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List of abbreviations

ABS Asset-backed securities

AT1 Additional Tier 1

BRRD Bank Recovery and Resolution Directive

EBA European Banking Authority

ECB European Central Bank

EEA European Economic Area

EU European Union

FINREP Financial Reporting Standards

G-SIB Global systemically important bank

LTRO Longer term refinancing operations

MREL Minimum requirement for own funds and eligible liabilities

NFC Non-financial corporate/non-financial corporation

RAQ Risk Assessment Questionnaire

T2 Tier 2

TLAC Total loss-absorbing capital

TLTRO Targeted LTRO



Country code	Name of country
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
ES	Spain
FI	Finland
FR	France
GR	Greece
HR	Croatia
HU	Hungary
IE	Ireland
IS	Island
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia



Executive summary

The objective

The objective of this report is to analyse funding plans submitted by EU banks to the competent authorities and assess their feasibility. In particular, the report summarises projected trends of assets, liabilities and relative pricing. Through back-testing of past funding plans the report tries to assess the reliability of the projections made by banks.

Total assets have surged due to central bank support programmes. Loans are expected to grow significantly.

Banks' total assets increased by 8% in 2020, mainly driven by a surge in cash balances at central banks, which was a result of central bank support measures introduced in response to the pandemic. While loan growth was sluggish in 2020, banks expect loans to non-financial corporates (NFCs) and to households to grow by 4% per year over the forecast period 2021 - 2023.

Deposits surged in 2020 with a slowdown expected in 2021

Deposits surged in 2020 and by the end of the year represented 73% of banks' total funding sources. In 2021, banks are planning for deposits from NFCs to decline and for muted growth in household deposits. Deposits from households and NFCs are expected to return to solid growth rates in 2022 and 2023.

Banks plan to increase issuance volumes, in particular MREL-eligible debt instruments

Banks plan to issue more debt instruments in the coming years, to make up for an expected decline in central bank funding but equally to comply with MREL requirements. Over the three-year forecast period, banks plan to increase market-based funding by 12%, reaching EUR 4.2 trillion in 2023. Senior non-preferred instruments are expected to grow by 31% over the forecast period and regulatory capital instruments, as well as senior unsecured instruments issued by the holding company (HoldCo) instruments by 17%.

Public sector funding to reduce significantly by 2023

Banks' reliance on public sector sources of funding (such as the ECB's TLTRO programme) increased significantly in 2020, due to the pandemic. As of December 2020, public sector funding contributed almost 7% to banks' total funding. According to banks' forecasts, this share is set to decline to about 2.5% by 2023. Even though banks plan to increase debt issuance volumes in the next three years, the projected increase would not be sufficient to entirely replace the large volume of TLTRO maturing in 2023.



Interest rate spread continues its downward trend

The spread between interest rates for loans to clients (households and NFCs) and client deposits has continued its decline. As of December 2020, the average client spread was 2.22% compared to 2.31% one year earlier. For the year 2021, most banks expect the decline in the spread to continue.

Market-based funding costs to decrease further

Despite the market turbulence in the first half of 2020, banks reported a decline in their funding costs in 2020. The average cost of long-term funding was reported as 1.44%, a decline of 13 bps compared to 2019 levels. In 2021, most banks expect funding costs to decline even further.

Back-testing results reveal impact of the pandemic

The impact of the pandemic is visible when comparing banks' forecasts for the year 2020 (provided in 2019 before the COVID outbreak) with actual figures as reported in December 2020. For all balance sheet positions that were selected for back-testing, significant gaps between forecasts and actual amounts were found for almost all banks in the sample.



Introduction

The objective of this report is to analyse and assess the feasibility of submitted funding plans for the EU banking system. Back-testing of past funding plans supports the assessment of the reliability of the trends in assets, liabilities and pricing projected by banks. To assess the feasibility of the asset growth forecast by banks on an aggregated level, as well as corresponding forecasts on deposit and market-based funding, the report also compares submitted data with market and statistical information, such as historical issuance volumes. While most of the assessment is carried out at the EU level, country level comparisons are also provided.

The analysis is based on funding plan data reported in accordance with the EBA Guidelines.¹ These guidelines have changed in 2020 with the aim of providing additional details on market-based funding, align concepts to those used in FINREP and ease the reporting burden for small and non-complex credit institutions. Because of this change, some data series are available for the years 2020 to 2023 but not before. The EBA collects data from a sample of banks, as defined in EBA Decision DC/2020/334, on reporting by competent authorities to the EBA.² The sample covers the largest institutions in each Member State and, in terms of total assets, covers more than 80% of the EU banking sector. The list of 160 reporting banks (including subsidiaries) from all EU jurisdictions is provided in Annex 2.³

The EU aggregate figures and charts in this report are based on the data reported at the highest level of consolidation and include banks from EEA countries. Country-level data, in contrast, also include subsidiaries. The dataset includes information on public sector sources of funding, deposit funding, market-based funding, and information on pricing of selected asset and liabilities positions. The analysis uses data reported in the last three years, and covers actual figures for 2018, 2019 and 2020 as well as forecasts for the subsequent three years (2021 to 2023). In the case of analyses that make use of data from multiple reference dates, such as back-testing exercises, only banks that submitted data for the complete reference period (e.g. 2018, 2019 and 2020) are included. The cut-off date for funding plan data used in this report was 17 May 2021.

 $\frac{\text{https://www.eba.europa.eu/sites/default/documents/files/document_library/Risk\%20Analysis\%20and\%20Data/Reporting \\ \%20by\%20Authorities/885460/Decision\%20on\%20supervisory\%20reporting\%20by\%20competent\%20authorities\%20to\%20 \\ \text{the}\%20EBA.pdf.}$

¹ EBA Guidelines: https://www.eba.europa.eu/regulation-and-policy/supervisory-reporting/updated-guidelines-on-harmonised-definitions-and-templates-for-funding-plans-of-credit-institutions.

²EBA Decision:

³ Throughout the report, country-specific data are not disclosed if fewer than three banks for the country in question have submitted data for a given figure.



Recent developments in liquidity and funding conditions

Market funding conditions for European banks were very favourable before the pandemic and spreads were at near record-low levels at the beginning of 2020. But conditions temporarily and materially deteriorated at the beginning of the COVID-19 crisis in Europe in February 2020. For a short period, spreads for European bank funding instruments widened to levels not seen since the Global Financial Crisis (GFC), market volatility spiked to unprecedented heights and market funding activity came to a temporary halt. No major listed unsecured debt instrument of an EU bank was issued between February and mid-April 2020. However, market conditions improved again rapidly, mostly driven by the swift adoption of a range of extraordinary European and national policy measures in response to the pandemic to support economies. Measures included fiscal stimulus, monetary measures, regulatory amendments to support credit markets and bank lending, and were instrumental in restoring market confidence during the pandemic.

Additional programmes that the ECB and other central banks introduced to provide medium- and long-term bank funding were an important driver for improving the sentiment on financial markets and bank funding conditions. Improved conditions for the ECB's TLTRO-3 programme had a particularly positive impact on limiting market concerns about EU banks in the pandemic and reducing credit spreads from their temporary highs. The programme led to the improvement of general funding market conditions and a subsequent reopening of primary bank funding markets in April 2020. Since then, banks have made extensive use of these enhanced central bank liquidity facilities, which have helped them to maintain comfortable funding and liquidity profiles in the pandemic. Spreads for bank debt and capital instruments have been broadly and steadily trending downwards since April 2020, and returned to near-historical lows by the beginning of 2021.

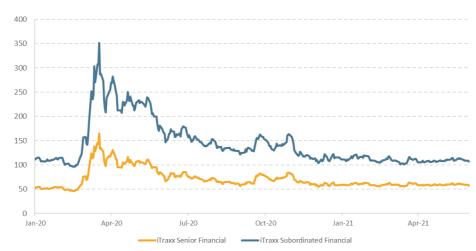


Figure 1: iTraxx senior and subordinated financial index, January 2020 to June 2021

Source: Bloomberg



In line with the steadily improving market sentiment, issuance of bank debt instruments increased again from May 2020. Large and medium-sized banks have, since then, generally been able to issue instruments across the capital stack at reasonable costs. Some reluctance to place subordinated instruments, mainly connected to higher pricing, has nevertheless persisted for some banks with heightened risk perception. This situation gradually improved in 2021 and a growing number of such banks placed subordinated instruments.

Ample investor liquidity positions coupled with a fierce search for yields in the context of prolonged very low interest rates have further supported positive funding conditions since the initial phase of the pandemic. The strong fundamentals of banks as a whole, such as sound capital positions, strong liquidity positions, low non-performing loan ratios and progress in building up MREL, have also supported the generally positive sentiment on bank funding markets.

The allotments in the first tenders of the TLTRO-3 programme under improved conditions were very high at EUR 1.3 trillion in June 2020 and EUR 175 billion in September 2020, respectively. While maturing temporary LTRO and TLTRO-2 funds, as well as early repayments of TLTRO-3 funds obtained before the pandemic, contributed to the high usage of the improved TLTRO-3 programme, additional net ECB funding obtained was significant. The opportunity to reduce funding costs for participating banks was an important driver of the high take-up volume. The high usage of TLTRO-3 contributed to decreasing market funding needs for banks in 2020. The focus of banks' market funding activity since the introduction of TLTRO-3 has been on instruments that offer more regulatory benefits for issuing banks and, in particular, those with eligibility for loss-absorbing capacity. TLTRO-3 also led to a decreasing issuance volume of covered bonds after the pandemic broke out, since it offers a cheaper source of funding for many banks.

