



EBA REPORT ON FUNDING PLANS

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Abbreviations

ABS	asset-backed securities
AT1	additional Tier 1
BRRD	Bank Recovery and Resolution Directive
EBA	European Banking Authority
ECB	European Central Bank
EU	European Union
G-SII	global systemically important institution
MREL	minimum requirement for own funds and eligible liabilities
NFC	non-financial corporate/non-financial corporation
O-SII	other systemically important institution
RAQ	Risk Assessment Questionnaire
SMEs	small and medium-sized enterprises
T2	Tier 2
TLTRO	targeted longer term refinancing operations

Country code	Name of country
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czechia
DE	Germany
DK	Denmark
EE	Estonia
ES	Spain
FI	Finland
FR	France
GB	United Kingdom
GR	Greece
HR	Croatia
HU	Hungary
IE	Ireland
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 with regard to assets, liabilities and relative pricing. Through back-testing of past funding plans, the report aims to assess the reliability of the projections made by banks.

Total assets have increased and banks expect further growth over the next 3 years

Banks' total assets increased in 2018 by 0.5% compared with their 2017 levels; this was mainly driven by an increase in loans to households and NFCs. Banks expect total assets to increase by 6.1% over the 3-year forecast period from 2019 to 2021. Loans to NFCs and households are expected to grow strongly, by 11.9% and 11.6%, respectively, over the 2019-2021 forecast period.

Deposits remain the main source of funding

Deposits are expected to grow steadily throughout the forecast period, albeit at a slower pace than in recent years. While the share of deposits in total funding had increased from 66% in 2016 to 68% in 2018, it is expected to remain at this level for the next 3 years.

Banks plan to increase issuance volumes, in particular of unsecured debt instruments

Banks plan to issue more debt instruments in the coming years. Over the 3-year forecast period, banks plan to increase long-term funding by almost 14%, amounting to EUR 4 trillion by 2021. Unsecured debt securities are expected to increase by almost 15%, amounting to EUR 2.6 trillion by 2021, while secured funding is expected to grow by 11% (mainly covered bonds), amounting to EUR 1.5 trillion by 2021.

Public sector funding to reduce significantly by 2021

Projections indicate a significant reduction in reliance on public sector funding in the years ahead. While in December 2018 public sector funding accounted for almost 4% of banks' total funding, it is expected to fall below 1% by 2021. However, banks' projections were made before the ECB announced details of its TLTRO III programme.

Interest rate spread continued its downward trend

Amid greater competition in the EU banking sector, the spread between interest rates for loans to clients (households and NFCs) and client deposits (households and NFCs) has continued to decline. As of December 2018, the average client spread was 2.51% compared with 2.69% 1 year earlier. However, most banks expect the spread decline to be less severe or to increase slightly in 2019.

Market-based funding costs to increase in 2019

Banks assume that their costs for long-term market-based funding will increase in 2019, reversing the downward trend observed over the last 3 years. However, market analysts' expectations — collected using the EBA RAQ — suggest that the cost increase may be less severe than banks assume, as a result of the ECB's announcement that it will extend its TLTRO programme, the details of which were published only after banks submitted funding plan data.

Back-testing results show improving bank forecasts

Back-testing results show that banks' forecasts for 2018 generally improved compared with their forecasts for 2017. In particular, back-testing of pricing assumptions for loans and deposits showed that banks broadly managed to achieve the client spread targeted for 2018. However, significant forecasting misses of some banks in both years demonstrate that competent authorities should investigate further the reasons for discrepancies and challenge banks' forecasts.

Introduction

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

The analysis is based on funding plan data reported in accordance with the relevant EBA guidelines.¹ The EBA collects data from a sample of banks, as defined in EBA Decision DC/2015/130 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, more than 80% of the EU banking sector. The list of 159 reporting banks (including subsidiaries) from all EU jurisdictions is provided in Annex 2.³

Funding plan data are generally reported on a consolidated basis.⁴ The EU aggregate figures and charts in this report are based on the data reported at the highest level of consolidation. Country-level data, in contrast, also include subsidiaries where these belong to the largest banks in the corresponding jurisdiction. The reporting covers balance sheet forecast figures for 3 years, and includes information on public sector sources of funding, deposit funding, market-based funding, information on pricing, and information on the impact of disposals and acquisitions. The analysis uses data reported in the last 3 years, and covers actual figures for 2016, 2017 and 2018 as well as forecasts for the subsequent 3 years (2019 to 2021). The cut-off date for all funding plan data submitted by banks was 27 May 2019.

¹ <https://www.eba.europa.eu/documents/10180/742799/EBA-GL-2014-04+%28Guidelines+on+Harmonised+Definitions+and+Templates+for+Funding+Plans%29.pdf>

²

<http://www.eba.europa.eu/documents/10180/16082/EBA+DC+090+%28Decision+on+Reporting+by+Competent+Authorities+to+the+EBA%29.pdf/9beaf5be-2624-4e36-a75b-b77aa3164f3f>

³ Throughout the report, country-specific data are not disclosed if the country in question participated in the exercise with fewer than three banks.

⁴ Competent authorities can exercise discretion as to the level and perimeter of consolidation on a firm-by-firm basis (paragraph 11 of the Guidelines on Funding Plans).

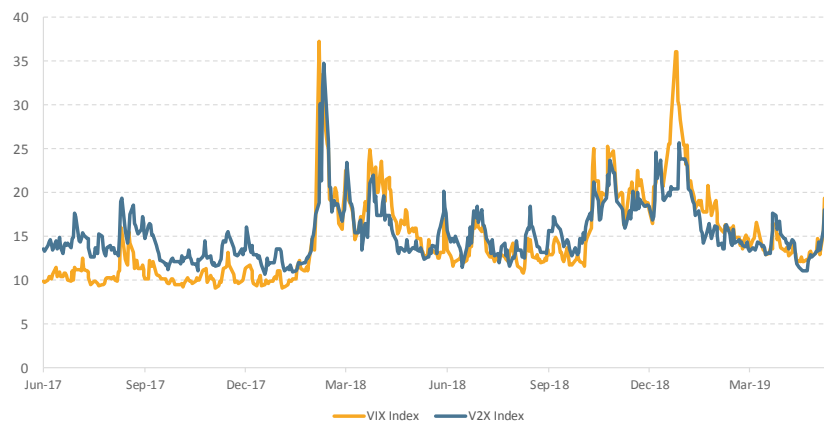
Recent developments in liquidity and funding conditions

After several years of very favourable conditions in the financial markets, 2018 turned out to be more challenging for financial institutions. Funding and liquidity conditions became more volatile from the beginning of 2018. Volatility and pricing for bank funding instruments further increased at the beginning of 2019; however, since March they have reduced again. More volatile liquidity and funding conditions were driven by a range of factors, such as concerns about economic growth, the expected end of central banks' quantitative easing programmes in 2018, the rise of trade tensions coupled with increased political risks across the globe, and an outlook of low bank profitability. The distribution of issuances of funding instruments over time has been more uneven since 2018, as banks have markedly reduced their issuance activities or have resorted to attaining mainly secured funding during episodes of heightened volatility.

While in general no major constraints on secured and unsecured funding were observed, there was at times some reluctance to place subordinated instruments. This was mainly connected to elevated pricing levels, and it often affected banks domiciled in countries that have experienced financial stress in the past. Further heightened volatility and rising prices for bank funding instruments compared with 2018 were observed at the beginning of 2019 and were driven by a number of factors, including uncertainty about the anticipated departure of the United Kingdom from the EU, ongoing trade tensions and uncertainty about the path of normalisation for ultra-low interest rates expected at that time. Issuance volumes of unsecured debt were reduced during these periods. Banks prefer to issue covered bonds during periods of heightened volatility, as they offer a cheaper source of funding. Some pre-funding activity that had been started to replace maturing central bank funding, in particular the ECB's TLTRO II, also supported price increases for funding instruments at that time.

Increased uncertainty about more volatile liquidity and funding conditions is reflected in the volatility indices (VIX and V2X). Volatility indicators are used by analysts and investors to measure market risk or the risk of a sudden repricing before they take investment or financing decisions. As can be seen in Figure 1, volatility has heightened since the beginning of 2018, with bouts of very high volatility in the first and last quarters of 2018.

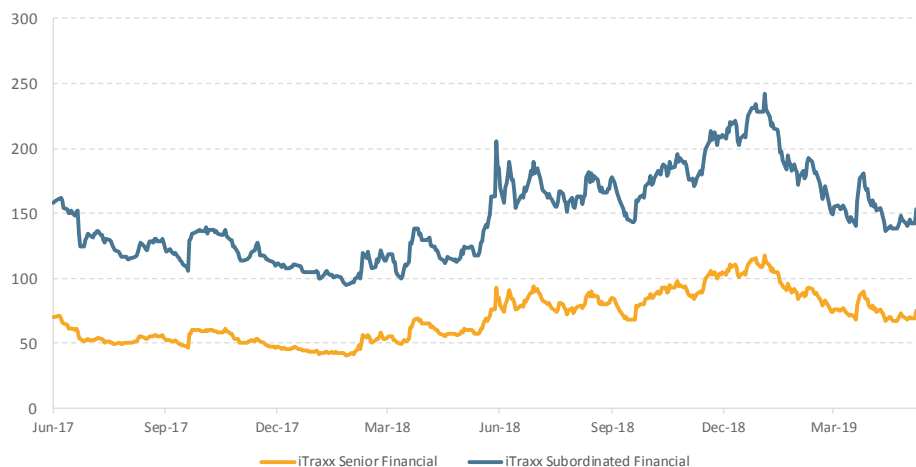
Figure 1: Implied volatility since June 2017



Source: Bloomberg.

Spreads increased as well after having reached post-global financial crisis lows in early 2018. The Markit iTraxx indices for subordinated and senior debt gradually increased until March 2019. Similar factors to those that contributed to heightened volatility also determined the dynamics of spreads. At the beginning of 2019, the indices for subordinated debt and senior debt reached nearly 250 basis points and around 110 basis points, respectively — their highest levels since 2016 (see Figure 2). Increasing spreads were, to some extent, also a result of political uncertainty in some EU Member States and highlighted that a feedback loop between sovereign and domiciled financial institutions remains a concern among investors while many EU banks remain substantially exposed to sovereign debt.

Figure 2: iTraxx senior and subordinated financial indices



Source: Bloomberg.

Since March 2019, pricing of funding instruments and spreads has gradually reduced and issuance volumes have improved. These improvements were mainly driven by central bank communication of further prolongation of the very accommodative monetary policy stance, and previous market expectations of such communication. In addition, the ECB announcement on 7 March that it was to launch TLTRO III in September 2019 was an important milestone for improved funding market sentiment. Some heightened volatility nevertheless persisted.

