayed flat at EUR 9.1 billion. The cost-to-income ratio was almost unchanged at 51%. As risk provisioning rose by 12% to EUR 0.9 billion, and tax payments increased by 13% to EUR 1.7 billion, the profit of the Austrian banking system fell slightly to EUR 7.0 billion. This translated into a return on assets of 1.2%, some 8 basis points lower than in the first half of 2023, but still highlighting banks’ strong profitability.

The Austrian banking sector’s capitalization further increased in the first half of 2024, and large Austrian banking groups improved their capitalization compared to their competitors in the SSM. With the tailwind of high profitability, Austrian banks further increased their capitalization in the first half of 2024. Although risk-weighted assets grew by EUR 14 billion, the retention of profits raised the common equity tier 1 (CET1) ratio by a further 10 basis points to 17.7%. The leverage ratio – which is not risk-weighted – improved to 8.5%. Compared to the EU banking sector, the Austrian banking sector is well capitalized with a CET1 ratio 130 basis points above the average. Besides, the CET1 ratio of large Austrian banking groups in the SSM increased to 16.3%, some 50 basis points above the average of their SSM peers.

As for macroprudential capital requirements, the buffer for other systemically important institutions (O-SII) addresses risks that large systemic banks pose to the financial system.¹ The buffer requires systemic banks in Austria to hold additional CET1 capital and thereby lowers their probability of failure. On an annual basis, the OeNB identifies banks that are systemically important and thus have to hold more capital. In October 2024, Austria’s Financial Market Stability Board (FMSB) recommended removing a temporary limit on O-SII buffer rates that had been in place since 2022 due to uncertainty over Russia’s war against Ukraine, increased energy prices and high inflation. As a result of this final phase-in step, four large banks will see their buffer requirements increase slightly.

In order to create a stronger link between systemic importance and buffer rates, the FMSB recommended increasing the number of buckets in the O-SII assessment methodology.² Banks that are systemically important but at the lower end of the distribution will be required to hold a buffer of 0.45% (after taking the overlap with the systemic risk buffer (SyRB) into account). Currently, two banks fall into this category and will see a slight reduction in their O-SII buffers. At the other end of the spectrum, banks exceeding a high threshold will need to hold a buffer of 2.2% (after taking the overlap with the SyRB into account). This bucket is deliberately left empty and ensures that if the largest banks

¹ https://www.oenb.at/finanzmarkt/makroprudenzielle-aufsicht/massnahmen_und_methoden/der_andere_systemrelevante_institute-puffer.html (in German only)

² <https://www.fmsg.at/en/publications/warnings-and-recommendations/2024/recommendation-fmsb-4-2024.html>

Table 2

Allocation of scores to buffer levels

Previously				New			
Bucket	O-SII buffer	O-SII buffer	Scores	Bucket	O-SII buffer	O-SII buffer	Scores
	(pre-overlap)	(post-overlap)			(pre-overlap)	(post-overlap)	
	% of CET1 capital			% of CET1 capital			
				Bucket 1	0.5	0.45	Only additional indicators and <275
Bucket 1	1.0	0.90	275–636	Bucket 2	1.0	0.90	275–636
Bucket 2	1.5	1.30	637–999	Bucket 3	1.5	1.30	637–999
Bucket 3	2.0	1.75	≥1,000	Bucket 4	2.0	1.75	1,000–3,399
				Bucket 5	2.5	2.20	≥3,400

Source: OeNB.

Note: Changes in bold. "Pre-overlap" means prior to adjusting for overlap with systemic risk buffer; "post-overlap" means after adjustment.

further increase their systemic importance, they do so with a commensurate increase in resilience.

Box 1

Results of the OeNB's 2024 solvency stress test**Background**

The OeNB conducts annual stress tests for all Austrian banks under its dual mandate for banking supervision and financial stability. The solvency stress test is designed to assess banks' resilience to adverse macroeconomic shocks and provides insights on both bank-specific and system-wide vulnerabilities. Conducted in a top-down fashion, it relies on the OeNB's ARNIE stress testing framework, which is well-established and continuously improved. The stress test covers both significant and less significant institutions at the highest consolidated level. It focuses on risks faced by the Austrian banking sector, including spillover effects among banks, which are particularly relevant to the decentralized sector. The most recent stress test is based on data as of year-end 2023 and covers the period from 2024 to 2026.