Spreads have been more volatile since the pandemic broke out in Europe. Bouts of volatility have been related not only to the course of the pandemic and rising COVID-19 infection rates, but also to political events (e.g. Brexit), geopolitical events, and news related to inflation trends and commodity prices. In a more volatile market environment and against the backdrop of the pandemic, widening spreads reflect the increased risk perception of investors. Uncertainty about more volatile liquidity and funding conditions is reflected in the volatility index. This indicator is used by analysts and investors to measure market risk or the risk of a sudden repricing before they take investment or financing decisions. Figure 2 shows that volatility has been heightened since the pandemic broke out, with frequently recurring bouts of elevated volatility.



Figure 2: Implied volatility, January 2020 to June 2021



Source: Bloomberg

Market interest rates have been increasingly volatile in 2021, mostly driven by rising interest rates in the US, and have led to periods in which banks have shown temporary reluctance to access primary funding markets, or to prefer non-EU/EEA currencies in their market funding activities. Rising yields in Europe, mostly driven by an improving macro outlook and rising inflation, also led to some temporary reluctance to focus on market funding in the first half of 2021.



Asset trends

Changes in banks' asset composition

The COVID-19 pandemic and the responses to it impacted European banks' balance sheets significantly in 2020. On average, total assets increased by 8% in 2020. However, this rise was primarily due to the very accommodative monetary policies and other central bank support measures introduced in response to the pandemic, which led to a surge in cash balances at central banks. These cash balances shot up by 70% during 2020 and as of December 2020 represented 12% of total assets (versus 7.5% a year earlier). Loans, on the other hand, saw somewhat muted growth in 2020. The two main loan segments, loans to households and loans to NFCs, increased by 2% and 1% respectively when compared to December 2019.

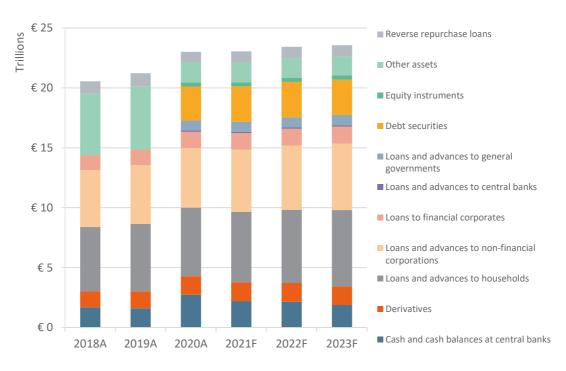
In 2021, total assets are expected to remain at December 2020 levels. Loan volumes are set to bounce back from the muted 2020 levels and banks predict loans to households to grow by 3% and loans to NFCs by 4%. The growth in loans is compensated by a decline in cash balances at central banks, which are expected to decrease by 20% in 2021.

In 2022 and 2023, total assets are expected to grow by about 2% per year. The growth in loans, in particular to households (4% per year) and NFCs (3% per year) is expected to continue at the expense of cash balances at central banks, which are set to decline by a further 3% in 2022 and 12% in 2023. At the end of the forecast period (December 2023), cash balances are expected to represent 8% of banks' total assets, a level last seen before the pandemic (7.5% in 2019).

Figure 3 shows the actual asset composition for the years 2018 to 2020 and the planned asset composition for the years 2021-2023.

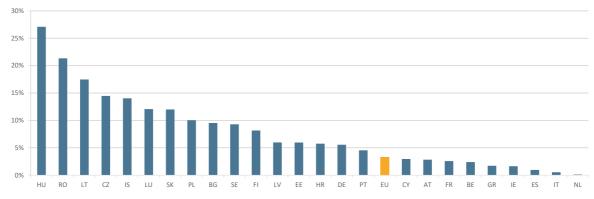






Banks in all countries expect assets to grow over the three-year forecast period (2021 - 2023). However, asset growth forecast figures show a wide dispersion across countries. While banks in many northern and eastern European countries expect their total assets to grow between 5% and 29% in the next three years, banks in some central and southern European countries report much smaller growth rates. Most notably banks in the Netherlands, Italy and Spain expect their total assets to grow by less than 1% (Figure 5)

Figure 4: Planned total asset growth by country, 2021 -2023



Source: EBA

Loans to NFCs and households, which represent the largest asset classes and combined account for over 45% of total assets, are expected to increase by more than 11% over the forecast period. Loans to financial corporates are expected to contribute to a lesser extent to overall asset growth, at a rate of 9.7%. The trend of growing client business can be identified at an aggregated EU level and across



countries. Both loans to households and to NFCs are projected to grow in nearly all countries and across the three-year projection period (see Annex 1 for more details on country-specific loan growth figures).

Loans and advances to Loans and Loans and households Loans and Loans and Cash and cash advances to (exc reverse advances to advances to balances at general repurchase repurchase Debt Equity credit non-financial other financial central banks securities Derivatives instruments institutions governments loans) corporations corporations Other assets loans 10% 5% 0% -5% -15% -20% ■ 2021F ■ 2022F ■ 2023F -25%

Figure 5: Growth expectations for selected asset classes

Assessment of planned asset growth

To gauge the reliability of banks' asset growth forecasts, two approaches are applied: back-testing based on data reported by participating banks, and a comparison with market analysts' expectations. In the first approach, banks' estimates for 2020, as reported in December 2018 and 2019, were compared with the actual figures for 2020⁴. In the second approach, banks' planned asset growth figures for 2021 were compared with the expectations expressed by banks and market analysts in their responses to the EBA spring 2021 risk assessment questionnaire (RAQ).

Back-testing asset growth

The back-testing results highlight the impact the COVID pandemic had on banks' asset/liability management. In December 2019, banks estimated that their total assets would grow by 2.0% during 2020. However, their total assets actually grew by 6.5%, driven by a surge in cash balances held at central banks. Thus, banks exceeded their asset growth targets by an average of more than 4 percentage points. Looking at a two-year forecast horizon, which compares banks' planned asset growth figures for 2020 as estimated in December 2018 with the actual asset growth figures for 2020, banks exceeded their asset growth targets by almost 5 percentage points. As a comparison, banks' average gap between planned and real asset growth rates for 2018 (the 'forecasting error') was 2.0% for the one-year forecast horizon and 3.7% for the two-year forecast horizon.

Figure 6 highlights that the pandemic hit banks in all countries and lead to a wide gap between planned and real asset growth rates for 2020. There is a wide dispersion among banks and countries, ranging from narrowly missing asset growth targets on a one-year forecast horizon, to a forecasting error of

⁴ The sample for the back-testing analysis includes only those banks that provided data for all reference dates

15



18%. On a two-year forecast horizon, the forecasting error range was even wider, at between 0.2% and 23.4%.

30% 25% 20% 10% 0% -5% -10% C7 DF FS FU HR IF IS RO ■ Actual asset growth ■ 1-year forecast ■ 2-year forecast

Figure 6: Back-testing total asset growth by country (December 2020)⁵

Source: EBA

Comparison with market expectations

As part of the EBA's half-yearly RAQ, participating banks and market analysts identified which portfolios they expect banks to increase or decrease in 2021. Figure 7 provides a summary of the views banks expressed in their responses to the RAQ. In 2021, most banks plan to increase lending volumes in their SME (66%), residential mortgage (66%) and corporate credit (59%) portfolios. 47% of banks expect the consumer credit loan segment to increase. Hence, banks' expectations for volume increases as put forward via the RAQ are broadly in line with data on banks' funding plans, both of which point to growing lending to households and NFCs.

The share of banks expecting increasing volumes in their consumer lending, residential mortgage and corporate lending portfolios is lower than the respective analysts' expectations. Indeed, analysts forecast an even larger increase for consumer credit (80% vs 47%) while their expectations are similar for the residential mortgage (70% vs 66%), corporate credit (60% vs 59%) and SME lending (60% vs 66%) segments.

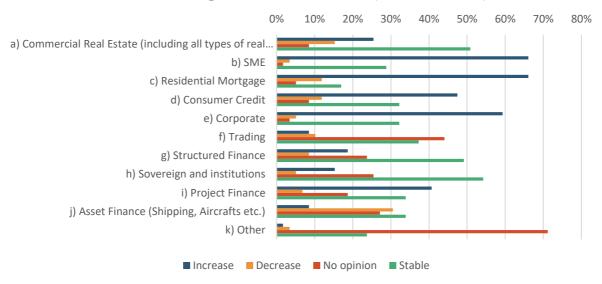
⁵ The forecasting gap refers to the difference between the asset growth rate forecast and asset growth rate reported.