Ample investor liquidity positions coupled with a fierce search for yield in the context of very low interest rates further support generally positive funding conditions. Some improved fundamentals on banks' part, such as decreasing non-performing loan ratios, progress to build MREL and sound capital positions, also supported generally positive sentiment on bank funding markets. Although they are at a higher level than at the start of 2018, spreads are still low by historical comparison.

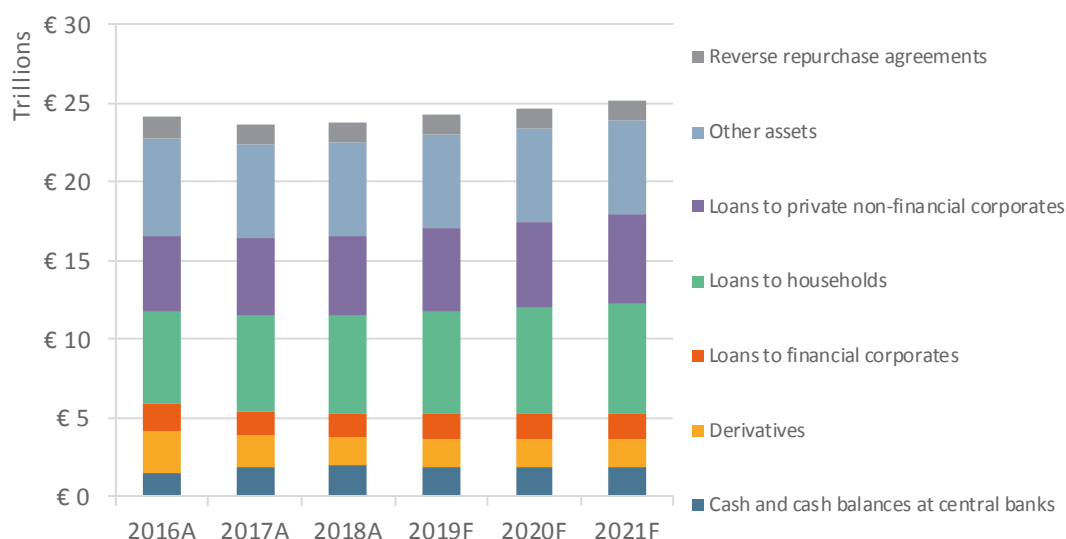
This year also saw the introduction of several regulatory initiatives that may have a significant impact on financial markets and funding markets. For example, the Covered Bond Directive was approved in April 2019. With the Covered Bond Regulation, it provides a legislative framework for covered bonds in the EU. The main objective of the directive is to harmonise fragmented national covered bond legal frameworks across EU Member States and provide a common set of standards for covered bonds, focusing on high-quality cover pool assets. The new legislative framework is expected to promote covered bonds as a funding instrument across the EU. National covered bond markets that have been less developed to date are expected to benefit particularly.

Asset trends

Forecast asset growth and its main drivers

European banks' total assets are expected to grow throughout the 3-year forecast period. This indicates that the trend that began in 2018 is expected to continue. After a general trend of decreasing assets in the EU banking system until 2017, total assets actually increased in 2018 by 0.5%, mainly driven by growing lending to households and NFCs. Banks expect total assets to have increased by 6.1% by the end of the 3-year forecast period in 2021. Looking at the asset composition, loans to NFCs and loans to households are expected to grow strongly, by 11.9% and 11.6%, respectively, until the end of the forecast period. Figure 3 highlights the expected asset growth by showing the actual asset composition for 2016-2018 and the forecast asset composition for 2019-2021.

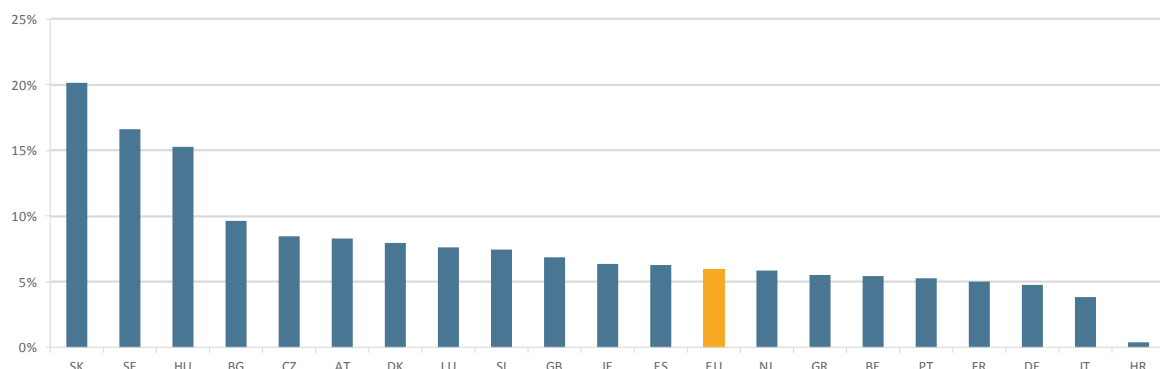
Figure 3: Actual and planned asset composition, 2016-2021



Source: EBA.

Asset growth forecast figures show a wide dispersion across countries. While banks in 14 countries expect their total assets to grow by between 5% and 9% in the next 3 years, banks in Hungary, Slovakia and Sweden expect their total assets to grow by over 15%. Banks in Croatia, Germany and Italy expect their total assets to grow by less than 5%. Figure 4 shows the planned total asset growth over the 3-year forecast period by country.

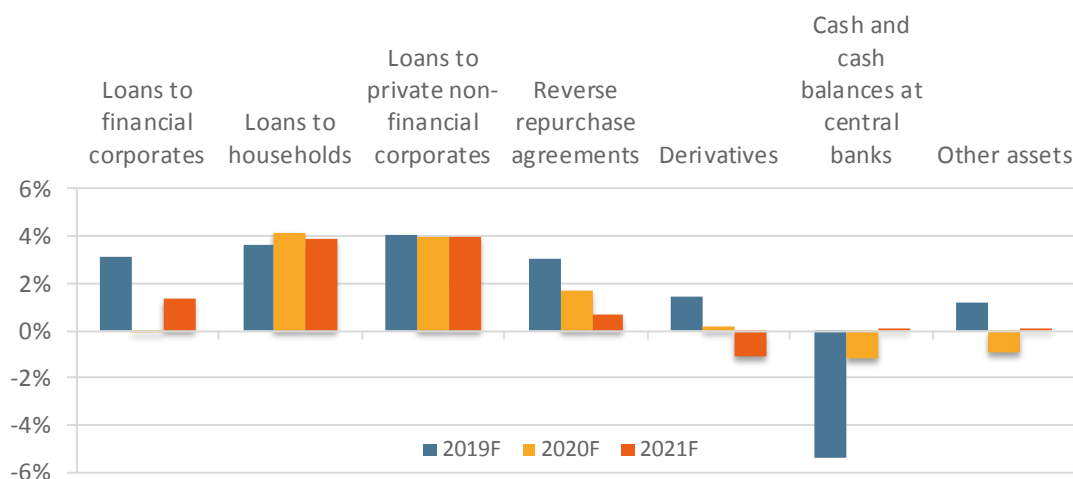
Figure 4: Planned total asset growth by country and for the EU, 2019-2021



Source: EBA.

The main drivers of the planned asset growth are loans to NFCs and loans to households (see Figure 5). Loans to NFCs are expected to increase by 11.9% over the forecast period and loans to households by 11.6%. These two asset classes are also the largest asset classes and, combined, account for over 45% of the total. Reverse repurchase agreements and loans to financial corporates contribute to a lesser extent to overall asset growth, at a rate of 5.4% and 4.4%, respectively.⁵ Cash and cash balances at central banks are expected to decline by 6.6% during the forecast period, while derivatives positions are forecast to stay more or less stable, with a 0.5% increase.

Figure 5: Planned growth by asset class, 2019-2021



Source: EBA.

The trend towards growing client business can be identified at EU aggregate level and across countries. Both loans to households and loans to NFCs are projected to grow in nearly all countries in each year of the 3-year projection period. Loans to financial corporates are also projected to grow in most countries in 2019 and in 2021. However, it is not possible to identify common patterns in the evolution of derivatives, of cash and cash balances at central banks or of other assets. Holdings of reverse repurchase agreements, or reverse repos, are expected to increase for most countries during the

⁵ The funding plan reporting does not cover any intragroup financing, which might constitute a significant share of banks' funding in some jurisdictions, and nor does it cover any potential cross-investments of banks (e.g. banks investing in other institutions' covered bond issuances).

projection period. Yet reverse repurchase agreements are considered relevant (i.e. reverse repos as a share of total assets are greater than 2%) for less than half of the banks in the sample.

A comparison of the plans reported in December 2018 with those reported in December 2017 reveals that the planned growth in the different asset classes for 2019 and 2020 was broadly similar, and that banks did not make any major revisions to their asset growth plans. Strong growth in client business in the form of lending to households and NFCs is predicted in both sets of plans. For 2019, the expected growth in loans to households has been slightly revised downwards compared with banks' plans reported in December 2017, while the expected growth in lending to financial corporates has been slightly revised upwards. The expected growth in loans to NFCs in 2019 and 2020 is broadly similar in both sets of plans. However, banks have revised upwards the planned growth in reverse repurchase agreements.

Assessment of planned asset growth

To gauge the reliability of banks' asset growth forecasts, two approaches were applied: back-testing based on data reported by participating banks, and a comparison with market analysts' expectations. In the first approach, banks' estimates for 2018, as reported in December 2016 and 2017, were compared with the actual figures for 2018. In the second approach, banks' planned asset growth figures for 2019 were compared with the expectations expressed by banks and market analysts in their responses to the EBA spring 2019 RAQ.

Back-testing asset growth

The back-testing results based on the data reported show that banks were too optimistic in their reported forecasts. On average, in December 2017, banks estimated that their total assets would grow by 2.5% during 2018. However, in December 2018, it turned out that their total assets actually grew by only 0.5% (see Figure 6). Thus banks missed their asset growth estimates by an average of 2.0 percentage points. Looking at a 2-year forecast horizon, banks missed their asset growth estimates by 3.7 percentage points.

