



OESTERREICHISCHE NATIONALBANK
EUROSYSTEM

FINANCIAL STABILITY REPORT 43

The OeNB's semiannual Financial Stability Report provides regular analyses of Austrian and international developments with an impact on financial stability. In addition, it includes studies offering in-depth insights into specific topics related to financial stability.

Publisher and editor	<i>Oesterreichische Nationalbank Otto-Wagner-Platz 3, 1090 Vienna PO Box 61, 1011 Vienna, Austria www.oenb.at oenb.info@oenb.at Phone (+43-1) 40420-6666</i>
Editorial board	<i>Ernest Gnan, Birgit Niessner, Vanessa Redak, Markus Schwaiger</i>
Coordinators	<i>Andreas Greiner, Stefan Michael Kavan, Walter Waschiczek</i>
Editing	<i>Dagmar Dichtl, Lukas Felser, Jennifer Gredler, Susanne Steinacher</i>
Layout and typesetting	<i>Melanie Schuhmacher</i>
Design	<i>Information Management and Services Division</i>
Printing and production	<i>Oesterreichische Nationalbank, 1090 Vienna</i>
Data protection information	<i>www.oenb.at/en/dataprotection</i>
ISSN 2309-7272 (online)	

© Oesterreichische Nationalbank, 2022. All rights reserved.

May be reproduced for noncommercial, educational and scientific purposes provided that the source is acknowledged.

Printed in accordance with the Austrian Ecolabel guideline for printed matter.

Please collect used paper for recycling.

EU Ecolabel: AT/028/024



Content

Call for applications: Klaus Liebscher Economic Research Scholarship	4
Reports	7
Management summary	8
International macroeconomic environment: war in Ukraine endangers global recovery amid high uncertainty and surging inflation	11
Companies and households in Austria were recovering from the pandemic in 2021	25
Austrian financial intermediaries benefited from improved environment in 2021	37
Box 1: Cyber risks – a new challenge to financial stability	46
Box 2: Implications of the Russian invasion of Ukraine for financial stability in Austria	53
Special topics	57
Nontechnical summaries in English	58
Nontechnical summaries in German	59
Changes in banks' rating assignments in response to the COVID-19 pandemic <i>Marcel Barmeier, Mario Haller</i>	61
Annex: Key financial indicators	73

Editorial close: May 18, 2022, and May 24, 2022 (key financial indicators)

Opinions expressed by the authors of studies do not necessarily reflect the official viewpoint of the Oesterreichische Nationalbank or the Eurosystem.

Call for applications: Klaus Liebscher Economic Research Scholarship

Please e-mail applications to scholarship@oenb.at by the end of October 2022. Applicants will be notified of the jury's decision by end-November 2022.

The Oesterreichische Nationalbank (OeNB) invites applications for the “Klaus Liebscher Economic Research Scholarship.” This scholarship program gives outstanding researchers the opportunity to contribute their expertise to the research activities of the OeNB's Economic Analysis and Research Department. This contribution will take the form of remunerated consultancy services.

The scholarship program targets Austrian and international experts with a proven research record in economics and finance, and postdoctoral research experience. Applicants need to be in active employment and should be interested in broadening their research experience and expanding their personal research networks. Given the OeNB's strategic research focus on Central, Eastern and Southeastern Europe, the analysis of economic developments in this region will be a key field of research in this context.

The OeNB offers a stimulating and professional research environment in close proximity to the policymaking process. The selected scholarship recipients will be expected to collaborate with the OeNB's research staff on a prespecified topic and are invited to participate actively in the department's internal seminars and other research activities. Their research output may be published in one of the department's publication outlets or as an OeNB Working Paper. As a rule, the consultancy services under the scholarship will be provided over a period of two to three months. As far as possible, an adequate accommodation for the stay in Vienna will be provided.¹

Applicants must provide the following documents and information:

- a letter of motivation, including an indication of the time period envisaged for the consultancy
- a detailed consultancy proposal
- a description of current research topics and activities
- an academic curriculum vitae
- an up-to-date list of publications (or an extract therefrom)
- the names of two references that the OeNB may contact to obtain further information about the applicant
- evidence of basic income during the term of the scholarship (employment contract with the applicant's home institution)
- written confirmation by the home institution that the provision of consultancy services by the applicant is not in violation of the applicant's employment contract with the home institution

¹ *We are also exploring alternative formats to continue research cooperation under the scholarship program for as long as we cannot resume visits due to the pandemic situation.*

Financial stability means that the financial system – financial intermediaries, financial markets and financial infrastructures – is capable of ensuring the efficient allocation of financial resources and fulfilling its key macroeconomic functions even if financial imbalances and shocks occur. Under conditions of financial stability, economic agents have confidence in the banking system and have ready access to financial services, such as payments, lending, deposits and hedging.

Reports

Management summary

The Russian invasion of Ukraine puts Austria's economic recovery at risk

The global economic recovery from the COVID-19 pandemic that started in 2021 proved just a brief respite, as several challenges are rearing their heads in 2022. As the effect of pandemic support measures is waning, the war in Ukraine, persistent supply bottlenecks and gradual monetary policy normalization in a highly inflationary environment are creating an uncertain backdrop to global financial stability. Nevertheless, higher household savings during the pandemic and still strong labor markets should continue to support income and spending.

In Austria, rising energy and commodity prices and negative confidence effects have started to weigh on economic growth. Before the outbreak of the war in Ukraine, Austrian companies' external financing volumes had been recovering in 2021 from the reduction in the year before. Throughout the pandemic, bank loans have been the backbone of firms' external financing. Despite their strong recourse to debt financing, Austrian companies' aggregate debt sustainability recovered in 2021. The rise in debt was accompanied by an improvement in gross operating surplus, which, as in 2020, was not only driven by the rebound in economic activity, but also, to a large extent, by public support measures. Thus, the corporate sector's aggregate debt-to-income ratio almost returned to its pre-pandemic level. Moreover, the increase in gross corporate indebtedness was accompanied by a significant increase in firms' liquid assets. Even though the number of corporate insolvencies returned to pre-pandemic levels in the final quarter of 2021 after the expiry of a number of mitigating measures, the widely expected surge in insolvencies has not materialized so far.

Household incomes recovered in 2021, after having fallen the year before. Growth of loans to households accelerated further in the first months of 2022. As in the preceding years, the main contribution to loan growth came from housing loans, bolstered by favorable financing conditions and continued housing demand. Reflecting the increase in consumption of durables, the growth rate of consumer loans returned to positive territory in late 2021. Households' aggregate debt-to-income ratio has increased slightly since the onset of the pandemic, with rising debt in part offset by a slight increase in net disposable incomes, aided by government support measures.

Austrian banks benefited from the recovery in 2021, but new challenges await

The Austrian banking sector recovered strongly in 2021, as the immediate impact of the pandemic slowly faded. Propelled by continued loan growth and a sharp decline in risk costs, profits nearly doubled to their highest level since the global financial crisis. However, given compressed margins, net interest income has solely been driven by growing lending volumes since 2019. This raises questions regarding the sustainability of a business strategy aimed at outgrowing underlying profitability pressures. Although the share of nonperforming loans has reached new lows, still nearly one-fifth of all loans are classified as having recorded a significant increase in credit risk.

Residential real estate (RRE) lending to Austrian households has grown vigorously. Over the last decade, RRE prices have doubled in Austria. This trend

has gone hand in hand with an increasing deviation from fundamentally justified values, as implied by the OeNB fundamentals indicator. In this regard, the still high (though reduced) share of variable rate loans to households also remains a matter of concern. Market conditions continue to be driven by fierce competition, which has led to increasingly unsustainable lending standards. As a result, a broad consensus has been reached that risks stemming from unsustainable lending policies must be addressed not only to reduce risks for the banking sector and consequently for financial stability, but also to protect borrowers from the consequences of excessive debt. Therefore, Austria's Financial Market Stability Board (FMSB) issued a recommendation to activate legally binding borrower-based measures, following an OeNB initiative and the recommendation to do so by a number of international institutions, including the European Systemic Risk Board and the International Monetary Fund. Specifically, the FMSB advised the Austrian Financial Market Authority to set binding upper limits for loan-to-value ratios, debt service-to-income ratios and loan maturities (subject to exemptions giving credit institutions adequate operational flexibility). These new measures shall apply to all new housing loans to households as soon as possible and it is important that they ease cyclical risks stemming from unsustainable lending standards and potentially excessive credit growth. Should they, however, turn out not to be sufficient, further macroprudential measures may be advised.

The Russian invasion of Ukraine and its consequences will affect the Austrian banking sector both directly, because of its subsidiaries in Central, Eastern and Southeastern Europe (CESEE), and indirectly, via increased macrofinancial uncertainties. Although subsidiaries in Russia, Ukraine and Belarus make up only 2% of the Austrian banking sector's total assets, they accounted for close to 10% of its profits in recent years. Still, as Austrian banks should benefit from a well-diversified international exposure, potential losses, although painful, currently appear manageable in light of the sector's solid profitability and capitalization. In addition, past micro- and macroprudential measures by Austrian authorities have significantly helped reduce risks for Austrian parent banks. Over the past decade, these measures have contributed to greatly reducing foreign currency loans and the need for cross-border intragroup liquidity transfers, and at the same time strengthened banks' risk-bearing capacity, thanks to the systemic risk buffer, for instance. Therefore, first-round effects from the war in Ukraine and the ensuing sanctions against Russia have been well contained. However, second-round effects, such as reduced business activity or a deterioration in credit quality, are still difficult to assess and are overshadowing the outlook. Consequently, banks and supervisory authorities keep monitoring the situation very closely and are constantly assessing the impact of the war, sanctions and countersanctions.

Recommendations by the OeNB

The Austrian banking sector faces challenging times in 2022. During the pandemic and the initial shock from the war in Ukraine, it benefited from a capitalization level that has doubled since the great financial crisis. Improved capital ratios have helped maintain confidence and positively influenced external assessments. That said, it should be noted that, in the course of 2021, capital ratios fell slightly because

of strong loan growth and a resumption of profit distributions. As a result, the gap vis-à-vis the European average has widened. It is therefore important to preserve past improvements in resilience, especially given growing uncertainties related to the war in Ukraine. The OeNB therefore recommends that banks take the following measures:

- Focus on a solid capital base, inter alia by exercising restraint with regard to profit distributions.
- Ensure sustainable lending standards in Austria and CESEE.
- Ensure an adequate level of loan loss provisions, especially after the expiration of COVID-19-related support measures and considering the war in Ukraine.
- Continue efforts to improve cost efficiency and operational profitability.
- Further develop and implement strategies to deal with the challenges of information technologies, increased cyber risks and climate change.

International macroeconomic environment: war in Ukraine endangers global recovery amid high uncertainty and surging inflation

Geopolitical uncertainty, supply bottlenecks and slowdown in global trade

The war in Ukraine has exacerbated uncertainties in the global environment. After one year of recovering from the health and economic crisis, the global economy began to slow down again at the end of 2021 due to the spreading of the Omicron variant of COVID-19, persistent supply bottlenecks and rising inflation. The Russian invasion of Ukraine has made the global environment even more uncertain, aggravating some of the vulnerabilities that had built up during the pandemic and posing further humanitarian, economic and political challenges. Energy and food prices have risen sharply, and their volatility has soared. Constraints to production are expected to persist, while sanctions against Russia, sharply rising inflation and the withdrawal of expansionary policies further contribute to slowing down economic recovery. Given the worsening global scenario, the IMF’s projections expect global growth to decline from 6.1% in 2021 to 3.6% in 2022, i.e. to be 0.8 percentage points lower than projected in its January 2022 World Economic Outlook (WEO). While commodity price increases, supply shortages and tightening financial conditions will affect the entire world economy, Europe bears a greater risk due to its proximity to the war in Ukraine, its reliance on Russian energy and the exposure of some businesses and financial institutions to Russia’s financial markets. Among European economies, Germany, Italy and several CESEE countries are facing particular challenges. As Austria is situated right between these countries, its economy might also suffer from the slower growth trend in its neighboring countries. The main risks to the global economic and financial outlook in the short run stem from (1) high energy prices and rising inflation; (2) disruptions in commodity markets and global value chains; (3) monetary policy tightening amid high market uncertainty; (4) high global debt leverage; and (5) increasingly exhausted fiscal space. In addition, other global risks such as a slowdown of growth in China, the risk of trade fragmentation in the world economy and the threat to energy security, which may put climate transition at risk, are weighing on the outlook.

The war is driving up commodity prices, threatening the anchor of medium-term inflation expectations. According to the latest readings, inflation proved to be higher and more persistent than previously expected. Inflation developments have been mainly driven by rising energy prices and supply shortages, which had already materialized during the pandemic and have now worsened because of the war. The Hamburg Institute of International Economics (HWWI) commodity

Table 1.1

GDP growth and inflation forecasts

IMF WEO projections of April 2022

	Real GDP growth		Annual HICP/ CPI inflation	
	2022	2023	2022	2023
	%			
Euro area	2.8	2.3	5.7	2.5
UK	3.7	1.2	7.4	5.3
Japan	2.4	2.3	1.0	0.8
China	4.4	5.1	2.1	1.8
USA	3.7	2.3	7.7	2.9
World	3.6	3.6	5.7	2.5

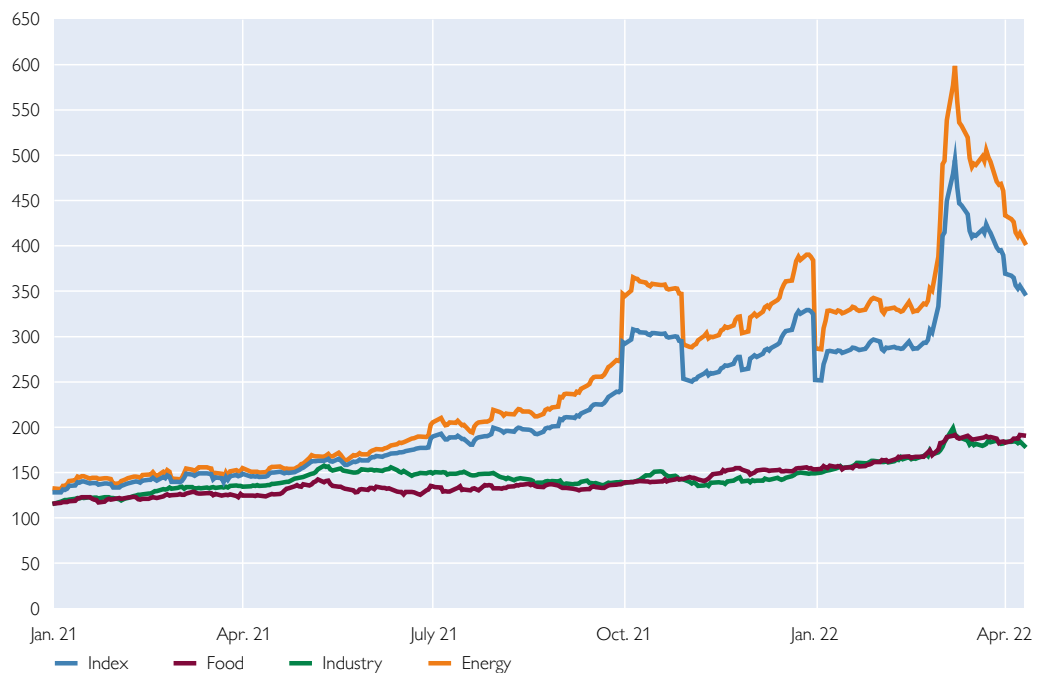
Source: IMF World Economic Outlook (WEO).

price index rose by an average of 32% in March 2022 on a US dollar basis (41.1% on a euro basis) compared with the previous month, but declined by 12% in April. Crude oil prices increased from around USD 80 per barrel to above USD 100 per barrel from the beginning of the year, reaching a peak of USD 130 per barrel in early March. In April 2022, gas prices were about four times higher than the year before. Accordingly, the IMF revised its inflation projections for 2022 to 5.7% in advanced economies and 8.7% in emerging economies (1.8 and 2.8 percentage points higher than in its January forecast). In some countries, including the USA and the UK, rising inflation rates led to monetary policy tightening via interest rate hikes. In the United States, inflation has reached the highest level across large advanced economies (followed by the UK), with markets starting to price in inflation for a longer period of time. In fact, labor markets have tightened since the beginning of the pandemic in both the USA and the UK.¹ In contrast, as labor markets have tightened less strongly in the euro area, wage growth has not yet picked up excessively in the region – a fact which still reduces the risk that inflation expectations become de-anchored. The IMF expects inflation to decrease gradually in 2023 on the back of tightening monetary policy and the fading commodity price shock. Yet risks are present, as higher inflation expectations could become more widespread and prompt adjustments in nominal wages, thus exerting further inflationary pressure. Especially in developing and emerging markets, high inflation could trigger political instability. In the euro area, inflation could also remain above target in 2023.

Chart 1.1

World commodity prices

EUR, HWWI index "Euroland" 2015=100, daily figures



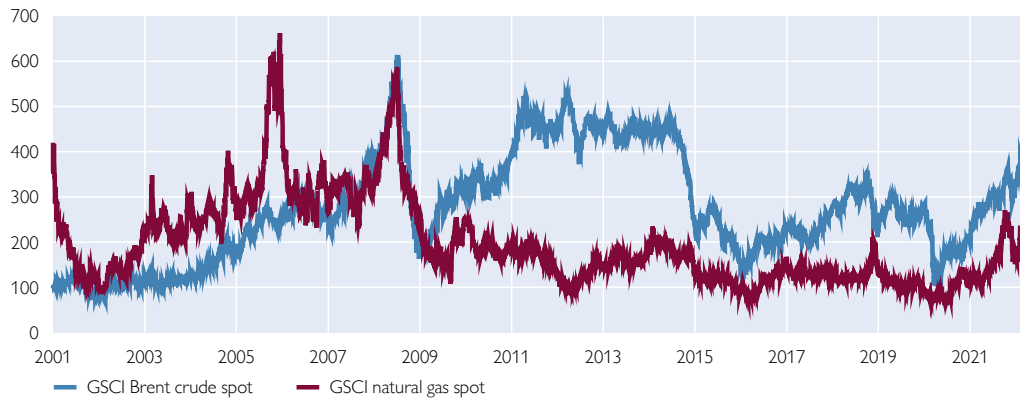
Source: HWWI.

¹ Tighter labor markets are estimated to have directly driven up overall nominal UK and US wage inflation by approximately 1.5 percentage points (IMF. 2022. WEO – April 2022).

Chart 1.2

S&P GSCI energy price index

January 1, 1999=100



Source: Macrobond.

Supply bottlenecks have been building up and global trade is expected to slow down. Supply shortages have aggravated in sectors where Russia and Ukraine played a crucial role in world trade. On top of the list are gas and oil, but also fertilizers, metals and wheat. Fears of supply stops have materialized in an already tight market where inventories have been low since the outbreak of the pandemic, causing prices to surge. Moreover, the extreme volatility in commodity prices is amplified by pressures in commodity trade finance and derivatives markets. Supply shortages and price increases have strong implications for global production chains, including the automobile sector and the renewable energy industry. Furthermore, the rise in prices of agricultural products has important spillover effects on developing and emerging markets that are close trading partners of Russia and Ukraine (such as CESEE, the Caucasus, the Middle East and North Africa). Supply and production chain disruptions could intensify due to the prolongation of the war and further sanctions, the impact of which has begun to materialize with the reduction of industrial output and trade. Detrimental second-round effects could spill from a drop in investments and production chain issues in the medium term. Moreover, the discontinuation of extraordinary policy support provided during the pandemic is also expected to slow down global demand for goods. Reflecting these forces, global trade growth is expected to decline in 2022 after its rebound in 2021. Demand is expected to rebalance back toward services, but cross-border services trade is forecast to remain subdued because of the war and the prolonged effects of the pandemic. The IMF projects global trade growth to slow from the rate of 10.1% estimated in 2021 to a rate of 5% in 2022 (1 percentage point lower than in its January forecast). Over the medium term, trade growth is expected to decline to about 3.5%. According to the Kiel Institute for the World Economy, EU trade has so far been affected most strongly by the war in Ukraine, with exports going down by 5.6% and imports by 3.4% in March 2022 compared with February. The impact on the USA was milder, with exports falling by 3.4% and imports by only 0.6%, while the effect on China was negligible.

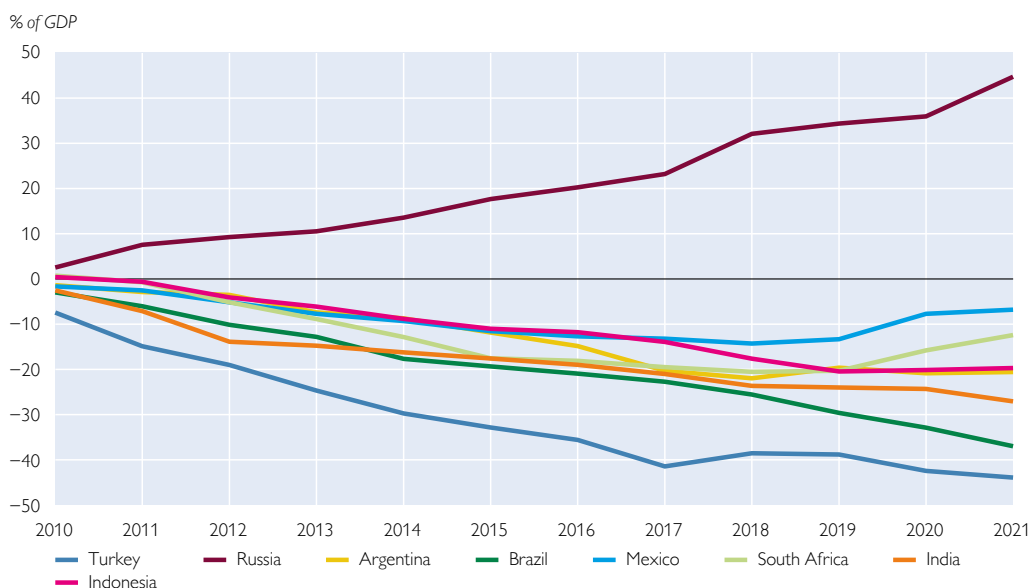
Central banks are moving further and faster toward monetary policy tightening to contain inflation, which leads to tighter global financial conditions. With the sharp rise in commodity prices adding to the already growing inflationary pressure, central banks are facing the challenge of bringing inflation back to target without hampering the post-pandemic recovery, and of ensuring financial stability. In fact, an excessive increase in both inflation and inflation expectations as well as an excessive tightening of financial conditions could add to previous vulnerabilities and weigh on economic growth.

Against the backdrop of high inflation levels and tight labor markets, the US Federal Reserve has increased its target federal funds rate for the first time since 2018. In March 2022, the Fed hiked the rate by 25 basis points, and in May 2022 by 50 basis points, bringing the target range to between 0.75% and 1%. Markets are pricing in two further half-point rate rises for the next two policy meetings and further quarter-point increases, so that the federal funds rate would reach between 2.5% and 2.75% by the end of the year. Concerns about the economic outlook and the possibility that the Fed's monetary policy tightening would depress growth in 2022 are reflected by a considerable yield increase in the ten-year segment of the yield curve, which has flattened significantly since the beginning of the year. Advanced estimates for the first quarter of 2022 show US GDP to have decreased by 1.4%. Nevertheless, financial conditions remained favorable and household finances continue to be strong.

Conversely, emerging markets are facing tighter external financing conditions on the back of US monetary policy normalization and heightened geopolitical uncertainty, the risk of devaluation and higher risks of capital outflows. Financing costs have risen above their pre-pandemic levels for many emerging market economies which have seen their gross external debt positions increase along with persistent current account deficits. Moreover,

Chart 1.3

Emerging markets: cumulative current account surplus or deficit since 2010

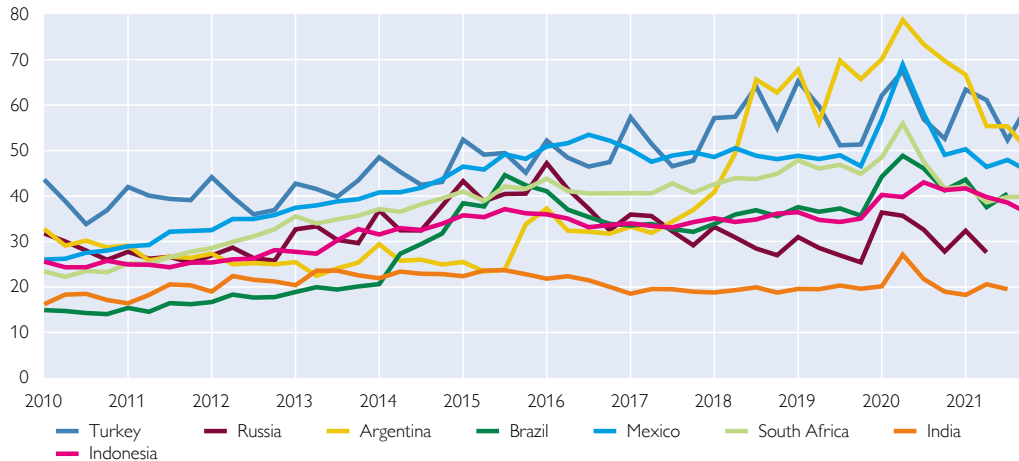


Source: Macrobond, IMF.

Chart 1.4

Emerging markets: gross external debt positions

Joint External Debt Hub (JEDH), % of GDP



Source: Macrobond.

bank holdings of domestic sovereign debt have strongly increased in the past two years, which could trigger a feedback loop between sovereigns and banks, potentially reducing bank soundness and lending.²

The ECB is moving carefully toward policy normalization amid weak euro area growth. Preliminary estimates point toward GDP growth of 0.2% in the euro area during the first quarter of 2022 compared with 0.3% growth in the last quarter of 2021. This growth weakness is attributable to COVID-19-related restrictions and the outbreak of the war in Ukraine weighing on the confidence of businesses and consumers. The sharp rise in energy and commodity prices has increased the cost of living and production costs for households and firms, respectively, while supply chain bottlenecks persist due to the war and new lockdowns in China. Nevertheless, the exceptional fiscal measures and the rise of households' savings during the pandemic in combination with strengthening labor markets will continue to support incomes and spending and underpin the ongoing recovery. Downside risks are mainly related to the prolongation of the war in Ukraine, a possible further escalation of sanctions and embargos against Russia, and the consequent further surge in energy costs and threat to energy security, amid post-pandemic high public debt levels and limited fiscal space. The rise in energy prices constitutes a significant adverse terms-of-trade shock for the euro area, and countries which most heavily rely on energy supply from Russia will suffer most.