16



Figure 7: Banks' expectations for portfolio changes in 2021

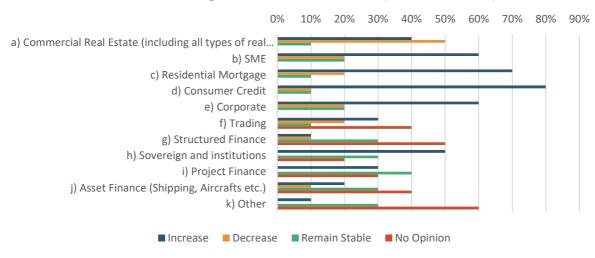
Q13 Which portfolios do you plan to increase/decrease in volume during the next 12 months (on a net basis)?:



Source: EBA RAQ

Figure 8: Analysts' expectations for portfolio changes in 2021

Q7 Which portfolios do you expect to increase/decrease in volume during the next 12 months? (on a net basis)



Source: EBA RAQ



Liability trends

Changes in banks' funding composition

Total liabilities of the EU banking sector increased significantly in 2020 because of the impact of the pandemic (see Figure 9). In 2020, banks reported a surge in client deposits and an increase in derivatives and repurchase agreements. In particular, deposits from non-financial corporates increased strongly (by 17%) but deposits from other financial corporations and households also increased by 7%. However, deposits from credit institutions declined sharply (-7%). Other liabilities, which included deposits from central banks and from governments until 2019, increased significantly due to the pandemic relief programmes. Cheaper central bank funding led many banks to rely to a much lesser extent on market-based funding. In particular, short-term debt securities decline by 27% but unsecured debt securities also fell by 1% compared to 2019 levels.

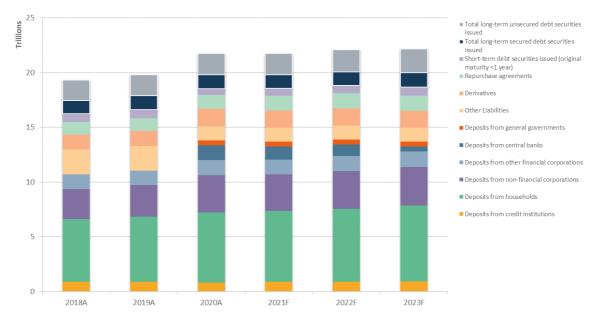


Figure 9: Actual and planned liabilities composition

Source: EBA

As regards banks' plans for 2021 to 2023, the trend observed in previous years is set to continue with deposits and long-term debt securities being targeted as two of the key sources of funding. Aside from deposits from central banks, banks are expected to increase their overall deposits by 5.8% over three years (by 0.1% in 2021, 2.7% in 2022 and 3.0% in 2023). It is worth highlighting that banks expect deposits from households to grow by only 1% and deposits from NFCs to decrease by 2% in 2021. Nevertheless, these categories are forecast to return to higher growth during the following years (deposits from households are slated to grow by 3.2% in 2022 and 3.3% in 2023; deposits from NFCs by 2.7% in 2022 and 3.4% in 2023).



Market-based funding is forecast to return to strong growth over the next three years (see Figure 10). In particular, the volumes of short-term and unsecured long-term debt securities are expected to grow, respectively, by more than 30% and by 12% over the forecast period. With the expected reduction of central bank funding, it is assumed that banks will go back to relying on short and long-term debt securities instead. By 2023, banks should have EUR 7.8 billion in short-term debt securities, getting close to EUR 8.1 billion mark set before the pandemic in 2019. For long-term debt securities, prepandemic levels should be achieved in 2022. The expected phasing-out of central bank support measures is reflected in the strong decrease in deposits from central banks (-70% over the three years).

Deposits from Deposits from Credit general Deposits from Central banks institutions governments Deposits from Central banks Central banks institutions governments Deposits from Central banks Cent

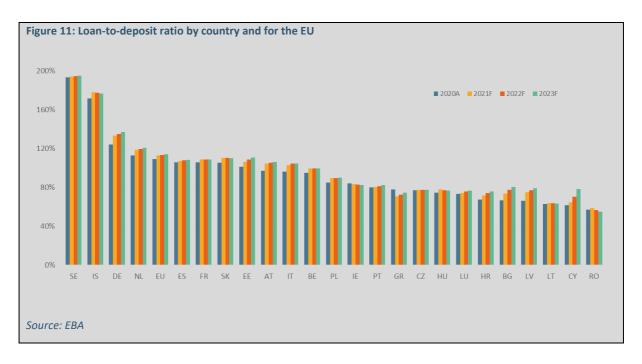
Figure 10: Growth expectations for selected liability classes

Source: EBA

Loan-to-deposit ratio expected to rise

The loan-to-deposit ratio at an EU aggregate level is expected to increase over the three-year forecast horizon, from 109.1% as of December 2020 to 114.1% in 2023 (see Figure 11). This is due to stronger projected growth for loans compared to deposits. A granular analysis of the loan-to-deposit ratio shows significant dispersion among banks, which can be explained by different funding-mixes. For most EU countries, the loan-to-deposit ratio will either increase or remain stable over the next three years. The largest increases are planned by banks in Cyprus, Bulgaria, Latvia, Germany and Estonia. Bucking the general trend, banks in Romania, Greece and Ireland are expected to register a drop in their loan-to-deposit ratios.





Trends in client deposits

Total deposit growth is expected to slow down throughout the forecast period, following the massive growth registered in 2020. Indeed, the share of deposits in total funding increased from 68.7% in 2019 to 73.2% in 2020. The share of deposits is expected to gradually return to pre-pandemic levels in the next three years. A breakdown of total deposits into segments shows that deposits from financial corporates are expected to decrease slightly in 2021 and 2022, while they should experience growth in the last year of the forecast period (2023). A different trend is expected for deposits from households and NFCs: these should grow moderately over the three-year forecast, by 6.7% on average. An analysis by country of incorporation of the bank reveals that most banks are planning for an increase in deposits from households and from NFCs (see Figure 12). Significant deviations at county level can be observed in Cyprus and Ireland (negative growth rate) and in Iceland, the Czech Republic, Luxembourg, Lithuania, Romania and Hungary (growth rate above 15%).

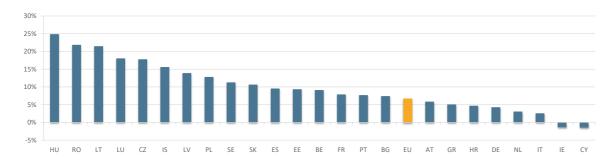


Figure 12: Growth expectations for deposits from households and NFCs by country and for the EU (2021-2023)



Trends in market-based funding

EU banks plan to slowly return to relying more on long-term market-based funding in the coming years, after the fall registered in 2020. Over the three-year forecast period, they plan to increase their total long-term funding by 8.6%, reaching over EUR 3.4 trillion in 2023. The total volume of unsecured debt securities issued is expected to increase by 12.6%, while the total volume of secured funding is forecast to grow by a modest 2.6%. Within secured funding, the share of covered bonds remains significantly larger than that of ABS. By 2023, this share is expected to increase from 85% to 87% of total secured funding.



Figure 13: Long-term secured and unsecured funding (EUR billion, left axis) and mix of secured funding (%, right axis)

Source: EBA

Analysing the yearly forecasts of the balances of debt securities highlights the extent to which market-based funding is expected to grow on a net basis. Figure 14 shows the difference between the outstanding volume of debt securities at the beginning and the end of each year by country. If this difference is positive, it means that gross issuances are larger than redemptions for that year. Where the volume of debt securities issued exceeds rollovers, banks have to find investors additional to those that might simply replace their current investment positions. If the gross issuance volume is smaller than redemptions, the assumed net issuance volume is negative and the outstanding volume decreases during the year. Projection data reveal significant planned growth in net issuance volume in several countries, with banks in France, Netherlands, Italy and Spain reporting the highest net issuance volume over the three-year forecast period. For most banks, 2023 is the standout year in term of net issuance volume, a year that will see much of TLTRO 3 funding reach its maturity.



80 70 60 50 40 30 20 10 0 - 10 ΝI RF IT FI SE FR GR DE ΗU LU ΡL ES

Figure 14: Net issuance volume by country and year (short- and long-term debt securities, EUR billion)

An analysis of issuance volume by type of unsecured instrument shows that banks in particular plan to increase volumes of MREL-eligible instruments over the three-year forecast period (see Figure 15). The strongest increase in issuance volume should be seen in senior non-preferred (SNP) instruments, which are expected to increase by 31.2% in the forecast period. Their eligibility for MREL, while offering price advantages for issuing banks compared to some other MREL eligible instruments, could explain the strong planned volume growth of SNP instruments. Issuance volumes of capital instruments is expected to increase as well. Over the three-year forecast horizon, issuance volumes of Additional Tier 1 instruments and Tier 2 instruments are expected to grow by 18.8% and 12.6%, respectively. Plans to optimise the capital structure of those banks that have not yet attained their required minimum amounts of Additional Tier 1 capital and Tier 2 capital could drive the increase in issuance volume in the forecast period.