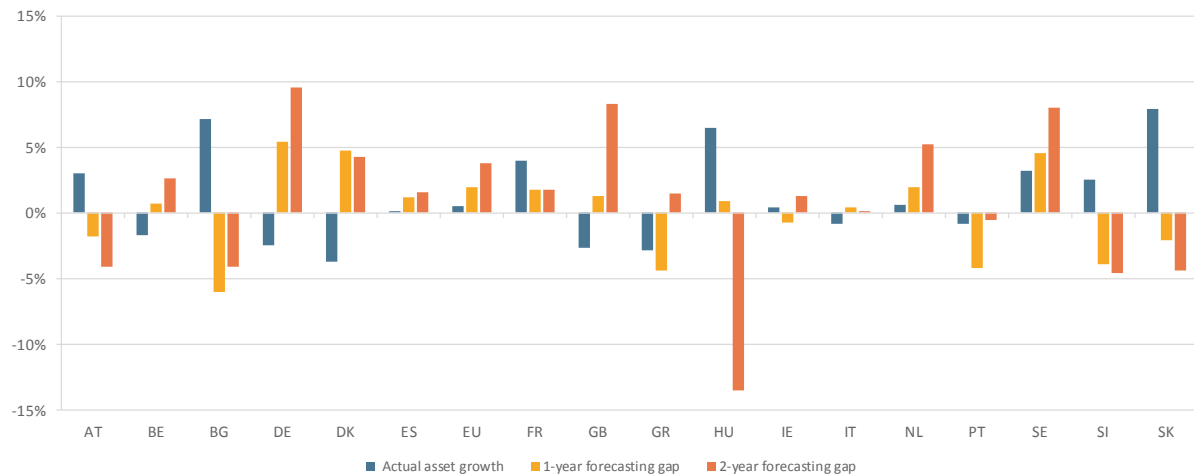
Figure 6: Back-testing total asset growth, EU average

	December 2017 data	December 2016 data
2018 Expected Asset Growth	2.5%	4.2%
2018 Forecasting gap	2.0 p.p.	3.7 p.p.
2018 Actual Asset Growth	0.5%	

Figure 7 highlights that there is a wide dispersion of asset growth rate forecast accuracy by country, ranging from nearly accurate forecasting of asset growth targets for a 1-year horizon to a forecasting gap between expected asset growth and actual asset growth of 5.4%. For a 2-year horizon, the accuracy of asset growth rate forecasting ranged from nearly accurate forecasting of asset growth targets to a forecasting gap of -13.5%⁶.

⁶ 'Forecasting gap' refers to the difference between asset growth rate forecast and actual asset growth rate reported.

Figure 7: Back-testing total asset growth by country and for the EU (December 2018)

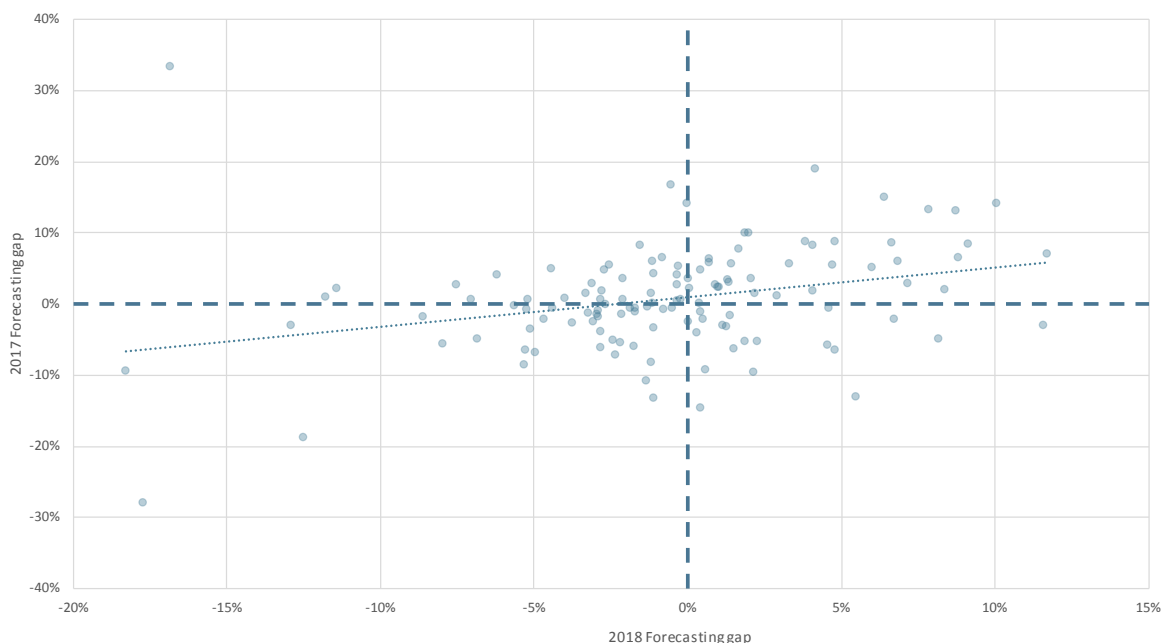


Source: EBA.

At the individual bank level, the dispersion of asset growth forecast accuracy was even higher. For a 1-year forecast horizon — i.e. comparing banks' planned asset growth figures for 2018 as reported in December 2017 with the actual asset growth figures for 2018 — growth target misses range from –18% to +12%. However, 39% of the banks in the sample managed to stay within 2 percentage points of their total asset target. This is an improvement on the results of a similar back-testing analysis in the 2018 funding plan report, which revealed that only 27% of the banks in the sample had managed to stay within 2 percentage points of their total asset target. For a 2-year forecast horizon, asset growth target misses were widely dispersed, ranging from –28% to +33%. Nevertheless, 17% of banks managed to stay within 2 percentage points of their total asset target.

A comparison of the asset growth target misses at the an individual bank level in 2017 with those in 2018 reveals that a majority of the banks that overestimated their asset growth targets in 2017 also overestimated their asset growth targets in 2018. Similarly, a majority of the banks that underestimated their asset growth targets in 2017 also underestimated their growth targets in 2018 (see Figure 8).

Figure 8: Gap between actual and forecast asset growth for 2017 and 2018

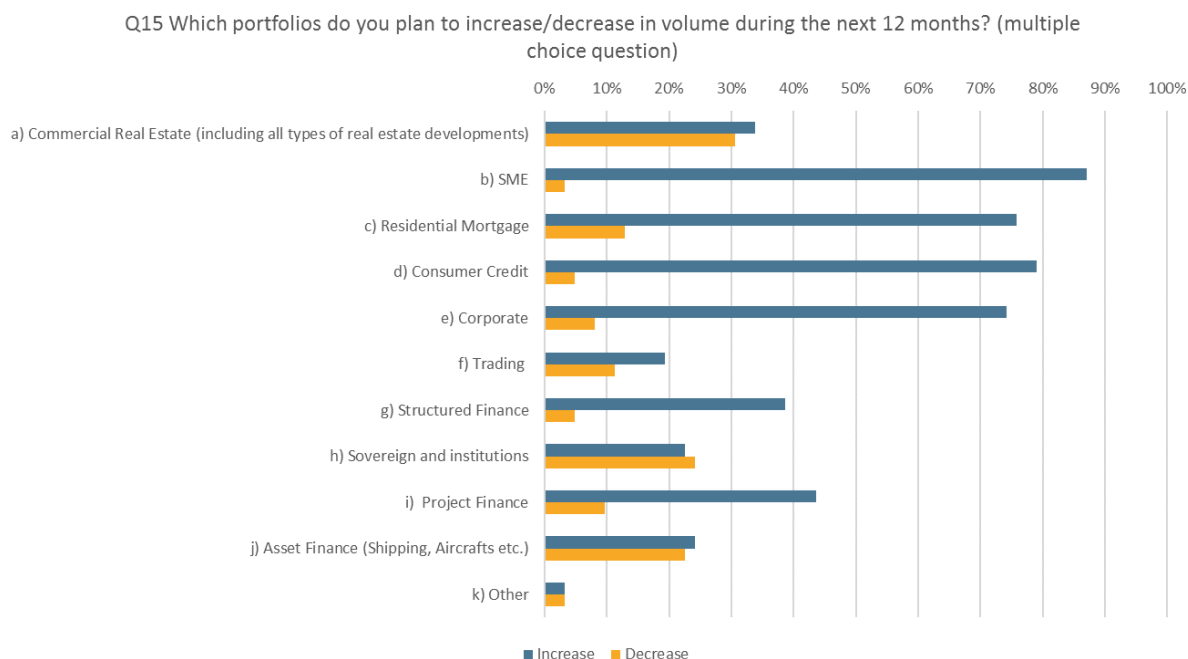


Comparison with market analysts' expectations

As part of the EBA's semi-annual RAQ, the banks and market analysts surveyed identify which portfolios they expect banks to increase or reduce. Figure 9 provides a summary of the views that banks expressed in their responses to the RAQ. Over 70% of banks planned to increase the volumes of portfolios of SME lending, residential mortgages, consumer credit and corporate credit in 2019. Banks' expectations of volume increases in these portfolios are broadly in line with funding plan expectations of increased lending to households and NFCs.

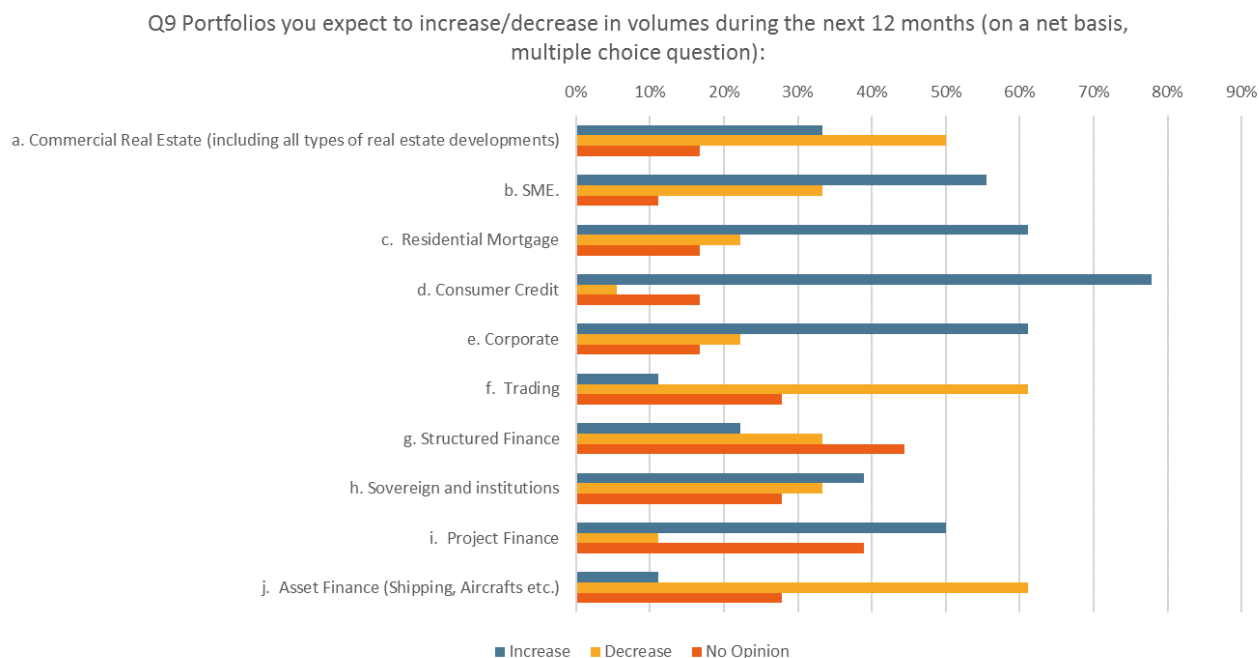
The percentage of banks expecting increases in volume in portfolios of consumer lending, residential mortgages and corporate lending is, at over 70%, even higher than analysts' expectations in this regard (see Figure 10). Some differences can be observed in growth expectations for SME lending: while only 56% of market analysts expect SME portfolios to grow, 87% of banks have expectations of growth in SME lending.