In light of inflation hikes after the outbreak of the war in Ukraine, the ECB has slowed down asset purchases faster than previously expected. It announced that net asset purchases should be terminated in the third quarter of 2022. The interest rates on the main refinancing operations, the marginal lending facility and the deposit facility remain unchanged at 0.00%, 0.25% and -0.50%, respectively. At its monetary policy meeting of April 2022, the Governing Council of the ECB decided that rate hikes will be discussed after

² IMF. 2022. *WEO – April 2022*.

the termination of the asset purchase program in July. According to the euro area bank lending survey, credit standards have started tightening in the region and are expected to tighten further. Nevertheless, financial conditions are still close to historical averages, real interest rates remain accommodative in most countries, lending is holding up and the banking system has not encountered liquidity constraints. The ECB is more cautious about early interest rate hikes than other central banks, given the euro area's less advanced position in the business cycle, the stronger impact of the war in Ukraine on the European economy and the relatively lower contribution of domestic forces to inflation. An earlier-than-anticipated interest rate tightening might prevent the euro from devaluing against other international currencies. However, it might also weigh on credit markets and on the interest rate spreads of the euro area countries that are facing structural challenges and high public indebtedness. The euro area government deficit stood at 5.1% of GDP in 2021, with government debt at 95.6%. Both government deficit and debt decreased since the end of 2020 (when they came to 7.1% and 97.2%, respectively), but their levels remain high compared with the pre-pandemic period.³

The war in Ukraine has caused uncertainty for European financial intermediaries and markets. Following the recovery of the banking and financial sector observed in 2021, the war in Ukraine has caused exceptional uncertainty in European financial markets, which start showing fears of rising inflation and heightened uncertainty regarding the economic outlook. Core euro area interest rates have been on the rise, with the three-year German Bund yield back in positive territory for the first time since 2014. The Ifo Business Climate Index for Germany indicated fears of recession in March 2022, before giving signs of stabilization in April. Looking at the European corporate sector, the tightening of credit spreads has buffered borrowing costs, especially in the high-yield segment. While European banks' direct exposures to Russia are relatively small,⁴ their indirect exposures are more difficult to identify and could lead to second-round effects, increased volatility in financial markets or a repricing of assets. European investment funds also have only limited exposure to Russian assets (as a share of total assets), as emerging market funds had been reducing their exposure to Russia already after Russia invaded the Crimea.⁵ Euro area financial institutions are currently also reducing their exposures to Russia. According to the Bank for International Settlements (BIS), among the countries with stronger financial linkages to Russia and Ukraine, European countries such as France, Italy and Austria have the lead. For a more detailed analysis of the risks arising from the war in Ukraine for Austrian banks and the Austrian financial sector, see box 2, "[Implications of the Russian invasion of Ukraine for financial stability in Austria](#)," in this report.

Other global risks are related to the slowdown of the Chinese economy, the potential fragmentation of the world economy and the threat to energy security and climate transition. Economic growth in China is expected to slow down due to pandemic-related disruptions (considering,

³ Eurostat. 2022. *euroindicators 46/2022*. April 22.

⁴ Credit exposures to Russian counterparties at the end of 2021 were around EUR 70 billion and mostly concentrated among a handful of significant banks. Securities exposures and derivatives exposures are also limited.

⁵ Emerging market funds have reduced their share of Russian debt from more than 10% in 2014 to just over 4% in 2022. Funds benchmarked to global indices have an even smaller exposure to Russia, with their average share of Russian debt coming to 0.2% in 2022.

in particular, the recent spread of the Omicron variant in Shanghai and Beijing), the recent equity sell-off in the technology segment and the ongoing contraction in the real estate sector. The slowdown of the Chinese economy could have repercussions for supply chains in Europe but also for emerging market economies and thus increase financial stability risks. Moreover, concerns are mounting about the humanitarian consequences of the war in Ukraine and a possible fragmentation into geopolitical blocks, which could have implications for overall global welfare. The IMF also underlined that crypto asset trading against some emerging market currencies has increased after sanctions were imposed against Russia, highlighting the challenges of applying capital flow measures. Moreover, the risk and possibility of cyberattacks increase as payment systems become more decentralized. Finally, while the war in Ukraine has made evident the need to cut the dependency on carbon-intensive energy and to accelerate the transition to renewables, concerns about energy security and access to energy sources might hamper energy transition as rising inflationary pressure may also lead authorities, especially in developing countries, to resort to providing subsidies or other forms of fiscal support to households or firms for fossil fuel consumption.⁶

Post-pandemic recovery in CESEE increasingly dwarfed by soaring prices and macroeconomic uncertainty

The Russian invasion of Ukraine on February 24, 2022, marked a watershed moment for European post-Cold War history. This tectonic shift has drastically altered the political and military situation in Europe and will have profound impacts on the CESEE⁷ economies in the short, medium and, most likely, also in the long run.

Yet, in the run-up to the war in Ukraine, macroeconomic dynamics in CESEE were generally solid as the region continued to recover from the pandemic-induced disruptions of 2020. The revival was initially driven by dynamic exports and, as time progressed, by capital formation and later by private consumption as well. As a result, annual real GDP growth in 2021 averaged 6.5%, a level last seen before the global financial crisis. The economic momentum also fed through to labor market conditions in CESEE, causing unemployment rates to revert to the historically low levels of 2019. Yet, new COVID-19 infection waves and persistent bottlenecks in global supply chains eventually increased the risks to growth again toward the end of 2021.

At the beginning of 2022, the outlook for the CESEE region was for a somewhat weaker though still solid GDP expansion in 2022. This assumption was based on easing pandemic-related economic constraints (including constraints on value chains), the beginning disbursement of EU funding (with resources from the current financial framework and the *NextGenerationEU (NGEU)* reconstruction fund) that would support investment and construction activity and – in the case of Russia – high oil prices.

With the war in Ukraine, the situation has clearly deteriorated. For Ukraine, forecasters pencil in a GDP decline by as much as 35% in 2022. According

⁶ IMF. 2022. *WEO – April 2022*.

⁷ *Central, Eastern and Southeastern Europe. This report covers Bulgaria, Croatia, Czechia, Hungary, Poland, Romania, Russia, Slovakia, Slovenia, Turkey and Ukraine.*

to the Ukrainian ministry of economy, the total costs of war-related destructions could add up to more than EUR 500 billion (including loss of infrastructure, GDP losses, losses incurred by the civilian population, losses of enterprises and organizations, losses of FDI in the Ukrainian economy and losses of the state budget). This compares to a GDP of some EUR 170 billion in 2021. Russia's economy is set to contract by about 10% this year in light of uncertainty, Western economic and trade sanctions and the country's own countersanctions. With that, economic activity in Russia will decline to a level seen a decade ago, i.e. prior to Russia's annexation of the Crimea. Projections do not yet see the other CESEE countries slipping into recession, but higher energy and commodity prices, trade spillovers from the contracting Russian economy (and – to a lesser extent – from economic contraction in Ukraine), an impaired availability of selected inputs and commodities and general confidence effects will shave off some 1.5 percentage points from expected growth in 2022.

Rising energy prices, the economic recovery and the aftermath of the pandemic lifted inflation in the CESEE countries to its highest level in more than 15 years. In March 2022, inflation ranged between 7.3% in Croatia and as much as 61.1% in Turkey.

Price pressures have broadened from energy and commodity prices to larger segments of the consumption basket over the past months. The latest price surge since the turn of the year was already strongly based on core inflation (services, industrial goods and processed food). This development reflected, in part, skyrocketing producer prices fueled by raw material shortages, bottlenecks in the production of certain intermediate goods (e.g. semiconductors), tight international transport capacity (especially in shipping), pent-up consumer demand and higher demand in certain sectors. Many companies also used the turn of the year to reset their prices and pass on some of their increased input costs to consumers. The presence of second-round effects of rising inflation and an incipient price-wage spiral is still hard to assess, but several indicators point to faster wage growth since mid-2021 and to rising labor supply shortages. In most countries, however, wage dynamics remain far behind the increases observed in 2018 and 2019.

By contrast, the momentum in energy prices in early 2022 was somewhat contained by widespread government intervention to limit price increases for household energy (and in some cases also for food items). These measures ranged from compensatory payments to consumers and companies to reductions in VAT rates and/or network fees and to direct interventions in the price structure (price cuts or price caps). All efforts, however, were not sufficient to shield households fully from the renewed push to energy prices brought about by the war in Ukraine.

CESEE central banks responded to rising prices with large interest rate hikes, thus abandoning the monetary policy easing that was called for during the pandemic in 2020. Until the outbreak of the war in Ukraine, the Polish central bank had raised its key interest rate in five steps from October 2021, bringing it up from 0.1% to 2.75%. The Czech central bank had adjusted its key interest rate in six steps from June 2021, raising it from 0.25% to 4.5%. The Hungarian central bank had increased its key interest rate in nine steps from June 2021, namely from 0.6% to 3.4%, and the Romanian central bank had taken four

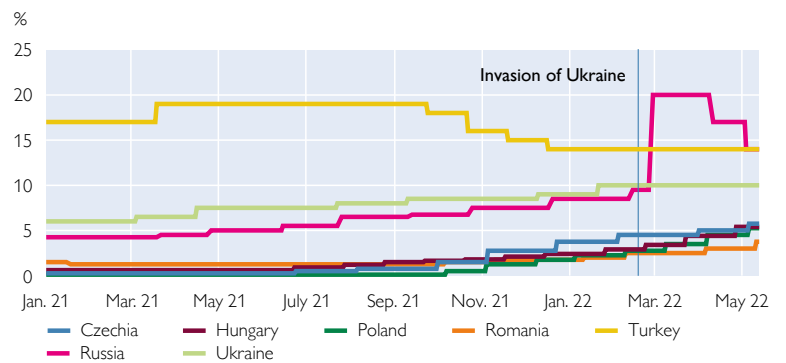
interest rate steps since October 2021, raising its key rate from 1.25% to 2.5%. The Russian central bank had raised its policy rate in eight steps from March 2021, from 4.25% to 9.5%. And finally, the Ukrainian central bank had increased its interest rates in six steps from 6% in March 2021 to 10%. In addition to raising key interest rates, some monetary policymakers in CESEE have also been tightening their stance by adjusting other interest rates, by engaging in active liquidity management designed to raise money market rates or by withdrawing unconventional monetary policy measures. In several countries, monetary policy tightening was reinforced by macroprudential measures (including capital and borrower-based measures) with a view to preventing real estate markets from overheating. Only the Turkish central bank slashed rates from 19% to 14% between September and December 2021, arguing that inflation was driven by transitory factors and – in part – by factors beyond the control of monetary policy.

Decisive monetary action had mixed impacts on the region’s currencies.

The cycle of monetary easing at a time of widespread (anticipated) global tightening pushed the Turkish lira down and the currency traded at a record level of TRL 20 per EUR in December 2021. The widening interest rate differential against the euro area (and the prospect of further rising interest rates) had less of an influence on exchange rates in the CESEE EU member states. The Polish zloty, the Hungarian

Chart 1.5

Policy rates in CESEE

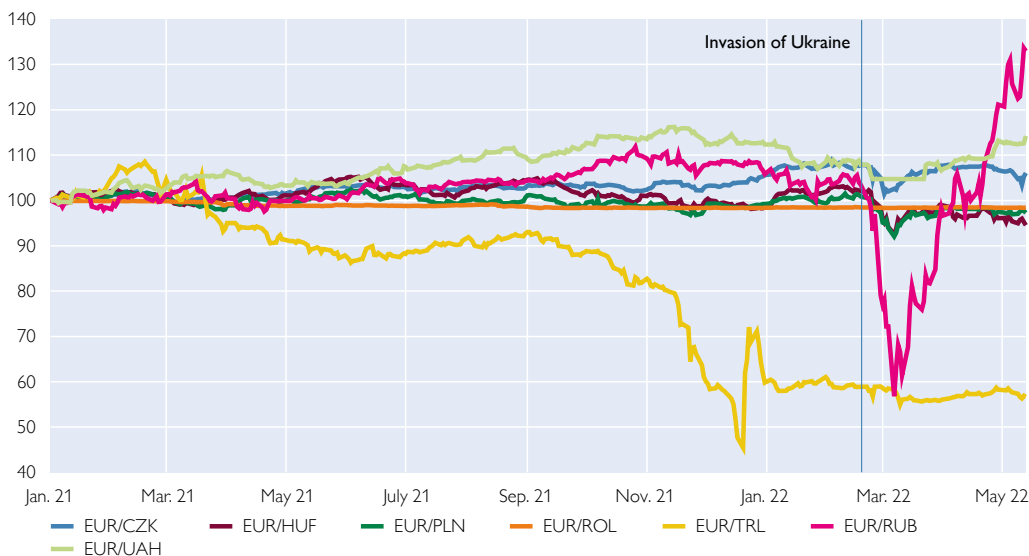


Source: Macrobond.

Chart 1.6

Exchange rate of CESEE currencies against the euro

Index: January 2021=100; rise = appreciation



Source: Macrobond.

forint and the Romanian leu were relatively stable or even depreciated slightly against the euro in the second half of 2021. Only since the turn of the year, a cautious upward trend has been observed. Currencies were supported by an increased credibility of the interest rate turnaround and central bank communication emphasizing the importance of the exchange rate for achieving the inflation target. The Russian ruble and the Ukraine hryvnia appreciated until November 2021, helped by the oil price rally (Russia) and strong agricultural exports amid rising global food prices and a bumper harvest (Ukraine). In late 2021, a flood of negative news about a potential Russian invasion of Ukraine led to a sharp trend reversal in both countries.

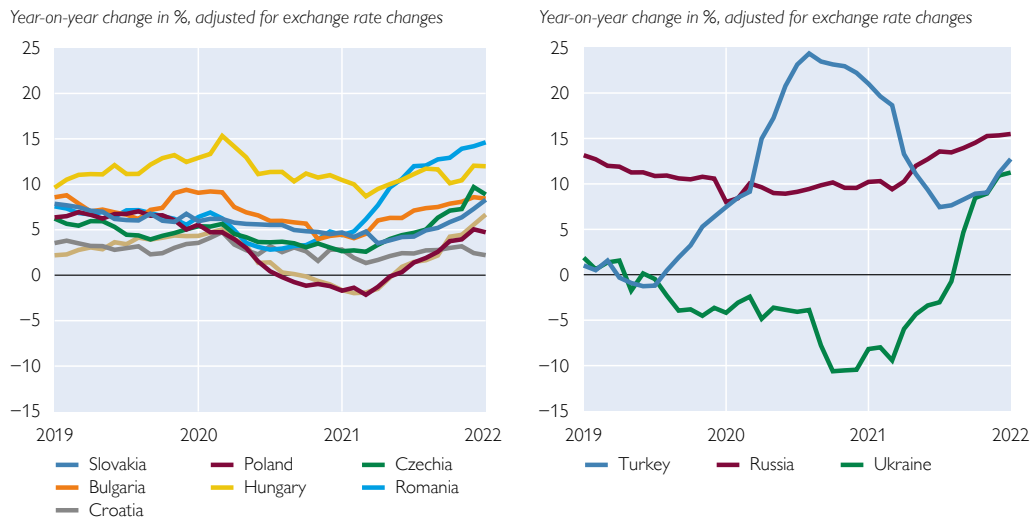
Since the war in Ukraine began, the stability of the Russian ruble has been upheld thanks to a sharp upward key rate adjustment. Western sanctions and uncertainty hit the Russian economy very swiftly, and the ruble depreciated by some 40% against the US dollar within a week. In response, the Russian central bank more than doubled its policy rate from 9.5% to 20%. The Russian authorities also introduced several further measures to stabilize the foreign exchange market (including an obligation imposed on Russian exporters to exchange 80% of their foreign currency revenues into Russian ruble, the introduction of a commission fee on foreign currency purchases, and restrictions on the transfer of foreign currency to other countries). Under these restrictions, the exchange rate of the Russian ruble has practically ceased to be determined by market factors, and liquidity in the ruble market is low. The currency is also supported by Russia's structural current account surplus based on ongoing exports of commodities, a terms-of-trade shock and a slump in (partly sanctioned) imports. This explains why the Russian ruble has strengthened since the second half of March 2022; easing tensions allowed the central bank to reduce its policy rate by 600 basis points to 14% in mid-May.

Several other central banks also adjusted policy rates to contain financial market turbulences after the outbreak of the war in Ukraine. Among the CESEE countries not directly involved in the war, policy rates have been raised by 200 basis points to 5.4% in Hungary, by 250 basis points to 5.25% in Poland, by 125 basis points to 5.75% in Czechia and by 125 basis points to 3.75% in Romania since February 24, 2022. The Croatian, Czech and Polish central banks intervened to stabilize their currencies after these lost quite some of their external value against the euro (and even more so against the US dollar) in the first days following the invasion of Ukraine. By mid-May, regional currencies had recovered some of their initial losses but generally failed to return to pre-war levels. Notwithstanding a favorable interest rate environment, geopolitical risk premiums will likely continue to weigh on foreign currency markets as long as the war continues.

CESEE banking sectors recovered swiftly from pandemic-induced disruptions. This favorable momentum relied on several pillars: First, most CESEE banking sectors were in a generally solid shape when the pandemic hit (with respect to, inter alia, capital buffers, asset quality, the regulatory environment and a refinancing structure strongly based on local deposits). Second, policy action supported banking sectors at the height of the pandemic (e.g. by allowing flexibility in the treatment of NPLs, a relaxation of liquidity ratio requirements, providing various forms of capital relief measures, guarantees and long-term liquidity

Chart 1.7

CESEE: growth of credit to the private sector



provisions). Third, improving general economic conditions and brightening sentiment after the phasing-out of the most severe COVID-19 containment measures since spring 2021 have bolstered banking activity.

Credit growth accelerated across the region and across credit segments.

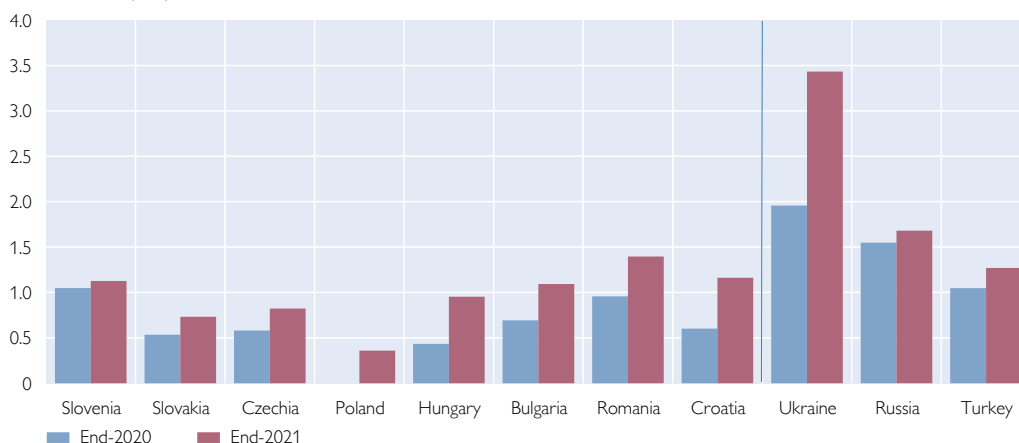
While higher demand was initially confined to certain demand segments only (e.g. to working capital needs, debt restructuring and positive housing market prospects), it notably broadened in the course of 2021. In particular, the contribution from investment needs to loan growth turned positive again after severe contractions in 2020 and early 2021. More recently, supply conditions also eased after having tightened in 2020 and early 2021. This was especially true for credit standards for households, while credit standards for companies, particularly for SMEs, remained comparatively tight. Surveys suggest that before the war in Ukraine broke out, CESEE banks were rather optimistic regarding their operations in 2022. They expected further increases in credit demand, supported by all credit segments but with a strong contribution from fixed investment. Aggregate supply conditions were expected to ease further as well, also for large corporates and SMEs.

The general resilience of the CESEE banking sector is also evidenced by its rising profitability. The average return on assets (ROA) increased from its trough averaging 0.9% at the end of 2020 to an average of 1.3% at the end of 2021 (ranging between 0.4% in Poland and 3.4% in Ukraine). This was very much in line with pre-pandemic levels. The improvement mainly reflected the release of 2020 crisis provisioning as the economic situation improved and the outlook brightened. Although net interest income remained at a comparatively low level, the downward trend has stopped. Banks reported a slight uptick in the final quarter of 2021, reflecting both higher interest rates and asset growth. Despite strong inflationary tendencies in the region, operating costs remained under control and even declined moderately in several countries.

Chart 1.8

CESEE banking sector: profitability

Return on assets (ROA) in %



Source: IMF, national central banks, OeNB.

Note: Data based on annual after-tax profits.

At the same time, capital adequacy ratios (CAR tier 1) decreased somewhat in many CESEE countries. This had to do with advances of regulatory capital which – especially in the second half of 2021 – did not keep up with growth in risk-weighted assets. Furthermore, banks resumed profit distributions after meager dividend payments in 2020. Generally, however, bank capitalization remained satisfactory especially in the CESEE EU member states with CARs hovering between 16.8% in Slovenia and 25.1% in Croatia at the end of 2021. Substantially lower figures were reported for Russia, Turkey and Ukraine (9.6%, 13.2% and 12%, respectively).

Nonperforming loan ratios (NPLs) trended down somewhat in the review period and stood below their pre-pandemic levels in all CESEE countries at the end of 2021. While this was in part related to accelerating asset growth, it is also a sign that borrowers were able to service their debt despite rising interest rates and borrowing costs in the second half of the year. The debt servicing capacity benefited from the general economic recovery (including the strong momentum prevailing on the region's labor markets), and policy responses (such as loan moratoria, guarantees and the renegotiation of existing loan contracts) played a mitigating role as well.

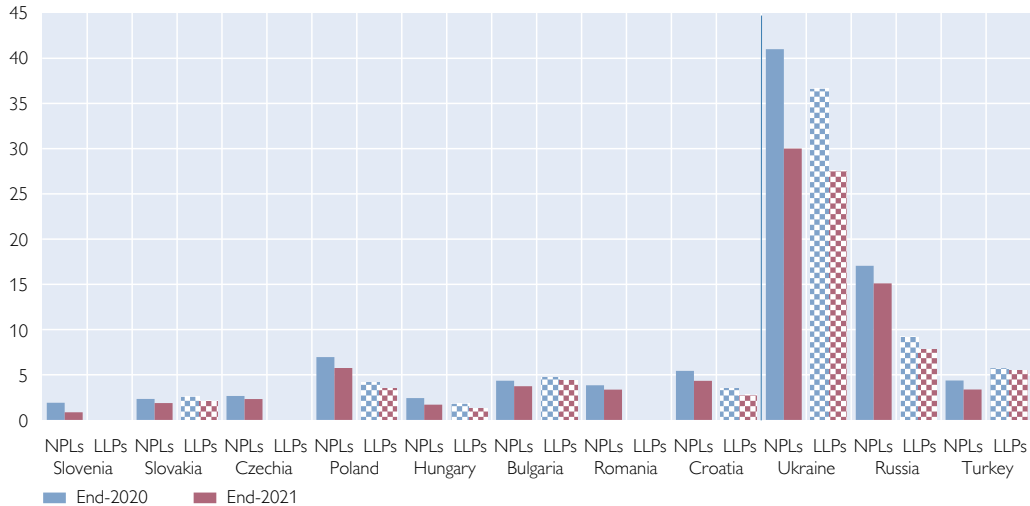
For the coming quarters, however, NPL ratios are no longer expected to decline further. This signals uncertainty as the phasing-out of COVID-19-related public support measures is still incomplete and a negative impact may come with some time lag. Loans under current moratoria decreased to very low levels by the end of 2021, but – according to EBA data – the NPL ratio for loans with expired moratoria trended upward and stood clearly above the general NPL ratio in several countries. Banks also reported an elevated Stage 2 allocation of such loans.⁸

⁸ According to IFRS 9, Stage 2 loans are loans whose credit risks have increased significantly since their initial recognition.

Chart 1.9

CESEE banking sector: credit quality

Nonperforming loans (NPLs) and loan loss provisions (LLPs) in % of total credit at end of period



Source: IMF, national central banks, OeNB.

Note: Data are not comparable across countries. NPLs generally refer to loans that are in arrears for more than 90 days except for Poland, Russia, Slovakia and Turkey, where NPLs refer to substandard, doubtful and loss loans.

Western punitive sanctions profoundly changed the playing field for the Russian banking sector. The most important sanctions comprise the exclusion of some Russian banks from the international payment system SWIFT, the prohibition of funding in EU/G7 financial markets for the Russian sovereign, the Russian central bank and several large Russian banks (some Western funding restrictions had already been in place before the war began) and the freezing of assets of the central bank and of some large Russian banks that had been placed in EU/G7 countries. To safeguard banking sector stability, the Russian central bank provided extensive regulatory lenience for the measurement of banks' assets and encouraged banks to grant temporary credit holidays for distressed borrowers. As deposit rates shot up in tandem with the policy rate, mass bank runs following the plunge of the Russian ruble have not materialized so far.

The Ukrainian financial system is now functioning under war conditions and martial law. Bank branches have been kept open and ATMs have been replenished as far as possible in areas not occupied by Russian forces. Customers thus have access to cash in most parts of the country. In contrast to previous crises, there have been no bank runs. This is related to limits on cash withdrawals, security risks associated with holding cash outside banks and difficulties in exchanging hryvnia abroad. Cashless payments continue to work properly. The Ukrainian foreign currency market is operating under significant restrictions. Authorized institutions are in fact prohibited from trading in currency valuables, except in a few cases. Most transactions in the interbank market, both to purchase and to sell foreign currency, are taking place with the participation of the Ukrainian central bank.

As the exposure of other CESEE banking sectors to Russia and Ukraine is generally low, the war appears to have only limited direct

first-round effects on their asset quality. According to EBA data, only Hungary reported a somewhat higher exposure to Russian and Ukrainian counterparties, which amounted to EUR 2.7 billion and EUR 2.4 billion, respectively, at the end of 2021. Indirect effects, however, cannot be ruled out given exposures via customers with commercial ties to Russia and/or Ukraine. Moreover, there are some indirect connections with Russia and Ukraine via parent banks in Western Europe. (For further information on the exposure of Austria's banking system to Russia and Ukraine, see [box 2](#).)

Second-round effects, however, may have a more notable impact. Real economic repercussions will weigh on credit demand and soaring prices will render further monetary action necessary. While higher interest rates support banks' operating income, they will also impair lending demand further. The sanctioning regime established against Russia comes with a bundle of new risks also for non-Russian banks: credit risks (e.g. clients being unable to service their loans because of payment or foreign exchange restrictions), market risks (e.g. through elevated financial market volatility), liquidity and funding risks (e.g. through payment restrictions resulting in liquidity challenges), operational risks (e.g. through new legal requirements) and reputational risks.

Companies and households in Austria were recovering from the pandemic in 2021

Debt servicing capacity of Austrian companies rebounded in 2021

Economic growth in Austria still subdued because of supply shocks

The Austrian economy had been recovering from the pandemic when the war in Ukraine hit. In 2021, the Austrian economy swiftly recovered from the sharp contraction of the economy caused by COVID-19-related restrictions in 2020. This recovery was only briefly interrupted by new containment measures at the end of the year, which – as in early 2021 – particularly affected the tourism sector. However, as global disruptions in the supply of intermediate goods became more frequent and delivery times for plant and equipment lengthened, investment activity, which had grown rapidly until early 2021 thanks to robust industrial production and the Austrian government’s investment premium, shrank in real terms in the second half of the year. The war in Ukraine has sharply increased uncertainty and has already started to weigh on the recovery due to rising energy and commodity prices and negative confidence effects.