Scenario

The adverse scenario assumes a severe macroeconomic downturn combined with a decline in inflation and interest rates. The baseline scenario projects a cumulative GDP growth of 3.6% for the Austrian economy over the stress test horizon (2024–26). In the adverse scenario, characterized by spillover effects of a credit bust in China, euro area GDP contracts by a cumulative 6.0% (–5.0% in Austria). Further escalation of Russia's war against Ukraine leads to an idiosyncratic shock on energy prices in Austria, Hungary and Slovakia, triggering prolonged inflationary effects in these countries reliant on Russian gas. Austrian inflation falls from 7.7% in 2023 to 3.1% in 2026, while euro area inflation declines to 1.9% in 2026, leading to interest rate cuts. Short-term rates (3M EUR Swap) fall from 3.4% in 2023 to 2.1% in 2026, sharper and further than in the baseline scenario (2.7% in 2026).

Results and risk drivers

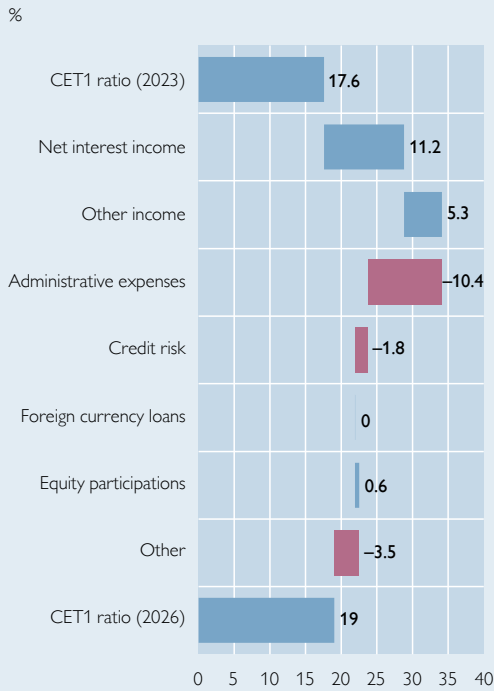
While the aggregate CET1 ratio increases by 1.4 percentage points in the baseline scenario, it declines by 5.4 percentage points in the adverse scenario, landing at 12.2% at year-end 2026. The following waterfall charts show the most important risk

drivers and their contribution to changes in the capital ratio for both the baseline and the adverse scenario.

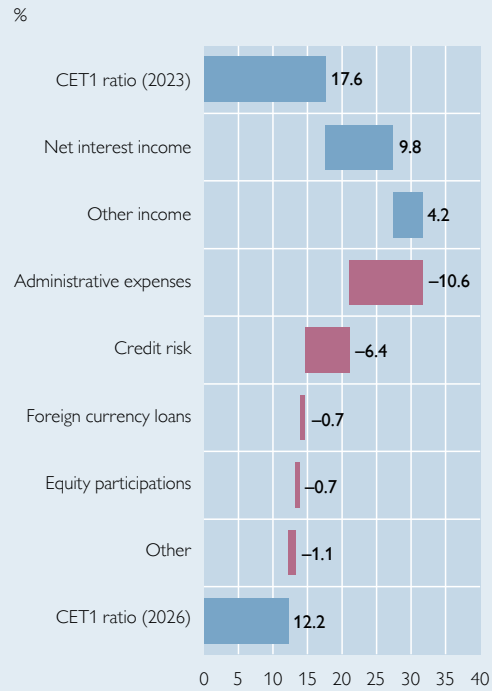
Chart 2

Austrian stress test – results and risk drivers

CET1 ratio of the Austrian banking system – baseline scenario



CET1 ratio of the Austrian banking system – adverse scenario



Source: OeNB.

