Regional analysis
Lending activity

Lending activity slowing down, higher interest rates halting demand

Authors:

Marina Petrov, Senior Markets Analyst

Highlights – lending activity

Bloomberg Adria

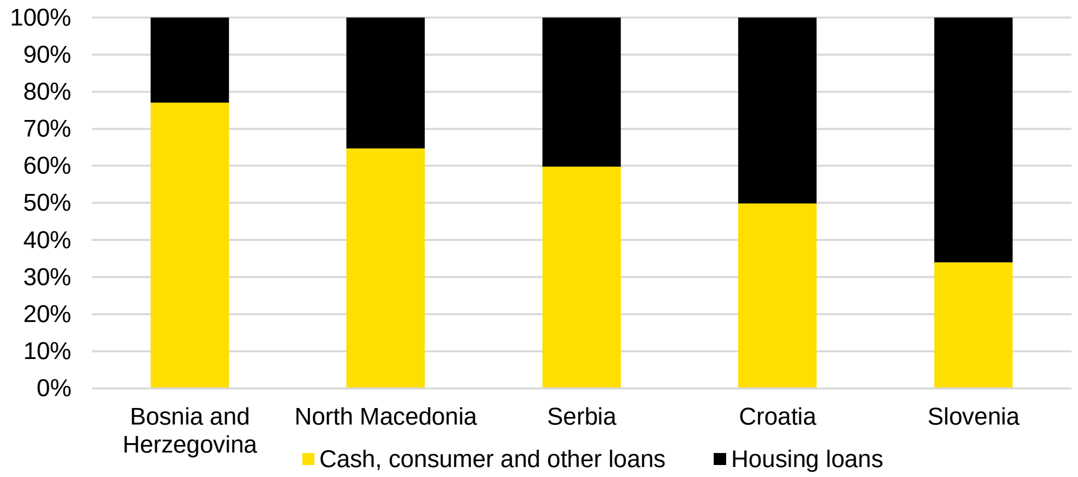
In Adria region, lending activity is in the positive zone in terms of yoy growth, however in most cases growth is slowing in H2 2022. Even though monetary policies are tightening, the transmission on the interest rates still needs to fully materialize, with interest rates still allowing for demand for certain credit categories to remain strong. When it comes to household lending, in Slovenia, Serbia and Bosnia and Herzegovina inflection point in growth rates has been achieved during 2H2022, while in Croatia and North Macedonia, growth rates are persisting. Looking at non-financial corporations lending, Croatia, Slovenia and North Macedonia posted two-digit rates, while the rest of the region grew at slower pace. **Higher costs pushed up credit activity** at first sight supported by blooming economic activity, while following rises in interest rates and perception of slowdown in global economy (and weaker foreign demand), acted in the other direction. **In this report we are going through drivers of lending activity in most of 2022 and outlook for 2023.**

Structure of household lending varies within the region. In Bosnia and Herzegovina, North Macedonia and Serbia we see **high share of consumer loans.** Higher unemployment rates and lower wages in these countries make environment in which consumers often turn to lending to complement their earnings for consumption. The EU part of the region shows higher share of housing credit in comparison to consumption types of loans. As we confirm on the bubble chart, **the better personal income levels, the smaller share of consumer loans.**

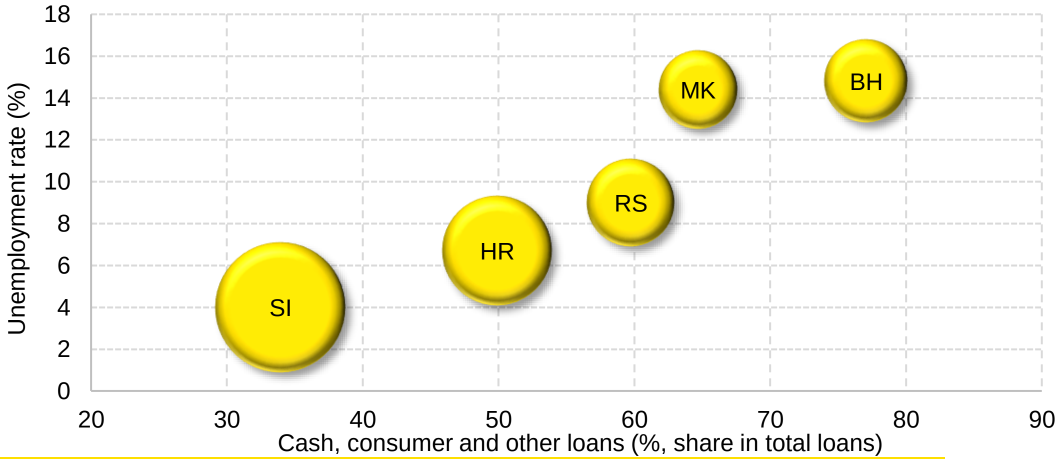
Referring to general economic development differences, **bank lending to non-financial corporations** is crucial in Serbia, Bosna and Herzegovina and North Macedonia, as corporate bond market is practically non-existent, with corporates in Slovenia and Croatia using this type of funding (even though their corporate bond markets are relatively shallow).