€ 500 Billions € 450 € 400 ■ Tier 2 instruments €350 ■ Subordinated instruments €300 ■ Senior unsecured (Holdco) € 250 Senior non-preferred € 200 € 150 Other long-term unsecured instruments € 100 ■ Additional Tier 1 instruments €50 €.0 Issuance | Maturing | Maturing | Issuance | Maturing | Maturing | 2020Δ 2021F 2022F 2023F

Figure 15: Unsecured debt instruments - issuance volume and maturing volume by instrument type and year

Source: EBA

After a low issuance volume of secured funding in 2020, banks plan to strongly increase secured funding issuances in 2021 and 2022 and keep them at a high level in 2023. Compared to 2020, the total



issuance volume of long-term secured debt is expected to almost double to about EUR 250 billion in 2023.

The issuance volume of covered bonds was somewhat low at about EUR 85 billion in 2020, but is expected to reach EUR 130 billion in 2021 and EUR 190 billion in 2022 and 2023. The strong increase in covered bond issuance in 2022 and 2023 will be driven, among other things by a high volume of maturing covered bonds in 2020 and 2021, which will substantially exceed the issuance volume in both years. Plans for increasing covered bond issuance in the forecast period could also be related to the decreasing volume of central bank funding, when covered bond issuance could offer a cheaper source of funding than unsecured funding, for example. Banks also expect a strong increase in issuances of ABS, to around EUR 39 billion in 2022 and EUR 43 billion in 2023, from EUR 3 billion in 2020. Regulatory initiatives to facilitate securitisations could contribute to plans to increase ABS issuances. In contrast, issuance volumes of other secured long-term debt are expected to contract between 2021 and 2023, compared to the figures reported in 2020.

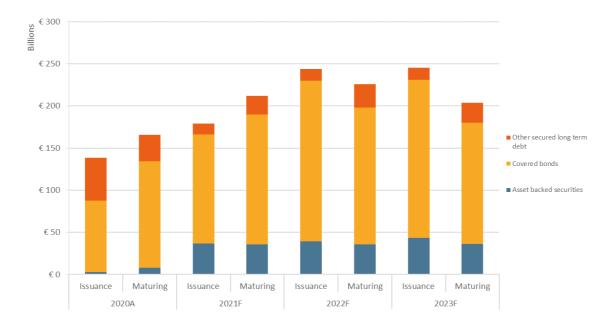


Figure 16: Secured debt issuance volume and maturing volume by instrument type and year

Source: EBA

Banks' progress in reducing MREL shortfalls

In the EU, an estimated 80% of the EU's domestic assets are covered by a strategy other than liquidation, implying an MREL above minimum capital requirements and potential funding needs.

Requirements to build loss absorbing capacity can be a driver for increased issuance volumes of unsecured debt as reported in funding plan data. BRRD1 introduced a minimum requirement of eligible liabilities (MREL), which requires banks to report sufficient resources for recapitalization in case of failure. The BRRD 1 broadly defined MREL as any type of long-term unsecured debt, including capital instruments and long-term deposits. However, resolution authorities across the EU retained



discretion to exclude some instruments, which was leading to a divergence in the effective MREL eligibility criteria between jurisdictions.

As of December 2019, under BRRD1, the EBA estimates that out of the 238 resolution groups in the scope of resolution, 111 EU resolution groups exhibited an MREL shortfall estimated at EUR 102bn, down from EUR 172bn the previous year for 111 resolution groups on a comparable basis. In terms of total assets, institutions with a shortfall represent about 28% of EU total domestic assets. The bulk of the shortfall is attributable to GSIIs (EUR 19bn) and Top Tier banks (banks with total assets above EUR 100bn, EUR 28bn)6.

Significant changes took place over 2020 and 2021. Significant issuance levels took place over the period, despite COVID, and BRRD2 came into force. BRRD2 harmonises the calibration of MREL for all institutions, clarifies the level of subordination required for the largest banks (GSIIs and banks with total assets above EUR 100bn) and sets a common deadline for compliance: 1 January 2024. This implies that institutions need to roll over existing stocks and, were relevant, continue closing their shortfalls or increase their share of subordinated eligible liabilities (incl. senior non preferred).

The EBA is mandated to monitor the roll-out of MREL decisions and the build-up of resources in the EU. The upcoming report based on December 2020 data is expected by the year-end 2021.

Trends in public sector sources of funding

Public sector sources of funding include repo funding programmes, credit guarantee programmes and credit supply incentive schemes. Public sector funding programmes apply in all cases to many institutions, i.e. programmes that individually support one bank or a restricted number of banks are excluded. Neither direct funding from public sources, such as deposits from state sovereign entities, nor emergency liquidity assistance measures provided by central banks are part of these programmes.

- Repo funding programmes: programmes that capture wholesale term-secured funding via repo transactions, such as the ECB's MRO, LTRO and TLTRO programmes.
- Credit guarantee funding programmes: programmes that capture wholesale unsecured term debt issuance support through backstop guarantees from a national and/or supra-national authority in the event of a bank's failure on its obligations.
- <u>Credit supply incentive scheme to the real economy:</u> programmes that capture funding support to banks via pricing or quantum incentives from a national and/or supra-national authority. An example of such a programme is the Hungarian National Bank's Funding for Growth Scheme.

⁶ According to the latest quantitative MREL report published by the EBA in May 2021: https://www.eba.europa.eu/eba- shows-good-progress-reduction-mrel-shortfall-largest-banks



As of December 2020, total public sector funding in the EU amounted to around EUR 1.3 trillion or 7% of banks' total funding. Among the different types of programmes, repo funding programmes (which include the ECB's TLTRO programme) represented the biggest share with about 63% of the total public sector funding.

According to banks' plans, both the volume and composition of public sector funding are going to change substantially over the next three years. In 2021, repos of more than one year and funding associated with supply incentive schemes through debt issuance are expected to decrease significantly, by 6.7% and 29.7% respectively. Meanwhile, repos of less than one year and funding associated with supply incentive schemes through granted loans should grow slightly. Overall, this would imply a 10% decrease in public sector funding. In 2022 and 2023 public sector funding is expected to decrease even further with almost all categories expected to register a significant fall. In 2023, compared to 2020 levels, repos of more than one year should decrease by 80%, credit supply incentive schemes through debt issuance by 72% and volumes associated with supply incentive schemes through granted loans by 6%. Overall, public sector funding volume should decline from EUR 1.3 trillion in 2020 to EUR 463 billion in 2023, representing about 2.5% of banks' total funding.

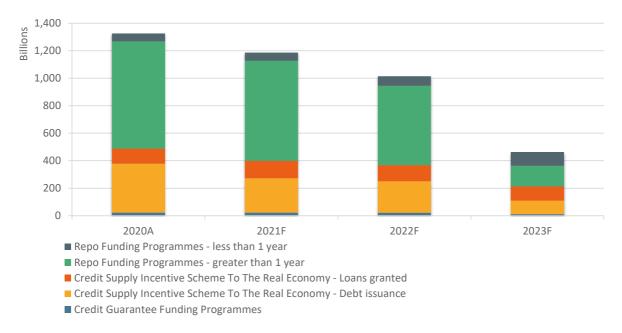


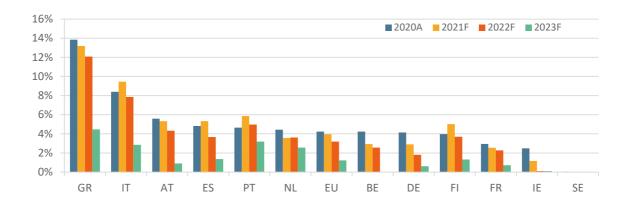
Figure 17: Public sector sources of funding (outstanding volume, EUR billion)

Source: EBA

As regards repo-based funding, all banks expect this type of funding to decrease significantly by 2023. While repo-based funding represented 4.4% of total funding in December 2020, banks expect this share to drop to 1.3% by 2023. Greek and Italian banks have reported the largest share as a proportion of total funding and are most affected by the changes to public sector funding programmes over the forecast period. As of December 2020, Greek banks covered almost 14% of their total funding needs with repo-based public funding (9% for Italian banks).

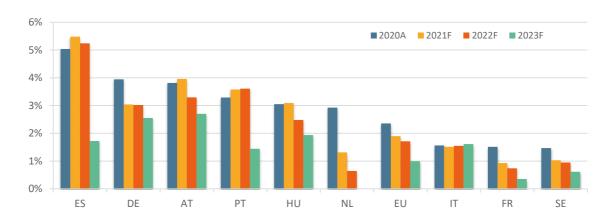
Figure 18: Public sector funding (repo-based funding) as a proportion of total funding by country and for the EU





As regards credit supply incentive schemes, which represented 2.5% of banks' total funding in December 2020, the dispersion across banks and countries is less pronounced. Banks in Spain (5%), Germany and Austria (both 4%) reported the highest share in terms of total funding. The trend over the forecast period is less uniform than for repo-based funding. While most countries expect a decrease in the share of this type of funding, Italian banks expect it to remain stable in the three years to 2023.