Since COVID-19, companies have more strongly relied on internal financing to improve their liquidity conditions. Although the gross value added of Austrian companies¹ remained below 2019 figures, their gross operating surplus² was 9% higher in 2021 than one year earlier (and 8% higher when compared to 2019). This increase mainly reflected a marked rise in the subsidies³ received by firms as part of the comprehensive government support measures (such as short-time work schemes, fixed cost grants and compensation for lost sales). As a result, the profit ratio (as measured by gross operating surplus divided by gross value added) even increased slightly in 2021, climbing to 44.0%. Additionally, in 2021, distributions of corporate profits to firms’ owners or shareholders⁴ remained as low as in the year before.⁵ Although uncertainty in the current economic environment may have motivated firms to safeguard their liquidity, distributions were primarily limited because the distribution of profits and dividends was prohibited for businesses that made use of the fixed cost grant. As a result, after having already realized a marked increase in 2020, Austrian companies’ gross internal financing rose further in 2021 and continued to surpass gross capital formation.

Austrian firms are turning to external sources of financing again

Both nonfinancial and financial investments have risen strongly. In 2021, Austrian companies stepped up their investments compared to the year before (see chart 2.1). At EUR 31.2 billion, financial investments more than doubled against the previous year, surpassing the pre-pandemic level. This increase was primarily due to a strong surge in strategic acquisitions, which to a large extent represent direct investments in other enterprises. After having been reduced in the

¹ For the sake of brevity, we use the terms “companies” and “firms” to refer to nonfinancial corporations in this section.

² Including mixed income (self-employed and other nonincorporated businesses income).

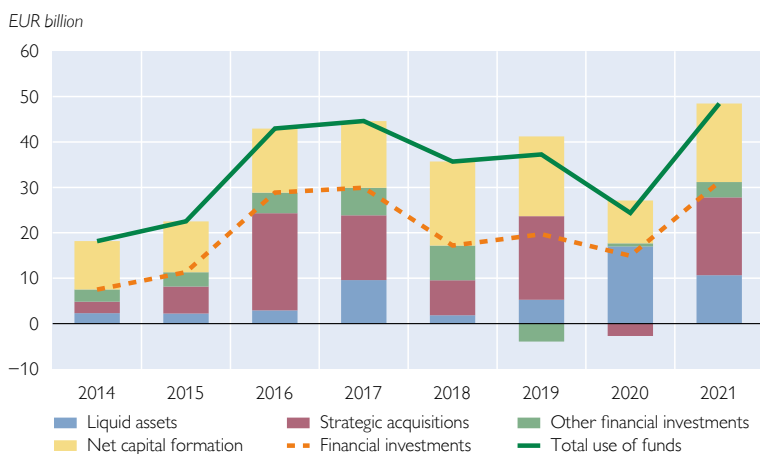
³ “Other subsidies on production” in the sector accounts.

⁴ Including profits reinvested by foreign multinational corporations in their Austrian subsidiaries.

⁵ However, as the distributed income of corporations is derived as a residual and the reinvested earnings on direct foreign investment reflect an imputation in the national accounts, they are surrounded by a certain degree of uncertainty.

Chart 2.1

Use of funds by Austrian companies

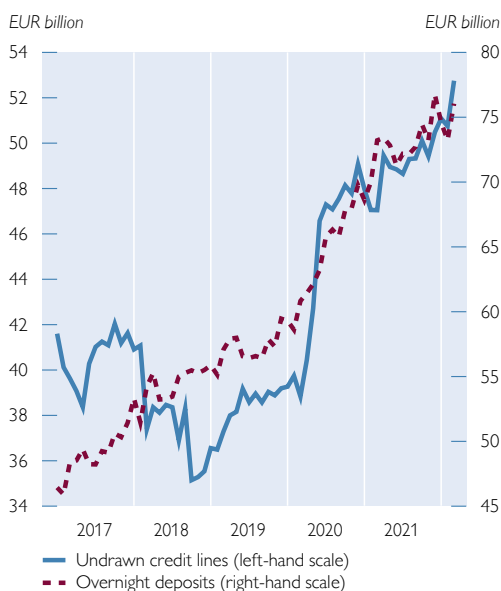


Source: Eurostat, OeNB.

Note: Liquid assets: cash, bank deposits, bonds, listed shares, investment fund shares; strategic acquisitions: unlisted shares, other equity and loans; other financial investments: trade credits, nonlife insurance technical reserves, other accounts payable; net capital formation: gross capital formation minus consumption of fixed capital. 2021 data are preliminary.

Chart 2.2

Indicators of Austrian companies' liquidity



Source: OeNB.

uncertain environment of the year 2020, they recovered swiftly in 2021. However, this item is in many instances driven by a few large transactions. The exceptionally large buildup of liquid assets, in particular bank deposits, which had been registered in the first phase of the pandemic, abated in 2021: Having reached more than two-thirds in 2020, the share of liquid assets in total investments fell to about one-fifth in 2021. Yet, firms' liquidity remains high, as a considerable part of the funds that had been raised from banks and on the bond market after the onset of COVID-19 have not yet been spent. The amount of liquid assets held by Austrian companies at the end of 2021 was equivalent to almost 42% of their outstanding debt, 7 percentage points more than at the end of 2019. On the one hand, this may reflect precautionary motives; on the other hand, the very low level of interest rates reduced the opportunity cost of holding liquidity. Additionally, firms had substantial undrawn credit lines as they had only made partial use of new credit lines provided by banks (see chart 2.2). The overnight deposits firms held at Austrian banks remained high (recording year-on-year growth of 3.9% in March 2022), although over the past years they have been subject to negative interest rates. As firms' net capital formation⁶ returned to pre-pandemic levels (in nominal terms), the total use of funds in 2021 doubled from a year before.

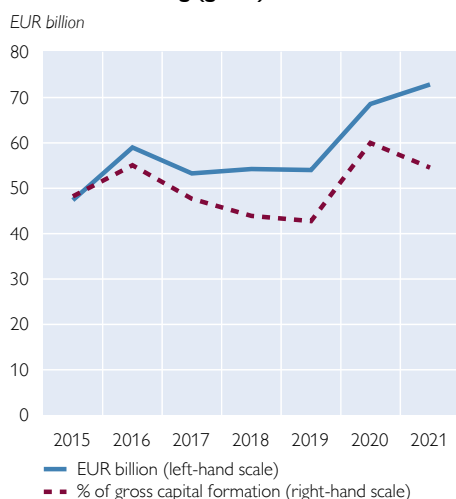
After having plunged in 2020, firms' external financing volumes rebounded in 2021. Despite the ample liquidity available to companies, external financing more than tripled to EUR

32.0 billion in 2021 against the year before, and was 44% higher than in 2019, the year before the onset of the COVID-19 pandemic (see chart 2.3, right-hand panel).

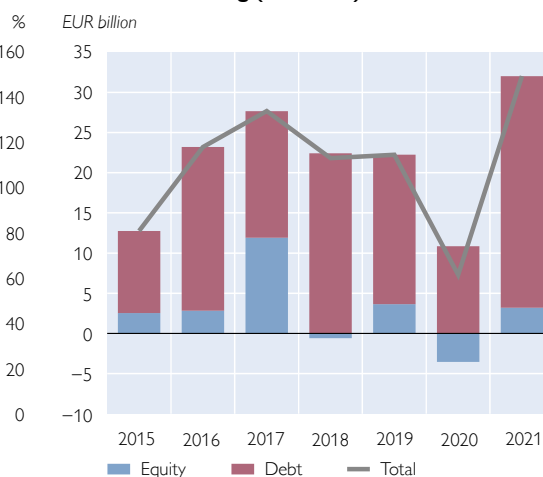
⁶ Gross capital formation minus consumption of fixed capital.

Chart 2.3

Sources of funds for Austrian companies

Internal financing (gross)¹

External financing (net flows)



Source: Eurostat, OeNB.

¹ Sum of changes in net worth and depreciation.

Note: 2021 data are preliminary.

Most likely, this growth reflected the (nominal) increase in corporate investment activity and favorable financing conditions. Equity financing, which had been negative in the past year, recovered in 2021, as both domestic and foreign investors increased their investments in resident companies, yet remained 12.3% below the 2019 figure. At about 10%, its contribution to total external financing was rather low.

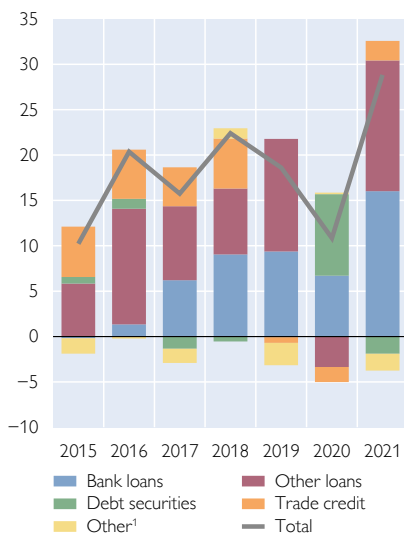
Debt instruments provided the bulk of external financing in 2021.

Net debt financing by Austrian firms more than doubled to EUR 28.8 billion (see chart 2.4). In real terms, this was the highest value since 2007. As in 2020, domestic banks were the primary source of debt financing for the Austrian corporate sector, accounting for 54% of net debt transactions, mostly bank loans in the amount of EUR 16.0 billion. Another EUR 3.4 billion came from foreign banks. In contrast, net issuance of bonds, which had been a major source of financing for Austrian companies in the year before, was negative in 2021. However, this form of finance is typically used by a comparatively small number of large firms. Trade credit, which – as a key element of firms' working capital – typically moves in tandem with overall economic activity, recovered in 2021. Funds raised through trade credit largely came from foreign sources. Overall, 22% of the corporate sector's net debt financing was funded abroad. About the same share was provided by other domestic nonfinancial corporations. Long-term debt (with maturities over one year) accounted for roughly two-thirds of net debt flows to companies, even though short-term funding rebounded from the strong decrease in the year before.

Austrian companies' debt financing

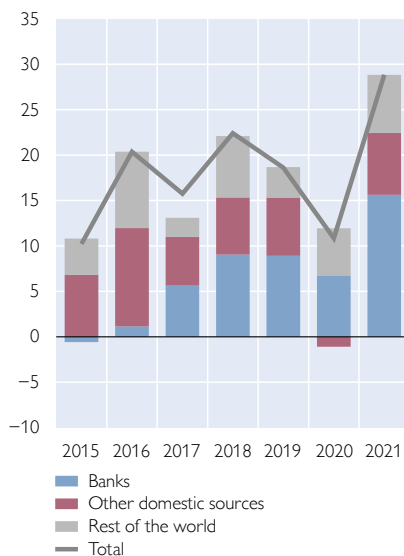
By instrument

EUR billion



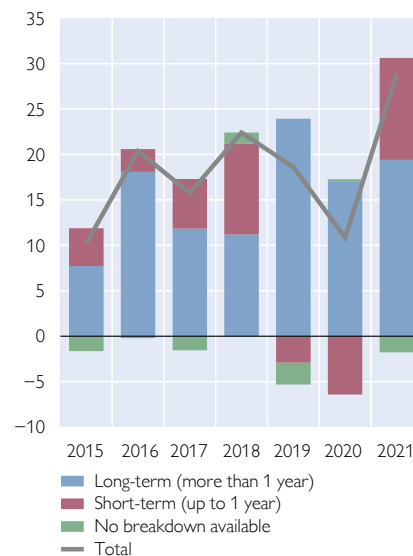
By sector

EUR billion



By maturity

EUR billion



Source: OeNB.

¹ Pension entitlements and other accounts payable.

Note: 2021 data are preliminary.

Throughout the pandemic, bank loans remained the backbone of external financing for companies. In March 2022, the annual growth rate of bank loans amounted to 7.6% (see chart 2.5). Apart from the three preceding months, this was the highest growth rate observed in twelve years. According to the Austrian results of the euro area bank lending survey (BLS), corporate loan demand rose throughout the four quarters leading up to the first quarter of 2022. According to the respondent banks, this increase was most frequently driven by inventories and working capital needs, which probably resulted from material and labor shortages. These shortages increased inventory and operating costs, exacerbated by higher energy costs, and primarily drove up the demand for short-term loans. Financing requirements for fixed investment, mergers and acquisitions and for corporate restructurings remained significant drivers of loan demand, most likely for loans beyond the short term. Overall, the role of public support in the granting of corporate loans diminished as COVID-19-related moratoria and state guarantees played almost no role anymore. During most of 2021, the main drivers of loan growth were the real estate-related sectors, benefiting from the government's investment premium and the real estate boom. From end-2021, loans to other industries registered noticeably higher expansion rates, with loans to service industries increasing particularly briskly (see chart 2.5, right-hand panel).

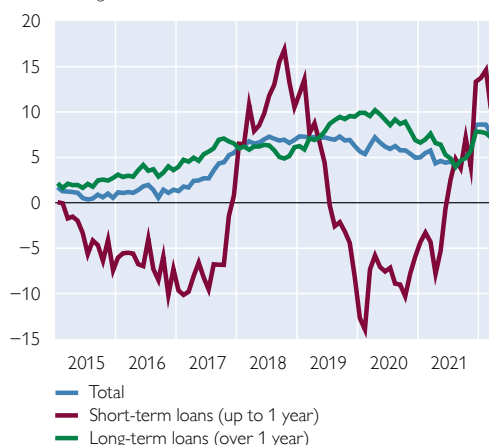
Banks have somewhat tightened their credit standards for corporate loans. According to BLS results, banks have tightened their corporate credit standards in recent quarters. In the first quarter of 2022, this decision was mainly driven by the worsening general economic and firm-specific outlook as well as the uncertain implications of the war against Ukraine for firms' credit risks. The share

Chart 2.5

Bank loans to Austrian companies

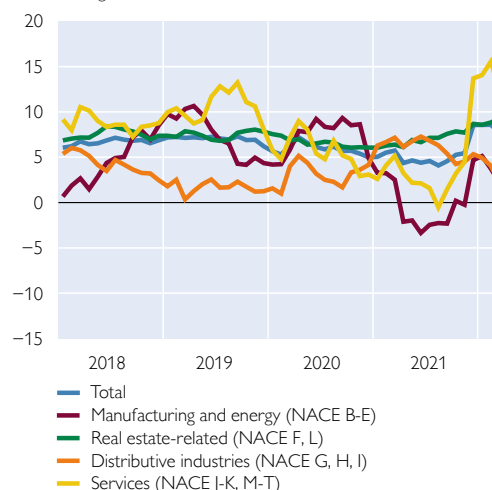
Loan growth by maturities

Annual change in %



Loan growth by industries

Annual change in %



Source: OeNB.

Note: Growth rates adjusted for reclassifications, valuation changes and exchange rate effects.

of rejected corporate loan applications remained broadly stable in 2021 and early 2022.

Overall credit conditions remained favorable. By keeping banks' funding costs low, the Eurosystem's expansionary monetary policy has kept bank lending rates at historically low levels. In March 2022, interest rates on new loans to companies were only 9 basis points higher than in February 2020, before the onset of the pandemic. When setting their lending rates, banks continued to differentiate based on risk considerations. Banks stated in the BLS that, while interest margins⁷ on loans with average risk had been eased slightly over the course of 2021 and in early 2022, margins on riskier loans had been widened. Other terms and conditions, such as collateral requirements and loan covenants, remained mostly unchanged according to the survey.

Firms improved their debt-servicing capacity in 2021 but will be tested as they face the fallout of the war in Ukraine

Austrian companies' debt sustainability recovered in 2021. After having risen by more than 13 percentage points in 2020, the aggregate corporate sector's debt-to-income ratio decreased by 9 percentage points to 321% in 2021, thus almost returning to its pre-pandemic level (see chart 2.6, left-hand panel).⁸ In nominal terms, debt was 10% higher at end-2021 than at end-2019. This rise in

⁷ Defined as the spread over relevant market reference rates.

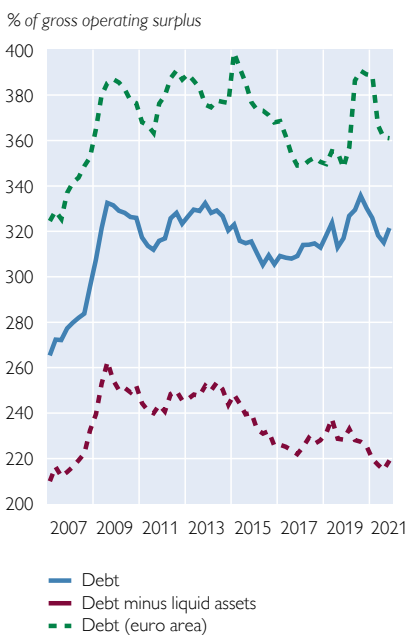
⁸ This measure follows Eurostat and the European Commission's debt measures for the MIP surveillance mechanism (Macroeconomic Imbalance Procedure). It excludes pension scheme liabilities, which are not very significant in Austria, and other accounts payable, such as trade credit and other items due to be paid, mostly on a short-term basis. These items essentially constitute operational debt, i.e. liabilities that a firm incurs through its primary activities. Data are presented in consolidated terms, i.e. transactions within the corporate sector are not taken into account.

corporate debt was offset by an improvement in gross operating surplus in 2021, which – like in the year before – was not only explained by rebounding economic activity but also by public support measures. By strengthening corporate debt sustainability, these measures have so far prevented a liquidity crisis which could have turned into a solvency crisis. For firms that had experienced temporary liquidity squeezes due to COVID-19 but are otherwise viable, a continuation of the economic recovery should bring about further normalization. This recovery may, however, be put under strain by the war in Ukraine. A further increase of gross debt levels would make especially highly indebted firms more vulnerable to adverse shocks. Moreover, the impact of the pandemic has been very uneven across industries. For firms that have been severely hit by the pandemic and that are affected by the war in Ukraine, a further rise in debt levels due to lost revenues will persistently affect debt sustainability. Firms with larger debt are also more sensitive to a withdrawal of monetary accommodation as well as to repercussions of the war in Ukraine. At the same time, raising equity has proven difficult in the current situation, with the net contribution of equity to total external financing falling slightly into negative territory during the first two years of the pandemic, and will continue to be affected by the uncertain economic outlook. Thus, broadening the funding sources of Austrian firms beyond debt financing could reduce corporate vulnerabilities.

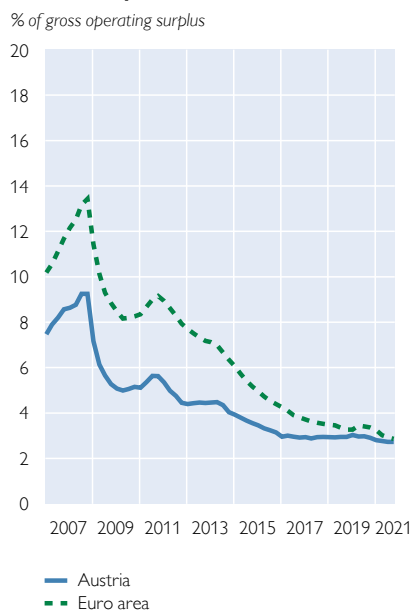
Chart 2.6

Risk indicators for Austrian companies

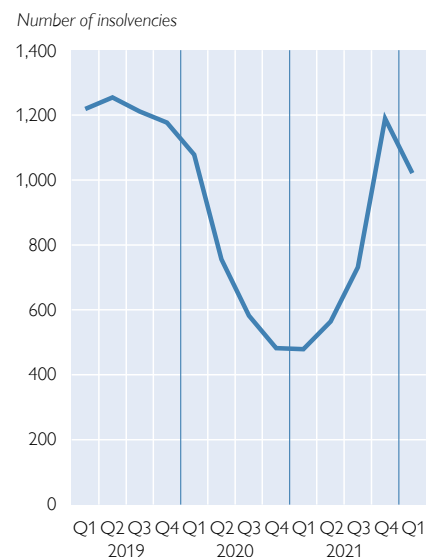
Debt-to-income ratio¹



Interest expenses²



Insolvencies³



Source: OeNB, Statistics Austria, KSV 1870.

¹ Consolidated gross debt: sum of total loans granted to and debt securities issued by nonfinancial corporations net of intrasectoral lending; liquid assets: currency and deposits.

² For loans by domestic banks.

³ New time series starting in 2019.

Note: 2021 data are preliminary.

A number of factors improved companies' capacity to service their debt in 2021. For one, the increase in gross corporate debt was accompanied by a significant increase in liquid assets (cash and bank deposits) held by the corporate sector so that, in the aggregate, the balance of corporate debt and liquid assets even decreased by 9.2 percentage points between end-2019 and end-2021. To the extent that these liquid assets are held by indebted firms, they would be available for debt service. Furthermore, companies' debt-servicing costs remained low in 2021, reflecting the still low interest rate level. In 2021, the ratio of interest payment obligations for (domestic) bank loans to gross operating surplus remained stable at 2.7% compared to more than 9% in 2008, despite the sizable increase of loan volumes recorded since then (see chart 2.6, middle panel). Moreover, a large share of the debt incurred since the onset of the COVID-19 pandemic has been longer-term debt, which reduces refinancing risks, and a significant share of the take-up of new loans in the first year of the pandemic was covered by public guarantees. The share of variable rate loans in new (euro-denominated) loans, which had decreased considerably in the years before the pandemic, increased by 3.3 percentage points to 82.1% in 2021. Thus, a considerable share of companies' debt is exposed to interest rate risk. Consequently, rising interest rates could test the debt sustainability of highly indebted firms, especially if they are accompanied by a possible squeeze on profit margins due to impaired revenues caused by the economic slowdown and rising input prices as a result of the war in Ukraine.

Since late 2021, insolvency numbers have returned to pre-pandemic levels. In both 2020 and 2021, the number of insolvencies was about 40% lower than in 2019, according to data provided by the creditor protector agency KSV 1870 (see chart 2.6, right-hand panel). However, this reduction did not reflect underlying economic developments, but was attributable to large-scale mitigating measures. Simulations with the OeNB insolvency model⁹ show that, among these measures, short-term deferrals of payment obligations had the strongest effect on keeping the number of insolvencies low in the years 2020 and 2021 (e.g. through deferred payment options for social security contributions and delayed insolvency filings). Their effect clearly outweighed the impact of long-term liquidity measures such as loan guarantees and moratoria as well as equity injections via grants and subsidies. Yet, since the fourth quarter of 2021, the number of insolvencies has returned to pre-pandemic levels, mainly because: (1) deferrals by health insurance companies and tax offices have expired and (2) the obligation for companies to file for insolvency in the event of overindebtedness was re-introduced with effect from mid-2021 (in addition to the expiry of some state aid measures). Yet, the surge in insolvencies expected when mitigating measures expire has not materialized so far, not even in the sectors particularly affected by the pandemic. The reduced number of insolvencies during the pandemic implies that some firms that would have normally exited the market have remained in operation. This gives rise to concerns that the number of highly indebted firms might increase in the future. Whether insolvencies will rise further down the road also depends on firms' vulnerability to future economic shocks.

⁹ Hesse, J. and M. Schneider. 2022. *Unternehmensinsolvenzen: Auswirkungen der Hilfsmaßnahmen und Prognose bis 2023*. <https://www.oenb.at/dam/jcr:37e15b3c-dcae-4a42-a8d2-4c2a0b1bebd0/Insolvenzprognose.pdf> (available in German only).

Household loans show buoyant growth amid brisk demand for real estate

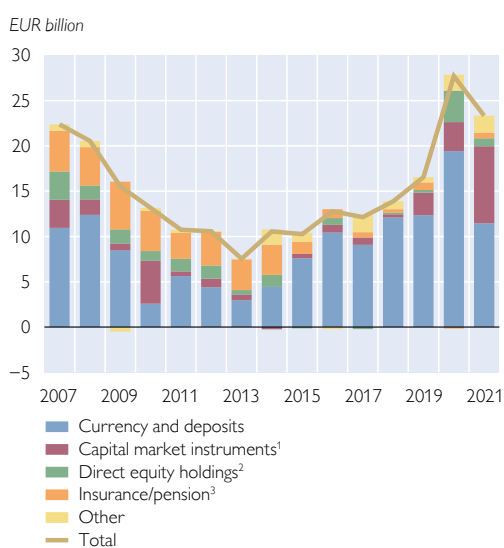
Households' saving ratio still above pre-pandemic level

In 2021, household income in Austria recovered from its fall in the year before. However, due to the rise in inflation, real disposable household income rose by only 0.4% year on year, remaining below the level of 2019. Compensation of employees recovered strongly. After the sharp slump in 2020, when COVID-19 containment measures had limited consumption possibilities, private consumption rebounded in the second half of 2021 as households resumed their pre-pandemic spending patterns and tapped excess savings. As a result, the saving ratio declined below the record value observed in the first year of the pandemic but, at 11.8%, remained well above its pre-pandemic level. Large savings have enhanced households' resilience but are unevenly distributed. Strongly rising consumer prices as well as increasing uncertainties in the wake of Russia's war in Ukraine are dampening consumer demand.

Austrian households' financial investments remained high in 2021. Reflecting the reduction in the saving ratio, households' financial investment flows, while decreasing by 15.7% year on year to EUR 23.3 billion, remained high in a historical comparison (see chart 2.7). Almost half of these financial investments went into liquid assets. While cash holdings shrank slightly, households' bank deposits continued to grow in 2021. Overnight deposits remained buoyant, increasing by EUR 14.8 billion in 2021, whereas other bank deposits were reduced by EUR 3.1 billion as the shift from time and saving deposits to overnight deposits

Chart 2.7

Net financial investments by Austrian households



Source: OeNB.

¹ Debt securities, mutual fund shares and listed shares.

² Unlisted shares and other equity.

³ Insurance, pension entitlements, severance funds.

Note: 2021 data are preliminary.

continued. In the low interest environment, households still had a preference for highly liquid assets.

Households' capital market investment rose strongly in 2021.

Net financial investments in capital market instruments more than doubled to EUR 8.5 billion from the already high value of the first year of the pandemic. In particular, mutual funds registered keen demand, reflecting the search for yield in an environment of low interest rates. Net investments in mutual fund shares increased to EUR 9.1 billion, the highest value since the start of the compilation of financial accounts data in 1996. Investment in listed shares, which had been especially buoyant in the year before, fell by roughly one-third to EUR 1.6 billion – still a high value in a historical perspective. Direct holdings of debt securities were reduced further. Reflecting the increases in stock market prices in 2021,

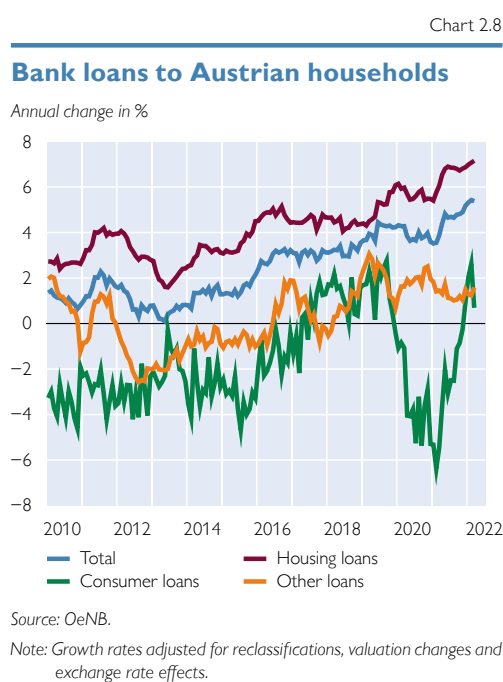
households registered (unrealized) valuation gains of more than EUR 14 billion in 2021, equivalent to 11.4% of the outstanding amount at end-2019. But the fall in stock market prices in the first months of 2022 will have brought about (equally unrealized) valuation losses. However, capital market instruments are mostly held by higher-income households, who are in a better position to bear valuation losses.¹⁰ Moreover, households invested EUR 1.0 billion in other equity.