Figure 9: Banks' expectations on portfolio changes in 2019



Source: EBA RAQ.

Figure 10: Analysts' expectations on portfolio changes in 2019



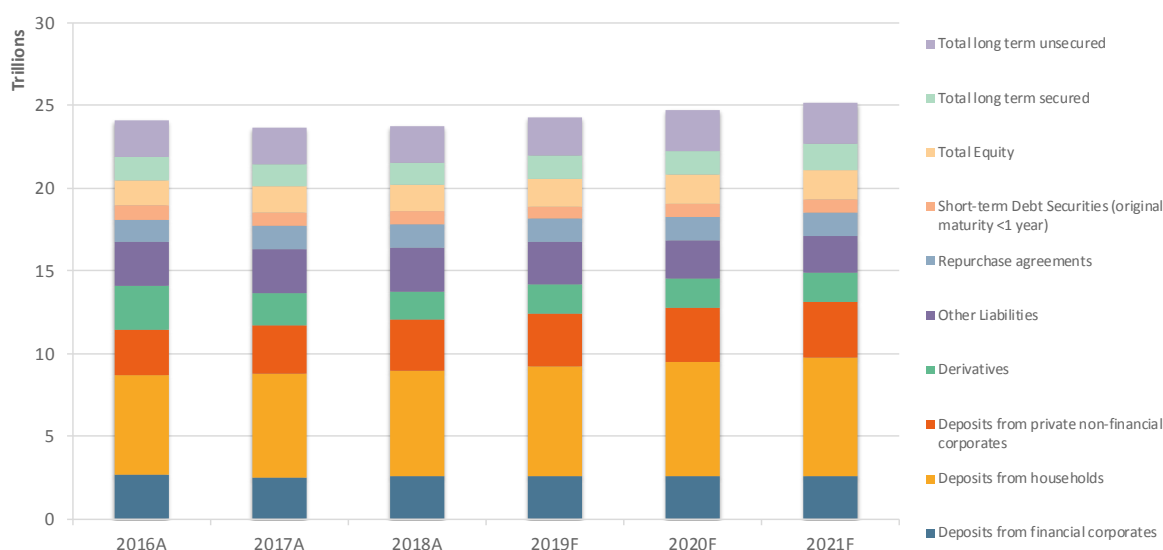
Source: EBA RAQ.

Liability trends

Changes in banks' funding composition

In line with the findings on assets, the total liabilities of the EU banking sector increased slightly in 2018, reversing a multi-year downward trend (see Figure 11). The trend towards growing liabilities for EU banks that began in 2018 is expected to continue, as liabilities are forecast to increase over the next 3 years. In 2018, banks continued to expand their long-term debt securities and client deposits, in particular those from households and NFCs. At the same time, banks relied to a much smaller extent on short-term debt securities, repurchase agreements, derivatives and other liabilities as sources of funding, and the share of each in the composition of total liabilities has decreased. The year 2018 also saw a slight shift in the composition of long-term debt securities, with unsecured debt as a share of total funding increasing, while the share of secured debt securities decreased slightly.

Figure 11: Actual and planned liabilities composition



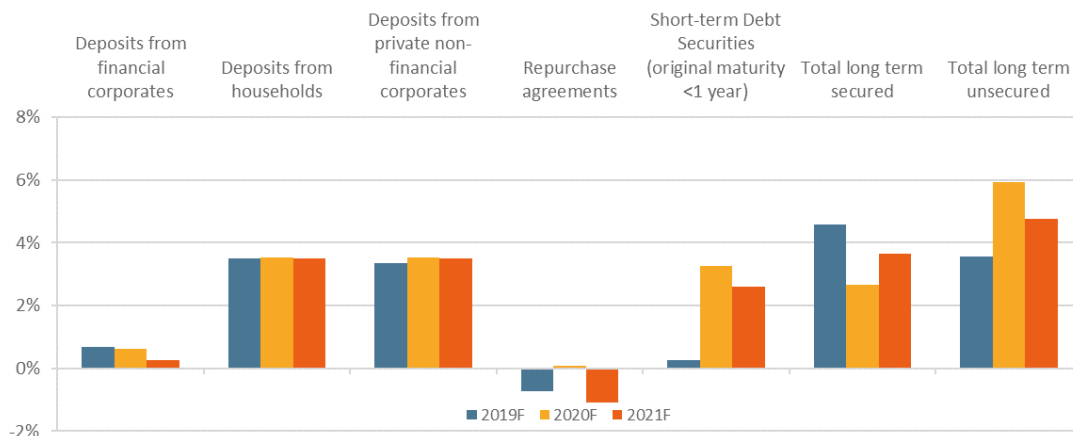
Source: EBA.

As regards banks' plans for 2019 to 2021, the trend observed in 2018 is set to continue, with deposits being targeted as the main source of funding and long-term debt securities; unsecured debt in particular is predicted to play a much more significant part in banks' funding mix.

A closer look at the funding plan figures reveals that unsecured long-term debt instruments, secured long-term debt securities and client deposits are the types of liabilities with the highest growth rates (see Figure 12). In particular, the volume of unsecured long-term debt instruments is expected to grow strongly, by more than 14%, over the forecast period. This means that the share of long-term debt securities in total funding would increase from 20% in 2018 to 21% by 2021. The share of deposits would stay roughly at the 2018 level in the years to come.

Banks also report that they expect the volume of short-term debt securities to grow over the next 3 years, albeit at a much slower pace of 6%. The volume of repurchase agreements, on the other hand, is expected to decline. As a consequence, the combined share of these two types of liabilities in total funding is expected to decline from above 12% in 2018 to approximately 11% in 2021.

Figure 12: Growth in selected liability classes

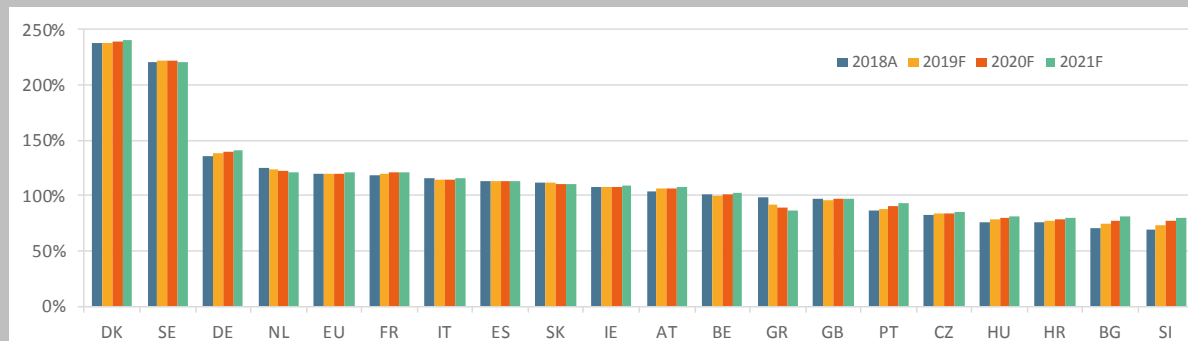


Source: EBA.

Loan-to-deposit ratio expected to rise

The loan-to-deposit ratio at EU aggregate level is expected to increase slightly, from 119% in December 2018 to 121% in 2021 (see Figure 13). A granular analysis of the loan-to-deposit ratio shows significant dispersion among banks, which can be explained by different funding mixes (e.g. in Denmark and Sweden banks rely more on covered bond funding and therefore have a higher loan-to-deposit ratio). The projected ratio for 2019-2021 also reflects the business strategies that banks have put in place for the coming years regarding their funding and lending policies. For example, banks in Greece expect to see the most significant reduction in the loan-to-deposit ratio, driven essentially by a substantial increase in deposits, while loans are projected to decline. The largest expected increases in the loan-to-deposit ratio over the next 3 years were reported by banks in Bulgaria, Slovenia, Portugal, Germany and Hungary. In most other countries, banks assume that their loan-to-deposit ratios will remain broadly stable over the next 3 years.

Figure 13: Loan-to-deposit ratio by country and for the EU

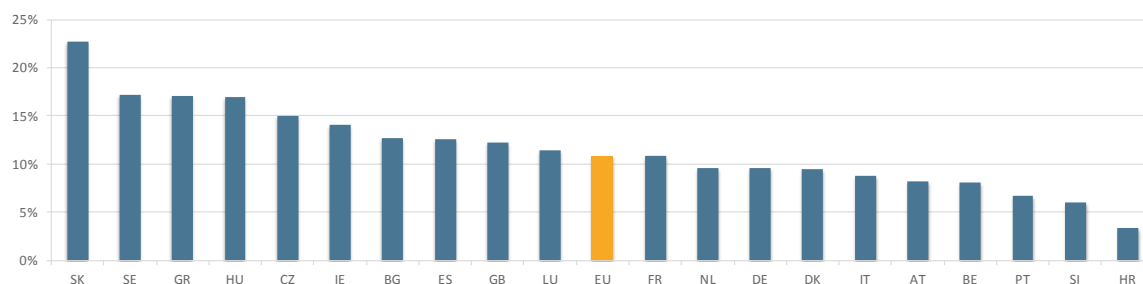


Source: EBA.

Trends in client deposits

Deposits are expected to grow steadily throughout the forecast period, albeit at a slower pace than in recent years. While the share of deposits in total funding had increased from 66.1% in 2016 to 67.6% in 2018, it is expected to remain at this level for the next 3 years. Breaking down total deposits into segments shows that deposits from financial corporates are expected to stay mostly unchanged over the forecast period, while those from households and NFCs are expected to grow significantly, by 10% on average. An analysis by country of incorporation reveals that most banks cluster around this average growth rate (see Figure 14). Significant deviations (more than 5 percentage points from the average) at country level can be observed in Croatia (growth rate below 5%) and in Slovakia, Sweden, Greece and Hungary (growth rate above 15%).