Banks hold high capital ratios, show positive financial results and high liquidity reserves, according to the latest data (3Q2022). All mentioned will allow supply of bank funding in order to support real sector to overcome current rising costs crisis, as much as rising interest rates and falling demand perception allow.

Housing and cash and consumer* loans in total household loans



Cash and consumer* loans in comparison to unemployment rate and wages



The bubble size is proportional to the average wage in particular country.

*Cash and consumer loans also include credit card debt, overdrafts and other loans. Loan data as of December 2022 , November-2022 for BH. Data on wages for December-2022, on unemployment rates for 3Q2022.

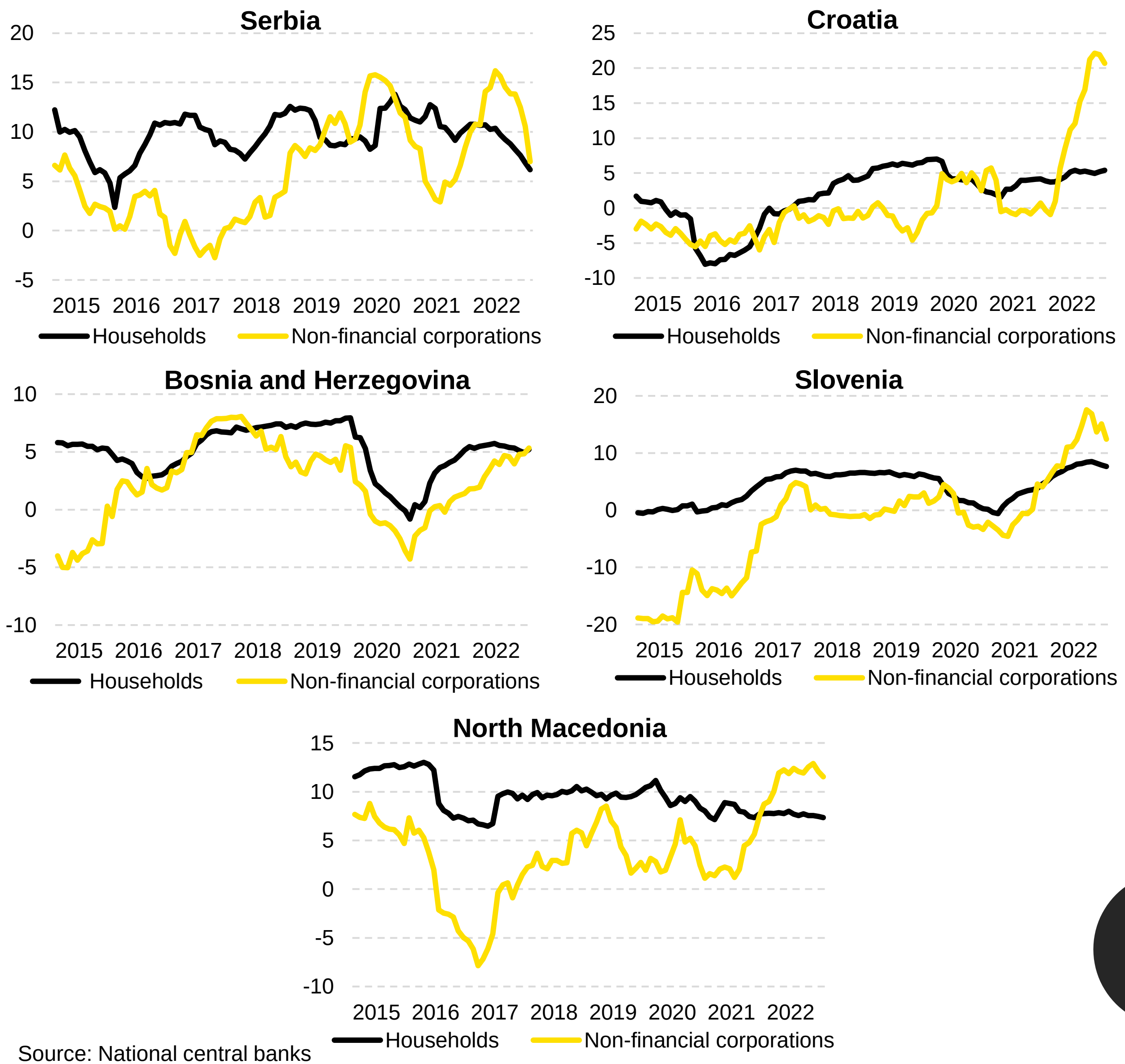
Source: National central banks and statistical agencies