Credit risk remains the main risk driver and reduces capital by 6.4 percentage points in the adverse scenario (baseline: –1.8 percentage points). Approximately one-tenth of these credit risk losses is attributable to Austrian commercial real estate (CRE) exposures, which were specifically subjected to a shock in this year's exercise. Moreover, the contribution of net interest income drops from 11.2 percentage points in the baseline to 9.8 percentage points in the adverse scenario. Net interest margins face a double compression: With falling interest rates, banks' loan book income declines, while interest paid on deposits does not. During the recent period of rising interest rates, banks could keep deposit rates at comparably low levels, so that current rates are still below those assumed to materialize in the adverse scenario. Interest expenses are therefore modeled to increase slightly, and net interest margins return to levels seen around 2020. Finally, gains and losses from equity participations remain significant. In the baseline scenario, banks participate in the profits of entities they are invested in and build up capital (+0.6 percentage points), but the picture reverses in the adverse scenario (–0.7 percentage points), reflecting reduced dividend income and write-downs of equity participations. On aggregate, the difference between gains and losses in the baseline and in the adverse scenario is less pronounced than in previous years due to methodological improvements, while for some banks the impact is now more material.

Compared to last year's exercise, the 2024 OeNB stress test projects a greater impact (–5.4 vs. –4.2 percentage points in 2023). This reflects higher credit risk (–6.4 percentage points vs. –5.6 percentage points in 2023), with exposures linked to CRE being especially hard hit, and lower net interest income (9.8 percentage points vs. 10.3 percentage points in 2023). At the same time, record profits allowed Austrian banks to increase

capital by 1.2 percentage points in 2023. Therefore, the final CET1 ratio after stress remains practically unchanged from last year's stress test.

Conclusions

Overall, the stress test indicates that the Austrian banking system is well placed to withstand substantial macroeconomic shocks. Banks were able to build up capital and now have a greater cushion against potential losses. However, results are heterogeneous across the Austrian banking sector. With credit risk costs rising across the board, banks with a larger share of CRE exposures relative to their total loans are especially vulnerable to higher losses. Falling interest rates will compress interest margins, adding to downward pressure on capital.

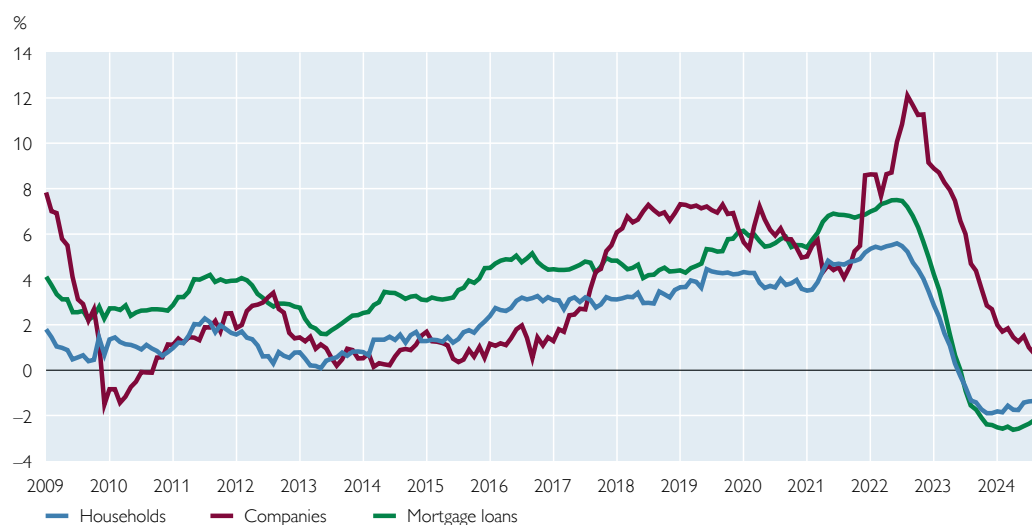
The stress test underlines the importance of a well-capitalized banking sector.

Even though capital ratios have increased significantly in recent years, overall uncertainty remains high. Given the speed of recent interest rate movements and rising credit risk costs, banks might face substantial headwinds in the years to come. Therefore, it is important that Austrian banks be forward looking and prudent with profit distributions. These conclusions are confirmed by a special topic in this report entitled "Results of the first dynamic balance sheet stress test in the ARNIE framework." It simulates banks' reactions to the same macroeconomic scenarios used in this stress test and finds that better capitalized banks are able to grow even in the adverse scenario, providing credit to the real economy in times of crisis.