Household loans grow further

Growth of lending to households has accelerated further in recent months.

In the twelve months up to March 2022, the annual growth rate of bank loans to households rose from 3.9% to 5.4% year on year (see chart 2.8). As in the past years, the main contribution to loan growth came from housing loans, not only because they are the largest loan category for households – accounting for more than 70% of the outstanding volume of loans to households – but also because they registered the highest growth rate, reaching 7.1% year on year in March 2022. As is evident from the chart, this growth rate represented a historical high. According to the BLS, Austrian banks slightly tightened their credit standards for housing loans in the second half of 2021 and the first quarter of 2022, mainly because of lower risk tolerance. Households' demand for housing loans, which had risen in the first three quarters of 2021, stabilized thereafter. The growth rate of consumer loans returned to positive territory in late 2021, reflecting the increase in consumption of durables, standing at 0.7% year on year in March 2022. Other loans, which include loans to sole proprietors and unincorporated enterprises, rose by 1.6%. As in the years before, the vast majority of net new loans to households were long-term loans (with maturities over 5 years). In 2021, their share amounted to 88.4%.

The conditions for housing loans remained favorable. In March 2022, interest rates on new bank loans to households were at 1.75%, 6 basis points lower than before the onset of the pandemic in February 2020. Interest rates on housing loans fell by 12 basis points in the same period, which may have contributed to higher demand. (In contrast, rates for consumer loans rose by 73 basis points.) Yet, especially for riskier borrowers, banks have tightened the conditions for housing loans since the onset of the pandemic. BLS results show that, since the outbreak of



¹⁰ For instance, 2.6% of households in the lowest income quintile, but 18.4% in the highest income quintile, own mutual fund shares. For stocks, the percentages are 1.6% and 11.3%, respectively (source: Austrian results of the Household Finance and Consumption Survey – HFCS) for 2017.

COVID-19, banks have more frequently increased their margins on riskier housing loans than on loans with an average risk profile.

Rising household debt is being cushioned by higher incomes but interest rate risk remains considerable

Households' debt-to-income ratio has increased slightly since the onset of COVID-19. Between end-2019 and end-2021, the debt-to-income (DTI) ratio rose by 5.0 percentage points to 93.6% but remained well below the euro area average (see chart 2.9, upper left-hand panel).¹¹ Since the onset of the pandemic, total household debt has grown by more than 7%, mostly driven by housing loans. At the same time, the slight increase in households' net disposable income, bolstered by government support measures, contained the DTI over the past two years. Despite the increase in outstanding household debt, interest expenses remained low in 2021 due to the low interest rate level, equaling 1.5% of aggregate disposable income in the fourth quarter of 2021. Rising debt may reduce the resilience of highly indebted households to adverse shocks such as an increase in interest rates or a fall in disposable income. However, a significant share of household debt is held by higher-income households, which are more likely to have sufficient funds to service their loans.¹² Nevertheless, the effects of higher inflation on households' real income might weaken debt sustainability.

The still rather high share of variable rate loans implies considerable interest rate risk and remains a matter of concern. Although the share of variable rate loans¹³ in new (euro-denominated) loans already went down considerably in the years preceding the pandemic, it is still quite high when compared to the euro area average. It declined by 8 percentage points since the final quarter of 2019 to stand at 42% in the first quarter of 2022; for housing loans, the share was 32%. This means that the household sector continues to be exposed to a considerable amount of interest rate risk.

The share of foreign currency loans decreased further. In the first quarter of 2022, foreign currency loans accounted for 5% of all outstanding loans (and for less than 7% of housing loans). Yet, due to the significant appreciation of the Swiss franc – in which 97% of all foreign currency loans in Austria are denominated – the outstanding volume in euro terms increased slightly in the fourth quarter of 2021 for the first time since 2015, highlighting the risks that foreign currency loans entail for households.

Throughout the pandemic, residential property prices in Austria soared, showing increasing signs of strong overheating. In the first quarter of 2022, nominal residential property prices increased by 12.3% year on year, with prices continuing to trend upward both in Vienna and the rest of Austria (see chart 2.10). This is also reflected in the further substantial increase in the OeNB's fundamentals indicator for residential property prices, which indicated an overvaluation of 34.0% in the first quarter of 2022 in Austria (and 40.1% for

¹¹ However, it has to be taken into account that the aggregates in the national accounts include the incomes of nondebtors.

¹² According to the most recent HFCS data, only about 33% of all Austrian households had taken out a loan in 2017. This share differed markedly across income groups: About 21% of households in the lowest income quintile, but 46% in the highest income quintile, had taken out a loan.

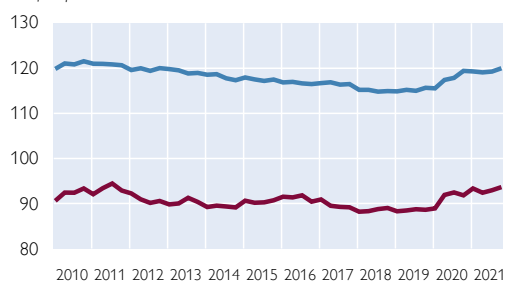
¹³ Loans with an initial rate fixation period of up to one year.

Chart 2.9

Indicators of household indebtedness

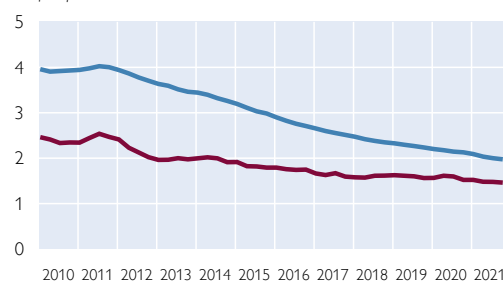
Liabilities

% of disposable income



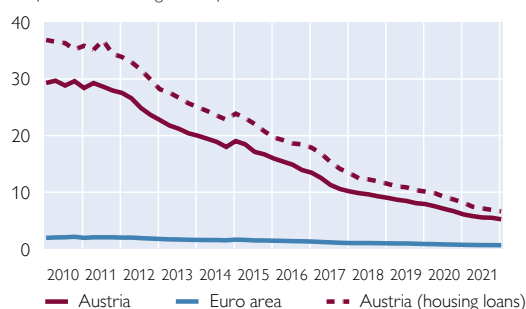
Interest expenses¹

% of disposable income



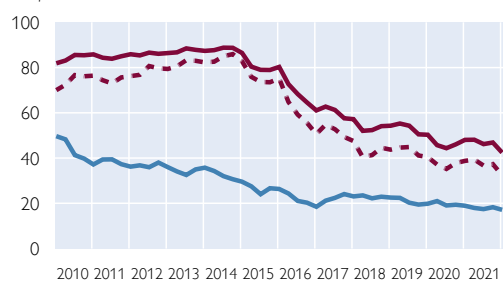
Foreign currency loans

% of total outstanding stock of loans



Variable rate loans

% of total new euro-denominated loans



Source: OeNB, Statistics Austria, ECB, Eurostat.

¹ Figures for the euro area only represent interest rate expenses on euro-denominated loans.

Note: 2021 data are preliminary.

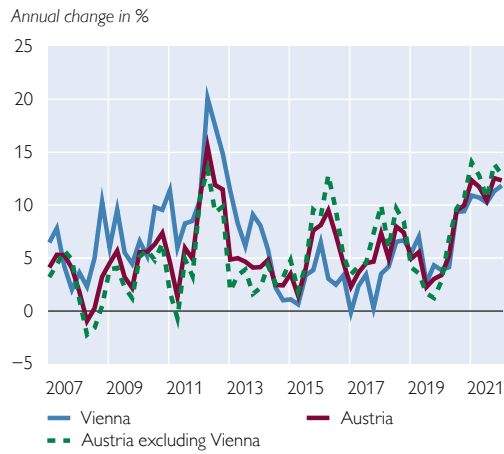
Vienna) as compared to economic fundamentals based on past empirical relations. Besides the sharp increase in prices, interest rate risk was a main factor driving the increase in the indicator. The low interest level, on the one hand, drives up the loan volume that is affordable at current rates and, on the other hand, encourages investors to look for alternative investment opportunities in the residential property market. Uncertainty (flight to safety) and preference changes due to the pandemic (working from home) might also have contributed to higher demand for residential property. Yet, while low interest rates have reduced the financing costs of housing loans, they entail repayments risks, if and when yields rise, for housing loans with floating rates or short interest rate fixation periods.¹⁴ This growing gap between the changes in residential real estate prices and the explanatory factors that the indicator tracks points to increasing signs of overheating in Austria's residential property market, warranting increased and close attention.

¹⁴ The subindicator for interest rate risk within the OeNB fundamentals indicator compares the three-month interest rate for the euro area with an interest rate estimated from the current development of GDP and inflation according to a Taylor rule. Since the current interest rate is considerably below the Taylor interest rate, this signals a risk of rising interest rates in the OeNB's fundamentals indicator (see OeNB Property Market Review Q1/22, p. 7).

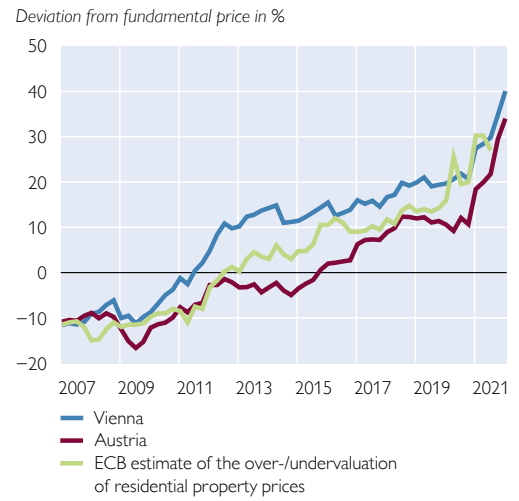
Chart 2.10

Austria's residential property market

Residential property prices



OeNB fundamentals indicator for residential property prices



Source: Vienna University of Technology, DSS GmbH, ECB, OeNB.

Austrian financial intermediaries benefited from improved environment in 2021

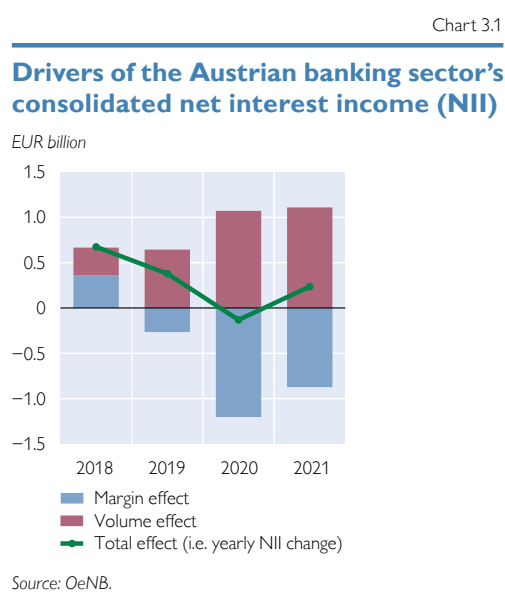
Austrian banks' profitability has recovered from the pandemic, but the war in Ukraine is clouding the outlook

While 2021 was marked by a strong economic recovery, which also supported the Austrian banking sector's profitability, new challenges started to emerge in early 2022. The global economic recovery from the COVID-19 pandemic that started in 2021 proved just a brief respite. The Russian invasion of Ukraine will have as yet uncertain geopolitical and macrofinancial consequences. In addition, expectations of upcoming interest rate hikes in a highly inflationary environment, remaining pandemic-related uncertainties and waning one-off effects such as monetary and pandemic support measures are contributing to a highly challenging environment for the Austrian banking sector. Against this background, a cautious approach to profit distributions will play a critical role in strengthening Austrian banks' risk-bearing capacity, which weakened somewhat in 2021 in a European comparison. Going forward, it is therefore important for the Austrian banking sector to preserve past improvements in resilience, especially given strong credit growth and uncertainties related to the war in Ukraine.

Austrian banking sector's operating business gained from accelerated lending

Net interest income made up more than 60% of the Austrian banking sector's operating income over the last few years, driven solely by the growth in loan volumes since 2019. 2018 was the last year when the consolidated net interest margin¹ expanded slightly, helping to raise banks' net interest income (see chart 3.1). Between 2018 and 2021, however, the margin fell by 23 basis points to 1.35%. This large drop was also due to monetary policy operations that inflated total business volumes. Strong margin pressure was mostly compensated for by a fast expansion of (average) total assets, a development that raises questions about the sustainability of business strategies aimed at outgrowing underlying profitability issues caused by high competition (e.g. in potentially overheating residential real estate markets).

Operating business picked up considerably in 2021, as both income and expenses contributed positively. On the income side, net interest income rose slightly, while fees and commissions gained +9% year on year. As other operating income and trading losses had little impact on the aggregate result, operating income rose by 4% to EUR 25.7 billion. Since the

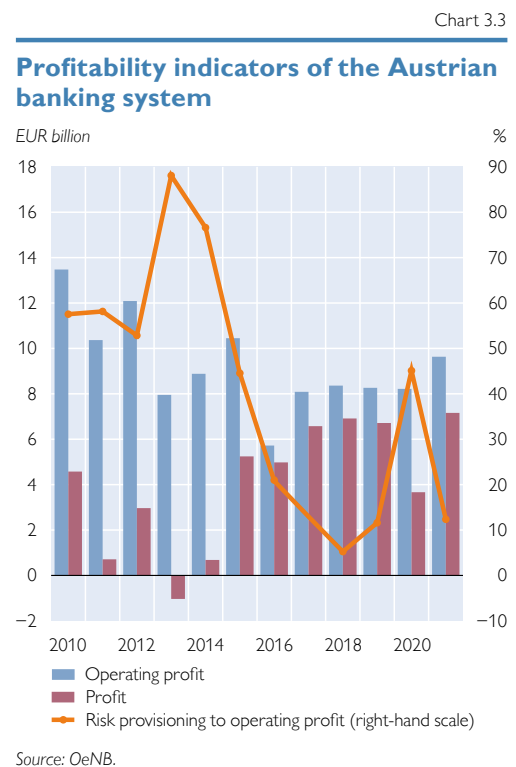
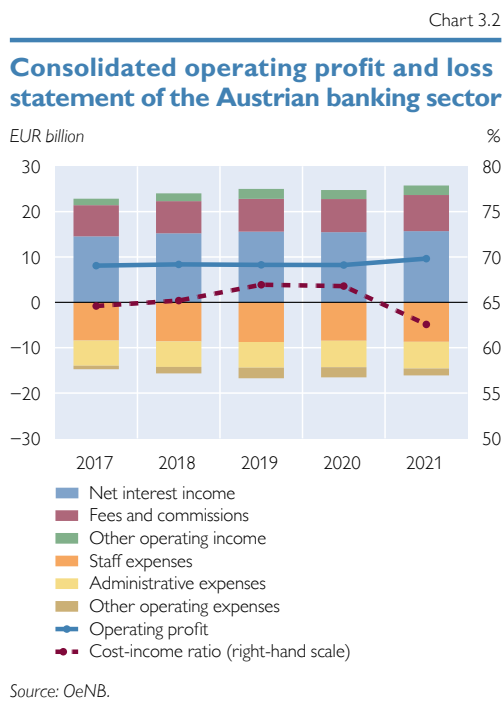


¹ The net interest margin is defined as net interest income divided by average total assets.

consolidation of the Austrian banking sector (including its bricks-and-mortar business) continued in 2021,² staff and administrative expenses were well controlled (at +2% year on year), while impairments on participations came to a virtual halt (−95%). As a result, operating expenses declined by 3% year on year. With this tailwind of positive operating jaws, the cost-income ratio came down to 63%, and the operating profit of the Austrian banking sector rose significantly by 17% (see chart 3.2).

Lower risk costs drove up profitability, but many new challenges ahead

The profit of the Austrian banking sector nearly doubled in 2021, driven by a sharp decline in risk costs. At the end of 2021, the Austrian banking sector's nonperforming loan (NPL) ratio reached a new low, so banks reduced risk provisioning by 68% year on year. Together with the strong operating performance, this propelled profits to EUR 7.2 billion (+95% year on year), the highest level since the global financial crisis that started in 2008, and 7% higher than the pre-pandemic level of 2019 (see chart 3.3). Consequently, the return on average assets reached 0.7% (2020: 0.4%).



² The number of banks in Austria dropped further in 2021. Moreover, Austrian banks also reduced the number of their foreign branches. However, due to the renewed setup of banking services in many post offices, the number of domestic branches rose by around 10%.

Credit quality remains solid

Contained loan defaults together with strong lending have led to a further decline in NPL ratios. In 2021, bank lending in Austria was driven by the economic recovery after the pandemic. The demand for corporate loans continued to be strong as firms needed financing for warehousing and working capital, and demand for housing drove mortgage loan growth. NPL ratios declined further as a consequence of strong lending and pandemic-related support measures. The consolidated NPL ratio went down to 1.8%, with the corresponding figure for domestic loans coming down to 1.4%. As the right-hand panel of chart 3.4 shows, the distribution of consolidated NPL ratios has slightly shifted to the left, and the number of banks with NPL ratios above 2.5% has dropped markedly.

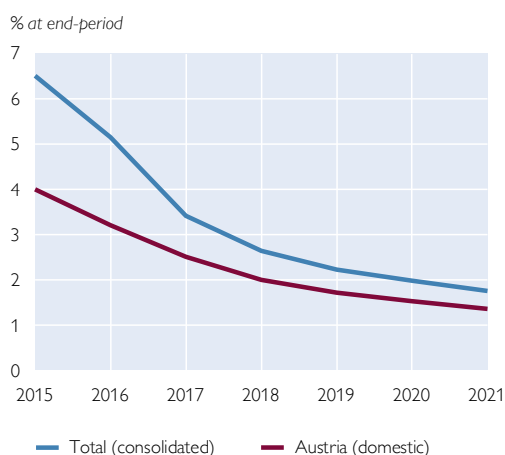
The quality of loans became more heterogeneous across economic sectors in Austria during the pandemic, reflecting the different ways in which the pandemic affected individual industries. Despite comprehensive government support schemes, an increase in loan defaults in severely affected sectors became inevitable. In particular, the NPL ratios of loans to companies in arts, entertainment, education, construction and accommodation rose between mid-2020 and end-2021, contrary to the general trend.

The share of forborne loans and loans with significantly increased credit risk (IFRS stage 2³) leveled off in 2021. Although overall credit quality improved in 2021, there was some deterioration in certain sectors and loan types. For example, the NPL ratio of loans with expired payment moratoria – as shown in chart 3.5 – continued to rise, reaching a level twice as high as the overall average NPL ratio at the end of the year, both for loans to households and nonfinancial corporations. The share of forborne loans in total loans of the Austrian banking sector started to increase after the outbreak of the pandemic. However, when the economic recovery took hold and large-scale defaults did not materialize, the figure

Chart 3.4

NPL ratios and NPL distribution in the Austrian banking sector

Change in NPL ratios over time



Distribution of NPL ratios (total loan portfolio, consolidated)

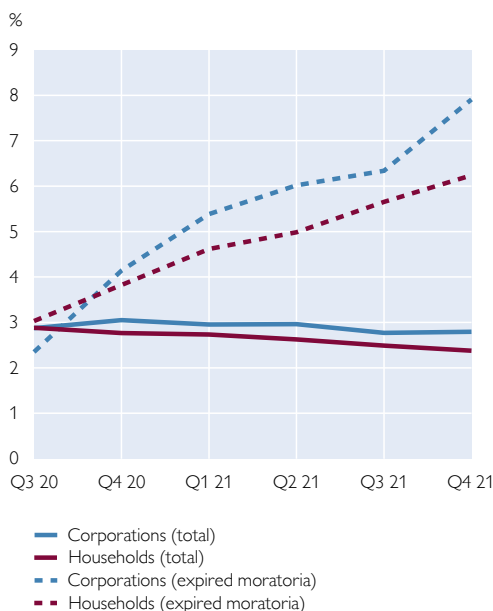


Source: OeNB.

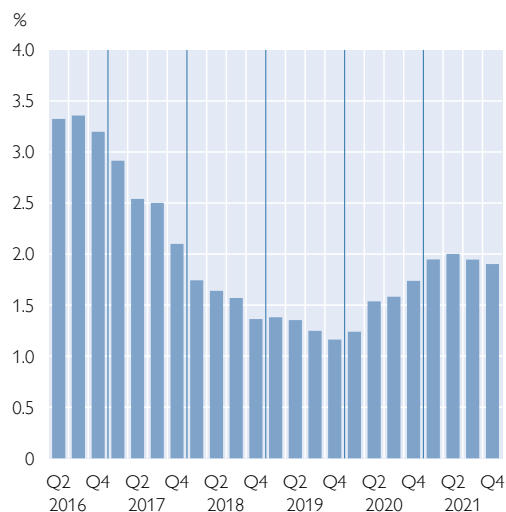
³ For further details, see *IFRS 9 and expected loss provisioning – Executive Summary (bis.org)*.

Other consolidated credit risk indicators

NPL ratios of all loans and loans with expired moratoria



Share of forbearance loans in total loans



Source: OeNB.

leveled off at 2%. Similarly, the share of IFRS stage 2 loans went down 0.7 percentage points between end-2020 and end-2021, when it stood at 18.2% of all consolidated loans of Austrian banks.

Foreign currency loans in Austria have continued to decline thanks to the supervisory measures adopted previously and hence do not represent a systemic risk to the Austrian banking sector. As of end-2021, the volume of outstanding foreign currency loans to domestic households stood at EUR 10.1 billion (–17.2% year on year, exchange rate adjusted). These loans are almost entirely (97%) denominated in Swiss francs. The share of foreign currency loans in total loans to households came down from 6.6% to 5.5%. Despite the significant decline over the last decade, residual risks from foreign currency loans remain, as about three-quarters are bullet loans linked to repayment vehicles.

Austrian banking subsidiaries in CESEE continued to reduce their retail foreign currency loan portfolios. In 2021, the volume of foreign currency loans to households in CESEE dropped by 3.0% (exchange rate adjusted) to EUR 9.3 billion. The share of foreign currency loans in total retail loans dropped from 12.7% to 11.0%. Around three-quarters of these loans are denominated in euro. In the corporate segment, the outstanding amount of foreign currency loans increased by 5.0% to EUR 21.1 billion, mostly driven by the increase of euro-denominated loans (+4.6% year on year to EUR 18.5 billion).⁴ Due to the stronger growth of loans denominated in local currency, the foreign currency share in the corporate loan segment fell from 38.1% to 35.9% year on year. This significantly

⁴ The increase is also partly due to mergers and acquisitions in Czechia and North Macedonia.

higher share of foreign currency loans compared to the household segment can be partially explained by the fact that many firms have income in foreign currency (i.e. a natural hedge).

The quality of foreign currency loans has improved somewhat but remains significantly weaker than that of local currency loans. In 2021, credit quality improved for both foreign currency and local currency loans, with the former continuing to trail behind. At end-2021, the NPL ratio of foreign currency loans stood at 4.3% and that of local currency loans was 2.7% (both –0.4 percentage points year on year). The associated risk has been partly mitigated by adequate provisioning, with the coverage ratio standing at 66% and 65%, respectively.

Profits in CESEE have surged but the war in Ukraine brings new challenges

The Austrian banking sector continued to expand during the pandemic, not only in the home market but also abroad. Propelled by continued loan growth and support by monetary policy measures, Austrian banks' total assets grew by 5% in 2021 to EUR 1.2 trillion. The share of foreign exposures expanded to 39% on the back of increased business, for instance in Czechia, Germany and Hungary. At the same time, business contracted i.a. in the UK, Spain and China. The Austrian banking sector is particularly exposed to CESEE; therefore, this report focuses on business in this region and its financial stability implications for Austria.

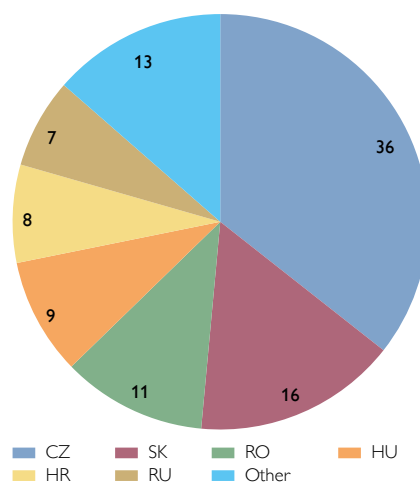
The majority of Austrian banking subsidiaries in CESEE are based in EU member states, accounting for more than four-fifths of Austrian subsidiaries' total assets in CESEE (totaling EUR 271 billion); Czechia alone hosts more than one-third, other important markets are Slovakia, Romania, Hungary and Croatia. Russia, by contrast, represents only 7% of Austrian CESEE subsidiaries' assets (see chart 3.6), and together with Ukraine and Belarus less than 10%. That said, the war in Ukraine will have adverse effects on the entire CESEE region, where Austrian banks are among the most active players. Therefore, the volatile situation will have to be closely monitored and any issues will have to be quickly addressed (see box 2).

Austrian banks' CESEE subsidiaries posted a profit totaling EUR 3 billion in 2021, driven by a surge in operating profit and a substantial decline in risk costs. Net interest income rose by 5% year on year, profiting from strong loan growth and rising interest rates, while fee and commission income increased even more (+16%); operating income was thus 8% higher. Despite strong inflationary tendencies in the region, operating costs remained under control (+5%

Chart 3.6

Total assets of Austrian banking subsidiaries in CESEE

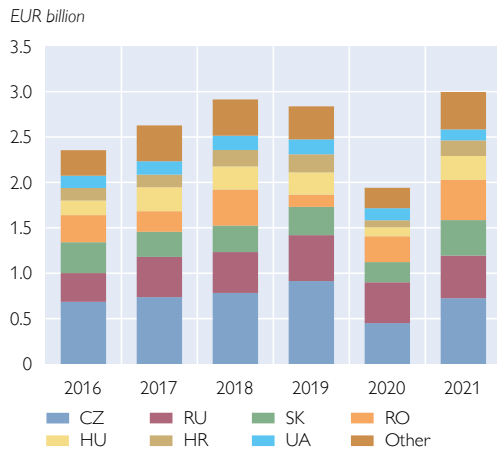
Total: EUR 271 billion; %



Source: OeNB.

Chart 3.7

Profits of Austrian banking subsidiaries in CESEE



Source: OeNB.