Figure 14: Growth in deposits from households and NFCs by country and for the EU (2019-2021)

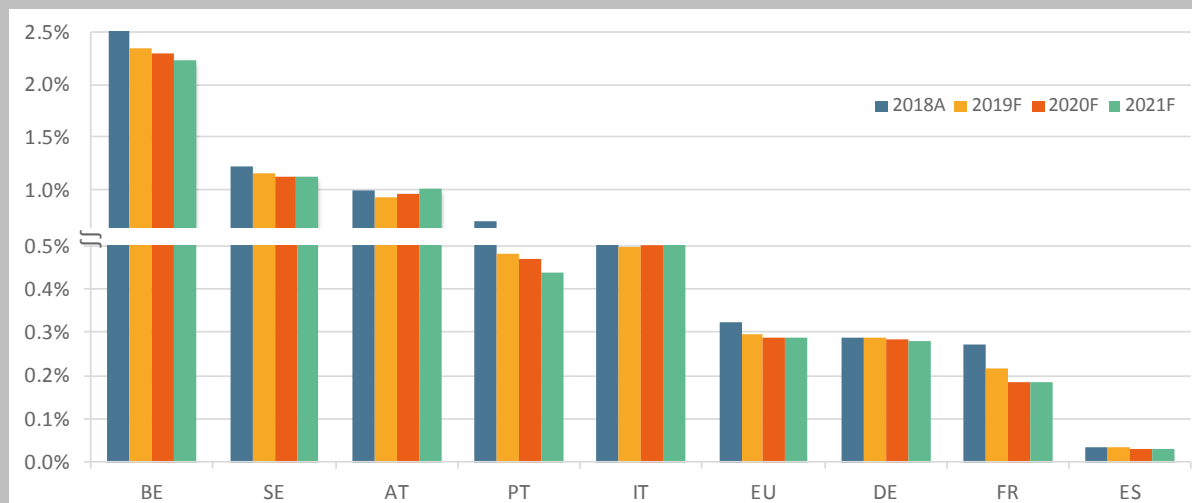


Source: EBA.

Deposit-like funding instruments⁷

Deposit-like funding instruments continued to play a marginal part in banks' total funding. At EU aggregate level, deposit-like instruments amounted to about 0.3% of total funding in 2018 (see Figure 15). These instruments were a significant form of funding for banks only in Belgium (2.5% of total funding), Sweden (1.2% of total funding) and Austria (1.0% of total funding). Most banks expect this source of funding to remain at the 2018 level or decline slightly over the forecast period.

Figure 15: Share of deposit-like instruments in total funding



Source: EBA.

Trends in market-based funding

As highlighted previously, EU banks plan to rely more on long-term funding in the coming years. Over the 3-year forecast period, they plan to increase long-term funding by almost 14%, amounting to EUR 4 trillion by 2021 (see Figure 16). Unsecured debt securities are expected to increase by almost 15%, from EUR 2.3 trillion in 2018 to EUR 2.6 trillion in 2021, while secured funding is forecast to grow by 11%, amounting to EUR 1.5 trillion by 2021. Within secured funding, the share of covered bonds remains significantly larger than that of ABS, and in 2021 is expected to make up around 88% of secured funding.

⁷ These are deposit-like financial instruments sold to retail customers. An example would be a product that has some notional or real concept of capital protection but may have a variable performance outcome.

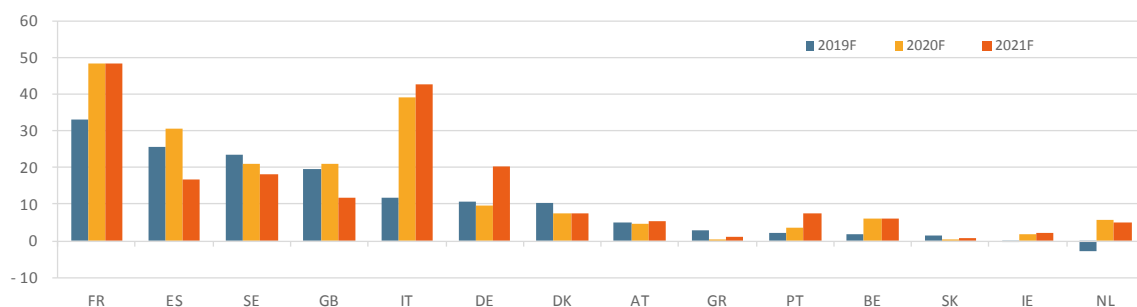
Figure 16: Long-term secured and unsecured funding (EUR billion, left axis) and mix of secured funding (% , right axis)



Source: EBA.

An analysis of the yearly forecasts for balances of debt securities highlights the extent to which market-based funding is expected to grow on a net basis. Figure 17 shows the difference between the outstanding volumes at the beginning and the end of each year. If this difference is positive, it means that gross issuances are larger than redemptions for that year. Where the volume of issued debt securities goes beyond rollovers, banks have to find investors beyond those that might simply replace their current investment positions. If gross issuances are smaller than redemptions, the assumed net issuance volume is negative and the outstanding volume decreases during the year. The projected data reveal a significant growth in net issuance volumes in several countries⁸, with banks in France and Italy reporting the highest net issuance volumes over the 3-year forecast period.

Figure 17: Net issuance volume by country and year (short- and long-term debt securities, EUR billion)



Source: EBA.

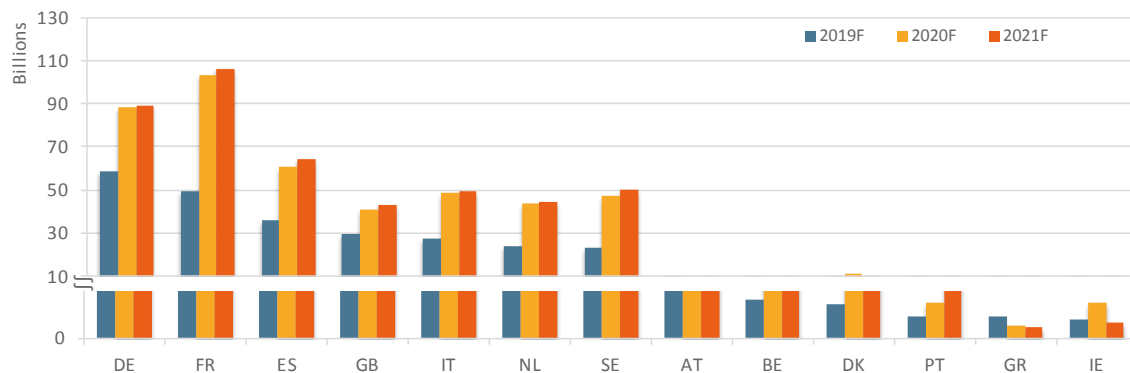
The expected growth in gross issuance volumes applies across all funding segments (long-term unsecured debt instruments, covered bonds, ABS).

⁸ Aggregate issuance data for the United Kingdom excludes banks that did not pass the EBA's validation checks or for which group-level data was unavailable

As regards unsecured debt instruments, banks plan to increase their issuances significantly in 2020 and 2021 (see Figure 18). The most significant increases in gross issuance volumes are expected by banks in France and Germany, with annual gross issuance volumes of unsecured instruments projected to reach close to EUR 100 billion in 2020 and 2021. Banks in Spain, Italy, Sweden, the United Kingdom⁹ and the Netherlands also forecast substantial volumes of approximately EUR 50 billion each year in 2020 and 2021.

A comparison of the plans reported in December 2018 with those reported in December 2017 reveals that banks have made significant revisions to their issuance plans. At EU level, the planned issuance volume for 2019 as reported in December 2017 was EUR 540 billion, while the forecast reported in December 2018 was close to EUR 270 billion, which is to say that plans for 2019 have been adjusted downwards by approximately 50%. Adjustments to 2020 plans as reported in December 2018 were not as significant, but the figures were still 15% lower than in the previous year.

Figure 18: Long-term unsecured debt instruments — gross issuance volumes by country and year



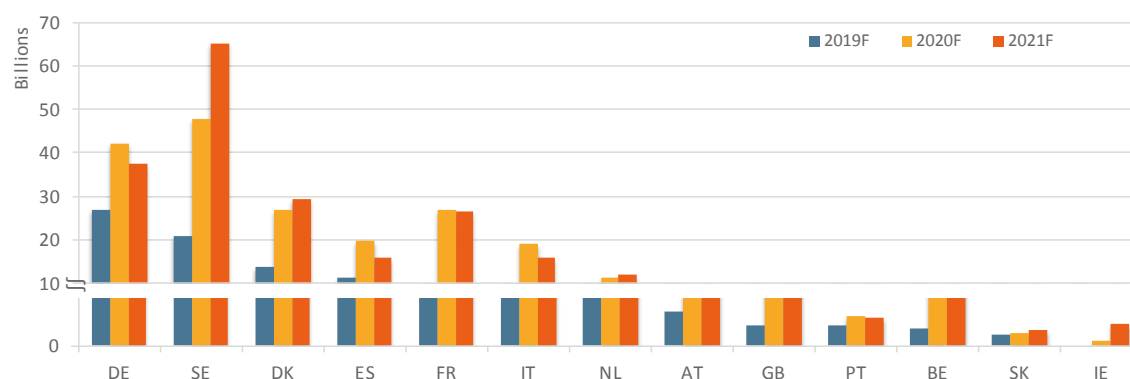
Source: EBA.

The same trend applies to covered bonds. Banks plan to increase issuance volumes significantly in 2020 and 2021 (see Figure 19). Banks in countries that usually have very active covered bonds markets are among those with the highest issuance volumes, notably Sweden, Germany, Denmark and France.

A comparison of the plans reported in December 2018 with those reported in December 2017 reveals a similar downward adjustment for covered bonds to that observed for unsecured debt issuances. The planned issuance volume for 2019 was reduced by 50% compared with the plans reported the previous year. Planned issuance volumes for 2020 were not significantly adjusted and were reported at close to EUR 220 billion for both years.