Highlights – lending activity

Household indebtedness in Croatia was 5.4% higher in December-2022 than a year before. As cash loans grew at modest 2.4%, housing lending was the main driver posting 10.3% yoy increase in December-2022. Housing loans have been increasing strongly in 2022, backed up by low interest rates and stimulative government subsidies (APN subsidization of housing loans for young people). We see interest rates slowly adopting to higher levels, allowing demand in last months of 2022 to catch persisting lower interest rates. **Non-financial corporation lending spiked with 20.7% yoy increase in December-2022, the highest increase in 10y period.** Working capital loans grew 17.5% yoy, while investment loans added 18.1% yoy in December-2022. Other loans category pushed the increase even higher posting 28.4% yoy increase in December-2022, mostly due to higher import prices which pushed up lending for imports. Non-financial corporation loans spiked due to increased lending to energy companies, to cover for higher energy prices. According to CNB Bank Lending Survey, banks expect to tighten credit standards for housing and consumer loans in Q1 2023, while expecting increased demand (especially when it comes to housing loans, due to loans from APN subsidies realizing in March-2022). When it comes to enterprises, banks also expect tightening of credit standards, with increasing demand coming from both SME and large enterprises segment.

In Slovenia household credit activity was relatively high during 2022, driven dominantly by housing loans. Claims on households grew 7.6% yoy in December-2022, while housing credit grew 9.8% yoy in the same period (dropping from its 10y peak of 12% yoy in May-2022). High growth rates in 2022 in the housing segment will be hard to beat in 2023, as rising interest rates will halt further lending. **In 2022 the non-financial corporation credit growth was intensive recording 12.4% yoy increase in December-2022, partially due to lower base in 2021.** Lending decreased in the post-pandemic period switching to positive growth rates during 2H2021. According to ECB Bank Lending Survey, in 1Q2023 banks in Slovenia expect significantly lower housing loan demand, while expecting no change in credit standards (as credit standards tightened in 4Q2022). On the other hand, banks expect slightly lower demand for consumer loans and tightening conditions, for the same period. Banks also expect lower companies demand for loans and tightening standards (with credit standards becoming tighter for SMEs in comparison to the large enterprises).

Loans to households and nonfinancial corporations
(yoy growth rates)



Source: National central banks

Highlights – lending activity

In North Macedonia loans to households increased 7.4% yoy in December-2022, also driven by housing loans, as we saw in the other countries in the region. Lending for house purchase added 12.7% yoy in December 2022, slowing down in 2H2022 in comparison to elevated levels of growth during 2H2021 and 1H2022 (at 15-16%). Government support for real estate purchase is active in North Macedonia also (project “Buy a house, buy a flat”), which supports this type of lending. **Growth of credit to non-financial corporations step into two-digit zone in 2022, posting 11.5% yoy growth in December-2022.** Mentioned increase is supported by EBRD credit lines in the SME and green financing segment (Sustainable Reboot SME and Green Economy Financing Facility - Western Balkans), which will contunue to contribute in 2023 too.

Credit activity in Serbia has been slowing down after booming in recent years. Household loans grew 6.2% yoy in December-2022, dropping from two-digit yoy rates recorded 1H2022. The decrease was driven by both main household credit types - housing and cash loans. Housing loans have been growing at two-digit rates from mid-2020, slowing down its pace in 2022. In December-2022 housing loans posted 10.4% yoy growth rate. Slowdown in this segment was mainly due to high 2021 base, and the fact that clients in anticipation of uncertainty in 2023 will decide harder on house purchase, especially mortgage one. Even though the growth rate slowed down, it is still high and considered to boost credit activity and support house prices. When it comes to cash loans, significant slowdown has been seen in the post-pandemic period, especially in 2022, driving the yoy increase rate to 4.7% in December-2022, as higher interest rates pull down consumer demand. **Non-financial corporations credit activity grew milder in 2H2022 increasing 7% yoy in December-2022, as companies adapt to expected slowdown in 2023.** Investment loans growth dropped to 4% at the end of December-2022, while working capital and liquidity debt grew 9.3% yoy in the same period. We see working capital loans growth to drop further, as they follow investment loans with a leg of about 6 months. Although still in the positive zone, lending to non-financial corporations is significantly slowing. That is not surprising looking backwards as increasing interest rates, high inflation impacting consumption, and expected slowdown in exports lower companies’ needs for more funding.

Household lending activity in Bosnia and Herzegovina have been following strong upward trend in 2021 and 2022, slowing down in recent months. Household loans reached a peak in May-2022 (at 5.7% yoy), sliding down to 5.2% yoy in December-2022. This dynamic was driven by housing loans which were at two-digit levels in 1H2022, finishing the year with 8.0% yoy increase. In Bosnia and Herzegovina there are also subsidies for housing loans as a part of population policy, which supports credit activity in this segment (FBIH and RS have their separate programs). We see increasing interest rates as a main factor pushing this drop, followed by general increase of costs of living. **If we take a look at lending to non-financial corporations, it increased 5.3% yoy in December-2022.** This segment is also supported with EBRD projects (Go Digital Pilot, FIF - MiBospo - MSE Loan VI, FIF - WB Youth in Business and WB GEFF).