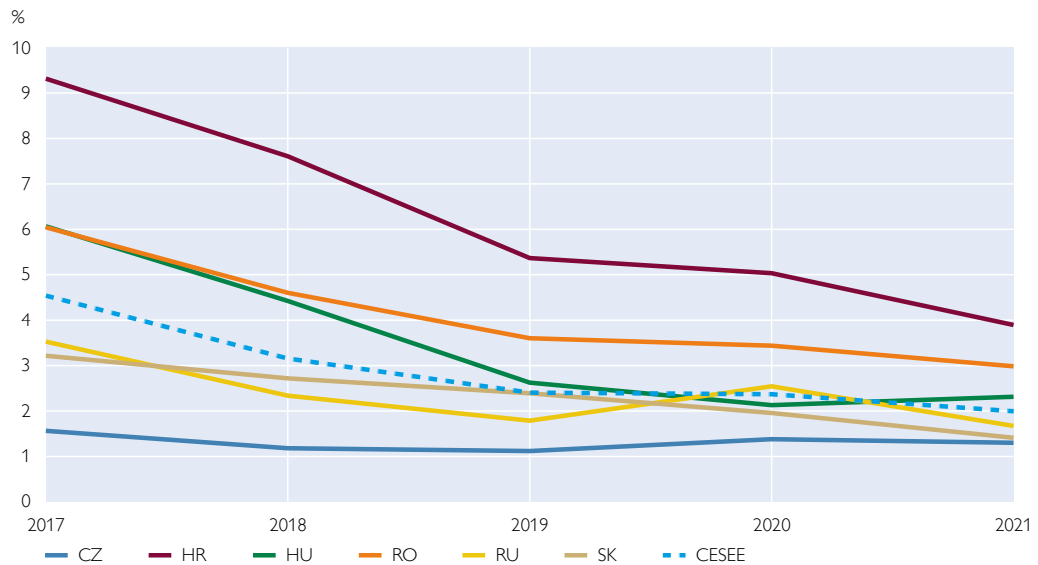
year on year), and operating profit rose by 12% to EUR 4.3 billion (5% above the pre-pandemic 2019 result). As the pandemic-related fallout became clearer, credit risk provisioning declined by more than 70%, and consequently profit rose by more than half to EUR 3.0 billion (6% above 2019).

2021 was a bounce-back year, as the immediate impact of the pandemic slowly faded, but the war in Ukraine and strong inflationary pressure are contributing to the buildup of new challenges. The Russian invasion of Ukraine will negatively affect the nascent economic recovery in CESEE, and banks' profitability will feel the impact of increased risks. Austrian banks should benefit

from their geographically diversified exposure, but Russia and – to a certain degree – Ukraine have been important profit drivers in the sector's CESEE business (see chart 3.7). Nevertheless, a potential withdrawal from Russia or losing these profits, although painful, currently appears manageable in light of solid consolidated profitability and proactive macroprudential policy measures by the Austrian authorities (see box 2).

Chart 3.8

NPL ratios of Austrian banking subsidiaries in CESEE



Source: OeNB.

Austrian subsidiaries in CESEE started 2022 on a strong footing: the nonperforming loan ratio was low, capitalization strong and funding balanced. With an NPL ratio of slightly below 2%, a robust coverage ratio above 64% and 85% of loans classified as IFRS stage 1 at the end of 2021, credit risk reached a historic low at Austrian banking subsidiaries in CESEE, despite the COVID-19 pandemic's initial impact (see chart 3.8).

Austrian banks' and their subsidiaries' risk-bearing capacity is strong, resting on robust local profitability in 2021 (as described above) and strong capitalization, with a common equity tier 1 (CET1) ratio of 17% at the subsidiary level, and parent banks benefiting from a macroprudential systemic risk buffer. Furthermore, Austrian banks' CESEE subsidiaries are now predominantly self-funded through deposits from nonbanks, as highlighted by a loan-to-deposit ratio of 73%, which is also attributable to the timely implementation of a macroprudential measure in 2012⁵. This balanced local funding structure made it possible to reduce intragroup liquidity transfers and thus significantly decrease Austrian parent banks' exposure at risk (see chart 3.9).

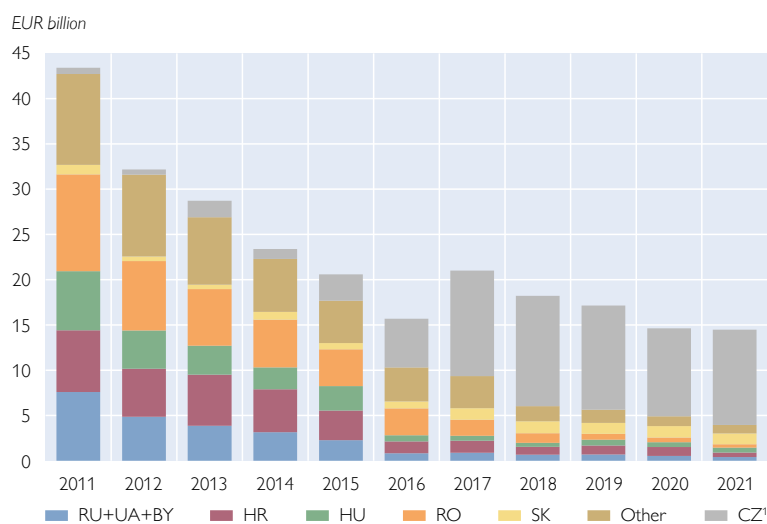
Pressure on banks' capitalization increased

Improved capitalization compared to levels seen during the great financial crisis enabled Austrian banks to overcome the effects of the COVID-19 pandemic, but capital ratios have weakened slightly more recently. During the pandemic, Austrian banks benefited from a capitalization level that had doubled since the great financial crisis. Improved capital ratios helped maintain confidence in the banking sector and positively influenced

During the pandemic, Austrian banks benefited from a capitalization level that had doubled since the great financial crisis. Improved capital ratios helped maintain confidence in the banking sector and positively influenced

Chart 3.9

Austrian banks' intragroup liquidity transfers to banks in CESEE

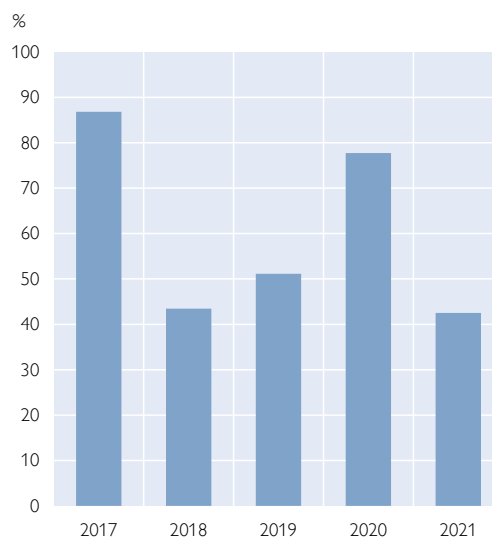


Source: OeNB.

¹ Transfers to banks in Czechia are exceptionally high, as banks use them to benefit from the high differential between the Czech National Bank's and the ECB's key interest rates.

Chart 3.10

Increase in Austrian banks' retained earnings in % of total profits



Source: OeNB.

⁵ This was part of a package of measures addressing the sustainability of large Austrian banks' business models, see *Sustainability of large Austrian banks' business models – Oesterreichische Nationalbank (OeNB)*.

external assessments. During 2021, however, capital ratios fell slightly due to an increase in risk-weighted assets, which was driven by strong loan growth combined with the resumption of profit distributions. Chart 3.10 shows that in 2021, the increase in retained earnings (as a share of total profits) fell, especially compared to 2020, when restrictions on profit distributions were in place.

Risk-weighted assets of Austrian banks also increased in 2021 due to pandemic-related downgrades of banks' internal ratings assigned to customers. In response to the COVID-19 pandemic, banks in Austria have downgraded their ratings for nonfinancial corporate debtors, which led to an overall deterioration of the rating distribution during the first waves of the pandemic. Borrowers that had received COVID-19 support were particularly affected by the downgrades; in this group, the share of exposures in rating classes with a higher probability of default increased considerably. The [study](#) published in the special topics section of this report sheds more light on this issue.

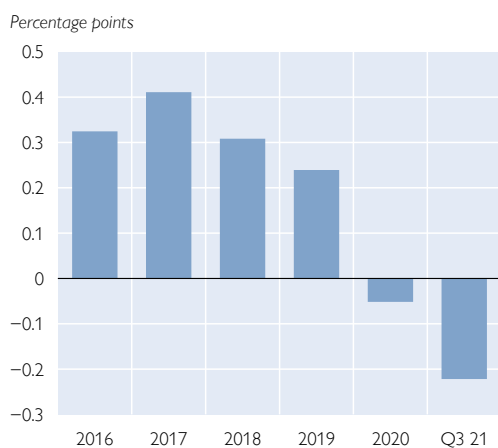
The decline in the Austrian banking sector's capital ratio widened the gap between the domestic banking sector and the European average. Banks' capital ratios decreased broadly across Europe in 2021, but the decline was more pronounced in Austria. In order to counter the widening gap vis-à-vis the European average, Austrian banks will have to strengthen their capital ratios going forward, also taking into account their individual risk profile.

The Austrian banking system's liquidity situation was good in 2021, as it benefited from positive market perception, a sound collateral pool and the favorable terms of the ECB's targeted longer-term refinancing operations (TLTROs).⁶ Over the past few years, banking systems in the euro area have benefited from the favorable terms and conditions governing the ECB's monetary policy operations, which got even more favorable in the

reaction to the economic challenges arising from the COVID-19 pandemic. Austrian banks are comparatively well endowed with eligible collateral (including credit claims), which allowed them to comprehensively tap the liquidity offered via the ECB's TLTROs. Austrian banks had an average of EUR 82 billion of outstanding liabilities against the Eurosystem in the course of 2021, which carried an interest rate of –1% as the overwhelming majority of banks fulfilled the attached lending conditions. At the same time, banks increased their deposits with the OeNB by an even larger amount, which suggests that banks accessed the TLTROs not because of immediate liquidity needs but to generate additional income. In 2021, the average amount deposited by Austrian banks at

Chart 3.11

Gap between the CET1 ratio of the Austrian banking sector and the European average

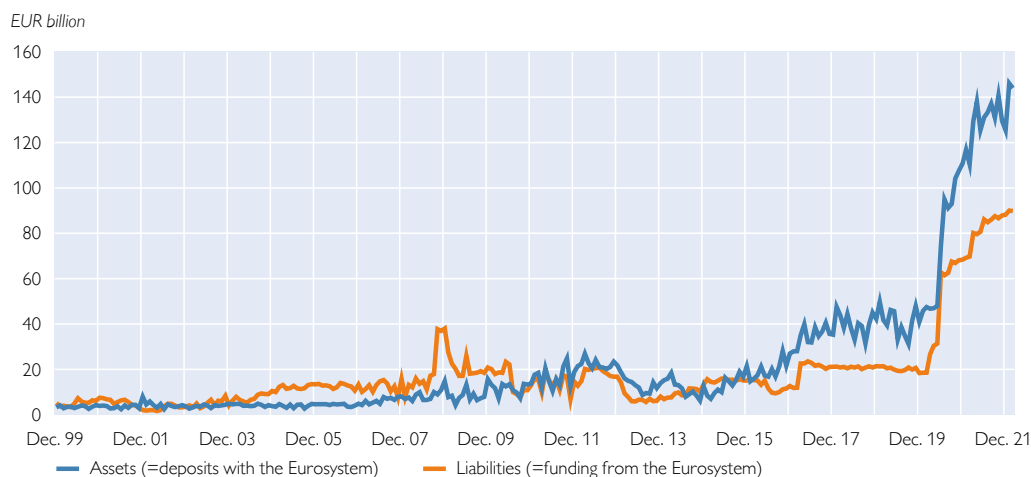


Source: OeNB, ECB.

⁶ See *Targeted longer-term refinancing operations (TLTROs)* (europa.eu).

Chart 3.12

Austrian banks' assets and liabilities vis-à-vis the Eurosystem



Source: ECB.

the Eurosystem's central banks was EUR 129 billion. About a quarter carried an interest rate of 0%, the remainder -0.5% . This allowed the banking sector to generate risk-free revenues by tapping central bank operations while the costs were limited to providing sufficient collateral.

The Austrian banking system is well prepared for balanced quantitative tightening. Austrian banks currently have excess liquidity with the Eurosystem, they are well endowed with collateral, and benefit from high market confidence as measured by the ratings issued by international agencies. This allows them to issue unsecured and secured debt at competitive funding costs. While a smooth transition to steeper interest rate curves will generally be positive for banks' operative margins, challenges would arise from abrupt changes in the interest rate environment. From a financial stability perspective, a timely reaction to inflation pressures would help reduce the risk of abruptly rising rates. Nonetheless, given the more volatile interest rate environment, banks will need to manage their interest rate risks with caution. In addition, banks can ensure their continued access to funding markets by further improving the soundness of their balance sheets. Improving their capital ratios to bring them in line with their European peers will be key in this context.

New framework for electronic payments

The European legislator is intensively working on a new Regulation on Markets in Crypto-assets (MiCA) as part of the digital finance package, which will potentially alter the European electronic payment's landscape. The new legal framework envisages different kinds of crypto assets, i.a. e-money tokens that are explicitly designed for payment purposes, and asset-referenced tokens that are – up to a predetermined extent – also suitable for electronic payments. These newly regulated, possibly faster, cheaper and more efficient means of payment, augmented by related services (e.g. wallet or exchange services), have the potential to compete with existing electronic payment solutions.

The MiCA proposal implies new regulatory and technical challenges for overseers. The OeNB has the statutory mandate for payment systems oversight in Austria and is therefore closely following these developments. In a next step, the OeNB will adapt its oversight practice by integrating the Eurosystem's new oversight framework for electronic payment instruments, schemes and arrangements (PISA), which was introduced in November 2021 and covers crypto assets used within a payment scheme.

Box 1

Cyber risks – a new challenge to financial stability

Cyber risks and their systemic nature arising from interconnections and interdependencies within the financial system and the operational systems serving it represent a new challenge to financial stability. Cyber risk has long been understood as an idiosyncratic operational risk affecting internal information and communication technology (ICT) infrastructures and has therefore been on the radar of microprudential supervision. Dedicated regulatory frameworks and supervisory policies are in place and being further developed at the European level to deal with cyber risk from different angles (e.g. the Digital Operational Resilience Act, DORA⁷). Consequently, microprudential policy and vigilant supervision contribute essentially to increasing overall operational cyber resilience and reducing the risk arising from the aggregate impact of cyber risks at an individual bank's level. The financial sector's growing reliance on ICT across a broadening array of interconnected and often hardly substitutable operational systems (which perform critical functions) leads to multiple dependencies and concentrations. This, in turn, increases the risk that a cyber event will have severe consequences for financial institutions, with potentially destabilizing effects on the financial system. Besides financial costs, a major cyber incident can lead to operational disruptions in systemically critical functions and to an erosion of confidence in the functioning of the financial system. Operational and/or financial contagion channels and the accompanying loss of confidence can amplify the initial shock and seriously impair the smooth functioning of critical financial services, with potentially severe effects on the real economy. Thus, the European Systemic Risk Board (ESRB) in 2020 identified cyber risk as a source of systemic risk to the financial system and therefore considers the issue in a system-wide (macroprudential) context.⁸

Existing macroprudential tools may not prove effective in addressing the systemic nature of cyber risk. The traditional macroprudential toolbox, which typically addresses cyclical or structural systemic risks to financial stability, enhances the financial sector's resilience to shocks. Thus, macroprudential tools provide relevant backstops and can also mitigate the amplification of potential financial shocks associated with a cyber incident. However, they are not specifically designed to counter cyber risk and thus have limited capability to serve as a systemic cyber risk mitigant.⁹ The implementation of direct requirements for the purpose of cyber resilience (outside the macroprudential toolbox), which e.g. allow a quick restoration of operational systems, may be more efficient in mitigating systemic cyber risk.

The calibration of potential systemic mitigants relies on a deeper understanding of systemic cyber risk-related vulnerabilities and potential contagion channels in the financial system. Given that the discussion about systemic cyber risk is in the early stages, there is a lack of understanding of systemic cyber risk-related vulnerabilities and a need to improve analytical and monitoring capabilities. To get an all-encompassing view of cyber

⁷ Proposal for a regulation of the European Parliament and the Council on digital operational resilience for the financial sector, see [EUR-Lex – 52020PC0595 – EN – EUR-Lex \(europa.eu\)](#).

⁸ See [ESRB publishes report on systemic cyberattacks \(europa.eu\)](#).

⁹ The ESRB report [Mitigating systemic cyber risk \(europa.eu\)](#) "Mitigating systemic cyber risk" (2022) provides a comprehensive assessment of traditional tools, see [Mitigating systemic cyber risk \(europa.eu\)](#).

risks, a concurrent approach from both the micro- and the macroprudential supervisory angle is required. Special attention should be given to possible operational concentration risks and contagion channels in the financial system. The identification of systemically important nodes, which fulfill critical financial or operational services, provides a first indication of potential contagion channels and contributes to a better understanding of the network topology, interdependencies and potential risk amplifiers. Furthermore, it assists authorities in their risk assessment and formulation of potential policy action.

An “IT system operator map” for Austria provides a first promising overview of the interconnectedness of IT service providers in the Austrian financial market. This map was the outcome of a joint project launched by the Financial Market Authority (FMA) and the OeNB in 2019. Updated and expanded in 2021,¹⁰ it identifies and categorizes by activity the IT service providers and those appointed as subcontractors for maintaining critical business processes. Additional data provided include, e.g., information about certifications. The IT system operator map allows the FMA and the OeNB to better understand the IT landscape of the supervised entities, identify important service providers and possible concentration risks and incorporate this knowledge in their supervisory activities. Furthermore, it is a useful tool with regard to the upcoming oversight regime for critical ICT service providers envisaged by the EU regulation DORA.

Macroprudential supervision in Austria

The Austrian Ministry of Finance (BMF), the FMA and OeNB have jointly responded to the European Commission’s consultation on improving the EU’s macroprudential framework for the banking sector. The consultation was open until March 2022 and focused on four key issues, notably (1) the functioning of the buffer framework, (2) missing and obsolete macroprudential instruments, (3) internal market aspects and (4) global and emerging risks. In their reply, the BMF, the FMA and the OeNB called for a more flexible use of the countercyclical capital buffer and addressed overlaps between capital buffers and minimum requirements, for example by considering a leverage ratio add-on. Overall, the Austrian response emphasized the need for stability in the framework, which had proved its effectiveness during the current pandemic. Regulatory changes should therefore be guided by the following high-level principles: (1) reducing the complexity of regulation, (2) increasing the resilience of the financial system, (3) reflecting flexibility across EU member states due to heterogeneous financial cycles and (4) ensuring compliance with the Basel reforms. Ultimately, the goals of the macroprudential framework and parallel regimes need to be preserved.

Rising risks from mortgage lending are being addressed

Systemic risks from residential real estate financing have been mounting steadily in recent years. The OeNB has repeatedly voiced concerns about the buildup of risks related to residential real estate (RRE) loans. While systemic risks in this segment have been increasing in many euro area countries, developments in Austria have been extraordinary. In the first quarter of 2022, the annual growth rates of real estate prices and mortgage lending accelerated to 12.3% and 7.2%, respectively. Between end-2010 and end-2021, real estate prices doubled in

¹⁰ As part of the FMA’s study *Study on “Digitalisation of the Financial Market” - FMA Österreich (2021)*.

Chart 3.13

Lending to households for house purchase



Source: OeNB, ECB.

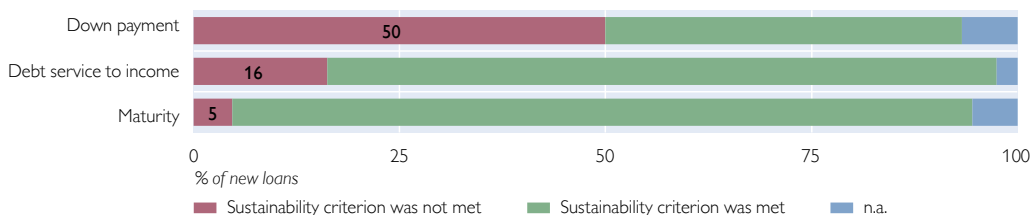
Austria, whereas they only increased by slightly more than one-third in the euro area. These price increases go hand in hand with accelerating overvaluation. According to OeNB estimates, the overvaluation of RRE prices in Austria reached a record 34% in the first quarter of 2022; in Vienna alone, this value even climbed to an estimated 40%, according to the OeNB's fundamentals indicator for residential property prices (see chart 3.13). The rapid growth of RRE prices further reduced the affordability of housing, and households are faced with an increasing debt burden, which makes the market vulnerable to credit-driven price exuberance and future price corrections.

In Austria, market conditions continue to be driven by fierce competition and, in part, by un-

sustainable lending standards. A considerable share of new mortgage loans continues to be offered at elevated debt service-to-income and loan-to-value ratios. Despite record low interest rates, 16% of new lending were loans with debt service-to-income ratios exceeding 40%, leaving little room for maneuver in case of unforeseen adverse developments (e.g. a decrease in available income, increased costs of living or unemployment) or in the event of interest rate increases. At the same time, half of new loans were granted with down payments of less than 20%. Despite strong declines over the past years, the share of variable rate loans in new mortgage lending remains high, reaching 32% as of March 2022, which makes many borrowers vulnerable to increases in interest rates. One of the most important mitigating factors in this market is the fact that Austria has a well-developed rental market with a high share of nonprofit providers. Moreover, Austrian borrowers tend to have high incomes and wealth by international standards, and, finally, the Austrian banking sector is adequately capitalized thanks to the Austrian competent authorities' proactive approach to macroprudential supervision and the activation of macroprudential capital buffers.

Chart 3.14

Sustainability of new lending in the second half of 2021



Source: OeNB.

However, in times of crisis, systemic risks in this segment may jeopardize Austria's financial stability and should therefore be addressed. Housing loans are an important credit segment and source of revenue for banks. Housing loans to households account for one-third of Austrian banks' total domestic credit exposures. As lending for house purchase started to expand at high rates, real estate became an increasingly important form of collateral. As of end-2021, around 30% of banks' consolidated total assets were collateralized by some form of real estate. At the same time, the real estate sector is also economically important, which contributes to the risk of spillovers to the real economy in the event of a crisis. In 2021, construction and real estate activities contributed 18% to the total gross value added of the Austrian economy.

Following an initiative by the OeNB and recommendations by both the ESRB and the IMF, Austria's Financial Market Stability Board (FMSB) has issued a recommendation to activate legally binding borrower-based measures in Austria. Cross-country studies have shown that borrower-based measures are effective in reducing systemic risks from real estate financing and that they are suitable to address the identified vulnerabilities in the Austrian market. A clear majority of European Economic Area economies – 24 out of 30 – have already activated borrower-based measures to address vulnerabilities in their RRE markets. The measures not only reduce banking sector losses from real estate exposures and the related risks to financial stability and the real economy, but also protect borrowers from the consequences of excessive debt. The ESRB¹¹ recommended on February 11, 2022, that Austria adopt legally binding borrower-based measures to mitigate vulnerabilities to financial stability that stem from the RRE sector. Similar advice has come from the OECD¹² and the IMF¹³. Supporting the reasoning put forth by these institutions, the FMSB has adopted a recommendation¹⁴ addressed to the FMA to activate macroprudential measures as specified in Article 23h Austrian Banking Act. Specifically, the FMSB advised the FMA to adopt upper limits for loan-to-value¹⁵ ratios (90%), debt service-to-income ratios (40%) and loan maturities (35 years) – subject to exemptions that would give credit institutions adequate operational flexibility. These new measures are envisaged to apply to all new RRE lending to households as soon as possible.

The growth rate of commercial real estate¹⁶ (CRE) loans has remained moderate in recent years, but their share in Austrian banks' total assets is already high in an EU comparison. Still, given that both the size and the growth rates of CRE lending remain markedly below that of RRE lending to households, macroprudential measures are not deemed necessary at the

¹¹ *Recommendation of the European Systemic Risk Board of 2 December 2021 on medium-term vulnerabilities in the residential real estate sector in Austria (ESRB/2021/11) (europa.eu).*

¹² *OECD Economic Surveys: Austria 2021 | OECD Economic Surveys: Austria | OECD iLibrary (oecd-ilibrary.org).*

¹³ *Austria: 2021 Article IV Consultation-Press Release; Staff Report; Staff Supplementary Information; and Statement by the Executive Director for Austria (imf.org).*

¹⁴ *FMSG – Recommendation FMSB/2/2022 on applying measures to contain systemic risks from residential real estate funding.*

¹⁵ *The loan-to-value ratio measures the total level of lending for house purchase of a borrower in relation to the mortgage collateral registered with the Austrian land registry or other CRR collateral securing the debt.*

¹⁶ *CRE lending is defined as real estate lending to nonfinancial corporations with the purpose to fund both residential and nonresidential property or collateralized both by residential and nonresidential property.*

current stage. The share of CRE lending in Austrian banks' balance sheets is among the highest in an EU comparison, and substantial financing volumes are structurally above underlying market and collateral values. 31% of real estate lending to domestic nonfinancial corporations serves the purpose of funding residential property purchases or construction and development. This links CRE lending to private RRE loans, the systemic risks of which have made policy actions necessary. 57% of mortgage loans are used to fund commercially used property (such as office space, retail, tourism), and the remaining 12% are used for other real estate (such as infrastructure). While insurance companies and real estate funds also provide CRE funding, banks are by far the dominant suppliers of funds, which mainly take the form of mortgage loans. Banks' mortgage loans to domestic corporates amounted to a total of EUR 117 billion as of end-2021, of which EUR 51 billion were collateralized by residential real estate. In addition to that, banks have outstanding EUR 14 billion in mortgage loans to households that are collateralized by commercial property. Austrian banks' subsidiaries in CESEE had EUR 22 billion in outstanding CRE loans as of end-2021. Against the backdrop of rising input costs, supply chain disruptions and interest rate hikes, real estate developers form a particularly vulnerable sector. Austrian banks had outstanding loans in the amount of EUR 37 billion to real estate construction at the end of 2021, EUR 12 billion of which were used to fund the construction and development of residential property – a sector currently in Austria's macroprudential spotlight. Despite the improved systemic risk monitoring, with CRE price, rental and yield indices for Austria going live in 2024, the need for further initiatives to fill existing data gaps is currently being evaluated.