Figure 19: Public sector funding (credit supply incentive schemes) as a proportion of total funding by country and for the EU



Source: EBA

TLTRO and its impact on banks' funding plans

An analysis of banks' net issuances of debt securities against maturing TLTRO volumes shows that the former is higher than the latter in 2021, and both are roughly in balance in 2022. In 2023, the volume of maturing TLTROs will be substantially higher than volume of planned net debt securities issuances (see Figure 20). Over the forecast period (2021-2023), Euro area banks are planning net issuances of debt securities amounting to EUR 456 billion. This compares with a total outstanding TLTRO volume of EUR 1,776 billion maturing by 2023. This comparison suggests that banks plan to



replace approximately one fourth of the outstanding TLTRO volume with debt securities, while the remainder was unexplained at the time banks provided their funding plans. The maturing TLTRO volume will be particularly high in 2023, when the first TLTRO allotments the ECB provided under improved conditions in 2020 fall due. Accordingly, many Euro area banks expect materially higher issuance volumes of debt securities in 2023 compared to the previous two years (see Figure 14). Maturing temporary LTRO and TLTRO2 funds, as well as early repayments of TLTRO-3 funds obtained before the pandemic, contributed to the high usage of the improved TLTRO programme.

Figure 20: Net issuance volume of debt securities (euro area banks only) versus gross maturing TLTRO and PELTRO⁸ volume

	2021	2022	2023
Debt securities: net issuances	EUR 81 billion	EUR 109 billion	EUR 266 billion
Maturing TLTRO volume	EUR 27 billion	EUR 101 billion	EUR 1,648 billion

Source: EBA, ECB open-market operations9

The gap between planned net debt securities issuances and maturing TLTRO volume in 2023 may indicate that banks have not yet have fully reflected in their funding plans strategies to replace the large volume of additional central bank liquidity and funding they took up in the pandemic. An extension of the TLTRO programme until June 2022, with three additional allotments in June, September and December 2021, as announced in December 2020, may have contributed to banks not yet fully considering the repayment of TLTRO maturities in 2023 in their plans. With relatively favorable NSFR and LCR ratios, many banks have room to repay TLTRO loans without having to find alternative funding for the full amount of maturing TLTRO loans. Given that central bank reserves are very high by historic standards, many banks might consider drawing down their reserves to repay a share of the outstanding TLTRO volume.

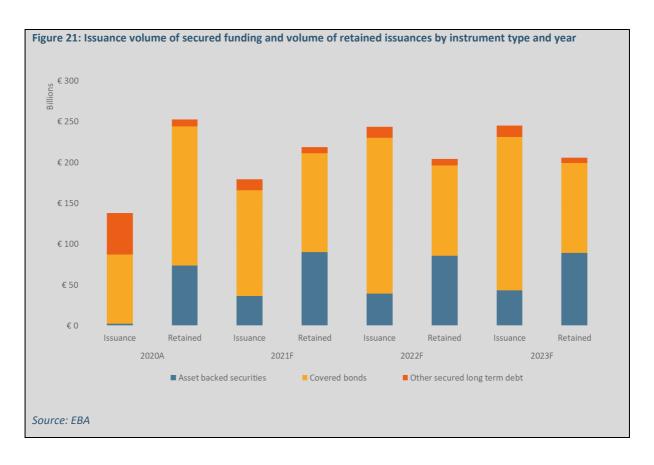
Data on retained secured funding shows that banks have retained a volume of around EUR 250 billion in 2020, more than twice the volume of public placements. The biggest segment of retained issuances was of covered bonds, with EUR 171 billion retained in 2020. The high volume of retained issuances points to the conclusion that many banks used covered bonds as collateral for TLTROs, which provided a cheaper source of funding. From 2021 to 2023, banks plan to retain covered bonds of around EUR 342 billion (see Figure 24). A high volume of retained covered bonds continuing over the forecast period may indicate that banks plan to retain collateral to be used for potential future central bank funding opportunities, for example, or they expect the current accommodative monetary policy stance to be extended further, beyond the TLTRO-3 programme.

⁷ There could be significant differences between the list of banks that have participated in the TLTRO-3 programme and those that are included in this report (see Annex 2).

⁸ A series of additional pandemic emergency LTROs the ECB introduced on 30 April 2020, maturing in 2021 (see the ECB press release).

⁹ See history.en.html. The ECB data does not reflect early repayments.





Assessment of planned liability growth

Similar to the asset side, to obtain an indication of the reliability of banks' forecasts, two approaches were applied: back-testing based on data reported by participating banks and a comparison with market analysts' expectations. Banks' estimates for 2020, as reported in December 2018 and 2019, were compared with the figures for 2020 as reported in December 2020.

Back-testing analysis of deposits

The back-testing run on the different types of deposits shows similar results for each of the deposit categories. The various responses to the pandemic had a large impact on deposits from households and NFCs.

For the deposits from households, the back-testing shows that most banks exceeded their targets, as the actual growth in deposits largely surpassed the planned growth. This is probably because of the lock-down measures applied over the course of 2020 in many countries, which impacted household expenditure. In contrast to the general trend, in the case of Iceland, banks failed to achieve the target deposit levels they had set themselves for 2020. As can be seen in Figure 22, dispersion among banks and countries was significant.



25%
20%
15%
10%
5%
-10%
-15%
-10%
AT BE CZ DE ES EU FR GR HR IE IS IT LT LU NL PL PT RO SE SK

■1-year forecasting gap

■ 2-year forecasting gap

Figure 22: Back-testing deposits from households for 2020, by country

Source: EBA

For deposits from NFCs, the impact of the pandemic was even more pronounced. Most banks significantly underestimated the growth in deposits they would be able to obtain in 2020. Figure 23 highlights that the pandemic hit banks in all countries and led to a wide gap between planned and real deposit growth rates for 2020. At EU aggregate level, the forecasting error was more than 10 percentage points.

■ Actual asset growth

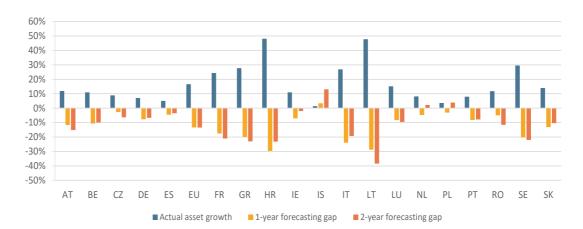


Figure 23: Back-testing deposits from NFCs for 2020, by country

Source: EBA

Comparison with market expectations

The funding plan data can be compared with expectations expressed via the EBA's RAQ. Responses to the 2021 spring questionnaire were used for this comparison. The results of the RAQ confirm the



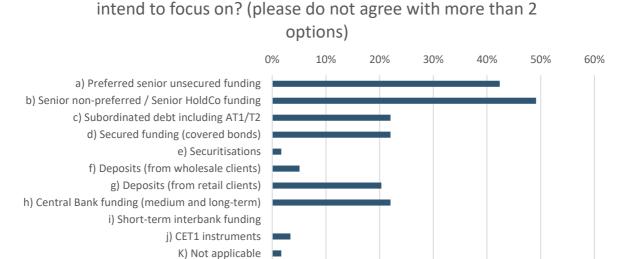
predominance of long-term unsecured funding and deposits in EU banks' funding strategies for the coming years.

Error! Not a valid bookmark self-reference. Figure 24 shows banks' responses to the RAQ as regards the main sources of funding they intend to focus on in 2021. In line with data from banks' funding plans, long-term funding constitutes a clear priority for EU banks. Almost 50% of respondents intend to focus on more MREL-eligible funding and over 40% of respondents expressed their intention of focusing on senior unsecured funding. Banks also remain optimistic about growth in deposits, particularly from the retail sector. It is also worth mentioning that 22% of banks expect a continued focus on central bank funding.

From the analysts' perspective (see Figure 25), expectations about funding in 2021 are in line with those produced by banks. In general, analysts believe that EU banks will focus on MREL-eligible funding and on unsecured debt issuances in 2021. In addition, analysts believe that banks will focus on more central bank funding in 2021.

Q9 In the next 12 months, which funding instruments do you

Figure 24: Funding focus for the next 12 months - RAQ for banks

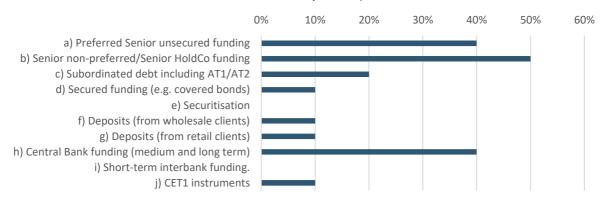


Source: EBA RAQ



Figure 25: Funding focus for the next 12 months - RAQ for market analysts

Q5 In the next 12 months, which funding instruments do you expect banks to focus on? (please do not agree with more than 2 options)



Source: EBA RAQ



Trends in pricing for assets and liabilities

Banks' pricing for loans and deposits

As part of funding plan data submissions, banks also provide pricing forecasts for loans as well as deposits and debt securities.

The data show that the spread between interest rates for client deposits and for loans to clients has continued its downward trend. As of December 2020, the average client spread was 2.22%, about 10 bps below the spread observed one year earlier (2.31%). The biggest yearly decline was reported by banks in Hungary (-190 bps), Romania (-64 bps) and Croatia (-57 bps). In a number of countries, led by the Czech Republic (+144 bps), Portugal (+57 bps) and Greece (+42 bps), the client spread improved in the last year.