⁹ Aggregate issuance data for the United Kingdom excludes banks that did not pass the EBA's validation checks or for which group-level data was unavailable

Figure 19: Covered bonds — gross issuance by country and year

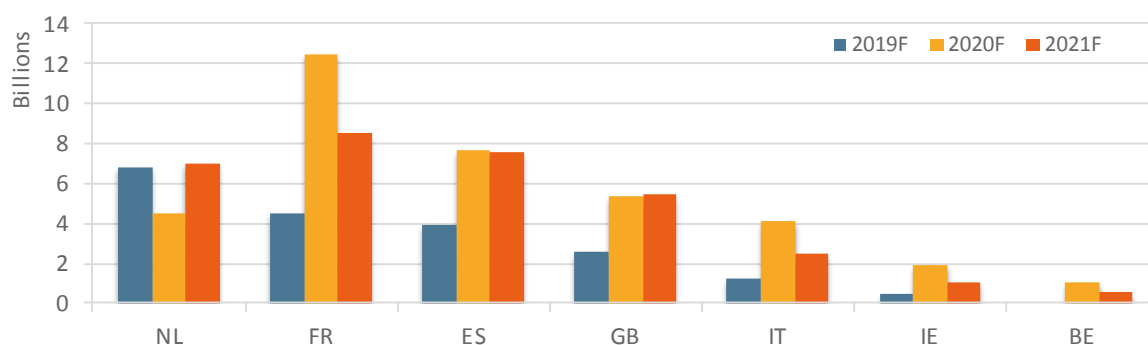


Source: EBA.

The data indicate that activity in the securitisation market should also pick up in 2020 and 2021 (see Figure 20). The largest issuance volumes in 2019 are expected in the Netherlands, amounting to close to EUR 7 billion. Banks in France, Spain, the United Kingdom¹⁰ and Italy plan to substantially increase issuance volumes in 2020 and 2021. Issuance volumes in those four countries are expected to increase in 2020 to more than double the volume reported for 2019.

Plans for ABS issuance volumes were also adjusted significantly compared with those reported in December 2017. Planned issuances for 2019 were adjusted to 64% of what banks had planned the previous year. Planned issuances for 2020 were reported as EUR 37 billion, an increase of 30% compared with plans reported in December 2017.

Figure 20: ABS — gross issuance by country and year



Source: EBA.

Implications of MREL for banks' funding plans

Requirements to build loss-absorbing capacity are likely to have contributed to increased issuance volumes of unsecured debt as reported in funding plan data. BRRD 1 introduced an MREL, which requires banks to issue liabilities to ensure that sufficient resources would be available for

¹⁰ Aggregate issuance data for the United Kingdom excludes banks that did not pass the EBA's validation checks or for which group-level data was unavailable

recapitalisation in the event of failure. BRRD 1 broadly defines MREL as any type of long-term unsecured debt, including capital instruments and long-term deposits. However, resolution authorities across the EU retain discretion to exclude some instruments, which is leading to a divergence in the MREL eligibility criteria used in jurisdictions.

Starting with the largest banks, resolution authorities across the EU have gradually set MREL targets since January 2016. As of the end of 2018, some form of MREL targets had been communicated to all G-SIIs and O-SIIs in the EU. This may have contributed to higher issuance volumes of unsecured debt, rather than increases in secured debt or deposits. This is in line with funding plan data showing that total volumes of long-term unsecured debt instruments issued have increased, and that their share in the total liabilities of EU banks has increased. Continued stronger growth in issuance volumes of unsecured debt instruments than in those of secured debt instruments can be expected, assuming that MREL shortfalls exceed existing stocks of unsecured debt. This expectation is reflected in funding plans, which forecast stronger growth in unsecured funding than in secured funding over the next 3 years.

The recently endorsed revised BRRD (BRRD 2) could have an additional impact on the required volumes of MREL. BRRD 2 requires greater levels of subordination, which may further explain funding plan expectations regarding increased issuance volumes of unsecured debt. Inter alia, some long-term deposits that may have been eligible for MREL prior to BRRD 2, would now need to be subordinated; these are expected to be replaced by wholesale unsecured debt. However, the impact of annual funding needs may be mitigated by the pace at which resolution authorities require banks to build loss-absorbing capacity, with medium-term targets set for 2022 and a final goal of 2024. Exceptional prolongations beyond this point will be possible.

The EBA will monitor the evolution of MREL shortfalls and issuance trends later in 2019. It intends to publish a report on MREL, covering MREL decisions, resources and resulting shortfalls in MREL requirements.

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 cover terms longer than 1 year and 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 any emergency liquidity assistance measures provided by central banks are part of these programmes.

- Repo funding programmes: these programmes provide wholesale term secured funding via repo transactions. An example of such a programme is the ECB's TLTRO programme.¹¹
- Credit guarantee funding programmes: these programmes provide wholesale term unsecured debt issuance support through backstop guarantees from a national and/or supranational authority in the event of a bank's failure to fulfil its obligations. The UK Treasury's Credit Guarantee Scheme was an example of such a programme.

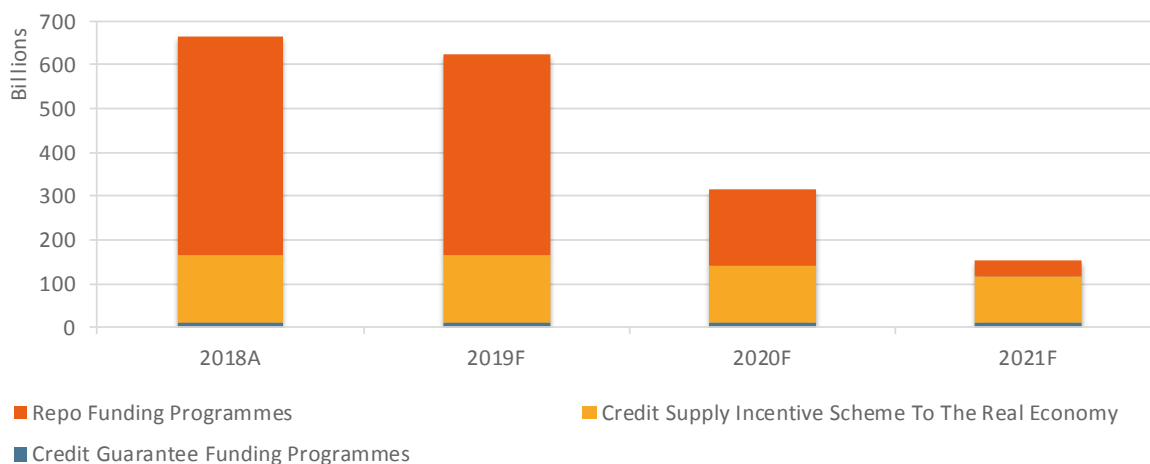
¹¹ Short-term repo-based funding by central banks may also be significant in volume, but it is not covered by these programmes.

- **Credit supply incentive schemes to the real economy:** these programmes capture funding support provided to banks via pricing or quantum incentives from a national and/or supranational authority. Examples of such a programme are the Bank of England’s Funding for Lending scheme and the Hungarian National Bank’s Funding for Growth scheme.

As of December 2018, total public sector funding in the EU amounted to about EUR 650 billion, which accounted for around 3.7% of banks’ total funding (see Figure 21). Among the types of programmes, repo funding programmes (which include the ECB’s TLTRO) accounted for the largest proportion, providing about 75% of total public sector funding.

According to banks’ plans, both the volume and composition of public sector funding will remain almost unchanged in 2019; only some banks plan reductions in their repo funding. In 2020 and 2021, however, repo funding is expected to fall significantly, from roughly EUR 500 billion in 2018 to about EUR 40 billion in 2021. During the same period, funding associated with credit supply incentive schemes is expected to decrease, from EUR 150 billion in 2018 to just over EUR 100 billion in 2021. Volumes associated with credit guarantee funding programmes are set to remain unchanged throughout the forecast period. Because of the planned changes, public sector funding is expected to amount to less than 1% of banks’ total funding in 2021.

Figure 21: Public sector sources of funding (outstanding volumes, EUR billion)

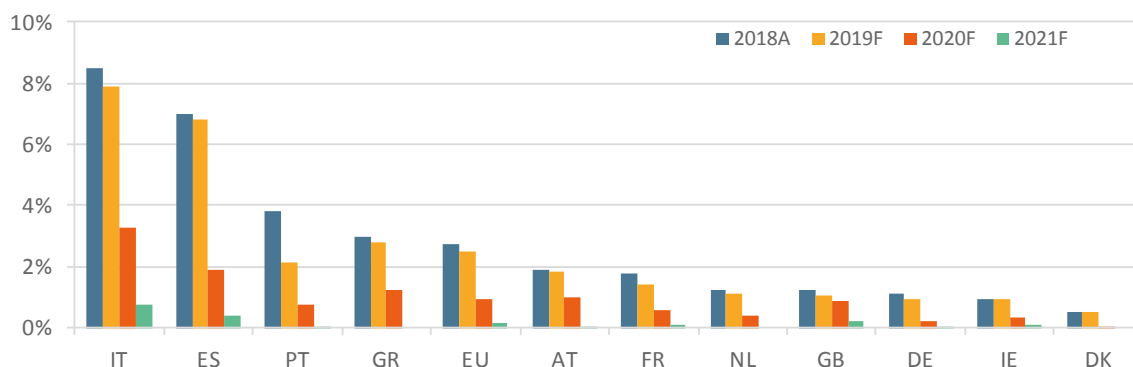


Source: EBA.

At country level, Italian and Spanish banks are most affected by the changes relating to public sector funding programmes (see Figure 22). As of December 2018, Italian banks covered almost 9% of their total funding needs with repo-based public funding (7% for Spanish banks). This funding is mainly provided by the ECB’s TLTRO II programme, which is due to expire by 2021.¹² For the vast majority of banks, with the exception of some lenders (most of which are located in Italy and Spain), repo-based public funding as a percentage of total funding is expected to be zero (or close to zero) in 2021.

¹² In March 2019, the ECB announced the launch of a new series of TLTRO starting in September 2019.

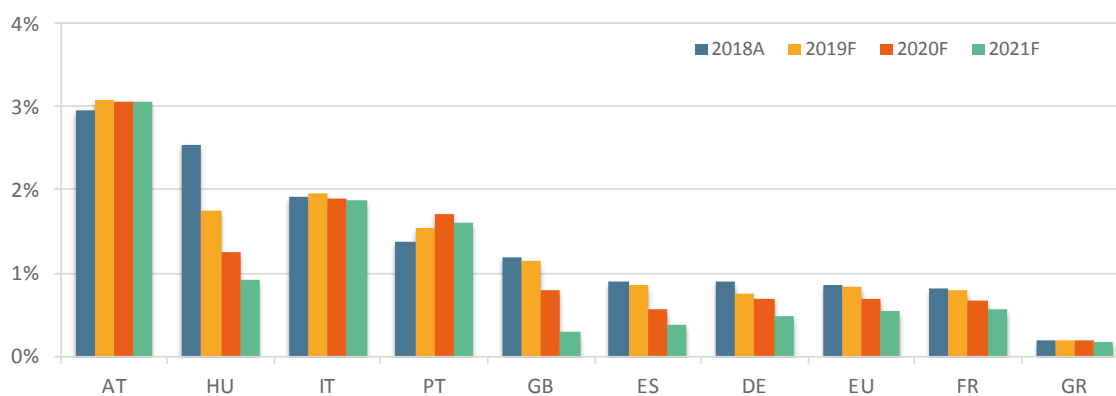
Figure 22: Public sector funding (repo-based funding) as a proportion of total funding by country and for the EU



Source: EBA.