Capital buffers support financial stability

The implementation of binding borrower-based measures is expected to slow down bank lending, which should ease cyclical risks stemming from potentially excessive credit growth. Should this not be the case, the supervisory authorities may advise further measures (including capital-based ones). The credit-to-GDP gap, the main indicator guiding decisions on the countercyclical capital buffer (CCyB), had widened to 2.6 percentage points as of end-2021 against the backdrop of robust credit growth. In addition, other indicators relating to risk mispricing, the soundness of bank balance sheets, credit growth and property prices have not improved and continue to signal a buildup of elevated cyclical risks in the financial system. Yet, according to the relevant literature¹⁷, there is no case for changing the CCyB mechanistically, in particular if the credit-to-GDP ratio deviates from its trend as a result of a negative business cycle. After all, annual GDP growth rebounded to 6.3% in the fourth quarter of 2021, following a sharp contraction in 2020. That said, the outlook for GDP growth remains fraught with heightened risks. To allow borrower-based measures for housing mortgages to take effect, the FMSB in May 2022 continued to recommend a CCyB of 0% for the time being in spite of the risks signaled by other CCyB-relevant indicators. At the same

¹⁷ *Baba, C., S. Dell'Erba, E. Detragiache, O. Harrison, A. Mineshima, A. Musayev and A. Shahmoradi. 2020. How Should Credit Gaps be Measured? An Application to European Countries. IMF Working Paper; Drehmann, M., C.E. Borio, K. Tsatsaronis. 2011. Anchoring Countercyclical Capital Buffers: the Role of Credit Aggregates. BIS Working paper; and Drehmann, M. and K. Tsatsaronis (2014). The credit-to-GDP gap and countercyclical capital buffers: questions and answers. BIS Quarterly Review.*

time, the FMSB emphasized that credit growth is still high compared with GDP growth and that the implementation period for a CCyB buffer in the future may have to be shortened, particularly if credit growth continues unabated.¹⁸

The structural macroprudential capital buffers implemented in Austria have supported financial stability during the recent crises. In Austria, 11 banks are currently subject to the systemic risk buffer (SyRB) and seven to the other systemically important institutions (O-SII) buffer. The SyRB addresses the systemic risks arising from the structural characteristics of the Austrian banking system, given its size, geographic concentration on emerging market economies, specific ownership structures and low structural profitability. Addressing the too-big-to-fail problem, the O-SII buffer aims to reduce the probability of large, systemically important credit institutions to malfunction or fail, as well as to limit any related damage to the financial system. Both during the COVID-19 pandemic and the shock to the financial system caused by Russia's invasion of Ukraine, these buffers contributed substantially to maintaining financial stability in Austria. By accounting for the large exposure of the Austrian banking system to the CESEE region, the SyRB specifically addresses the geopolitical risks associated with concentrated lending in emerging markets and thus prepared the banking market well for these shocks. In 2022, the OeNB is conducting the regular evaluation of the O-SII and SyRB. It takes into account the additivity of the two buffers, which was stipulated in 2019 with the introduction of the Capital Requirements Directive (CRD) V¹⁹ but was effectively delayed by the FMSB in 2020 due to the high uncertainty caused by the pandemic.²⁰ The results of the evaluation will be presented to the FMSB in September.

The Austrian deposit guarantee schemes (DGSs) have proved resilient and have enjoyed high credibility during the pandemic despite four DGS payout cases since 2020. The first three DGS events only affected Austria's uniform DGS, Einlagensicherung Austria (ESA), whose ex ante funds were sufficient to cover the payouts. The latest payout was a special case in two ways: First, as the bank in question was granted a license for deposit taking within the last ten years, all three Austrian DGSs were obligated to finance the payout totaling around EUR 1 billion. Second, the bank's insolvency was averted and an orderly wind-down was ongoing in May 2022, while the funds paid out by the DGS have already been repaid in full. There are currently three different DGSs in the Austrian banking sector: (1) Einlagensicherung Austria (ESA), (2) the DGS for the savings bank sector, Sparkassen-Haftung (sHaftung), and (3) since December 2021, the DGS for the Raiffeisen sector, Österreichische Raiffeisen-Sicherungseinrichtung eGen (ÖRS). With a third DGS in place, the structural and legal complexity of the system is set to increase, as larger payouts involve more than one DGS. However, the resilience of the Austrian DGSs was substantially increased by the introduction of a reliable alternative funding arrangement for Austrian DGSs, which allows them to raise additional funding on top of the ex ante fund and ex

¹⁸ FMSG – 32nd meeting of Austria's Financial Market Stability Board – May 16, 2022.

¹⁹ Capital requirements directive (CRD V) – concerning credit institutions – transposition status | European Commission (europa.eu).

²⁰ FMSG – Recommendation FMSB/3/2021: guidance on adjusting the other systemically important institution (O-SII) buffer.

post contributions. Furthermore, the SyRB plays an essential role in ensuring the reliability of the alternative funding arrangements and, hence, the credibility of the Austrian DGSs.

Austrian nonbank financial intermediaries benefited from benign environment in 2021

Austrian insurers as well as pension and investment funds saw a strong improvement in profitability in 2021 amid more benign economic conditions as well as positive movements in financial markets. Hence, the financial situation of Austrian insurance companies as well as pension and investment funds improved, supported also by an increase in the market value of their financial asset holdings. Nevertheless, the change in prevailing economic conditions as well as heightened market volatility during the past few months is expected to have repercussions for the performance of Austrian nonbank financial intermediaries.

The Austrian insurance sector's total premium volume of EUR 19.8 billion consists of EUR 11.8 billion in revenues from property and casualty insurance policies, EUR 5.4 billion from life insurance policies and EUR 2.5 billion from health insurance policies. The underwriting result increased by 38% in 2021 compared with 2020, and the financial result by 74%. Overall, the result from ordinary business activities increased to EUR 1.94 billion (compared to EUR 0.7 billion in 2020). Solvency remains solid, with more than two-thirds of all insurance undertakings holding more than the double amount of own funds required. By the end of 2021, the median solvency capital requirement ratio had increased by 9 percentage points year on year to 229%.

The Austrian insurance sector benefited from the benign financial market environment through an increase in the market value of its financial asset holdings. Debt securities accounted for 34% of the sector's total assets of EUR 145.4 billion and investment fund shares made up 28% (with mixed and fixed-income funds dominating). Shares and other equity amounted to 18%, up from 15% in the previous year. The recent increase in risk-free rates has contributed to an improvement in the insurance sector's solvency, whereas the decline in stock markets led to falling own funds and own funds requirements.

The exposure of insurance companies toward the banking sector and sovereigns could potentially become a channel of risk transmission and contagion. The sector's claims to the banking sector (domestic and foreign) via debt securities and loans continued its declining trend in 2021. At year-end, it amounted to about 10% of total assets, whereas in 2016 it had stood at 16%. Claims on domestic banks declined from 7% to 4% in the same period. The sovereign exposure came to close to 15% of total assets and remained unchanged compared to end-2016.

Austrian investment funds realized capital gains in 2021. The net asset value of Austrian investment funds was EUR 230.7 billion by the end of 2021. Driven by capital gains and net inflows, investment funds' assets increased by 13.9% or EUR 28.2 billion compared to the previous year. Net inflows accounted for EUR 15.2 billion. At the end of 2021, Austrian asset managers managed 1,131 mixed funds with assets worth EUR 105.9 billion, 434 bond funds (EUR 62.4 billion), 334 equity funds (EUR 44.1 billion), 49 short-term bond funds (EUR 6.1 billion), 38 private equity funds (EUR 0.8 billion), 39 other funds (EUR 0.4 billion)

as well as 20 real estate funds with managed assets of EUR 11 billion.²¹ As the trading ban on Russian securities has led to valuation and settlement difficulties, the issuance and repurchase of fund shares of a few investment funds with significant exposure to Russian securities has temporarily been suspended.

Austrian pension funds recorded strong returns. Assets under management by Austrian pension funds increased by 5.1% (year on year) to EUR 27 billion, and the number of beneficiaries (prospective and current recipients) increased by 0.9% to just over 1 million. Currently, 12.5% of beneficiaries receive a pension under an occupational pension scheme. The largest exposure of the sector are equities (40.6% of the portfolio), followed by debt securities (32.8%), and almost all assets are invested via investment funds. In 2021, the overall return on investment of Austrian pension funds was 7.65%, compared to an average 4.97% p.a. over the past ten years.²²

Box 2

Implications of the Russian invasion of Ukraine for financial stability in Austria

The Austrian economy in general and Austrian banks in particular have strong business ties with the CESEE region, especially with neighboring countries, but also with Russia and Ukraine. After the fall of the Iron Curtain, Austrian companies expanded very quickly into CESEE, and Austrian banks followed their corporate customers soon thereafter. This box sheds light on the Austrian banking sector's exposure to Russia, Ukraine and Belarus and identifies potential financial stability implications of the ongoing war.

Potential effects of the war on the Austrian real economy

The war in Ukraine is adversely affecting macroeconomic developments in Austria. Evidently, companies with direct business relations with Russia or Ukraine are hardest hit, but those whose supply chains or sales markets are in these countries are also affected. Companies engaged in Russia may be faced with significant write-downs of Russian investments. By end-2021, the market value of Austria's outward direct investment positions in Russia totaled roughly EUR 5 billion. Yet, rising energy and commodities prices and negative confidence effects represent downside risks to domestic GDP growth, and therefore the entire Austrian corporate sector is affected. Against this backdrop, corporate profitability, which in the past two years had been propped up by pandemic-related support measures, can be expected to deteriorate, which, in turn, will diminish firms' internal financing capacities.

Credit conditions could deteriorate. Nominal interest rates can be expected to go up when monetary policy responds to the sharp increase in inflation. While for banks, rising interest rates in general imply an improvement in operating performance, they imply risks for companies, especially for those with variable rate loans. Additionally, lenders might demand higher risk premia, especially (but not exclusively) for loans to firms that are strongly affected by the impact of the war. Yet, even if Austrian banks' overall lending policies have, by and large, remained accommodative so far, the worsened economic outlook is likely to affect credit standards and lead to tighter terms and conditions, such as higher information and collateral requirements. The more severely companies are affected by the fallout of the war, the tighter credit standards they might face.

Loan volumes will be affected by demand for working capital, which is expected to go up, and a likely decrease in investment activity. On the one hand, higher input prices as well as supply chain problems, which will induce firms to stockpile

²¹ Source: FMA Annual report on Asset management in the Austrian funds market.

²² Source: FMA Quarterly Report on pension funds Q4 2021.

inventories, will drive up (nominal) demand for working capital financing. On the other hand, a reduction or postponement of investment projects due to rising uncertainties amidst a worsening growth outlook is likely to reduce financing needs. These two effects would affect both ends of the maturity spectrum: While higher working capital financing would most likely increase the demand for short-term loans, less investment might primarily concern long-term loans. This would raise the share of short-term loans in total outstanding loans, which could increase refinancing risks. However, the large decrease in the share of short-term debt until the onset of the pandemic provides for a certain cushion in this respect. Gross indebtedness has already risen due to the pandemic. A further increase in debt – which may be subject to higher interest rates – coupled with lower profits due to the economic slowdown could impair borrowers' ability to service their debt. Still, companies' currently very high liquidity positions might provide a cushion against adverse effects.

Potential effects on the Austrian banking sector

Nearly 8% of Austrian banks' CESEE exposure is to Russia, Ukraine and Belarus. Austrian banks are among the leading foreign lenders in these countries. By the end of 2021, the foreign on-balance exposure on an immediate-borrower basis of all Austrian banks in CESEE was EUR 296 billion, EUR 23 billion thereof to Russia, Ukraine and Belarus. According to BIS statistics, domestically owned Austrian banks are among the leading lenders in these countries (with an exposure of EUR 22 billion). Austrian subsidiaries in Russia, Ukraine and Belarus have contributed substantially to Austrian banks' total profits, accounting for 9% of total profits in 2021. In 2020, this share had been even higher, as the pandemic had already reduced profits in western Europe, while CESEE markets still performed better.

Austrian subsidiaries in Russia, Ukraine and Belarus have been active lenders with a solid funding base, but their capitalization is below that of other Austrian subsidiaries in CESEE. The balance sheets of Austrian banking subsidiaries in the three countries are dominated by corporate loans, mostly to borrowers in the manufacturing, trade and agricultural sectors. The subsidiaries have a solid funding base, with loan-to-deposit ratios at 80% in Russia and at around 65% in Ukraine and Belarus. This reduces the need for intra-group liquidity transfers. The balance sheets are predominantly denominated in domestic currency, making them less vulnerable to risks related to foreign currency (FX) fluctuations. However, from a consolidated view, parent banks will be affected by currency depreciations and volatility, which will test the effectiveness of their FX hedges. Overall, Austrian banking subsidiaries in CESEE are well capitalized, and those in the three analyzed countries maintain solid capitalization by local standards. However, their capital ratios are below the average of other Austrian CESEE subsidiaries.

Supervisory measures have reduced risks and made Austrian banks more resilient. Since the global financial crisis, the OeNB and the Austrian Financial Market Authority (FMA), together with the ECB within the SSM, have taken proactive measures that reduced the risks from CESEE activities. These measures have already proven their value in recent years and are of special importance in the current crisis. In particular, the measures are aimed at:

- **Funding risk:** The Austrian sustainability package published in 2012 aims to increase local, stable funding at foreign subsidiaries of Austrian banks. As a consequence, intragroup liquidity transfers by Austrian banks to CESEE declined by 67%, and those to Russia, Ukraine and Belarus by even 95%. The loan-to-deposit ratio declined from over 100% to 73% for all CESEE subsidiaries and to 76% in the analyzed three countries.
- **FX risk:** Austrian supervisors' guiding principles helped reduce the stock of FX loans at subsidiaries in CESEE by limiting new FX lending to borrowers with income in the loan currency. Since the end of 2010, the stock of FX loans extended by subsidiaries to both households and nonfinancial corporations in Russia, Ukraine and Belarus declined by almost 80% to EUR 3 billion.
- **Credit risk:** The volume of NPLs at Austrian banks' foreign subsidiaries fell significantly over recent years. In addition to the significant efforts of the SSM in this respect, international cooperation platforms like the Vienna Initiative helped improve risk management at the

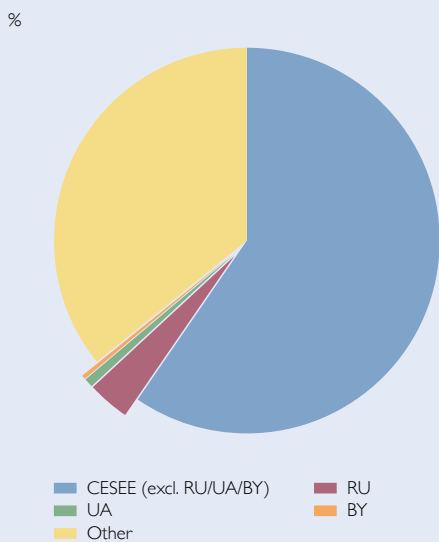
bank level and NPL resolution frameworks. In addition, regulation that limits large exposures helped reduce concentration risks.

- **Risk-bearing capacity:** Macroprudential capital buffers, especially the systemic risk buffer, and strong regional profits have improved the risk-bearing capacity of Austrian banks that are active in CESEE. Supported by macro- and microprudential capital measures, the Austrian banking system more than doubled its capital ratio since the global financial crisis. One of the elements relevant for the calibration of the systemic risk buffer is the banking sector’s exposure to CESEE and concentration risk at certain banking groups.

Chart 3.15

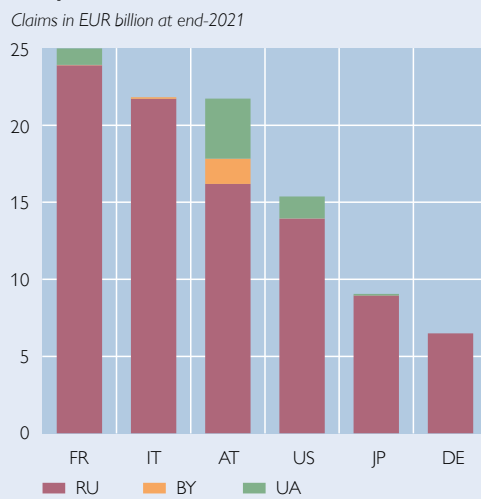
Austrian banks’ activities in Russia, Ukraine and Belarus

Foreign exposure of Austrian banks



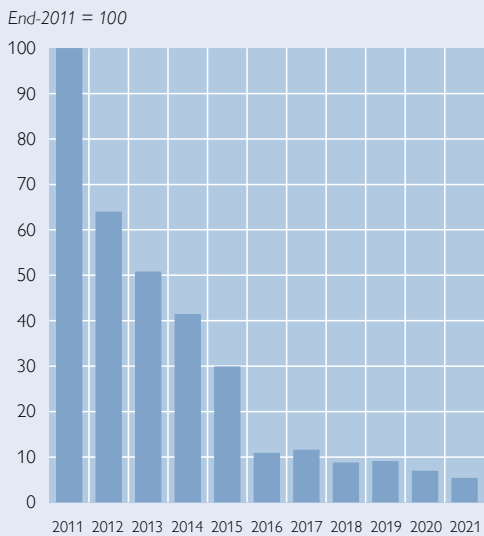
Source: OeNB.
Note: Data as of end-2021.

Austrian banks’ exposure by international comparison



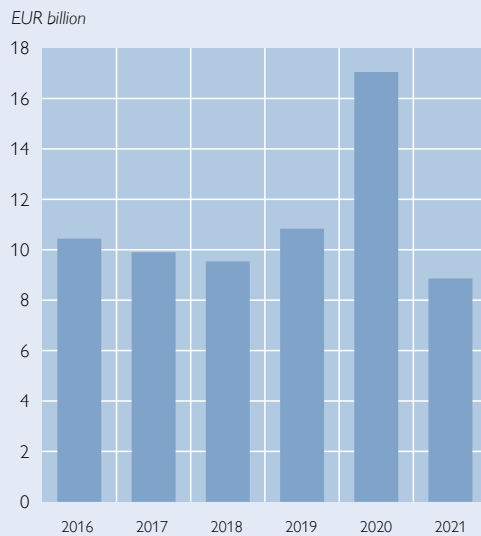
Source: BIS.
Note: Data on an immediate-borrower basis, domestic banks.

Austrian banks’ intragroup liquidity transfers to banks in RU, UA and BY



Source: OeNB.
Note: On-balance figures.

Share of profits from RU, UA and BY in Austrian banks’ total profits



Source: OeNB.

The orderly wind-down of a Russian banking subsidiary in Austria did not jeopardize financial stability. After the ECB had assessed in February 2022 that Sberbank Europe AG was failing or likely to fail and hence prohibited the bank from continuing business operations, in early May, the authorities announced that Sberbank's insolvency had been averted and that the funds paid out by the deposit guarantee scheme had already been repaid in full. In this difficult situation, supervisors' quick and decisive action, including the prompt payouts by the deposit guarantee schemes, made a considerable contribution toward ensuring that financial market stability and confidence in the Austrian financial market were maintained.²³

Conclusion: First-round effects did not have serious financial stability implications for Austria, but second- and third-round effects are as yet difficult to assess. The Austrian banking sector has relevant banking exposures to Russia, Ukraine and Belarus and benefited from high profitability in these markets in the past. Given the worsening local economic and financial situation and potential repercussions for Austria, banks and supervisory authorities are monitoring the situation very closely and are constantly assessing the impact of the war and sanctions on banks' business models and their risk-bearing capacity. As risks had already been significantly mitigated over the past few years, first-round effects of the current crisis have been contained so far. However, second- and third-round effects, like reduced business activity together with the expected deterioration in credit quality, may pose challenges to the business outlook.

²³ For details see press release *FMA/OeNB: insolvency of Sberbank averted – all creditors able to be serviced in a timely manner – FMA Österreich*.

Special topics

Nontechnical summaries in English

Changes in banks' rating assignments in response to the COVID-19 pandemic

Marcel Barmeier, Mario Haller

The COVID-19 pandemic and the resulting economic uncertainty made it more difficult for banks to adequately assess the creditworthiness of their debtors. In this study, we analyze how the assignments of internal ratings by Austrian banks changed during the pandemic. To this end, we combine data on debtors' probabilities of default with information on beneficiaries of COVID-19 support measures. We show that banks in Austria reacted to the first waves of the pandemic with rating downgrades, which led to a deterioration in the overall rating structure of banks' debtors. Since the second half of 2021, banks have increasingly upgraded debtors' ratings, and the overall rating structure started to improve. We also see that borrowers that later received COVID-19 support had shown below-average creditworthiness already before the outbreak of the pandemic. Moreover, borrowers that received COVID-19 support were more affected by increases in probabilities of default and corresponding rating downgrades than the overall market for nonfinancial corporate debtors.

Nontechnical summaries in German

Veränderungen der bankinternen Ratings während der COVID-19-Pandemie

Marcel Barmeier, Mario Haller

Im Zuge der COVID-19-Pandemie und der daraus resultierenden unsicheren wirtschaftlichen Entwicklung wurde es für die Banken immer schwieriger, die Bonität ihrer Kunden adäquat zu beurteilen. In der vorliegenden Studie untersuchen wir, wie sich die von den Banken vergebenen internen Ratings während der Pandemie verändert haben. Zu diesem Zweck kombinieren wir Daten zur Ausfallwahrscheinlichkeit mit Informationen darüber, welche Schuldner COVID-19-Hilfen erhalten haben. Wir zeigen, dass die österreichischen Banken während der ersten Pandemiewelle häufiger Rating-Herabstufungen vornahmen, wodurch sich die Ratingstruktur insgesamt bei den Banken verschlechterte. Ab der zweiten Jahreshälfte 2021 wurden Schuldnerratings vermehrt hinaufgestuft, und auch die Ratingstruktur insgesamt verbesserte sich. Unsere Ergebnisse zeigen außerdem, dass Schuldner, die COVID-19-Hilfen bekamen, bereits vor der Pandemie eine unterdurchschnittliche Bonität aufgewiesen hatten. Darüber hinaus waren diese Schuldner im Vergleich zum gesamten Kreditmarkt für nicht-finanzielle Unternehmen stärker von einem Anstieg der Ausfallwahrscheinlichkeit und Rating-Herabstufungen betroffen.

Changes in banks' rating assignments in response to the COVID-19 pandemic

Marcel Barmeier, Mario Haller¹

In this study, we investigate how banks in Austria have reacted to the COVID-19 pandemic in their assignment of ratings to nonfinancial corporations. Relying on public information on beneficiaries of COVID-19 support measures, we focus in particular on changes in ratings of debtors that received state aid, e.g. in the form of public guarantees and direct grants. In the first waves of the pandemic, the overall rating structure of nonfinancial corporate exposures deteriorated, but since the second half of 2021, the rating structure has improved. We see that already before the pandemic, debtors that later received COVID-19 support were of lower creditworthiness than the nonfinancial sector average. Also, these debtors were affected to a greater extent by increases in the probability of default (PD) and rating downgrades.

JEL classification: G18, G21

Keywords: financial stability, credit risk management, internal credit ratings, COVID-19 pandemic

An adequate and robust credit risk monitoring framework that enables banks to manage their credit risk exposure lies at the heart of banks' risk management processes. This includes a regular credit review that banks perform to identify any changes in debtors' risk profiles and creditworthiness; such reviews potentially necessitate updates of internal credit ratings.²

During the COVID-19 pandemic, it was challenging for banks to adequately assess their debtors' creditworthiness given the uncertainties surrounding the future course of the pandemic and resulting potential economic hardships. Thus, in this study, we investigate how banks in Austria have reacted to the COVID-19 pandemic in their assignment of internal ratings to nonfinancial corporate debtors. Relying on a publicly available database on the beneficiaries of COVID-19 support, we focus in particular on changes in the ratings of debtors that have received state aid, such as public guarantees and direct grants.

This study is structured as follows: Section 1 describes the methodology and the data we use in the analysis. In section 2, we describe corporate debtors' reliance on COVID-19 support measures, and in section 3 we discuss the changes we observed in debtors' creditworthiness. Section 4 concludes.

1 Data and methodology

We use descriptive statistical methods based on data from a combination of sources to analyze the changes in the ratings assigned by Austrian banks³. For credit exposures, we rely on granular credit and credit risk data reported by credit and financial institutions to the OeNB under Article 75 Austrian Banking Act. For

¹ Oesterreichische Nationalbank, Off-Site Supervision Division – Significant Institutions, marcel.barmeier@oenb.at, mario.haller@oenb.at. Opinions expressed by the authors of studies do not necessarily reflect the official viewpoint of the OeNB or the Eurosystem. The authors would like to thank Stefan Kerbl (OeNB) for helpful comments and valuable suggestions.

² For more details, see European Banking Authority (2020).

³ The subsequent analysis covers all banks in Austria. For a breakdown by significant and less significant institutions see the annex.

debtors that are not natural persons, exposures from EUR 25,000 must be reported. To allow for a comparison between pre-pandemic ratings and the rating assignments during the crisis, we use quarterly credit data starting from March 2019. For the analysis of rating changes, the probability of default (PD) is the key variable of interest in credit register data. The PD is mapped into an eight-bucket rating scale from 1 (lowest PD) to 8 (default). In order to assess changes in banks' rating assignments, the level of the analysis is the bank-debtor relationship. This means that different PDs can be reported for a single debtor in case a company has debt with multiple banks and these banks assign different internal PDs.

We combine credit register data with data from the European Commission on individual state aid as published in the State Aid Transparency Public Search on December 31, 2021.⁴ These data include counterparty-level information on state aid awarded by the Austrian granting authorities in reaction to the COVID-19 pandemic. However, the following limitations regarding the scope of data need to be considered: First, based on the State Aid Temporary Framework adopted by the European Commission (see European Commission, 2020, and amendments), only individual aid measures above EUR 100,000 granted under the temporary framework need to be reported to the European Commission.⁵ Second, state aid in the form of wage subsidies for employees, deferrals of tax and/or social security contributions as well as recapitalization measures do not have to be reported and are thus excluded from the scope of the State Aid Transparency Public Search. This is particularly important to consider as a significant share of support measures in Austria were granted by means of wage subsidy schemes (Rechnungshof Österreich, 2021). Third, member states must report state aid cases to the European Commission within 12 months. Thus, state aid granted in 2021 that is in the reporting scope might not be included in the data. Taking these limitations into account, this study includes only parts of the total aid granted by the Austrian authorities.⁶

Furthermore, with respect to the level of the analysis, it needs to be noted that we look at the nonfinancial corporate credit market, i.e. we consider the support measures from the credit perspective. To this end, we use the outstanding amount of debt⁷ owed by nonfinancial corporations to banks in Austria. Debtors who have received COVID-19 support are flagged accordingly. However, the size of support (e.g. guarantee volumes) received is not taken into account.

2 Debtors that received COVID-19 support

In this section, we take a closer look at corporate debtors of Austrian banks that have received COVID-19-related government support. As shown in chart 1, in the early stage of the pandemic, starting from April 2020, COVID-19 support measures mainly took the form of public guarantees. Subsequently, direct grants such as fixed cost subsidies and compensation for lost turnover were also disbursed

⁴ The public database can be accessed at [State Aid Transparency Public Search \(europa.eu\)](https://ec.europa.eu/state-aid/state-aid-transparency-public-search/).

⁵ For counterparties from the primary agriculture and in the fisheries sectors, a threshold of EUR 10,000 applies for reporting to the European Commission.

⁶ The list of COVID-19-related state aid cases under which aids were reported to the European Commission are listed in table 1 in the annex.

⁷ The outstanding amount of debt refers to the amount that would have to be repaid by the debtor as at the reporting date, including any accrued interest, minus any amount transferred to another creditor, if applicable.

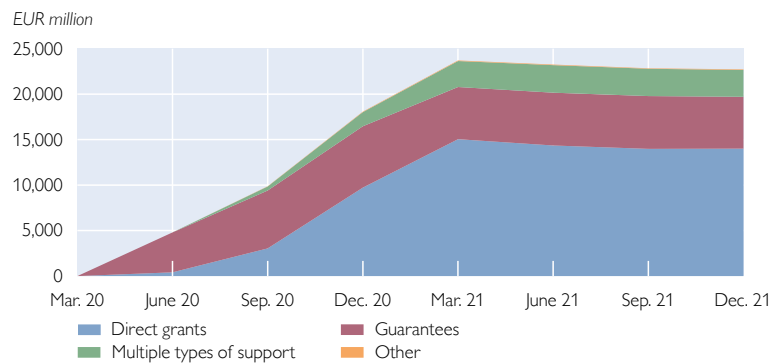
to debtors of Austrian banks, with a sizable share of nonfinancial corporations receiving multiple types of COVID-19 support, e.g. direct grants and public guarantees. Since March 2021, the outstanding amount of debt owed by nonfinancial corporations that received COVID-19 support has stabilized and even decreased slightly. This has been driven by a reduction in newly reported aids in the Aid Transparency Public Search as well as debt repayments by nonfinancial corporations.