For the year 2021, most banks expect the decline in client spreads to continue. Most notably, this is the case for banks in Poland (-35 bps) and Croatia (-29 bps).

6%

4%

AT BE CY CZ DE EE ES EU FR GR HR HU IE IS IT NL PL PT RO SE

Figure 26: Actual and planned spread between client loans and client deposits (households and NFCs), in percentage points

Source: EBA

Banks' pricing for debt securities

Despite the market turbulence in the first half of 2020, most banks reported that the cost of long-term market-based funding declined in 2020. This means the trend of decreasing funding costs has been unbroken since 2017. In 2021, most banks expect funding costs to decrease even further.

Figure 27 shows the actual interest rates of long-term debt securities for 2018, 2019 and 2020 as well as the planned rates for 2021 by country of incorporation of the bank. The average actual cost of long-term funding was reported as 1.44% in 2020 and thus has decreased from an average of 1.57%



reported in 2019. The reduction in costs is evident for 62% of the banks in the sample with another 6% of banks reporting unchanged funding costs. The decline is supported by the trend seen in spreads for market-based funding instruments (see Figure 1) and banks might have been able to replace maturing debt with better pricing.

In 2021, most of the banks in the sample expect costs for long-term market-based funding to decrease further. On average, banks expect the increase to be 7 bps. While 56% of the banks in the sample estimate a decline in 2021, 16% believe funding costs will remain unchanged and another 28% expect their long-term funding costs to increase.

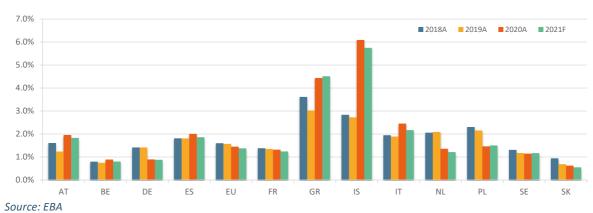


Figure 27: Actual and forecast interest rates of long-term debt securities

As regards secured funding, on average, banks expect costs to remain almost unchanged in 2021. While 40% of the banks in the sample estimate a decline in 2021, 10% believe funding costs will remain unchanged and another 50% expect their long-term funding costs to increase. The costs for covered bonds, which make up the majority of secured funding instruments, are expected to increase slightly (by 3 bps, on average). On the other hand, banks expect the costs for asset backed securities to decrease somewhat (by -1 bps, on average).

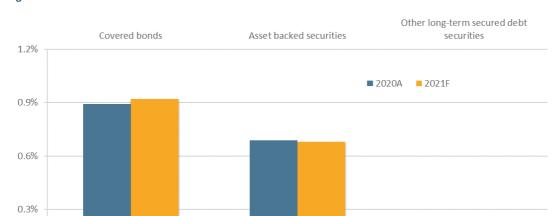


Figure 28: Actual and forecast interest rates of secured debt securities

Source: EBA

0.0%



As regards unsecured funding, on average, banks expect costs to decrease slightly in 2021. While 67% of the banks in the sample estimate a decline in 2021, 5% believe funding costs will remain unchanged and another 28% expect their long-term funding costs to increase. In particular, the costs for Additional Tier 1 instruments, Tier 2 instruments and MREL-eligible funding instruments are forecast to fall. Senior unsecured instruments, which are reported as other long-term unsecured instruments, are expected to become slightly more expensive in 2021, albeit a very small increase (4 bps, on average).

Additional Tier 1 instruments

Tier 2 instruments

Subordinated instruments

Senior non-preferred

Senior unsecured

Unsecured instruments

2020A

2021F

Figure 29: Actual and forecast interest rates of secured debt securities

Source: EBA

Assessment of banks' pricing assumptions

In line with previous sections of this report, a back-testing approach based on data reported by participating banks has been applied to test the accuracy of banks' forecasts. In addition, banks' pricing assumptions for 2021 have been compared with expectations expressed by banking experts and market analysts via the EBA's RAQ. Responses to the questionnaire launched in the spring of 2021 have been used for this comparison.

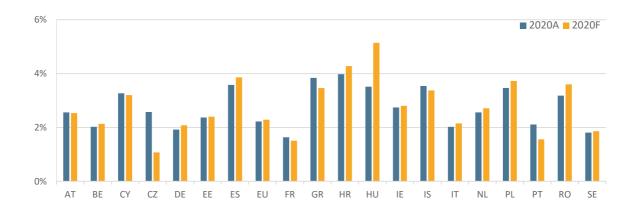
Back-testing banks' pricing assumptions for loans and deposits

Banks' planned spreads between client loans and client deposits for 2020 as reported in December 2019 were compared with the actual spreads as reported in December 2020.

As represented in Figure 30, on average, banks missed the client spread targeted for 2020. The average client spread for the year of 2.22% was 7 bps short of the target spread figure of 2.29% set by the banks themselves one year earlier. Back-testing results revealed that several banks missed their targets significantly. For example, banks in Hungary missed their 2020 targets by 163 bps, banks in Romania by 42 bps and banks in Croatia by 30 bps. Some banks also beat their targets, most notably in the Czech Republic, by 150 bps and in Portugal, by 55 bps.



Figure 30: Back-testing client spreads for 2020

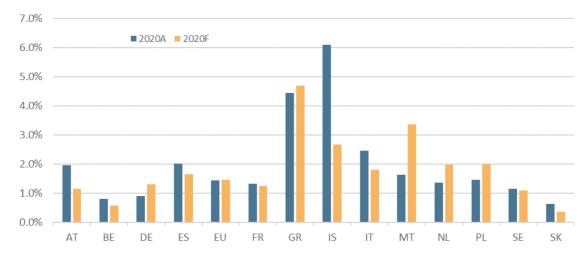


Back-testing banks' pricing assumptions for debt securities

Banks' planned costs of long-term market-based funding for 2020 as reported in December 2019 were compared with the actual costs as reported in December 2020. Figure 31 shows that banks achieved lower costs for market-based funding in 2020 than they had planned for one year earlier. With the average cost of funding reported in 2020 at 1.45%, on an EU aggregate basis banks beat their targets by 2 bps. Lower-than-expected pricing of debt securities could have been feasible due to support from central banks' asset purchase programmes, which has increased substantially in 2020 because of the pandemic.

Data show significant dispersion among banks and countries. Banks in several countries missed their 2020 funding cost targets by more than 50 bps, for example in Iceland (by 343 bps), Austria (by 82 bps) and Italy (by 65 bps). Banks in several other countries significantly beat their targets, most notably in Malta (by 173 bps), the Netherlands (by 63 bps) and Poland (by 53 bps).

Figure 31: Back-testing market-based funding costs for 2020



Source: EBA



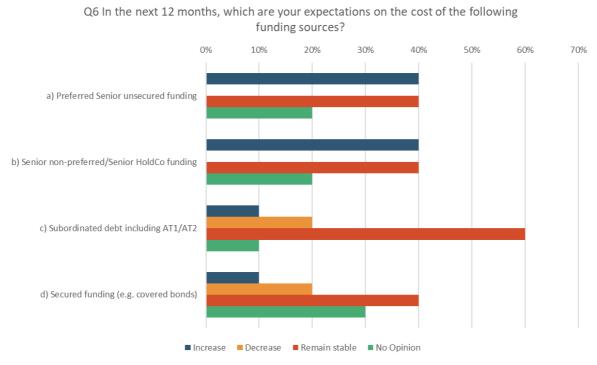
Comparison with market expectations

The banks' assumption of decreasing costs for market-based funding in 2021 can be compared with views expressed by market analysts via the EBA's RAQ. Figure 32 shows analysts' views on costs related to debt issuances in 2021

Responses to the EBA's RAQ in April 2019 show that 40% of respondents believe that banks will face higher costs when issuing MREL-eligible instruments in 2021 with a further 40% expecting stable costs for this funding segment. As regards AT1 and Tier 2 instruments, the majority of RAQ responses point to stable funding costs and another 20% of respondents expect funding costs to decline for regulatory capital.

While the views expressed via the RAQ match banks' funding plans for AT1 and Tier 2 instruments - both sources point to a decrease in costs - there is a mismatch between the two data sources as regards MREL-eligible debt. In contrast to banks' funding plan forecasts, RAQ respondents believe the costs for this segment will increase. However, the different points in time when those estimates were provided could explain the different expectations on costs for debt issuances. For secured funding, both the RAQ responses and funding plan forecasts point to mostly stable funding costs in 2021.

Figure 32: Analysts' expectations on costs for debt issuances



Source: EBA RAQ



Conclusions

The COVID-19 pandemic impacted European banks' balance sheets significantly in 2020. On average, total assets increased by 8% in 2020. This rise was primarily due to the very accommodative monetary policies and other central bank support measures introduced as a response to the pandemic, which led to a surge in cash balances at central banks. Loan volumes for the two main loan segments, loans to households and to NFCs, increased only modestly when compared to December 2019.