While mortgage lending seems to have bottomed out, corporate lending growth has been slowing down. Demand for corporate loans has been falling since 2022, with a persistent weakness particularly in the demand for long-term loans to finance investments. This subdued demand and the restrictive lending policies of banks mean that corporate investment activity has not been contributing to economic growth in Austria, which is reflected in the current weak economic outlook. In contrast, housing loans have seen a moderate recovery in demand since the first quarter of 2024, starting from a historic low after sharp declines in the previous one and a half years. The moderate rebound is due to improvements in

Chart 3

Annual loan growth in Austria



Source: ECB.

Note: Data up to and including August 2024.

affordability driven by rising real incomes and slightly falling financing costs. That said, the annual growth rate for domestic loans remains low. As of August 2024, loans to Austrian companies grew by 0.7% and loans to households contracted by 1.4% year on year. However, the bottom for the latter seems to have been reached.

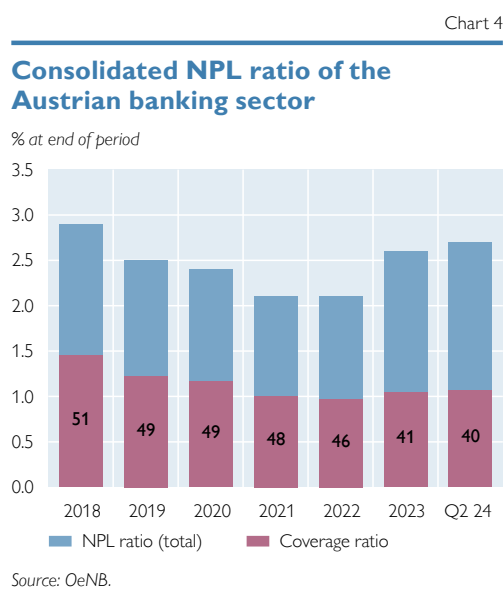
The share of lending at variable interest rates continued to decline. In the first half of 2024, new borrowers in Austria sought low interest rate risk. Consequently, the share of variable rate loans in total new loans continued to decline to around 40% for households and three-quarters for companies. The decline was especially pronounced in mortgage lending, where only one in five new loans had a variable interest rate. However, the overall share of variable rate loans in Austria is still above the European average. Supervisors therefore continue to closely monitor further developments.

The deterioration of credit quality continued in the first half of 2024, albeit at a noticeably slower pace. Triggered by major bankruptcies in the construction and CRE sector, Austrian banks' overall loan quality started to deteriorate in late 2023. This trend continued in the first half of 2024, albeit at a noticeably slower pace. In recent quarters, the decline in banks' credit quality was more pronounced in Austria than in other European countries.

As of mid-2024, the consolidated nonperforming loan (NPL) ratio of the Austrian banking sector stood at 2.7%, well above the all-time low of around 2% marked two years ago. Banks' risk provisioning in the first half of 2024 did not, however, keep up with the increase in NPLs. This means that the NPL coverage ratio, i.e. the ratio of loan loss provisions to NPLs, fell to 40%, as old NPLs with higher coverage were written off and the volume of new NPLs still continues to grow. Compared to Austrian banks' peak NPL ratio of nearly 7% in 2015, however, the current level is still moderate.

A further increase in forbearance points to a continued deterioration in credit quality. Forbearance involves granting concessions to borrowers who are unlikely to repay their loans under the current terms and conditions, with the aim to return borrowers to a sustainable repayment path. It can take the form of refinancing or restructuring the loan or modifying the terms and conditions. Forborne loans are a leading indicator of future credit quality. In Austria, the share of forborne loans in total loans increased from 1.7% at the end of 2022 to 2.3% as of mid-2024.

Borrower-based measures for residential real estate (RRE) lending in Austria (the KIM-V) are effective.³ Data for the first half of 2024 show a further increase in the



³ *KIM-V is the regulation for sustainable loan origination standards for residential real estate financing (in German: Kreditinstitute-Immobilienfinanzierungsmaßnahmen-Verordnung).*