As of December 31, 2021, nonfinancial corporations with total outstanding debt in the amount of EUR 22,717 million had received COVID-19 support amounting to 10.2% of the total amount of outstanding debt owed by nonfinancial corporations in Austria. Nonfinancial corporations that received only direct grants had outstanding debt totaling EUR 14,012 million (62% of total outstanding debt of COVID-19 support beneficiaries), while those that received only public guarantees had outstanding debt of EUR 5,687 million, and those that received multiple types of aid had outstanding debt of EUR 2,949 million. Debtors that benefited from other COVID-19 support measures such as subordinated debt are only of minor relevance. The bulk of aid was granted by COFAG (COVID-19 Finanzierungsagentur des Bundes GmbH, the Austrian COVID-19 funding agency), followed by AWS (Austria Wirtschaftsservice GmbH); these two accounted for 58% and 20% of all outstanding debt of COVID-19 support beneficiaries. Direct grants were mainly disbursed by COFAG and by local authorities, whereas AWS and OeHT (Österreichische Hotel- und Tourismusbank) were the main granting authorities for public guarantees.

A breakdown by NACE sectors shows that the debtors that received COVID-19-related support were mainly concentrated in accommodation and food service activities as well as manufacturing, representing 50% of the total credit market of nonfinancial corporations that received COVID-19 support (chart 2). Given that accommodation and food service activities and manufacturing account for only 18% of

Chart 1

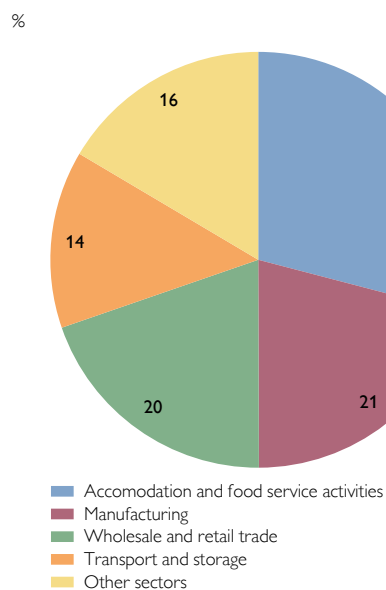
Outstanding debt of COVID-19 support beneficiaries



Source: OeNB, European Commission.

Chart 2

Breakdown of outstanding debt of COVID-19 support beneficiaries by economic sector



Source: OeNB, European Commission.

Note: Data as of December 31, 2021.

the overall outstanding amount of debt, this testifies to a particularly high concentration of state aid in these sectors. Wholesale and retail trade as well as transport and storage also accounted for a sizable share of loans to COVID-19 support beneficiaries.

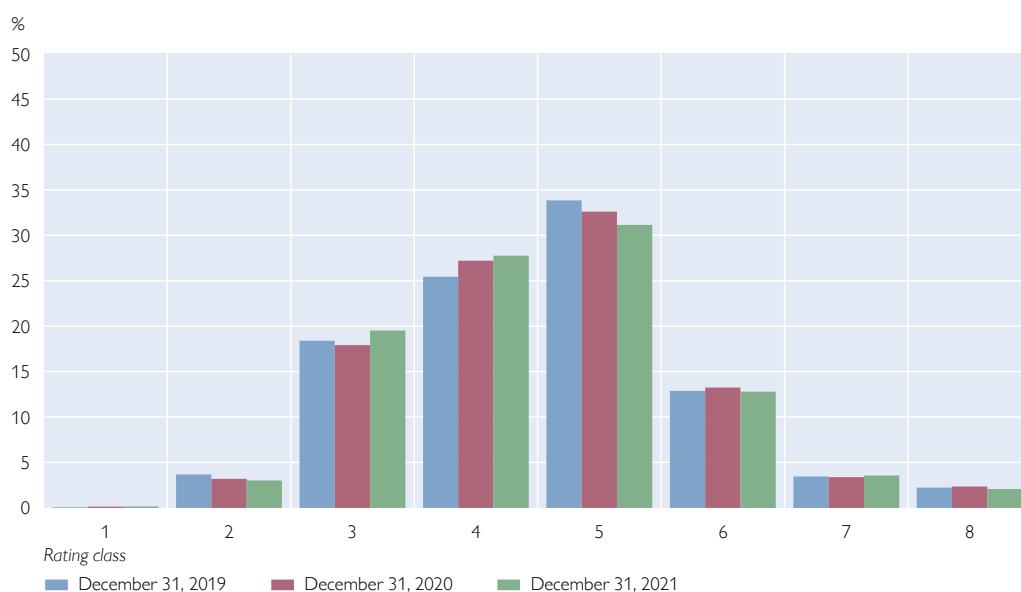
3 Changes in creditworthiness

In this section, we analyze the changes in corporate debtors' creditworthiness, comparing nonfinancial corporations that received COVID-19 support⁸ with the aggregate of all corporate debtors. In doing so, we focus on the analysis of rating distributions, rating migrations and changes in the underlying PD.

First, we look at how the distributions of internal ratings have changed with regard to total outstanding debt on the following reference dates: December 31, 2019, December 31, 2020, and December 31, 2021. In chart 3, which shows the rating distributions for all nonfinancial corporations, we see that most of the credit volume (78% on all reference dates) was assigned to rating classes 3, 4 and 5; only a very small portion of the loan volume was assigned to the best rating class. The share of the loan volume in rating class 2 decreased continuously over the years 2020 and 2021. In rating class 3, we see a slight decrease in the loan volume share in 2020 and a rise above the pre-COVID-19 level in 2021. In the last three years, the loan volume share in rating class 4 increased, while rating class 5 saw a decline. Only slight changes in the shares of loan volumes can be observed in rating classes 6 and 7. The share of defaulted loans (rating class 8) increased in 2020 but fell below the pre-COVID-19 level at the end of 2021. A comparison of the rating

Chart 3

Rating distributions of nonfinancial corporations based on outstanding amounts of debt



Source: OeNB.

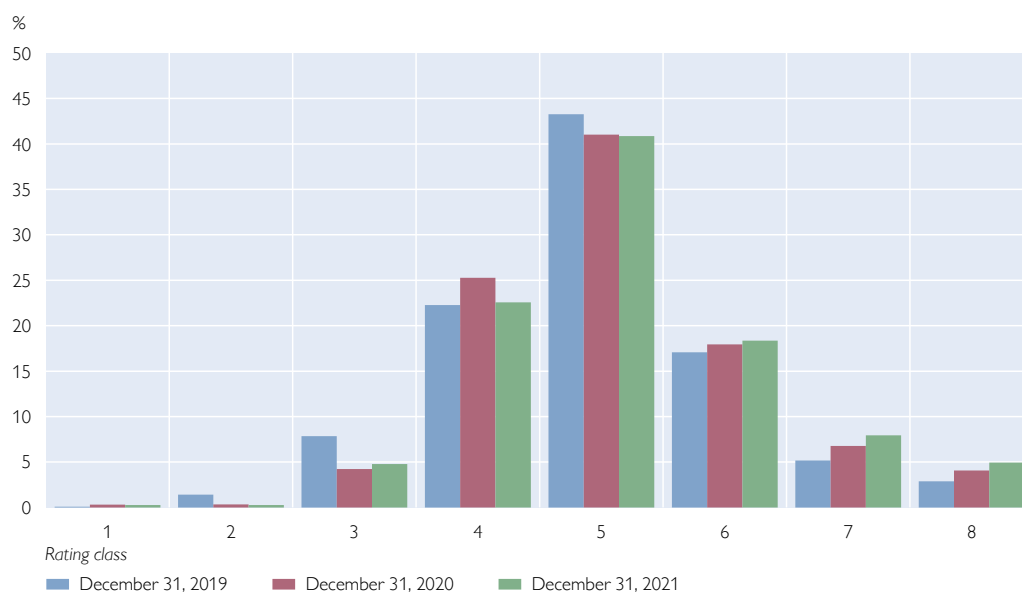
⁸ For the analyses of changes in creditworthiness, debtors who received COVID-19 support until December 31, 2021, are flagged accordingly for all reporting periods. For example, a debtor that received a public guarantee in November 2020 is flagged for all reporting periods between March 2019 and December 2021. This enables a comparison in the creditworthiness before and during the COVID-19 pandemic of the same clients.

distribution in chart 3 with the distribution of borrowers who received COVID-19 support (chart 4) shows that the creditworthiness of debtors who received COVID-19 aid was already worse than that of all corporate debtors before the pandemic. The largest part of the loan volume (more than 80% on each observed reporting date) owed by borrowers who received COVID-19 support is in rating classes 4, 5 and 6. The loan volume share of COVID-19 support beneficiaries in rating classes 1, 2 and 3 was 4% at the end of 2020. This represented a decrease by more than 50% compared to the end of 2019. A slight increase in rating class 3 can be noted at the end of 2021. In rating class 4, we saw an increase in the credit volume at the end of 2020 and a decrease at the end of 2021, to the level observed before the outbreak of the pandemic. The credit volume in rating class 5 was also lower at the end of 2020 and continued to fall slightly in 2021. The credit volume shares in rating classes 6 and 7 increased from 22% to 26% over the entire observation period. Similarly, the share of defaulted loans (rating class 8) rose from 3% to 5%, which corresponds to an increase of 72%.

We also analyze semi-annual rating migrations since the second quarter of 2019 to (1) identify the timing of rating changes and (2) to understand the flows between rating classes. For this purpose, the Sankey diagrams in figures 1 and 2 show the rating migrations for all nonfinancial corporations and for nonfinancial corporations that have received COVID-19 support.⁹ The nodes represent the absolute value of the outstanding debt assigned to a rating class, thereby illustrating the rating distribution at the given reporting date. The connecting flows between the reporting dates are shown as such that the width of the streams illustrate the volume of the outstanding debt that migrates between the rating classes.

Chart 4

Rating distributions of COVID-19 support beneficiaries based on outstanding amounts of debt



Source: OeNB, European Commission.

⁹ For illustrative reasons, the Sankey diagrams do not show the inflows from new clients and the outflows due to terminated credit relations.

Figure 1

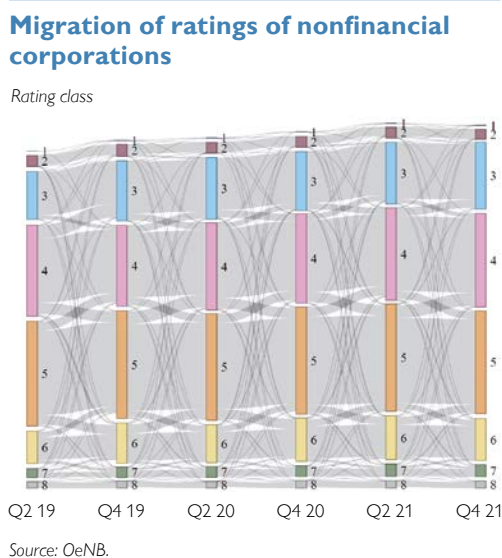
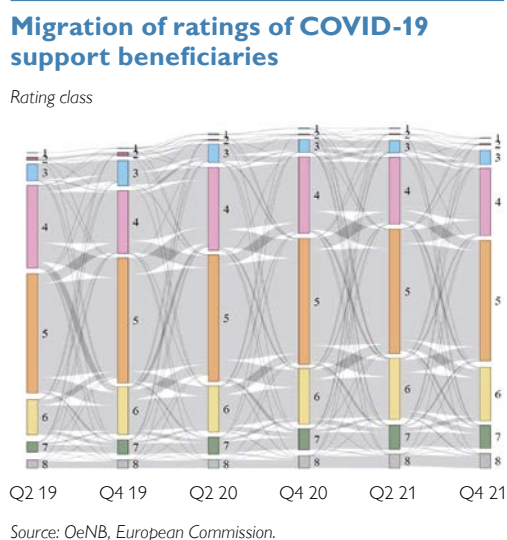


Figure 1 illustrates the migration of nonfinancial corporations' ratings. We see that there were fewer upgrades from rating class 4 to rating class 3 from Q2 20 to Q4 20 compared to the pre-pandemic period Q2 19 to Q4 19. At the same time, there were more rating downgrades from rating class 3 to rating class 4, which led to a shift in the rating distribution toward rating class 4 (27% in Q4 20 vs. 25% in Q4 19). Furthermore, a reduction in the improvements from rating class 6 to rating class 5 in the period Q4 20 to Q2 21 compared to Q4 19 to Q2 20 resulted in an increase in the exposure in rating class 6 in the second year of the pandemic (13.4% in Q2 21 vs. 11.7% in Q2 20). The observed overall deterioration in the rating structure since the start of the pandemic was partly offset by rating improvements in the second half of 2021. Particularly noteworthy are significant transfers from rating class 4 to rating class 3 and from rating class 5 to rating class 4.

Figure 2



A similar, but more pronounced shift in ratings can be observed for non-financial corporations with COVID-19 support as shown in figure 2. We see sizable transfers from rating classes 2 and 3 to the next worse rating classes at the beginning of the pandemic. Starting with the second half of 2020, there was an increase in rating downgrades from rating classes 4 and 5 to rating classes 5 and 6. During the same period, a higher volume was transferred from better rating classes to the worst rating classes 7 and 8.

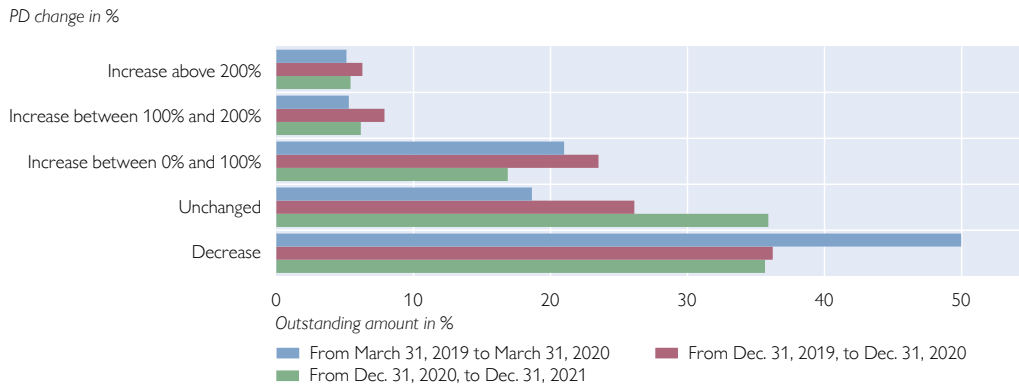
In line with the overall picture, the rating structure of nonfinancial corporations that received COVID-19 support improved from Q2 2021. However, this improvement did not outweigh the continuous deterioration in the rating structure since the beginning of the pandemic.

Lastly, we compare the change in the estimated PD within three different observation periods. When selecting the time periods for this purpose, we took care to maximize the scope of the available data on the one hand and to be able to observe changes in the estimated PD before and during the pandemic on the other.

In the observation period before the outbreak of the pandemic (blue), the PD fell for 50% of the credit volume. After the outbreak of the pandemic (red and

Chart 5

Relative changes in probability of default of nonfinancial corporations



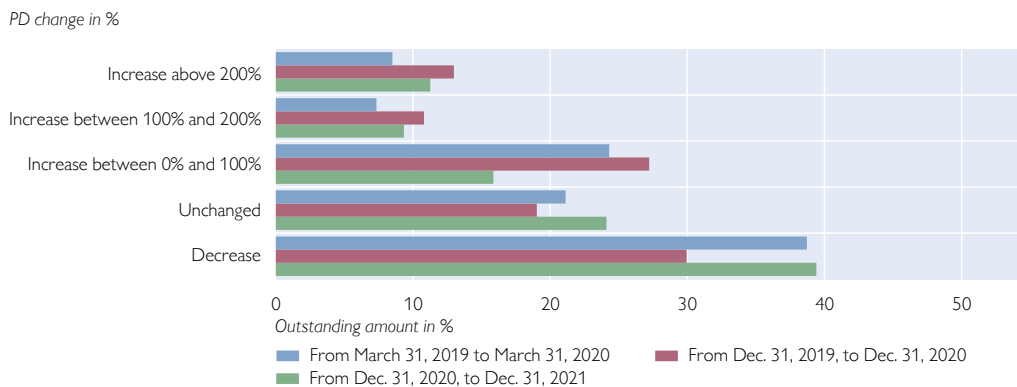
Source: OeNB.

green), the proportion of the credit volume for which the PD decreased fell to around 36%. The share of the loan volume with unchanged PD increased from 19% (before the pandemic) to 36% (second year of the pandemic). In the observation period immediately following the outbreak of the pandemic, the PD increased for 38% of the loan volume. By comparison, before the pandemic, the PD increased for only 31% of the loan volume. In the second year of the pandemic, the PD increased for only 28% of the loan volume.

Prior to the pandemic, 39% of the loan volume decreased and 40% of the loan volume increased in the estimated PD for borrowers who later received COVID-19 support. Immediately following the outbreak of the pandemic, the estimated PD worsened for 51% of the loan volume of these borrowers, and there was an improvement in the estimated PD for only 30% of the loan volume of these borrowers. In the second year of the pandemic, this negative trend reversed. For 39% of the loan volume, the PD decreased, and there was only an increase in the PD for 36% of the loan volume of borrowers who were also beneficiaries of COVID-19 support. Finally, it should also be noted that regardless of the observation period

Chart 6

Relative changes in probability of default of debtors who received COVID-19 support



Source: OeNB, European Commission.

considered, the PD weighted by loan volume increased significantly more for borrowers who had received COVID-19 support than on average for all borrowers combined.

4 Conclusion

Banks in Austria have reacted to the COVID-19 pandemic with rating downgrades, which led to an overall deterioration in the rating structure of nonfinancial corporate exposures within the first waves of the pandemic. Since the second half of 2021, we have seen more frequent rating improvements. In addition, debtors who later received COVID-19 support were less creditworthy than nonfinancial corporate debtors on average already before the pandemic. Moreover, since the start of the pandemic, the credit volumes of borrowers who received COVID-19 support have been affected to a greater extent by increases in the PD and corresponding rating downgrades than nonfinancial corporate debtors in the aggregate.

This study only covers the short- to medium-term perspective of changes in borrowers' creditworthiness during the pandemic. Further analyses of the potential effects resulting from the overall discontinuation of COVID-19 support measures might be of interest. In addition, the impact of the changing macroeconomic environment (e.g. supply-side shocks driven by the war in Ukraine, periods of higher inflation) on borrowers' creditworthiness might be of interest for future research.

References

- European Banking Authority. 2020.** Guidelines on loan origination and monitoring.
- European Commission. 2020.** Temporary Framework for State aid measures to support the Economy in the current COVID-19 outbreak.
- Rechnungshof Österreich. 2021.** Bericht des Rechnungshofes: COVID-19 – Struktur und Umfang der finanziellen Hilfsmaßnahmen – Datenaktualisierung 2021.

Annex

Table A1

List of Austrian COVID-19 related state aid measures

State aid case number	State aid case title
SA.56840	COVID-19 - Austrian liquidity assistance scheme
SA.56981	COVID-19: Austrian scheme for guarantees on bridge loans
SA.57148	COVID-19: Support Measures by Carinthia, Styria, Tyrol, Upper Austria and Vienna
SA.57291	COVID-19; Compensation Scheme: Directive for fixed cost subsidies
SA.57312	COVID-19 Startup Hilfsfonds
SA.57928	AT- COVID-19; Compensation scheme: Directive for fixed cost subsidies for economic activities of Non-Profit-Organizations
SA.58385	COVID-19; Support Measures by Carinthia, Upper Austria, Styria, Tyrol and Vienna
SA.58661	COVID-19: Fixed Cost Compensation according to 3.12 Temporary Framework
SA.59710	COVID-19 – Prolongation of SA.58360
SA.60290	COVID-19: Modification of SA.57148 (2020/N): Support Measures by the States (Länder) of Carinthia, Upper Austria, Styria, Tyrol and Vienna under the Temporary Framework for State aid measures to support the economy in the current COVID-19 outbreak
SA.60321	COVID-19: Prolongation of SA.57928(2020/N): Compensation scheme: Directive for fixed cost subsidies for economic activities of Non-Profit-Organizations
SA.60599	COVID-19: Third amendment of SA.56981 (2020/N): Austrian guarantee scheme on bridge loans under the Temporary Framework for State aid measures to support the economy in the current COVID-19 outbreak
SA.61210	COVID-19: Fourth amendment to the existing aid scheme SA.56981 under the Temporary Framework
SA.63291	Guidelines of the Lower Austrian Economic and Tourism Fund - Funding program COVID-19
SA.63708	COVID-19: Fifth Amendment of the exiting aid scheme SA.56981

Source: European Commission State Aid Transparency Public Search.

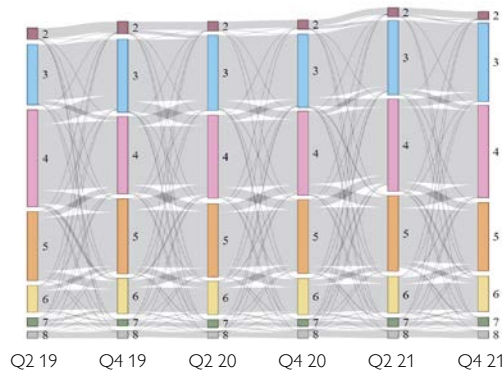
Note: List of COVID-19-related state aid cases under which individual award data are published in the State Aid Transparency Public Search as on December 31, 2021.

Figure A1

Rating migrations with breakdowns by significant and less significant institutions

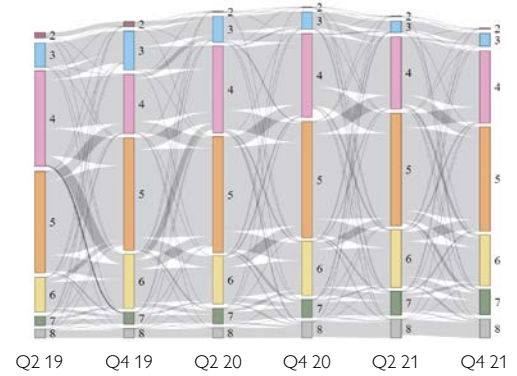
Migration of ratings of nonfinancial corporations – significant institutions

Rating class



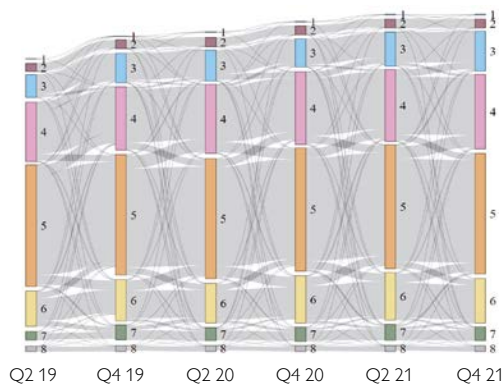
Migration of ratings of COVID-19 support beneficiaries – significant institutions

Rating class



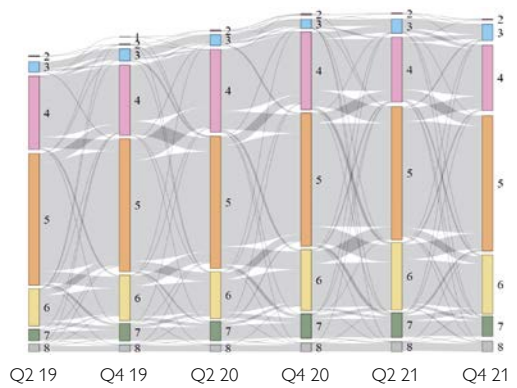
Migration of ratings of nonfinancial corporations – less significant institutions

Rating class



Migration of ratings of COVID-19 support beneficiaries – less significant institutions

Rating class

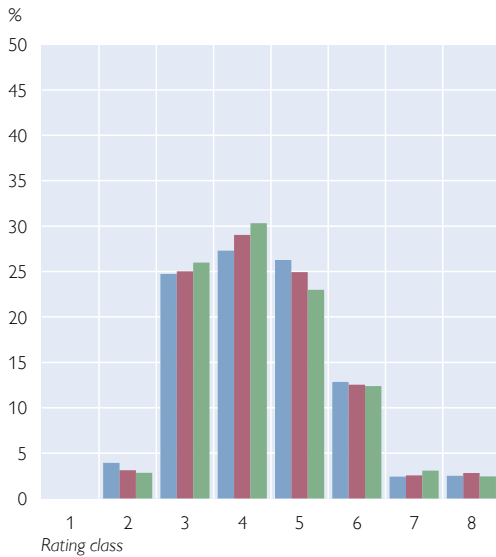


Source: OeNB, European Commission.

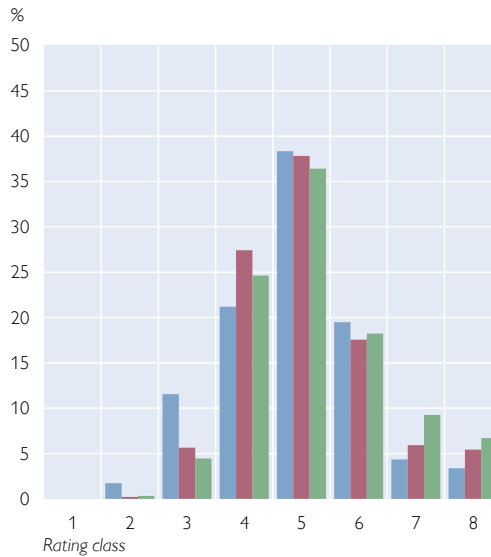
Chart A1

Change in rating distributions with breakdowns by significant and less significant institutions

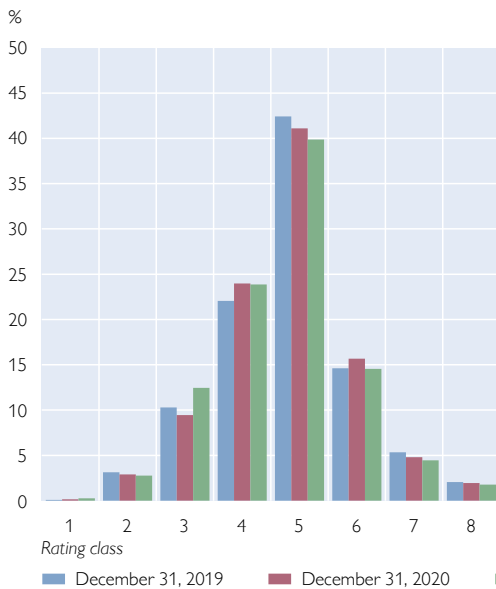
Distribution of ratings of nonfinancial corporations based on outstanding amounts of debt – significant institutions



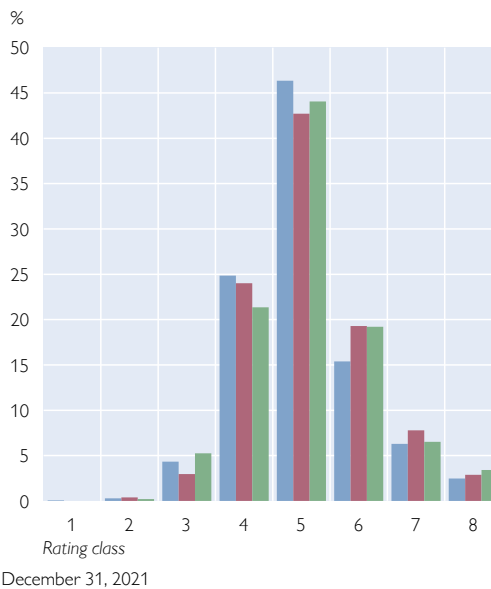
Distribution of ratings of COVID-19 support beneficiaries based on outstanding amounts of debt – significant institutions



Distribution of ratings of nonfinancial corporations based on outstanding amounts of debt – less significant institutions



Distribution of ratings of COVID-19 support beneficiaries based on outstanding amounts of debt – less significant institutions



Source: OeNB, European Commission.