Given the economic recovery and outlook, banks expect lending volume to grow significantly between 2021 and 2023. They plan to fund the growth in lending to NFCs and households (+4% per year over the forecast period) by issuing more debt securities and, albeit to a lesser extent, by attracting more client deposits. Deposits from NFCs and household clients surged in 2020 to make up 73% of total funding. Deposits are set to continue to grow in 2021 and beyond, albeit at a much slower pace. Debt instruments are expected to exhibit the highest growth rate of all sources of funding (in particular short-term debt securities and unsecured funding), reflecting expectations of reduced central bank support measures. A strong planned increase in issuance volumes of MREL-eligible instruments reflects plans to make further progress in meeting MREL requirements.

Banks' reliance on public sector sources of funding (such as the ECB's TLTRO programme) increased significantly in 2020 due to the pandemic. As of December 2020, public sector funding contributed almost 7% to banks' total funding. This share is set to decline to around 2.5% by 2023. A large gap between planned net debt securities issuances and maturing TLTRO volume in 2023 could indicate that banks may not yet have fully reflected in their funding plans strategies to replace large volumes of TLTROs maturing in 2023.

The impact of the pandemic is visible when comparing banks' forecasts for the year 2020 (provided in 2019 before the COVID outbreak) with actual figures as reported in December 2020. For all balance sheet positions that were selected for back-testing, significant gaps between forecasts and actual amounts were found for almost all banks in the sample.

Funding plan data show that the spread between interest rates for client deposits and loans to clients further reduced in 2020 (2.22% compared with 2.31% in 2019). For 2021, most banks expect the decline to continue.

As regards market-based funding, and despite the market turbulence in the first half of 2020, most banks reported that the cost of long-term market-based funding declined in 2020. The average actual cost of long-term funding was reported as 1.44% in 2020 and has thus decreased from an average of 1.57% reported in 2019. In 2021, most banks expect funding costs to decrease even further.



Annex 1

Funding plans: additional charts including country data

Figure 33: Growth in loans to financial corporates by country and for the EU, per year

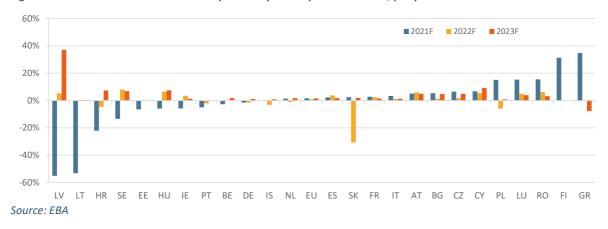


Figure 34: Growth in loans to households by country and for the EU, per year 10



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 $^{^{10}}$ The high level of the planned growth in loans to households in Luxembourg in 2019 is due to the development of a European hub.



Figure 35: Growth in loans to NFCs by country and for the EU, per year

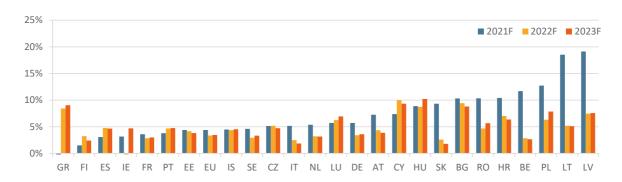


Figure 36: Growth in deposits from households and NFCs by country and for the ${\rm EU}^{11}$

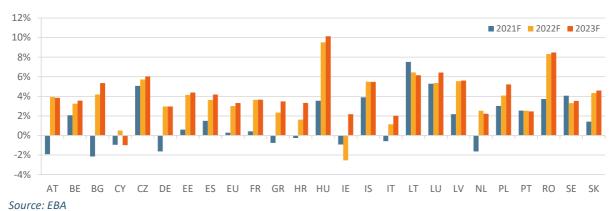
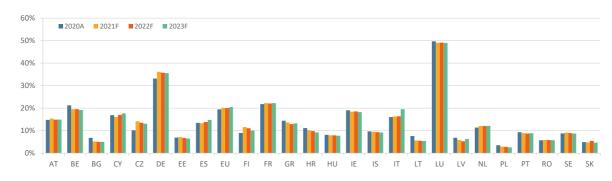


Figure 37: Share of repos and deposits from financial corporations in total funding by country



Source: EBA

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 $^{^{11}}$ The high level of the planned growth in deposits from households and NFCs in Luxembourg in 2019 is due to the development of a European hub.



Figure 38: Share of client deposits (households and NFCs) in total funding by country

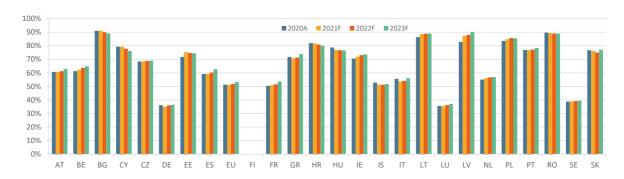
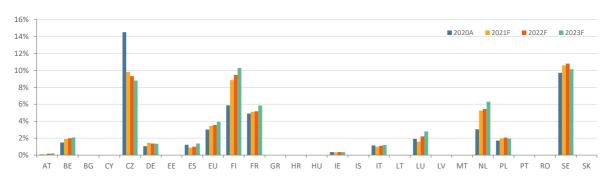
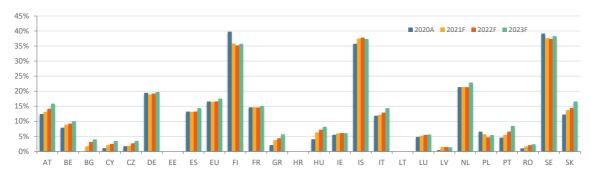


Figure 39: Share of short-term debt instruments in total funding by country



Source: EBA

Figure 40: Share of long-term debt instruments (secured and unsecured) in total funding by country



Source: EBA



Annex 2

List of participating banks

		Is the bank included?				
Country	Entity name	Asset/liability analysis (2020)	Asset/liability analysis (2018 - 2020)	Interest spread analysis (2018 - 2020)	Debt rate analysis (2018 - 2020)	
AT	BAWAG Group AG	Yes	Yes	Yes	Yes	
AT	Erste Group Bank AG	Yes	Yes	Yes	Yes	
AT	Raiffeisen Bank International AG	Yes	Yes	Yes	No	
AT	Raiffeisenbankengruppe OÖ Verbund eGen	Yes	Yes	Yes	Yes	
AT	UniCredit Bank Austria AG	Yes	Yes	Yes	No	
AT	Volksbanken Verbund	Yes	Yes	Yes	Yes	
AT	Sberbank Europe AG	Yes	Yes	Yes	Yes	
BE	Investeringsmaatschappij Argenta NV	Yes	Yes	No	Yes	
BE	AXA Bank Belgium SA	Yes	Yes	Yes	Yes	
BE	Bank of New York Mellon	Yes	No	No	Yes	
BE	Belfius Banque SA	Yes	No	No	No	
BE	BNP Paribas Fortis SA	Yes	Yes	Yes	No	
BE	KBC Group NV	Yes	Yes	Yes	Yes	
BE	ING België / Belgique	Yes	No	No	No	
BG	DSK Bank Bulgaria	Yes	No	No	Yes	
BG	First Investment Bank	Yes	Yes	Yes	No	
BG	UniCredit Bulbank Bulgaria	Yes	Yes	No	No	
BG	United Bulgarian Bank- UBB	Yes	No	No	No	
CY	Bank of Cyprus Holdings Public Limited Company	Yes	Yes	Yes	No	
CY	Hellenic Bank Public Company Ltd	Yes	Yes	Yes	No	
CY	RCB Bank Ltd	Yes	No	Yes	Yes	
CZ	Česká spořitelna, a.s.	Yes	Yes	Yes	No	
CZ	Československá obchodní banka, a.s.	Yes	Yes	Yes	Yes	
CZ	Komerční banka, a.s.	Yes	Yes	Yes	Yes	
DE	Aareal Bank AG	Yes	Yes	Yes	Yes	
DE	Bayerische Landesbank	Yes	Yes	Yes	Yes	
DE	Commerzbank AG	Yes	Yes	No	Yes	