share of sustainable loans⁴, from 80% to 84%. Moreover, a difference-in-differences estimation shows that the introduction of the KIM-V is associated with a reduction of the NPL ratio for RRE loans, thus effectively contributing to financial stability (see the special topic in this report entitled “From part of the problem to part of the solution: evaluating the effectiveness of borrower-based measures in Austria”). This contributed to a relatively stable credit quality of RRE lending, where NPL ratios remain at 1.1%.⁵ In the interest of administrative simplification, the KIM-V was amended for a second time in July 2024. The indicator-specific exemptions were abolished and only the 20% institution-related exemption remains in place. The key role of the KIM-V has also been emphasized internationally: S&P Global Ratings positively highlighted the regulation in their Banking Industry Country Risk Assessment for Austria⁶ and acknowledged that exemptions remained largely unused. The rating agency also confirmed that the decline in new lending was the result of increased financing costs, and not brought about by the KIM-V. This remained true throughout the first half of 2024, as close to EUR 500 million in exemption volume continued to be available. The share of banks that used less than half of their available exemption volume increased from 46% in the second half of 2023 to 62% in the first half of 2024. Given that the KIM-V has its legal sunset date on June 30, 2025, the OeNB is currently evaluating if borrower-based measures remain necessary to address systemic risks from the RRE sector.

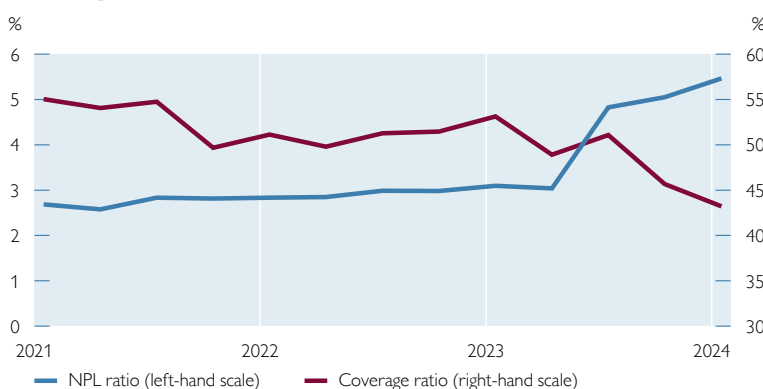
CRE loan woes have intensified in the course of 2024. CRE loans have been under scrutiny by Austrian and international supervisors for several years now. Since interest rates started to increase in 2022, the vulnerabilities of this sector’s funding, which rested on increasing real estate values and low interest

rates, have come to the fore. The number of defaults of real estate companies⁷ has increased, as have nonperforming CRE loans on banks’ balance sheets (see chart 5). CRE loan loss provisions have increased as well, but to a lesser extent. Accordingly, CRE loans’ coverage ratios have decreased, while real estate values – another cushion to protect banks from losses in the event of defaults – have been under pressure as well.

This report features a special topic on systemic risks from CRE loans in Austria. It finds that a further deterioration of the economy and of real estate valuations, as experienced in past crises, could lead to CRE

Chart 5

NPL and coverage ratio of CRE loans of the Austrian banking sector



Source: FINREP, OeNB.

⁴ Sustainable loans are all loans with a debt service-to-income ratio of up to 40%, a maturity of up to 35 years and a loan-to-collateral ratio of up to 90%. Loans that are not clearly assignable are classified as sustainable.

⁵ The special topic uses the median corrected NPL ratio on an unconsolidated level for significant institutions in Austria to ensure comparability to the control group. The consolidated NPL ratio in Austria stands at 1.4% in mid-2024.

⁶ S&P Global Ratings (August 2024) Banking Industry Country Risk Assessment: Austria.

⁷ ÖNACE sectors “F construction” and “L (as of 2025 M) real estate related activities.”

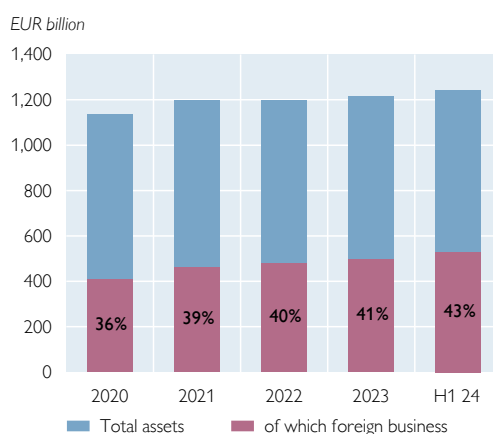
loan losses that are not covered by regulatory (“pillar 1”) and microprudential (“pillar 2”) requirements. The FMSB has concurred with this assessment and found that potential losses from CRE loans, in the event of a further deterioration of the economic environment, can pose an increased risk to financial stability in Austria. After its 42nd meeting, the FMSB therefore recommended that Austria’s Financial Market Authority (FMA) set a sectoral SyRB of initially 1% for risk-weighted exposures to domestic nonfinancial corporations of the ÖNACE 2025 sectors “M.68 real estate activities,” “F.41 construction of buildings” and “F.43 specialised construction activities” as of July 1, 2025. As limited-profit housing associations do not pose a systemic risk due, among other things, to their markedly lower probabilities of default, the FMSB recommended excluding them from the scope of the sectoral SyRB.