Highlights – loan interest rates

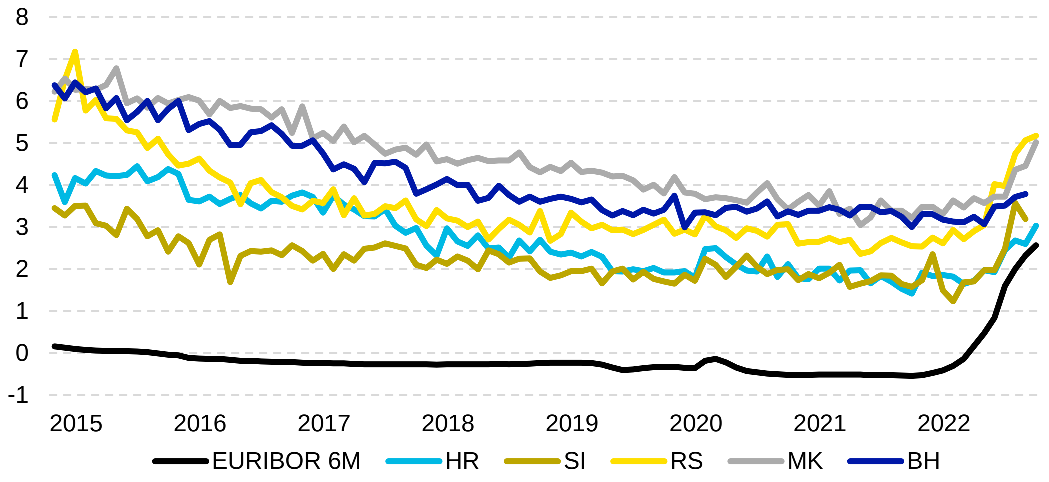
In the Adria region, we see rising interest rates adding to general mid-term economic uncertainties and as a result stand behind weakening demand for loans. However, when observing benchmark interest rates like EURIBOR, we still saw interest rates on loans relatively contained in Adria region in 2022 and this despite strong demand for loans. The rationale is that most banking systems in the region were still highlighted by high levels of unutilized liquidity and strong competition.

In North Macedonia, interest rates for households stayed at the same levels as a year before, while interest rates on non-financial corporations (excl. revolving) rose by 1.8 pp yoy in December 2022 (due to increase in interest rate for FX loans). Persistence of low interest rates in housing segment is due to banks determination to offer fixed interest rates (keeping them low at 3-3.5%) in the first 5-10y of the loan, so they are not tied to EURIBOR at initiation. We see this as a signal that there is sufficient liquidity to be offered and the housing market is less risky in comparison to other types of loans and provides broadening of the client segment followed with additional earnings from e.g., commissions.

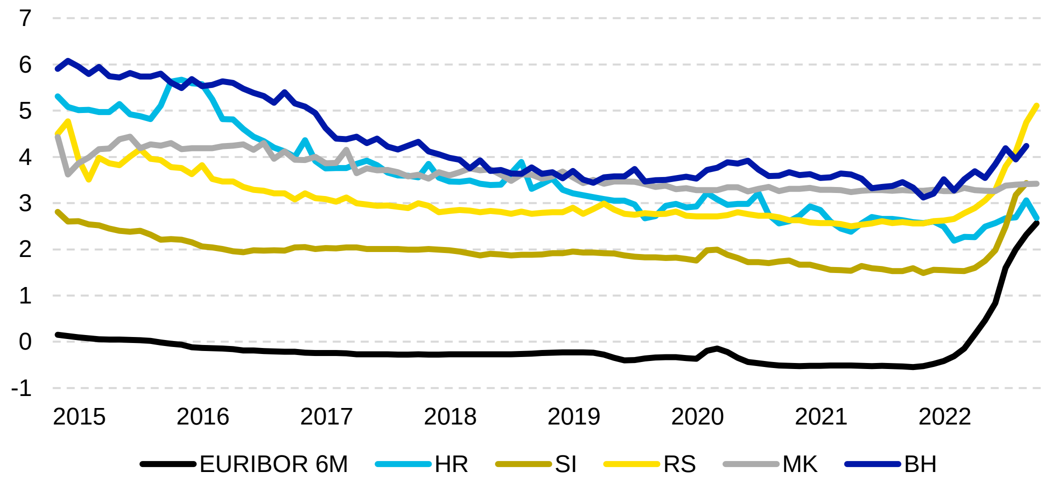
In the area of housing loans, in **Croatia** interest rates increased 0.1 pp yoy in December, while interest rate on other purpose FX loans added 1 pp yoy in the same period. In Croatia also we see a trend of issuing fixed interest loans (about 40% of housing loans in 2022 had fixed rate for 10y period and longer), showing resistance to EURIBOR rate increases. Interest rates on loans to non-financial corporations (excl. revolving) rose 1.6 pp in December-2022. These interest rates are still biased to variable rates, so increasing interest rate environment passes through in higher amount compared to households.