Annex: Key financial indicators

Annex: Key financial indicators

International financial markets	Table
<i>Short-term interest rates</i>	A1
<i>Long-term interest rates</i>	A2
<i>Stock indices</i>	A3
<i>Corporate bond spreads</i>	A4
Austrian corporate and household sectors	
<i>Financial investment of households</i>	A5
<i>Household income and savings</i>	A6
<i>Financing of nonfinancial corporations</i>	A7
<i>Insolvency indicators</i>	A8
<i>Housing market indicators</i>	A9
Austrian financial intermediaries	
<i>Structural indicators</i>	A10
<i>Total assets</i>	A11
<i>Sectoral distribution of domestic loans to nonbanks</i>	A12
<i>Loan quality</i>	A13
<i>Exposure to CESEE</i>	A14
<i>Profitability on a consolidated basis</i>	A15
<i>Profitability of Austrian banks' CESEE subsidiaries</i>	A16
<i>Solvency on a consolidated basis</i>	A17
<i>Market indicators of selected Austrian financial institutions</i>	A18
<i>Key indicators of Austrian insurance companies</i>	A19
<i>Assets held by Austrian mutual funds</i>	A20
<i>Structure and profitability of Austrian fund management companies</i>	A21
<i>Assets held by Austrian pension funds</i>	A22
<i>Assets held by Austrian severance funds</i>	A23
<i>Transactions and system disturbances in payment and securities settlement systems</i>	A24

Cutoff date for data: May 24, 2022

Conventions used:

× = no data can be indicated for technical reasons.

.. = data not available at the reporting date.

Revisions of data published in earlier volumes are not indicated.

Discrepancies may arise from rounding.

International financial markets

Table A1

Short-term interest rates¹

	2014	2015	2016	2017	2018	2019	2020	2021
	Three-month rate, period average, %							
Euro area	0.21	-0.02	-0.26	-0.33	-0.32	-0.36	-0.43	-0.55
USA	0.23	0.32	0.74	1.26	2.31	2.33	0.65	0.16
Japan	0.21	0.17	0.08	0.06	0.07	0.07	0.07	0.07
United Kingdom	0.54	0.57	0.50	0.36	0.72	0.81	0.29	0.09
Switzerland	0.01	-0.75	-0.75	-0.73	-0.73	-0.74	-0.71	-0.76
Czechia	0.36	0.31	0.29	0.41	1.27	2.12	0.86	1.13
Hungary	2.41	1.61	0.99	0.14	0.12	0.19	0.70	1.44
Poland	2.52	1.75	1.70	1.73	1.71	1.72	0.67	0.54

Source: Bloomberg, Eurostat, Macrobond.

¹ Average rate at which prime banks are willing to lend funds to other prime banks for three months.

Table A2

Long-term interest rates¹

	2014	2015	2016	2017	2018	2019	2020	2021
	Ten-year rates, period average, %							
Euro area	2.28	1.27	0.93	1.17	1.27	0.58	0.21	0.20
USA	2.63	2.14	1.83	2.32	2.81	2.33	0.89	1.44
Japan	0.58	0.37	-0.01	0.04	0.06	-0.08	0.00	0.06
United Kingdom	2.14	1.79	1.22	1.18	1.41	0.88	0.32	0.74
Switzerland	0.85	0.05	-0.36	-0.09	0.03	-0.43	-0.50	-0.26
Austria	1.49	0.75	0.38	0.58	0.69	0.06	-0.23	-0.09
Czechia	1.58	0.58	0.43	0.98	1.98	1.55	1.13	1.90
Hungary	4.81	3.43	3.14	2.96	3.06	2.47	2.22	3.06
Poland	3.52	2.70	3.04	3.42	3.20	2.35	1.50	1.95

Source: ECB, Eurostat, Macrobond.

¹ Yields of long-term government bonds.

Table A3

Stock indices

	2014	2015	2016	2017	2018	2019	2020	2021
	Annual change in %, period average							
Euro area: EURO STOXX	13.07	11.76	-9.67	17.16	-0.48	-0.37	-3.69	24.46
USA: S&P 500	17.49	6.71	1.63	16.92	12.13	6.09	10.45	32.80
Japan: Nikkei 225	13.86	24.21	-11.90	19.41	10.44	-2.77	4.60	27.09
United Kingdom: FTSE100	3.23	-1.38	-1.74	13.96	-0.21	-1.17	-13.75	11.57
Switzerland: SMI	9.28	4.23	-10.12	10.91	-0.16	9.56	4.01	15.15
Austria: ATX	-2.36	1.28	-5.42	34.83	7.56	-8.95	-20.45	42.45
Czechia: PX 50	1.61	0.83	-11.53	14.31	8.04	-3.16	-11.65	29.13
Hungary: BUX	-3.82	17.15	28.96	31.47	5.51	10.14	-10.36	29.42
Poland: WIG	8.09	-0.31	-9.87	30.11	-2.72	-1.27	-13.79	29.17

Source: Macrobond.

Table A4

Corporate bond spreads¹

	2014	2015	2016	2017	2018	2019	2020	2021
<i>Percentage points, period average</i>								
Euro area								
AA	0.63	0.73	0.80	0.73	0.70	0.79	0.86	0.63
BBB	1.75	1.91	2.11	1.70	1.78	1.85	1.83	1.29
USA								
AA	0.88	1.04	0.93	0.74	0.76	0.72	0.96	0.60
BBB	1.76	2.13	2.21	1.54	1.59	1.73	2.05	1.22

Source: Macrobond.

¹ Spreads of seven- to ten-year corporate bonds against ten-year government bonds (euro area: German government bonds).**Austrian corporate and household sectors**

Table A5

Financial investment of households¹

	2014	2015	2016	2017	2018	2019	2020	2021
<i>EUR billion, four-quarter moving sum</i>								
Currency	0.9	0.9	0.6	0.6	0.8	0.9	2.4	-0.2
Deposits	3.2	6.5	10.3	8.8	11.5	11.8	17.7	12.4
Debt securities ²	-4.2	-3.5	-2.7	-2.7	-1.8	-1.1	-3.3	-2.2
Shares and other equity ³	1.9	-0.3	1.1	-0.5	0.2	1.1	5.9	2.4
Mutual fund shares	3.5	4.1	3.1	3.8	2.2	2.6	4.1	9.4
Insurance technical reserves	3.3	1.3	1.0	0.6	0.4	0.8	-0.2	0.6
Other accounts receivable	1.7	1.1	-0.2	1.8	0.9	0.7	1.9	1.9
Total financial investment	10.3	10.1	13.2	12.4	14.2	16.8	28.5	24.3

Source: OeNB (financial accounts).

¹ Including nonprofit institutions serving households.² Including financial derivatives.³ Other than mutual fund shares.

Table A6

Household¹ income and savings

	2014	2015	2016	2017	2018	2019	2020	2021
<i>EUR billion, four-quarter moving sum</i>								
Net disposable income	190.7	193.1	201.3	208.3	215.2	222.5	220.9	227.0
Savings	14.0	13.1	15.9	15.8	16.7	19.1	32.1	26.8
Saving ratio in % ²	7.3	6.7	7.8	7.5	7.7	8.5	14.4	11.8

Source: Statistics Austria (national accounts broken down by sectors).

¹ Including nonprofit institutions serving households.² Saving ratio = savings / (disposable income + increase in accrued occupational pension benefits).

Table A7

Financing of nonfinancial corporations

	2014	2015	2016	2017	2018	2019	2020	2021
	<i>EUR billion, four-quarter moving sum</i>							
Debt securities ¹	-0.7	0.0	0.7	-1.9	-1.5	-1.2	8.0	-3.3
Loans	3.3	5.7	14.1	14.4	16.3	21.8	3.3	30.4
Shares and other equity	4.1	2.5	2.8	11.9	-0.6	3.6	-3.6	3.2
Other accounts payable	2.9	4.5	5.6	3.3	7.6	-2.0	-0.4	1.7
Total external financing	9.6	12.7	23.2	27.7	21.8	22.2	7.3	32.0

Source: OeNB (financial accounts).

¹ Including financial derivatives.

Table A8

Insolvency indicators

	2014	2015	2016	2017	2018	2019	2020	2021
Estimated default liabilities (opened insolvency proceedings, EUR million)	2,899	2,430	2,867	1,863	2,071	1,697	3,057	1,761
Opened insolvency proceedings (number)	3,275	3,115	3,163	3,025	2,985	3,044	1,804	2,060
Dismissed applications for insolvency proceedings (number)	2,148	2,035	2,063	2,054	1,995	1,974	1,230	974
Total insolvencies (number)	5,423	5,150	5,226	5,079	4,980	5,018	3,034	3,034

Source: Kreditschutzverband von 1870.

Table A9

Housing market indicators

	2014	2015	2016	2017	2018	2019	2020	2021
Residential property price index (2000=100)								
Vienna	204.6	209.2	217.2	220.4	232.0	243.2	259.6	287.6
Austria	161.4	168.1	180.4	187.2	200.1	208.0	222.6	248.8
Austria excluding Vienna	145.4	152.9	166.7	174.9	189.8	194.8	209.4	236.2
Rent prices¹ (2020=100)								
Rents of apartments, excluding utilities (as measured in the CPI)	80.3	84.5	86.4	89.9	93.3	96.0	100.0	102.0
OeNB fundamentals indicator for residential property prices²								
Vienna	12.8	12.9	13.8	15.4	18.2	19.8	20.7	30.1
Austria	-3.6	-1.7	2.3	7.0	10.8	11.7	10.6	22.4

Source: OeNB, Vienna University of Technology (TU Wien).

¹ Free and regulated rents.² Deviation from fundamental price in %.

Austrian financial intermediaries¹

Table A10

Structural indicators

	2014	2015	2016	2017	2018	2019	2020	2021
	End of period							
Number of banks in Austria	764	738	672	628	597	573	543	520
Number of bank branches	4,255	4,096	3,926	3,775	3,639	3,521	3,134	3,438
Number of foreign subsidiaries	85	83	60	58	55	53	53	54
Number of branches abroad	200	207	209	215	219	229	231	187
Number of employees ¹	75,714	75,034	74,543	73,706	73,508	73,203	71,896	68,705

Source: OeNB.

¹ Number of persons, including part-time employees, employees on leave or military service, excluding blue-collar workers.

Table A11

Total assets

	2014	2015	2016	2017	2018	2019	2020	2021
	End of period, EUR million							
Total assets on an unconsolidated basis	896,424	859,165	832,267	815,275	854,582	884,964	973,817	1,024,399
Total assets on a consolidated basis	1,078,155	1,056,705	946,342	948,861	985,981	1,032,285	1,136,427	1,197,196
Total assets of CESEE subsidiaries ¹	285,675	295,557	184,966	205,532	206,582	222,947	234,468	270,676

Source: OeNB.

¹ The transfer in ownership of UniCredit Bank Austria AG's CESEE subsidiaries to the Italian UniCredit Group limits the comparability of figures for 2014 and 2015.

Table A12

Sectoral distribution of domestic loans to nonbanks

	2014	2015	2016	2017	2018	2019	2020	2021
	End of period, EUR million							
All currencies combined								
Nonbanks	328,230	333,743	335,644	341,149	355,869	371,790	385,384	410,860
of which: nonfinancial corporations	136,600	137,151	135,569	143,758	153,028	162,905	169,795	184,676
households ¹	140,944	146,444	152,516	156,386	161,947	168,824	174,494	184,214
general government	28,108	28,034	27,681	24,443	24,562	23,576	24,718	25,376
other financial intermediaries	22,578	22,114	19,878	16,562	16,332	16,485	16,330	16,541
Foreign currency								
Nonbanks	36,289	33,948	30,088	22,182	20,563	19,619	16,528	14,862
of which: nonfinancial corporations	6,379	5,291	4,296	3,397	3,538	3,321	2,628	2,497
households ¹	25,374	24,423	21,224	16,486	14,993	13,590	11,581	10,057
general government	2,777	2,861	2,623	943	517	471	425	360
other financial intermediaries	1,759	1,373	1,945	1,356	1,516	2,237	1,891	1,946

Source: OeNB.

¹ Including nonprofit institutions serving households.

Note: Figures are based on monetary statistics.

¹ The OeNB's financial indicators relate to all banks operating in Austria. For this reason, some of the figures presented here may deviate from the Financial Soundness Indicators published by the IMF.

Table A13

Loan quality¹

	2014	2015	2016	2017	2018	2019	2020	2021
	<i>End of period, %</i>							
Nonperforming loans in % of total loans (Austria ²)	4.4	4.0	3.2	2.5	2.0	1.7	1.5	1.4
Nonperforming loans in % of total loans (consolidated)	7	6.5	5.2	3.4	2.6	2.2	2.0	1.8
Nonperforming loans in % of total loans (Austrian banks' CESEE subsidiaries)	11.8	11.5	8.6	4.5	3.2	2.4	2.4	2.0
Coverage ratio ³ (Austria ²)	x	47	59	60	62	61	68	70
Coverage ratio ⁴ (consolidated)	x	54	53	52	51	49	49	48
Coverage ratio ⁴ (Austrian banks' CESEE subsidiaries)	57	59	67	61	64	67	67	64

Source: OeNB.

¹ As from 2017, data are based on Financial Reporting (FINREP) including total loans and advances. Data before 2017 only include loans to households and corporations.

² Austrian banks' domestic business.

³ Total loan loss provisions in % of nonperforming loans.

⁴ Loan loss provisions on nonperforming loans in % of nonperforming loans.

Table A14

Exposure to CESEE

	2014	2015	2016	2017	2018	2019	2020	2021
	<i>End of period, EUR million</i>							
Total exposure according to the BIS ¹	184,768	186,397	193,273	210,616	217,078	233,275	243,569	278,902
Total indirect lending to nonbanks ^{2,3}	177,389	176,728	108,738	118,268	120,816	133,169	133,437	150,945
Total direct lending ⁴	43,144	40,866	32,976	28,507	27,526	23,992	25,656	24,125
Foreign currency loans of Austrian banks' CESEE subsidiaries ³	76,736	69,317	32,576	31,027	29,836	29,766	29,376	30,362

Source: OeNB.

¹ As from mid-2017, comparability of data with earlier figures is limited due to several methodological adjustments in data collection.

² Lending (net lending after risk provisions) to nonbanks by all fully consolidated bank subsidiaries in CESEE.

³ The transfer in ownership of UniCredit Bank Austria AG's CESEE subsidiaries to the Italian UniCredit Group limits the comparability of figures for 2014 and 2015.

⁴ Cross-border lending to nonbanks and nonfinancial institutions in CESEE according to monetary statistics.

Table A15

Profitability on a consolidated basis¹

	2014	2015	2016	2017	2018	2019	2020	2021
<i>End of period, EUR million</i>								
Operating income	28,717	28,064	22,408	22,837	24,023	24,997	24,750	25,742
of which: net interest income	19,345	18,336	14,604	14,536	15,210	15,589	15,458	15,694
fee and commission income	7,741	7,730	6,562	6,885	7,097	7,226	7,314	7,955
Operating expenses	19,833	17,612	16,687	14,752	15,661	16,733	16,530	16,106
of which: staff costs	9,543	8,959	8,774	8,415	8,602	8,740	8,461	8,691
other administrative expenses	6,569	6,830	5,820	5,571	5,630	5,673	5,835	5,899
Operating profit/loss	8,884	10,452	5,723	8,087	8,361	8,264	8,220	9,636
Risk provisioning	6,807	4,655	1,192	1,049	438	960	3,708	1,193
Net profit after taxes	685	5,244	4,979	6,577	6,916	6,713	3,668	7,160
%								
Return on average (total) assets ²	0.0	0.5	0.6	0.8	0.8	0.7	0.4	0.7
Cost-to-income ratio	69	63	74	65	65	67	67	63
Risk provisioning to operating profit	77	45	21	13	5	12	45	12

Source: OeNB.

¹ The transfer in ownership of UniCredit Bank Austria AG's CESEE subsidiaries to the Italian UniCredit Group limits the comparability of figures in 2014 and 2015.² Based on profits after tax, but before minority interests.

Table A16

Profitability of Austrian banks' CESEE subsidiaries¹

	2014	2015	2016	2017	2018	2019	2020	2021
<i>End of period, EUR million</i>								
Operating income	12,159	12,261	7,753	7,914	7,926	8,442	8,243	8,889
of which: net interest income	9,068	8,431	5,135	5,304	5,467	5,827	5,651	5,906
fee and commission income	3,477	3,358	2,184	2,315	2,241	2,393	2,327	2,701
Operating expenses	6,413	6,264	4,084	4,216	4,081	4,390	4,412	4,616
of which: staff costs	2,978	2,896	1,956	2,052	2,004	2,126	2,059	2,181
other administrative expenses	2,762	2,752	1,726	1,753	1,672	1,652	1,746	1,816
Operating profit/loss	5,746	5,998	3,668	3,698	3,845	4,053	3,831	4,273
Risk provisioning	4,037	3,025	720	340	221	472	1,326	482
Net profit after taxes	672	2,050	2,354	2,627	2,913	2,837	1,941	2,996
%								
Return on average (total) assets	0.2	0.7	1.3	1.3	1.4	1.3	0.8	1.2
Cost-to-income ratio	53	51	53	53	51	52	54	52
Risk provisioning to operating profit	70	50	20	9	6	12	35	11

Source: OeNB.

¹ The transfer in ownership of UniCredit Bank Austria AG's CESEE subsidiaries to the Italian UniCredit Group limits the comparability of figures for 2014 and 2015.

Table A17

Solvency on a consolidated basis¹

	2014	2015	2016	2017	2018	2019	2020	2021
	<i>End of period, EUR million</i>							
Own funds	87,584	87,793	80,699	84,983	86,529	90,928	94,257	97,551
Total risk exposure (i.e. risk-weighted assets)	562,790	537,447	442,870	449,451	465,623	486,507	482,394	514,930
	<i>%</i>							
Total capital adequacy ratio	15.6	16.3	18.2	18.9	18.6	18.7	19.5	18.9
Tier 1 capital ratio	11.8	12.9	14.9	15.9	16.0	16.3	17.2	16.8
Common equity tier 1 (CET1) ratio	11.7	12.8	14.9	15.6	15.4	15.6	16.1	15.7
Leverage ratio (transitional)	x	x	6.9	7.3	7.5	7.6	7.4	7.6

Source: OeNB.

¹ The transfer in ownership of UniCredit Bank Austria AG's CESEE subsidiaries to the Italian UniCredit Group limits the comparability of figures for 2014 and 2015.

Table A18

Market indicators of selected Austrian financial institutions

	2017	2018	2019	2020	2021	April 22
	<i>% of end-2017 prices, end of period</i>					
Share prices						
Erste Group Bank	100	80	93	69	115	82
BAWAG P.S.K.	100	81	91	85	122	103
Raiffeisen Bank International	100	74	74	55	86	36
EURO STOXX Banks	100	67	74	57	77	66
Uniq	100	89	103	73	91	83
Vienna Insurance Group	100	79	99	81	97	92
EURO STOXX Insurance	100	91	112	97	113	112
	<i>%, end of period</i>					
Relative valuation: share price-to-book value ratio						
Erste Group Bank	115	89	97	69	106	74
BAWAG P.S.K.	124	96	101	86	123	108
Raiffeisen Bank International	100	69	62	46	66	34
EURO STOXX Banks	83	56	61	49	66	57
Uniq	86	81	83	57	75	68
Vienna Insurance Group	71	57	64	52	58	55
EURO STOXX Insurance	105	92	101	82	96	95

Source: Bloomberg.

Table A19

Key indicators of Austrian insurance companies

	2014	2015	2016	2017	2018	2019	2020	2021
<i>End of period, EUR million</i>								
Business and profitability								
Premiums	17,077	17,342	16,920	16,975	17,178	17,555	19,082	19,766
Expenses for claims and insurance benefits	14,157	15,514	14,751	14,727	14,088	15,016	15,764	16,545
Underwriting results	477	475	560	581	507	618	554	766
Profit from investments	3,211	3,216	3,051	2,815	2,528	3,118	1,771	3,082
Profit from ordinary activities	1,421	1,354	1,414	1,244	1,168	1,693	744	1,942
Total assets	113,662	114,495	114,707	137,280	133,082	138,411	141,081	145,351
Investments								
Currency and deposits	x	x	3,247	2,749	3,402	2,732	2,681	3,250
Debt securities	x	x	55,006	55,616	53,830	54,679	54,332	50,009
of which: issued by domestic residents	x	x	16,760	16,157	15,342	14,832	13,942	11,751
issued by euro area residents (other than domestic)	x	x	27,101	27,442	27,001	28,269	28,037	26,237
issued by non-euro area residents	x	x	11,145	12,017	11,487	11,577	12,352	12,021
Shares and other equity	x	x	22,474	21,258	19,677	19,413	21,178	25,565
Investment fund shares (including money market funds)	x	x	33,981	34,877	33,414	37,498	37,702	40,227
Insurance technical reserves and related claims	x	x	3,568	3,128	2,683	2,713	2,994	3,445
Risk capacity¹ (median solvency capital requirement), %	380	375	x	276	255	238	220	229

Source: FMA, OeNB.

¹ A new reporting system based on Solvency II was introduced in 2017; therefore, some indicators cannot be compared with historical values.

Table A20

Assets held by Austrian mutual funds

	2014	2015	2016	2017	2018	2019	2020	2021
<i>End of period, EUR million</i>								
Domestic securities	52,116	52,970	54,382	54,824	52,480	54,114	56,272	61,999
of which: debt securities	15,467	13,609	13,278	11,879	11,313	10,759	10,563	9,857
stocks and other equity securities	3,345	3,530	4,283	4,678	3,607	4,108	3,669	4,486
Foreign securities	110,397	114,833	120,330	128,836	121,038	140,616	146,160	168,714
of which: debt securities	69,642	70,326	69,911	70,353	67,956	72,949	74,335	77,241
stocks and other equity securities	17,910	18,521	20,145	22,924	20,747	27,983	31,530	44,415
Net asset value	162,513	167,802	174,712	183,661	173,518	194,730	202,432	230,713
of which: retail funds	89,163	91,626	94,113	97,095	89,923	101,536	105,467	124,005
institutional funds	73,350	76,177	80,599	86,572	83,600	93,194	96,983	106,711
Consolidated net asset value	138,642	143,249	148,682	156,173	154,235	168,013	175,221	198,198

Source: OeNB.

Table A21

Structure and profitability of Austrian fund management companies

	2014	2015	2016	2017	2018	2019	2020	2021
<i>End of period, EUR million</i>								
Total assets	725	745	691	674	655	716	706	851
Operating profit	158	184	157	177	177	192	209	306
Net commissions and fees earned	368	411	402	407	407	433	453	552
Administrative expenses ¹	246	266	284	267	251	260	259	281
Number of fund management companies	29	29	29	30	24	21	21	22
Number of reported funds	2,118	2,077	2,029	2,020	2,017	1,935	1,953	1,970

Source: OeNB.

¹ Administrative expenses are calculated as the sum of staff and material expenses.

Table A22

Assets held by Austrian pension funds

	2014	2015	2016	2017	2018	2019	2020	2021
<i>End of period, EUR million</i>								
Total assets	19,011	19,646	20,839	22,323	21,494	24,341	24,976	26,976
of which: direct investment	1,065	990	835	848	863	769	789	882
mutual funds	17,946	18,656	20,004	21,475	20,631	23,572	24,187	26,094
stocks	6,250	6,200	6,972	7,867	7,034	8,317	9,079	10,955
debt	9,163	9,552	9,521	9,054	9,724	10,540	9,294	8,862
real estate	576	690	754	1,165	978	1,142	1,369	1,597
cash and deposits	1,598	1,850	1,863	2,192	1,632	1,711	1,973	1,735

Source: OeNB, FMA.

Table A23

Assets held by Austrian severance funds

	2014	2015	2016	2017	2018	2019	2020	2021
<i>End of period, EUR million</i>								
Total direct investment	1,415	1,565	1,682	1,893	2,416	2,621	2,916	2,662
of which: euro-denominated	1,299	1,502	1,647	1,847	2,348	2,549	2,780	2,607
foreign currency-denominated	x	63	35	46	68	72	136	55
accrued income claims from direct investment	15	14	15	13	12	9	9	9
Total indirect investment	5,912	6,741	7,745	8,720	9,674	10,686	11,733	13,918
of which: total of euro-denominated investment in mutual fund shares	5,190	5,790	6,743	7,429	7,989	8,724	9,803	10,682
total of foreign currency-denominated investment in mutual fund shares	722	951	1,002	1,291	1,685	1,962	1,930	3,236
Total assets assigned to investment groups	7,306	8,294	9,412	10,597	12,052	13,288	14,563	16,428

Source: OeNB.

Note: Due to special balance sheet operations, total assets assigned to investment groups deviate from the sum of total indirect investments.

Transactions and system disturbances in payment and securities settlement systems

	2014	2015	2016	2017	2018	2019	2020	2021
Large-value payment system (domestic, operated by the OeNB)	<i>Number of transactions in million, value of transactions in EUR billion</i>							
Number	1	1	1	1	1	1	1	1
Value	7,438	6,381	4,316	3,690	1,536 ¹	1,412	1,651	2,107
System disturbances	0	1	4	0	3	0	0	1
Securities settlement systems								
Number	2	2	2	2	2	2	2	2
Value	377	315	335	701 ²	658	639	700	893
System disturbances	2	3	3	0	3	1	0	5
Card payment systems								
Number	856	901	963	1,061	1,178	1,299	1,350	1,494
Value	91	97	101	108	116	125	115	123
System disturbances	0	2	4	1	2	1	3	1
Participation in international payment systems								
Number	113	144	166	191	217	242	290	334
Value	2,463	2,420	3,029	3,242	3,831	3,304	2,252	2,104
System disturbances	0	0	0	0	0	0	0	0

Source: OeNB.

¹ Liquidity transfers from participants' domestic accounts to their own TARGET2 accounts are no longer included under domestic transactions.² Free-of-payment (FOP) transactions were first included in the value of transactions in 2017.