The importance of Austrian banks’ foreign business continued to grow. With EUR 530 billion in foreign assets as of June 2024, 43% of Austrian banks’ business was located abroad (see chart 6), mainly within the EU. The most important foreign markets are Czechia, Germany and Slovakia, accounting for 40% of all foreign business. While most banks’ business is done locally, either in Austria or via subsidiaries in host countries, one-fifth of all business occurs across borders.

The total assets of Austrian banking subsidiaries in Central, Eastern and Southeastern Europe (CESEE) surpassed EUR 300 billion in mid-2024,⁸ with more than 80% located in EU member states. Six countries continue to be dominant, as Czechia accounts for 38%, Slovakia and Romania make up 15% and 12%, respectively, followed by Hungary, Russia and Croatia with shares of less than 10% each. As shown in chart 7, growth was strong during the COVID-19 pandemic but lost steam over the last two years. One of the reasons was tighter monetary policy, but as inflationary pressures are decreasing in the region and central banks start cutting rates, it will be important to monitor loan growth.

Chart 6

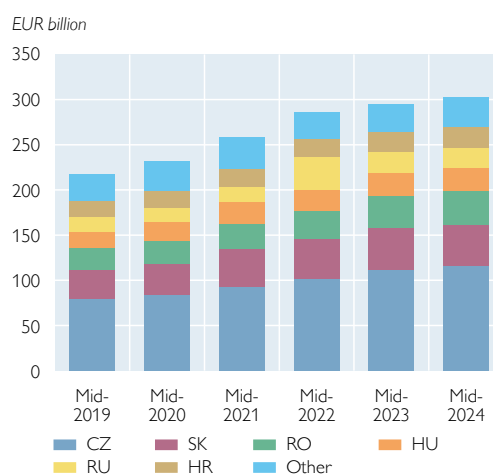
Total assets of the Austrian banking sector



Source: OeNB.

Chart 7

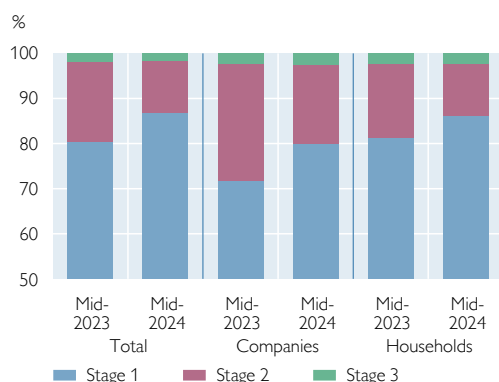
Austrian banking subsidiaries in CESEE: total assets by country



Source: OeNB.

⁸ A first since UniCredit Bank Austria transferred its CESEE subsidiaries to its Italian parent in 2016.

Chart 8

Austrian banking subsidiaries in CESEE: credit risk according to IFRS 9 stages

Source: OeNB.

Note: For information on IFRS 9 loan stages, see <https://www.bis.org/fsif/summaries/ifrs9.pdf>.

Profits of Austrian banking subsidiaries in CESEE reached a new high of EUR 3.1 billion in the first half of 2024, driven by higher net interest income and a marginal provision release. Net interest income of Austrian subsidiaries in CESEE rose to EUR 4.5 billion (+11% year on year), boosted by moderate asset growth (+3%) and an expansion of the net interest margin to 3.1% (+22 basis points). At the same time, fees and commissions income fell by 13% to EUR 1.8 billion. Consequently, operating income rose by 2% to EUR 6.6 billion.⁹ As operating costs declined by 3%, driven by staff cost that fell despite ongoing wage pressures, the subsidiaries' operating profit reached EUR

3.8 billion (+6% year on year). Risk costs were very benign in the first half of 2024, as EUR 26 million of credit risk provisions were released, compared to a buildup of more than EUR 300 million in the same period of 2023.