In **Slovenia** interest rates on housing loans increased significantly during 2022 given their low levels in 2021. Depending on interest rate type (according to fixation period) they posted increase in the rage 1.6 - 1.9 pp in November-2022. Similar picture can be seen in non-financial corporation (excl. revolving), where interest rates were 1.6 pp yoy higher in November-2022. Slovenia is a long-term member of EU and EA, so it enjoys lower risk premiums in general. On the other hand, interest rates adjust to EA market conditions, as we saw that EURIBOR rate increase had significant effect on interest rates in Slovenia.

Interest rates on non-financial corporation loans – new business
(%)



Interest rates on housing loans – new business
(%)



Source: National central banks, ECB and Bloomberg

Highlights – loan interest rates

In Bosnia and Herzegovina interest rates on housing loans increased 0.8 pp yoy in November-2022 in the segment of FX floating rates, while in the segment of rate fixation more than 5 and 10y, slightly decreased. Interest rates on non-financial corporation loans (excl. revolving) posted increase of 0.5 pp yoy in November-2022. At the same time, interest rates on non-financial corporation FX loans increased by 0.9, showing effects of EURIBOR 6M increase, while interest rates on BAM loans added only 0.5 pp.

Interest rates on household credit in Serbia increased, mostly due to monetary policy tightening (both ECB and NBSs). Interest rate on RSD loans increased by 4.1 pp yoy, while FX loans rose 2.6 pp yoy in December-2022. This differential is not surprising given that loans in RSD mostly consist of cash loans, while FX loans are mostly housing loans (bringing lower interest rate jump, as they are considered less risky). Interest rate on housing loans increased 2.6 yoy in December-2022, absorbing EURIBOR 6M increase. This differential is lower in the non-financial corporation segment (excl. revolving) as interest rates on RSD loan rose 2.9 pp yoy, but interest rate on FX loans rose 2.6 pp yoy.

Highlights – financial stability

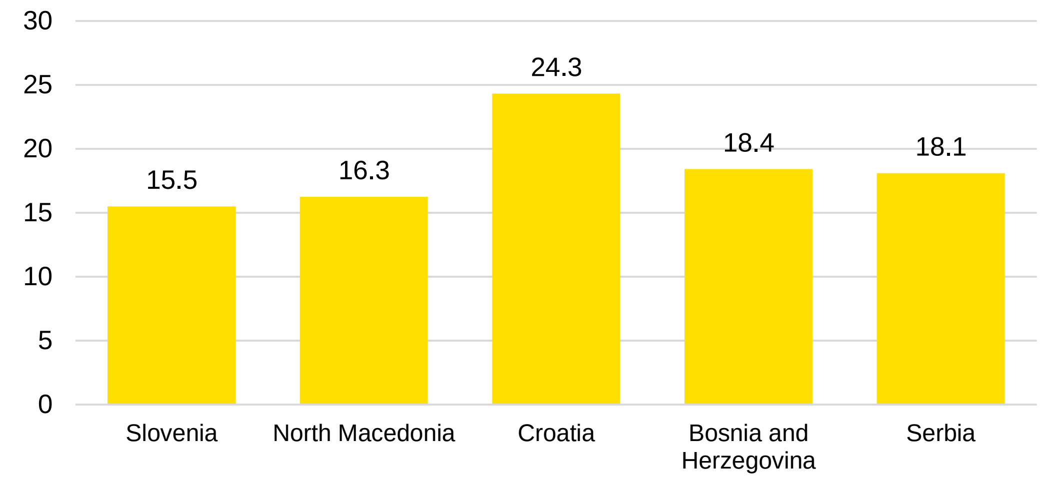
Bloomberg Adria

Banking sectors in the region are in good shape to keep providing funding. In contrast to 2008 GFC, when financial sectors were risk generators (many of them swiped some taxpayers' money), in 2023 we see them as institutions providing support to the economy to overcome current crisis. One of the reasons for that are for sure better regulation and supervision practices developed in the period after 2008-2009, as well as improvement in risk management procedures and accounting standards.