5-		T.,	T.,	T	l ,,
DE	DekaBank Deutsche Girozentrale	Yes	Yes	No	Yes
DE	Deutsche Apotheker- und Ärztebank eG	Yes	Yes	Yes	No
DE	Deutsche Bank AG	Yes	Yes	Yes	Yes
DE	Deutsche Zentral- Genossenschaftsbank AG	Yes	Yes	Yes	Yes
DE	Hamburg Commercial Bank AG	Yes	Yes	Yes	No
DE	Deutsche Pfandbriefbank AG	Yes	Yes	Yes	No
DE	Landesbank Baden-Württemberg	Yes	Yes	No	No
DE	Erwerbsgesellschaft der S- Finanzgruppe mbH & Co. KG	Yes	Yes	Yes	No
DE	Landesbank Hessen-Thüringen Girozentrale	Yes	No	Yes	Yes
DE	Landeskreditbank Baden- Württemberg-Förderbank	No	No	No	No
DE	Landwirtschaftliche Rentenbank	No	No	No	No
DE	Münchener Hypothekenbank eG	Yes	Yes	No	No
DE	Norddeutsche Landesbank Girozentrale	Yes	Yes	Yes	No
DE	NRW.Bank	No	No	No	No
DE	Volkswagen Bank Gesellschaft mit beschränkter Haftung	Yes	Yes	Yes	Yes
DE	HASPA Finanzholding AG	Yes	Yes	Yes	No
DE	State Street Europe Holdings	Yes	Yes	No	Yes
DE	J.P. Morgan AG, Frankfurt am Main	Yes	No	No	No
DE	UBS Europe SE, Ffm	Yes	No	No	No
DK	Danske Bank A/S	No	No	No	No
DK	Jyske Bank A/S	No	No	No	No
DK	Nykredit Realkredit A/S	No	No	No	No
DK	Sydbank A/S	No	No	No	No
EE	Luminor Holding AS	Yes	No	Yes	Yes
EE	AS SEB Pank	Yes	Yes	Yes	Yes
EE	Swedbank AS	Yes	Yes	Yes	No
ES	Banco Bilbao Vizcaya Argentaria, S.A.	Yes	Yes	Yes	Yes
ES	Banco de Sabadell, S.A.	Yes	Yes	Yes	Yes
ES	BFA Tenedora de Acciones, S.A.	No	No	No	No
ES	Banco Santander, S.A.	Yes	Yes	Yes	Yes
ES	Bankinter, S.A.	Yes	Yes	Yes	Yes
ES	Banco de Crédito Social Cooperativo, S.A.	Yes	Yes	Yes	Yes
ES	Ibercaja Banco, S.A.	Yes	Yes	No	Yes
ES	Kutxabank, S.A.	Yes	Yes	Yes	Yes
ES	Liberbank, S.A.	Yes	Yes	Yes	Yes
2	Liberbank, J.A.	103	103	103	' ' ' '



ES	Abanca Corporación Bancaria, S.A.	Yes	Yes	Yes	Yes
ES	Unicaja Banco, S.A.	Yes	Yes	Yes	Yes
ES	CaixaBank, S.A.	No	No	No	No
FI	OP Osuuskunta	Yes	Yes	Yes	No
FI	Nordea Bank Abp	Yes	Yes	Yes	No
FI	Kuntarahoitus Oyj	Yes	Yes	Yes	No
FR	BNP Paribas SA	Yes	Yes	Yes	Yes
FR	Bpifrance (Banque Publique d'Investissement)	No	No	No	No
FR	Groupe Crédit Agricole	Yes	Yes	Yes	Yes
FR	Crédit Mutuel Group	Yes	Yes	Yes	Yes
FR	CRH (Caisse de Refinancement de l'Habitat)	Yes	Yes	No	Yes
FR	Groupe BPCE	Yes	Yes	Yes	Yes
FR	HSBC France	Yes	No	Yes	Yes
FR	La Banque Postale	Yes	Yes	Yes	Yes
FR	RCI banque (Renault Crédit Industriel)	Yes	Yes	Yes	Yes
FR	SFIL (Société de Financement Local)	Yes	Yes	Yes	Yes
FR	Société Générale SA	Yes	Yes	Yes	Yes
GR	Alpha Bank SA	Yes	Yes	Yes	Yes
GR	Eurobank Ergasias SA	Yes	Yes	Yes	Yes
GR	National Bank of Greece SA	Yes	Yes	Yes	Yes
GR	Piraeus Bank SA	Yes	Yes	Yes	Yes
HR	Erste&Steiermärkische Bank d.d.	Yes	Yes	Yes	Yes
HR	Privredna Banka Zagreb d.d.	Yes	Yes	Yes	Yes
HR	Zagrebacka banka d.d.	Yes	Yes	Yes	Yes
HU	Kereskedelmi és Hitelbank csoport	Yes	Yes	Yes	Yes
HU	OTP Bank Nyrt.	Yes	No	Yes	Yes
HU	UniCredit Bank Hungary Zrt.	Yes	Yes	Yes	No
IE	AIB Group plc	Yes	Yes	Yes	No
IE	Bank of Ireland Group plc	Yes	Yes	Yes	No
IE	DePfa Bank plc	No	No	No	No
IE	Bank of America Merrill Lynch International Designated Activity Company	Yes	No	No	No
IE	Ulster Bank Ireland Limited	Yes	Yes	Yes	No
IE	Citibank Holdings Ireland Limited	Yes	Yes	Yes	No
IE	Barclays Bank Ireland plc	No	No	No	No
IS	Arion banki hf	Yes	Yes	Yes	Yes
IS	Íslandsbanki hf.	Yes	Yes	Yes	Yes



IS	Landsbankinn hf.	Yes	Yes	Yes	Yes
IT	Banca Carige SpA - Cassa di Risparmio di Genova e Imperia	No	No	No	No
IT	Banca Monte dei Paschi di Siena SpA	Yes	Yes	Yes	Yes
IT	Banca popolare dell'Emilia Romagna SC	Yes	Yes	Yes	Yes
IT	Banca Popolare di Sondrio SCpA	Yes	Yes	Yes	No
IT	Banco BPM SpA	Yes	Yes	Yes	Yes
IT	Credito Emiliano Holding SpA	Yes	Yes	Yes	No
IT	Iccrea Banca Spa Istituto Centrale del Credito Cooperativo	Yes	No	No	No
IT	Intesa Sanpaolo SpA	Yes	Yes	Yes	Yes
IT	Mediobanca - Banca di Credito Finanziario SpA	Yes	Yes	Yes	Yes
IT	UniCredit SpA	Yes	Yes	Yes	Yes
IT	Unione di Banche Italiane SCpA	No	No	No	No
IT	Cassa Centrale Banca - Credito Cooperativo Italiano S.p.A	Yes	No	No	No
LT	AB SEB bankas	Yes	Yes	No	Yes
LT	Swedbank AB	Yes	Yes	Yes	Yes
LT	Akcinė bendrovė Šiaulių bankas	Yes	Yes	Yes	Yes
LU	Banque et Caisse d'Epargne de l'Etat, Luxembourg	Yes	Yes	Yes	No
LU	Precision Capital S.A.	Yes	Yes	Yes	No
LU	RBC Investor Services Bank S.A.	Yes	Yes	Yes	Yes
LU	State Street Bank Luxembourg S.C.A.	No	No	No	No
LU	Banque Internationale à Luxembourg	Yes	Yes	No	No
LU	J.P. Morgan Bank Luxembourg S.A.	Yes	No	No	No
LV	AS SEB banka	Yes	Yes	Yes	No
LV	Swedbank AS	Yes	Yes	Yes	Yes
LV	AS Citadele banka	Yes	No	No	No
MT	Bank of Valletta Plc	Yes	Yes	Yes	Yes
MT	CommBank Europe Ltd	No	No	No	No
MT	HSBC Bank Malta Plc	Yes	Yes	Yes	Yes
MT	MDB Group Limited	No	No	No	Yes
NL	ABN AMRO Bank N.V.	Yes	Yes	No	Yes
NL	Coöperatieve Rabobank U.A.	Yes	Yes	Yes	Yes
NL	ING Groep N.V.	Yes	Yes	Yes	Yes
NL	BNG Bank N.V.	Yes	Yes	Yes	Yes
NL	Nederlandse Waterschapsbank N.V.	Yes	Yes	No	Yes



NL	de Volksbank N.V.	Yes	Yes	Yes	No
PL	Bank Polska Kasa Opieki SA	Yes	Yes	Yes	Yes
PL	Santander Bank Polska SA	Yes	Yes	Yes	Yes
PL	Powszechna Kasa Oszczędności Bank Polski SA	Yes	Yes	Yes	Yes
PT	Banco BPI SA	Yes	Yes	No	Yes
PT	Banco Comercial Português SA	Yes	Yes	Yes	No
PT	Caixa Central de Crédito Agrícola Mútuo, CRL	Yes	Yes	Yes	No
PT	Caixa Económica Montepio Geral	Yes	Yes	Yes	No
PT	Caixa Geral de Depósitos SA	Yes	Yes	Yes	No
PT	LSF Nani Investments S.à.r.l.	Yes	Yes	Yes	No
PT	Santander Totta – SGPS SA	Yes	Yes	Yes	No
RO	Banca Comerciala Romana SA	Yes	Yes	Yes	No
RO	Banca Transilvania	Yes	Yes	Yes	Yes
RO	BRD-Groupe Société Générale SA	Yes	Yes	Yes	No
SE	AB Svensk Exportkredit	Yes	Yes	No	No
SE	Kommuninvest - group	Yes	Yes	No	Yes
SE	SBAB Bank AB - group	Yes	Yes	Yes	Yes
SE	Skandinaviska Enskilda Banken - group	Yes	Yes	Yes	Yes
SE	Svenska Handelsbanken - group	Yes	Yes	Yes	Yes
SE	Swedbank - group	Yes	Yes	Yes	Yes
SE	Länsförsäkringar Bank AB - group	Yes	Yes	Yes	No
SI	Biser Topco S.à r.l.	No	No	Yes	Yes
SI	Nova Ljubljanska Banka d.d., Ljubljana	Yes	Yes	Yes	Yes
SI	Abanka d.d.	No	No	No	No
SI	SKB banka	Yes	No	No	No
SK	Slovenská sporiteľňa, a.s.	Yes	Yes	Yes	Yes
SK	Tatra banka, a.s.	Yes	Yes	Yes	Yes
SK	Všeobecná úverová banka, a.s.	Yes	Yes	No	Yes