Credit quality of Austrian banking subsidiaries in CESEE remains at historically good levels, as reflected in an NPL ratio for total loans of just 1.9%, a 65% coverage of NPLs (both stable year on year) and a noticeable increase in the share of stage 1 loans, i.e. loans with no significant increase in credit risk since initial recognition (see chart 8). All these trends resulted in a half-year profit of EUR 3.1 billion, up 15% from last year. As of mid-2024, the aggregate CET1 ratio of Austrian banks' CESEE subsidiaries stood at 20% and their loan-to-deposit ratio was 71%. These solid levels reflect past efforts by banks and supervisors to make local banking systems more resilient by increasing the subsidiaries' risk-bearing capacity and ensuring a balanced refinancing structure.¹⁰

As for macroprudential capital requirements, the SyRB addresses structural systemic risks, such as the domestic banking sector's specific ownership structures and its high exposure to emerging economies in Europe.¹¹ Disruptions in the whole or in parts of the Austrian financial system may entail severe negative consequences for the entire financial system and the real economy. In 2024, the SyRB was evaluated according to a biennial assessment plan. As it was found that the major structural systemic risks identified in the previous assessment from 2022 continue to exist, the FMSB recommended keeping SyRB rates unchanged. All previously identified banks will have to maintain a SyRB of

⁹ Changes in trading and valuation income cancelled each other out.

¹⁰ For more details, refer to box 4 entitled "Success of the Austrian Sustainability Package" in the Financial Stability Report 47.

¹¹ For more details, refer to https://www.oenb.at/finanzmarkt/makroprudenzielle-aufsicht/massnahmen_und_methoden/systemrisikopuffer.html (in German only).

0.5% to 1.0%. Additionally, one institution was identified as a SyRB bank for the first time (with a rate of 0.5%).¹²

Recommendations by the OeNB

The profitability and capitalization of the Austrian banking sector remained strong in the first half of 2024. Nevertheless, a geopolitical polycrisis, two years of domestic recession in 2023 and 2024 as well as the forecast rise in the Austrian unemployment rate mark a challenging economic backdrop for financial stability.¹³ Rising pressures, including weakening domestic corporate credit quality, are likely to challenge earnings over time, while less restrictive monetary policy will take time to stimulate loan growth. The OeNB recommends that banks further strengthen financial stability by taking the following measures:

- Continue to safeguard or, where appropriate, further strengthen their capital position by exercising restraint regarding profit distributions.
- Adhere to sustainable lending standards for residential as well as commercial real estate (CRE) financing and prepare for stricter supervisory requirements for CRE loans.
- Ensure adequate risk management practices, especially a commensurate coverage of NPLs by risk provisions and a conservative valuation of collateral.
- Ensure sustainable profitability by maintaining cost discipline while investing in information technologies as well as in protection against cyber risks and the impact of climate change.

Box 2

“Never waste a good crisis” – The OeNB’s Crisis Simulation Tool

Background

The OeNB has developed a Crisis Simulation Tool¹⁴ that allows supervisors to run macroeconomic crisis scenarios for all Austrian banks and provides timely and accurate information in times of a global polycrisis. Indeed, the COVID-19 pandemic, Russia’s war against Ukraine, the ensuing period of high inflation, the disruption of global supply chains and energy markets, as well as the end of zero interest-rate policies have entailed new and complex challenges for bank supervisors. The volatile business environment and emergence of novel and very different shocks require swift supervisory action and a flexible toolkit that allows for real-time evaluations.

Introducing the tool

Supervisors can use the Crisis Simulation Tool to run both standardized and customized shock scenarios, based on economic sectors and countries, on the profits, capital positions and leverage ratios of individual banks and groups of banks. The tool requires that supervisors take two main decisions: first, whether they want to

¹² For more details on the decision, refer to <https://fmsg.at/en/publications/warnings-and-recommendations/2024/recommendation-fmsb-4-2024.html>

¹³ For the latest OeNB outlook, refer to *OeNB Report 2024/17: Austrian economy remains in recession, inflation shock comes to an end*