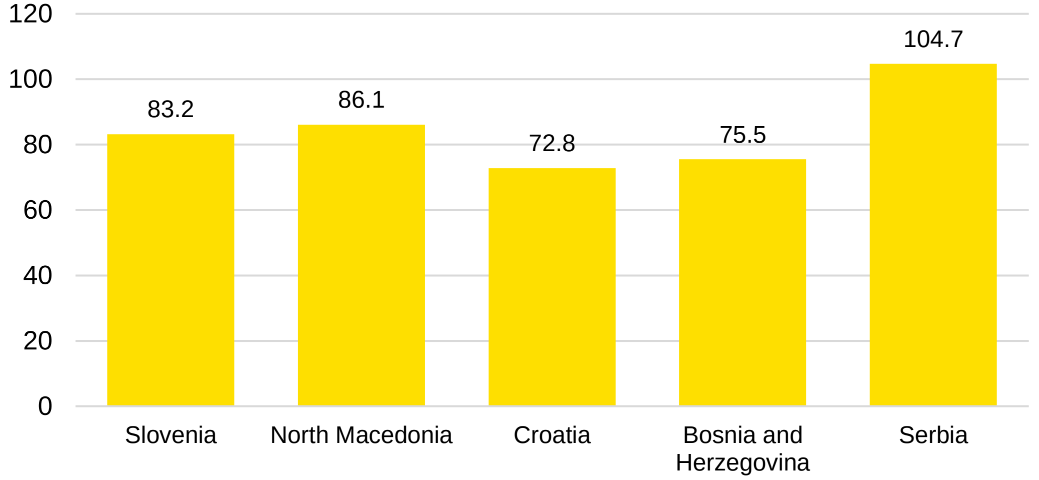
As we already saw, lending was vivid during recent years, then again banks are still in full capacity to extend more funding. Capital ratios are quite high even assuming bank-specific Pillar II related capital requirements, witnessing the banks' capacity to undertake more risks by extending credit. Preservation of high capital was provided by realized profits in recent years, with ROE spanning from 10.2% in Croatia to 13.9% in Slovenia, with other countries of the region in between (3Q2022 data). Non-performing loans were lowest in Slovenia recording 1.9% of total loans, highest in Bosnia and Herzegovina at 4.9%, with the rest of the region floating slightly above 3%. Even though **quality of the loan portfolio** seems **solid**, we should consider that non-performing loans ratio is backward looking, and that we certainly expect some deterioration given weaker economic prospects for 2023 (especially in the cyclical sectors).

Liquidity positions are also quite **comfortable, with loan to deposit ratios a way below 100% in most economies in the region**. The biggest move in the recent while was seen in Croatia, with the entry to the Euro area pushing people to convert the HRK funds with the banks and park their „mattress money" onto their bank accounts. Even though there is a high share of foreign owned banks in the region, funding sources are significantly tied to domestic deposit stocks. In other words, banks manage to cover their local loan demand with deposit funding sources, which reduces their dependence on parent banks (and decreases risks stemming from abroad). Ratios under 100% indicate there is capacity for further lending, due to ample deposit sources.

Capital adequacy ratio
(credit institutions, 3Q2022 data, %)



Loan-to-deposit ratio
(credit institutions, December-2022, %)



Source: national central banks
* Includes only customer deposits

Outlook

Bloomberg Adria

We see lending activity slowing down in 2023 in all countries of the region. As main factors determining lending activity this year, we see rising interest rates, economic slowdown and high uncertainty about future economic dynamics. Deterioration of credit quality in banking balance sheets will come as a result of deteriorated macro environment. This will also see banks tightening lending conditions further. Although all of this will pull the banks' capital adequacy lower, we nevertheless expect the banking systems to remain capitalized enough to support the lending activity going forward.

For household loans, we see the 2023 highlighted by further rise in interest rates and slowdown in credit activity everywhere. Housing lending is expected to slow down on a few factors:

1. we expect the **house prices to drop** all over the region, which will push down the amount of credit needed for house purchase.
2. we expect **interest rates to rise in 2023,** which will halt demand for loans
3. (also intertwined with 1. and 2.) demand for housing loans will drop as **customers will rarely decide to make large purchase** given that still high inflation erodes wages (dropping the capacity to undertake a loan) and uncertainty about how long will cost of living crisis last will keep potential buyers sticking to their savings (and not splurging on down payment).

On the supply side, we expect that **banks will tighten credit standards** further, but for housing loans at a slower pace and amount in comparison to other loan types (as housing loans bring lower risks). We expect **growth of consumer and cash loans to slow down further**, as they are more expensive (and will become even more expensive as interest rates rise) and have shorter maturity than housing loans. Demand for this type of loans will hold on better in lower income countries in the region, as part of the customers will still have to raise debt to support their consumption needs (especially in the environment of prices rising faster than earnings).

On corporate loans, slowdown in lending activity will occur in all countries in the region, of which we expect the highest drop in North Macedonia, Slovenia and Croatia, as those countries experienced unusually high growth rates in 2H2022. Rising interest rates will pull demand for loans downwards, especially in the industries offering products with low possibility to promptly pass increasing costs to selling prices e.g. consumer discretionary items. Reduced lending growth rates for working capital and liquidity will be driven also by **decreasing demand** (domestic and foreign), as we do expect materials and energy prices (import prices) to be lower in 2023 than in the previous year (however still not lower than before 2022) and drive up lending needs. We see investment loans growing at a slower pace, due to many companies refraining to make large investment decisions (or only postponing them) in the conditions of high interest rates, still not stabilized inflation outlook for mid-term and thus uncertain degree of future demand drop.