Data on credit supply incentive schemes create a mixed picture. While banks in the majority of countries expect a decrease in the share of this type of funding, banks in a few countries assume it will remain broadly unchanged or even increase over the forecast period (see Figure 23). This is the case, for instance, in Austria, Italy and Portugal. At EU aggregate level, the share of funding linked to credit supply incentive schemes is expected to decrease from 0.9% in 2018 to 0.5% in 2021.

Figure 23: 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 latter remain significantly higher than the former (see Figure 24). Over the forecast period (2019-2021), banks plan net issuances of debt securities that will amount to EUR 550 billion. This compares with total outstanding TLTRO volumes of EUR 740 billion maturing by 2021. This comparison suggests that banks plan to replace approximately three quarters of outstanding TLTRO with debt securities, with the remaining quarter unexplained.¹³

Figure 24: Net issuance volumes of debt securities (euro area banks only) versus outstanding TLTRO volumes

	2019	2020	2021
Debt securities: net issuances	EUR 151 billion	EUR 207 billion	EUR 197 billion
Maturing TLTRO volumes		EUR 503 billion	EUR 233 billion

Source: EBA, ECB open-market operations.¹⁴

However, it is unlikely that banks' funding plan data reflect the ECB's announcement of 7 March 2019 of a new series of quarterly TLTRO (TLTRO III). TLTRO III operations will be launched in September 2019 and will end in March 2021, each with a maturity of 2 years. These new operations will help to preserve favourable bank lending conditions and the smooth transmission of monetary policy. Under TLTRO III, counterparties will be entitled to borrow up to 30% of the stock of eligible loans as at 28 February 2019 at a rate indexed to the interest rate on the main refinancing operations over the life of each operation. Like the outstanding TLTRO programme, TLTRO III will feature built-in incentives for credit conditions to remain favourable.

Banks' funding plans, however, were submitted to competent authorities by the end of March — 3 weeks after the ECB's announcement. Therefore, it is not clear if and to what extent banks took the ECB's announcement into account before submitting their plans. Furthermore, the ECB's announcement in March lacked details on the precise terms of the new series of TLTRO. As a result, given time constraints and the lack of details on the terms, it is unlikely that banks had all the information that they would have needed to change their plans accordingly.

Assessment of banks' forecasts

As for the asset side, to get an indication of the reliability of banks' forecasts on liabilities, two approaches were applied: back-testing based on data reported by participating banks, and a comparison with market analysts' expectations. Banks' estimates for 2018, as reported in December 2016 and 2017, were compared with the actual figures for 2018, as reported in December 2018.

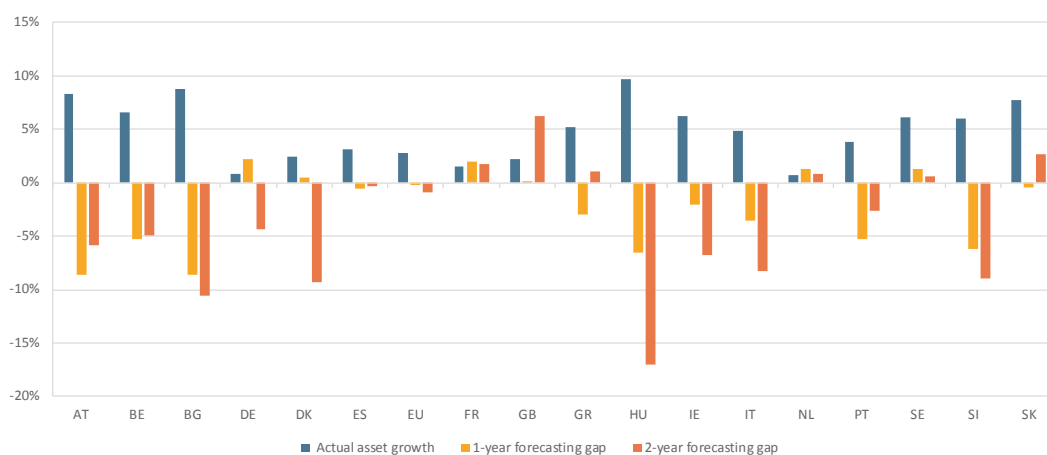
Back-testing analysis on deposits

¹³ There may be significant differences between the list of banks that have participated in the TLTRO II programme and those that are included in this report (see Annex 2).

¹⁴ https://www.ecb.europa.eu/ompo/implement/omo/html/top_history.en.html

The back-testing run on the different types of deposits (deposits from households and deposits from NFCs) shows similar results for each of the deposit categories. For deposits from households, with the exception of a few countries, the back-testing shows that most banks exceeded their targets, as actual growth in deposits surpassed planned growth in the majority of countries (see Figure 25). However, in some countries, banks failed to achieve the levels that they had planned. These countries were Germany, France, the Netherlands and Sweden. As a result, on average, the 1-year forecast for 2018 (plans as of December 2017) was very close to the actual level of deposits from households. In their 2-year forecasts (plans as of December 2016), however, banks significantly underestimated the amount of deposits that they were able to obtain in 2018.

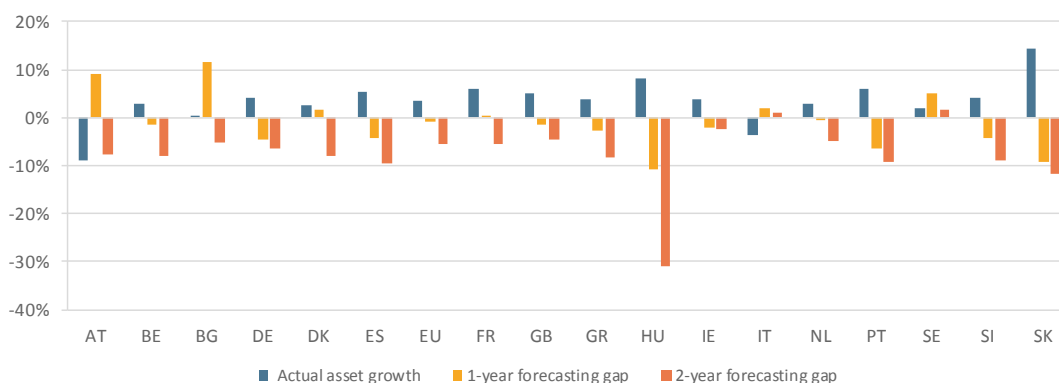
Figure 25: Back-testing deposits from households for 2018 by country and for the EU



Source: EBA.

For deposits from NFCs, most banks underestimated the amount of deposits that they were able to obtain in 2018 (see Figure 26). The 1-year forecast at country level (plans as of December 2017) was too optimistic for banks in Bulgaria, Austria, Sweden, Italy and Denmark, as banks missed the targets they had set in December 2017. The 2-year forecast (plans from December 2016) significantly underestimated deposit growth in 2018. At EU aggregate level, the forecasting error was more than 5 percentage points.

Figure 26: Back-testing deposits from NFCs for 2018 by country and for the EU



Source: EBA.

Comparison with market expectations

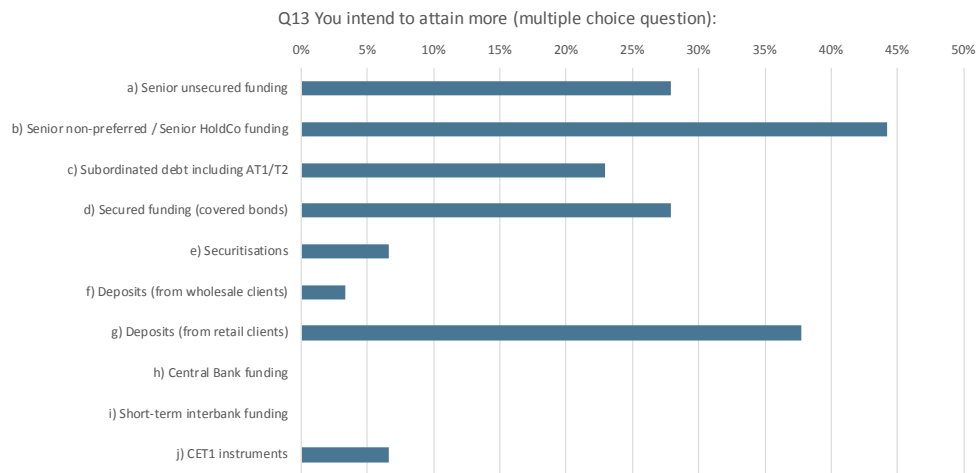
The funding plan data can be compared with banks' and analysts' expectations expressed via the EBA's RAQ. Responses to the 2019 spring questionnaire were used for this comparison.

The results of the RAQ confirm the predominance of long-term funding and deposits in EU banks' funding strategies for the coming years.

Figure 27 shows banks' responses to the RAQ as regards the main sources of funding that they intend to attain in 2019. In line with the data from banks' plans, long-term funding constitutes a clear priority for EU banks. In particular, almost 45% of respondents intend to attain more MREL-eligible instruments. Banks also remain optimistic about the growth in deposits, particularly from the retail sector. Almost 40% of respondents identified retail deposits as one major type of funding of which they intend to attain higher volumes in 2019.

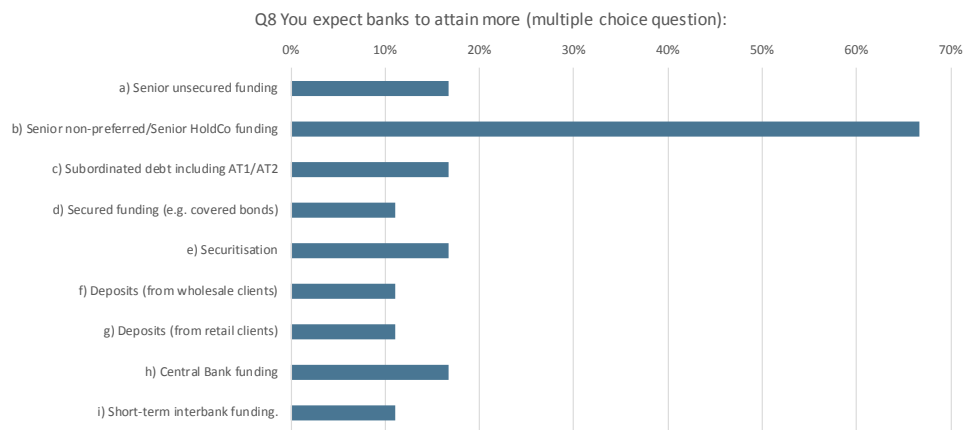
From the analysts' perspective (see Figure 28), EU banks will focus in particular on MREL in 2019. Indeed, almost 70% of respondents think that banks will attain more MREL-eligible instruments. In contrast to banks' views, most analysts do not believe that banks will be able to attract more deposits from retail clients.