¹⁴ The tool’s conception and implementation were led by Thomas Kögler and Thomas Resch, who are both members of the Expert Pool for Business Model Assessment, ESG and Digitalization within the Off-Site Supervision Division – Less Significant Institutions. They also authored this box. A joint team of off-site supervisors and the Financial Stability and Macroprudential Supervision Division leads the future development of the tool.

run a predefined macroeconomic scenario or create a custom scenario; second, whether the chosen scenario should be applied to an individual bank or a group of banks. Both predefined and custom scenarios are based on economic sectors (based on NACE codes¹⁵) and countries, which subsequently act as filters on the banks' credit portfolio. Having picked a scenario and a bank or group of banks, analysts can set the rate of default on the banks' unsecured credit exposure in the countries and sectors included in the scenario. In addition, supervisors can determine a specific haircut on the existing collateral and allow for mitigating factors such as the bank's expected profits, retained earnings or hidden reserves. Based on the settings, the Crisis Simulation Tool calculates additional impairments and their effects on profits, capital position and leverage ratio, and flags potential breaches of supervisory capital requirements in real time. For individual banks, the tool provides an in-depth analysis of the scenario's impact, while at the banking group level, a more abstract, aggregated view is available.

Applications

The Crisis Simulation Tool is utilized both in micro- and macroprudential supervision, and its results have been reported to senior management and external stakeholders. Within microprudential supervision, the tool has been used to swiftly identify vulnerable banks in times of crisis, assess potential breaches of regulatory capital requirements, challenge banks' assumptions and statements, and complement analytical assessments and reports with macroeconomic shock simulations. The results, including the identification of vulnerable banks with significant commercial real estate exposures and an impact study of the energy crisis on Austrian banks, have regularly been reported and presented to senior management and external stakeholders, such as Austria's Financial Market Authority (FMA) and the ECB. Moreover, supervisors employed the Crisis Simulation Tool to run reverse scenarios to identify individual danger thresholds and determine specific risk potentials for Austrian SIs (significant institutions) and LSIs (less significant institutions).

The tool has been recently extended to macroprudential applications. It is used there to quickly assess the exposure to and the potential capital losses from macroeconomic shocks or crisis events from an aggregate banking-sector perspective to detect systemic vulnerabilities from banks' credit exposure and to assess the robustness of current profitability and credit quality trends. After potential systemic risks have been identified in specific sectors, these preliminary results are sometimes utilized as the basis for a more detailed analysis, e.g. in the special topic in this report entitled "Systemic risks from commercial real estate lending of Austrian banks." In all these applications, the tool's focus on credit risk shocks rather than a gradual worsening of the macroeconomic environment as well as its time horizon, which is limited to the current year, makes it a complement to, and in no way a substitute for, supervisory stress tests.

Database and technical details

The Crisis Simulation Tool is based on well-established regulatory reporting data and macroeconomic crisis scenarios defined by OeNB economists and macroprudential supervisors. The tool's most important data sources are the granular credit data and credit risk data, which are aggregated for each bank based on the countries and sectors of the economy included in the chosen scenario. They are complemented by capital adequacy, leverage, profitability and balance sheet data, which are necessary to calculate the additional impairments and subsequently the impact of the chosen scenario on profits, capital position and leverage ratio. All regulatory data are retrieved on a quarterly basis. The predefined macroeconomic scenarios have been designed by OeNB economists and macroprudential supervisors. The tool itself is a web-based R Shiny solution.

¹⁵ The tool utilizes NACE (Nomenclature statistique des activités économiques dans la Communauté européenne = Statistical Classification of Economic Activities in the European Community) levels 1 (containing 21 sections of the economy) and 2 (containing 88 subdivisions).

Conclusion

Overall, the Crisis Simulation Tool has proven to be a timely and cutting-edge addition to the OeNB's existing analytical toolkit. Indeed, the Crisis Simulation Tool has filled a void between regular analytical reports and the annual supervisory stress tests by allowing for rapid initial assessments of shock scenarios. For example, the tool has enabled supervisors to swiftly identify vulnerable banks with significant commercial real estate exposures or to conduct an impact study of the energy crisis on Austrian banks. Since it can be easily adapted and extended to cover new emerging crisis scenarios and provides easily accessible real-time evaluations with high user convenience and satisfaction, it enables supervisors to conduct informed assessments and stay ahead of the curve even during the current polycrisis.