Statistical appendix

Bloomberg Adria

SLOVENIA	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Total loans (EUR bn)	24.6	24.7	26.0	26.6	28.3	30.7	34.4	35.5
Corporate loans (EUR bn)	10.0	9.3	9.3	9.2	9.3	9.1	9.6	10.8
Corporate loans average interest rates (%, new business)	2.76	2.63	2.26	2.08	2.00	2.14	1.75	2.63*
Retail loans incl. housing (EUR bn)	8.9	9.2	9.7	10.4	11.0	11.0	11.6	12.4
Retail loans incl. housing average interest rates (%, new business)	6.88	6.54	6.66	6.68	6.68	6.29	5.92	6.98
Retail loans - only housing (EUR bn)	5.5	5.7	6.0	6.2	6.6	6.9	7.5	8.2
Retail loans - only housing average interest rates (%, new business)	2.55	2.29	2.46	2.45	2.21	2.01	1.71	3.65
Loan-to-GDP ratio	63.3	61.1	60.5	58.0	58.3	65.3	65.9	68.1
Loan-to-deposit ratio	79.2	79.7	80.7	79.9	81.0	80.6	83.2	83.2

CROATIA	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Total loans (EUR bn)	35.9	34.1	32.7	33.9	35.0	36.5	37.3	40.6
Corporate loans (EUR bn)	11.4	11.3	11.1	11.1	11.0	11.4	11.4	13.8
Corporate loans average interest rates (%, new business)	4.93	4.20	3.47	3.17	2.44	2.47	1.72	2.91
Retail loans incl. housing (EUR bn)	16.3	15.6	15.8	16.8	17.9	18.1	18.8	19.8
Retail loans incl. housing average interest rates (%, new business)	8.08	7.84	7.12	6.88	6.45	5.83	5.50	4.37
Retail loans - only housing (EUR bn)	7.7	6.9	7.0	7.3	7.7	8.2	9.0	9.9
Retail loans - only housing average interest rates (%, new business)	5.58	4.31	3.68	3.47	2.92	2.58	2.62	2.70
Loan-to-GDP ratio	79.6	72.3	65.9	64.2	63.1	72.5	63.9	69.7
Loan-to-deposit ratio	106.8	96.8	90.0	87.0	86.4	83.7	76.6	72.8

SERBIA	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Total loans (EUR bn)	20.7	21.6	22.8	24.5	26.7	29.6	32.2	33.5
Corporate loans (EUR bn)	8.2	8.2	8.5	9.1	9.9	10.7	11.5	12.0
Corporate loans average interest rates (%, new business)	4.73	3.50	3.18	3.38	3.17	3.07	2.54	5.17
Retail loans incl. housing (EUR bn)	6.2	6.8	7.6	8.6	9.5	10.6	11.7	12.4
Retail loans incl. housing average interest rates (%, new business)	10.28	8.71	8.63	8.26	7.62	6.93	6.66	9.85
Retail loans - only housing (EUR bn)	2.8	2.9	3.0	3.2	3.4	3.8	4.5	5.0
Retail loans - only housing average interest rates (%, new business)	3.79	3.08	3.00	2.80	2.79	2.63	2.59	5.14
Loan-to-GDP ratio	58.3	58.8	56.6	57.2	58.0	63.2	60.4	62.7
Loan-to-deposit ratio	133.4	127.9	126.9	118.9	117.7	111.4	107.4	104.7

* Latest data Nov-2022

Statistical appendix

Bloomberg Adria

BOSNIA AND HERZEGOVINA

	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Total loans (EUR bn)	8.6	8.8	9.4	10.0	10.6	10.4	10.8	11.3
Corporate loans (EUR bn)	3.8	3.9	4.3	4.4	4.6	4.4	4.5	4.7*
Corporate loans average interest rates (%, new business)	5.82	4.88	4.35	3.91	4.17	4.01	3.36	4.55
Retail loans incl. housing (EUR bn)	4.0	4.1	4.4	4.7	5.1	5.1	5.3	5.6
Retail loans incl. housing average interest rates (%, new business)	7.44	6.45	6.36	5.47	5.67	6.38	5.42	5.25
Retail loans - only housing (EUR bn)	0.8	0.8	0.8	0.9	1.0	1.1	1.2	1.3
Retail loans - only housing average interest rates (%, new business)	5.61	5.16	4.33	3.64	3.50	3.67	3.34	4.24*
Loan-to-GDP ratio	59.0	57.5	58.7	58.3	58.9	59.4	56.5	59.1
Loan-to-deposit ratio	102.0	96.9	93.7	89.6	87.2	81.4	75.7	75.5

NORTH MACEDONIA

	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Total loans (EUR bn)	4.6	4.6	4.9	5.2	5.6	5.8	6.3	6.9
Corporate loans (EUR bn)	2.6	2.5	2.5	2.7	2.7	2.7	3.0	3.3
Corporate loans average interest rates (%, new business)	5.94	5.24	4.72	4.30	3.80	3.42	3.22	5.02
Retail loans incl. housing (EUR bn)	2.0	2.1	2.3	2.5	2.8	3.0	3.3	3.5
Retail loans incl. housing average interest rates (%, new business)	5.69	5.60	5.35	5.03	4.71	4.38	4.34	4.38
Retail loans - only housing (EUR bn)	0.5	0.6	0.6	0.7	0.8	0.9	1.1	1.2
Retail loans - only housing average interest rates (%, new business)	4.30	3.94	3.61	3.53	3.38	3.31	3.27	3.42
Loan-to-GDP ratio	51.0	47.9	48.6	48.7	49.3	53.4	53.7	58.7
Loan-to-deposit ratio	93.6	88.5	88.5	85.9	83.1	82.2	82.6	86.1

* Latest data Nov-2022

Bloomberg Adria

Bloomberg Adria

Bloomberg Adria Team Analytics

Andrej Knez, Chief Markets Analyst
andrej.knez@bloombergadria.com

Ivan Odrcic, Lead Financial Markets Analyst
ivan.odrcic@bloombergadria.com

Marina Petrov, Senior Markets Analyst
marina.petrov@bloombergadria.com

Jelena Zindovic, Senior Corporate Finance Analyst
jelena.zindovic@bloombergadria.com

Matteo Mosnja, Corporate Finance Analyst
matteo.mosnja@bloombergadria.com

Ilija Nesic, Corporate Finance Analyst
ilija.nesic@bloombergadria.com

Bloomberg Adria

Disclosures Appendix

This report is oriented for professionals and analysts that live in the country or abroad who are interested in investing and following local and regional markets. The information and opinions in this report/investment research were prepared by Bloomberg Adria and/or one or more of its subsidiaries/affiliates (collectively, 'Bloomberg Adria') for information purposes only. This report is not investment advice or an offer or solicitation for the purchase or sale of any security/financial instrument or to participate in any trading strategy. Neither Bloomberg Adria nor any of its employees accept any liability for any direct or consequential loss arising from any use of this publication or its contents. Any investments referred to herein may involve significant risk, are not necessarily available in all jurisdictions, may be illiquid and may not be suitable for all investors. The value of, or income from, any investments referred to herein may fluctuate in price and value. Past performance is not indicative of future results. Besides, the risks associated with an investment in the financial, money market or investment instrument or security under discussion are not explained in their entirety. Estimates of future performance are based on assumptions that may not be realized. Investors should make their own investment decisions without relying on this publication. Only investors with sufficient knowledge and experience in financial matters to evaluate the merits and risks should consider an investment in any issuer or market discussed herein and other persons should not take any action on the basis of this publication.

This report is based on information available to the public. While reasonable care has been taken to ensure that the information contained herein is not untrue or misleading at the time of publication, Bloomberg Adria makes no representation or guarantee with regards to the accuracy, completeness or suitability of the data. Bloomberg Adria does not undertake to advise you of changes in its opinion or information. Moreover, we reserve the right not to update this information or to discontinue it altogether without notice.

From time to time our analysts receive assistance from the issuer including, but not limited to, discussions with management of the subject company(ies). However, it should be presumed that the author(s) have communicated with the subject company to ensure factual accuracy of the (company) research report prior to publication, without mentioning recommendation and summary.

Any opinions and estimates contained herein reflect the current judgment of the author(s) and do not necessarily reflect the opinion of Bloomberg Adria or any of its subsidiaries and affiliates. This report is disseminated and available primarily electronically to professional clients and eligible counterparties, who are expected to make their own investment decision without undue reliance on this publication, and may not be sold, redistributed, reproduced or published in whole or in part for any purpose without the prior express consent of Bloomberg Adria.

Please always cite source when quoting. The content is copyrighted and cannot be quoted in a commercial setting/media outlet without prior written consent.
Additional information is available on request. Bloomberg Adria and others associated with it may be involved or seek to be involved in many businesses that may relate to companies, issuers or instruments mentioned in this report. These businesses include market making, providing liquidity and specialized trading and other proprietary trading, fund management, investment services and investment banking.

Bloomberg Adria and others associated with it including any of its employees may have positions in securities of companies or financial instruments discussed in this research, and may trade them in ways different from those discussed in this report.

This report may include research based on technical analysis. Technical analysis is generally based on the study of trading volumes and price movements in an attempt to identify and project price trends. Technical analysis does not consider the fundamentals of the underlying issuer or instrument and may offer an investment opinion that conflict with other research generated by Bloomberg Adria. Investors may consider technical research as one input in formulating an investment opinion. Additional inputs should include, but are not limited to, a review of the fundamentals of the underlying issuer/security/instrument.

The author(s) is/are named in the front page of this report. The research analyst(s) or analysts who prepared this report (see the first page) hereby certifies that: (1) the views expressed in this report accurately reflect their personal views about the subject securities or issuers and/or other subject matter as appropriate; and, (2) no part of his or her compensation was, is, or will be directly or indirectly related to the inclusion of specific recommendations or views in this report. On a general basis, the efficacy of recommendations and clients' feedback are factors in the performance appraisals of analysts.