Figure 27: The EBA’s RAQ for banks



Source: EBA RAQ.

Figure 28: The EBA’s RAQ for market analysts



Source: EBA RAQ.

Trends in pricing for assets and liabilities

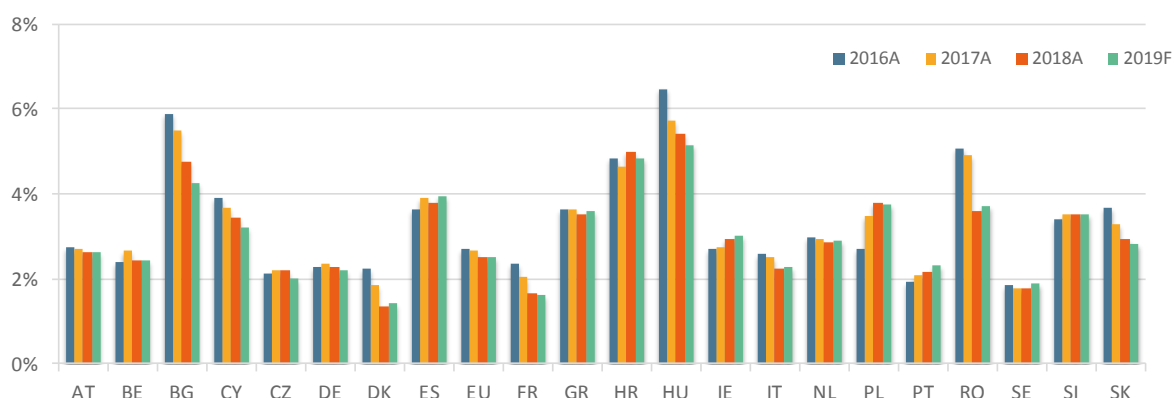
Banks' pricing for loans and deposits

As part of their funding plan data submissions, banks also provide pricing forecasts for loans, 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 (see Figure 29). As of December 2018, the average client spread was 2.51%, 18 basis points below the spread observed 1 year earlier (2.69%). The largest changes were reported by banks in Romania (–131 basis points), Bulgaria (–74 basis points) and Denmark (–51 basis points).

For 2019, most banks expect the decline in client spreads to come to a halt. Some banks, however, expect spreads to decline further. Most notably, this is the case for banks in Bulgaria (–53 basis points), Hungary (–26 basis points) and Cyprus (–23 basis points).

Figure 29: Actual and planned spread between client loans and client deposits (households and NFCs), in percentage points



Source: EBA.

Both portfolios that represent banks' client business (i.e. loans to and deposits from households and NFCs) show similar trends.

The average spread for households reported in 2018 was 2.91%, a reduction of 8 basis points on 2017. This reduction was driven by the asset side, as interest rates on loans (–16 basis points) declined more significantly than interest rates on deposits (–8 basis points). Almost 60% of the banks in the sample reported a decline in 2018, while 37% reported an increase in the spread for households.

For 2019, the average spread is expected to be 2.86%, which represents a further reduction of 5 basis points on 2018. Of the banks in the sample, 43% expect spreads to reduce, 49% expect spreads to increase and 8% expect spreads to stay the same. This means that, for the first time since data on

funding plans has been collected, more banks expect spreads to increase than to decrease. However, spread reductions are expected to be more severe than spread increases.

As regards NFCs, the average spread reported for 2018 is 2.43%, a reduction of 15 basis points on December 2017. This reduction was entirely driven by the asset side, as rates on loans declined by 15 basis points to reach an average loan rate of 2.74%. Average interest rates on deposits from NFCs remained unchanged from 2017 and stood at 0.31% in December 2018. For 2019, banks expect the average spread to decrease slightly, by 2 basis points, to 2.41%. The majority of banks (54%) expect spreads to reduce in 2019, while 35% expect spreads to increase and 12% assume that spreads will remain the same as in 2018.

For both client segments, the reduction in spreads was driven by the asset side through a fall in interest rates on loans. This indicates that competition related to banks' client business was driving down rates for loans. At the same time, competition for client deposits was keeping rates up, as banks were trying to keep customers' deposits because they represent a cheap source of funding. This assumption is in line with the results of the ECB's Bank Lending Survey, which point in the same direction and identify competitive pressure as the main contributor to an easing in credit standards in the second quarter of 2018.

Banks' pricing for debt securities

Banks reported that the costs of long-term market-based funding reduced in 2018. In 2019, most banks expect these funding costs to rise.

Figure 30 shows the actual interest rates of long-term debt securities for 2016, 2017 and 2018, as well as the planned rates for 2019, by country of incorporation. The average actual costs of long-term funding were reported as 1.78% in 2018 and have therefore fallen from an average of 1.88% reported in 2017. The reduction in costs in 2018 is evident for almost 60% of the banks in the sample.

In 2019, more than 60% of the banks in the sample expect the costs of long-term market-based funding to increase. On average, banks expect the increase to be 8 basis points. More than 40% of the banks in the sample estimate that the rise will be more than 10 basis points. Exceptions to this general assumption of rising costs were reported by 36% of the banks in the sample, which expect further reductions in their long-term funding costs.

Figure 30: Actual and forecast interest rates of long-term debt securities

Source: EBA.

After years of falling funding costs, the data reported by banks indicate that this trend will end in 2019. Combined with the expected increase in issuance volumes in the years ahead, this raises concerns regarding the capacity of banks to raise their funding at reasonable spreads. This is of particular concern to banks that have made heavy use of central bank funding measures and banks that are already under pressure to raise net interest income.

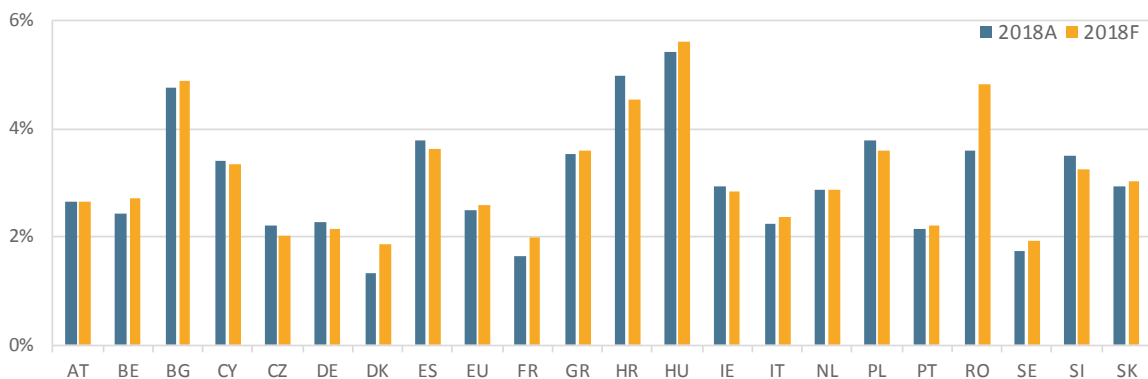
Assessment of banks' pricing assumptions

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 to that, banks' pricing assumptions for 2019 have been compared with expectations expressed by banking experts and market analysts via the EBA's RAQ. Responses to the questionnaire launched in spring 2019 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 2018 as reported in December 2017 were compared with the actual spreads for 2018 as reported in December 2018.

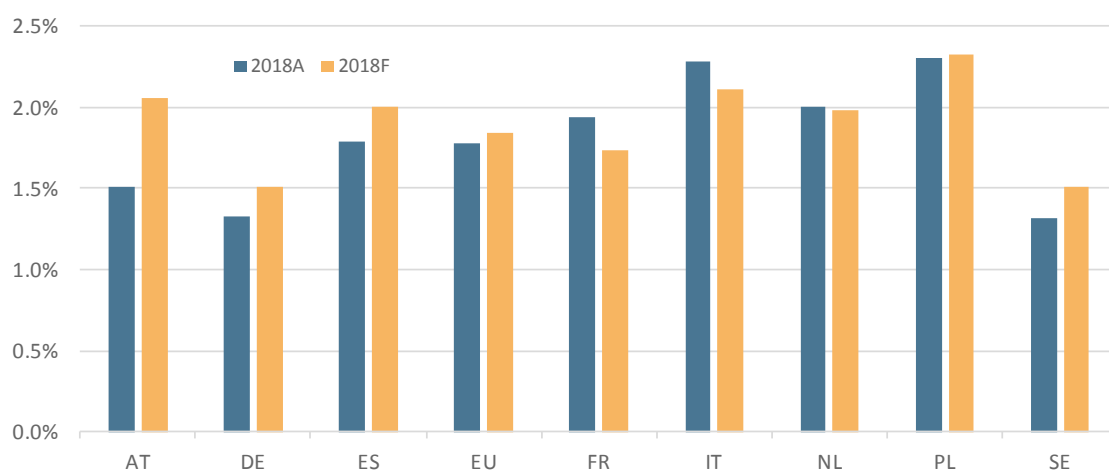
As represented in Figure 31, on average, banks almost managed to achieve the client spread targeted for 2018. The actual client spread for 2018 of 2.51% was 7 basis points short of the target spread figure of 2.58% set 1 year earlier. Back-testing results revealed that several banks missed their targets significantly. As for the household category, 6% of the banks in the sample missed their targets by more than 50 basis points, while 12% of the banks beat their targets by more than 50 basis points. In the corporate category, forecasting accuracy was lower, with 13% of the banks having missed their 2018 target by more than 50 basis points and 11% of the banks having beaten their target by more than 50 basis points.

Figure 31: Actual and forecast client spreads for 2018

Source: EBA.

Back-testing banks' pricing assumptions for debt securities

Banks' planned costs of long-term market-based funding for 2018 as reported in December 2017 were compared with the actual costs for 2018 as reported in December 2018. Figure 32 shows that banks achieved lower costs for market-based funding in 2018 than they had planned for 1 year earlier. With the average cost of funding reported in 2018 as 1.78%, at EU aggregate level banks beat their target by 7 basis points. Data show significant dispersion among banks. Of the banks in the sample, 33% reported actual funding costs in 2018 of at least 20 basis points below their own targets, while 18% faced actual funding costs of at least 20 basis points above the target rate.

Figure 32: Actual and forecast pricing of debt securities for 2018

Source: EBA.

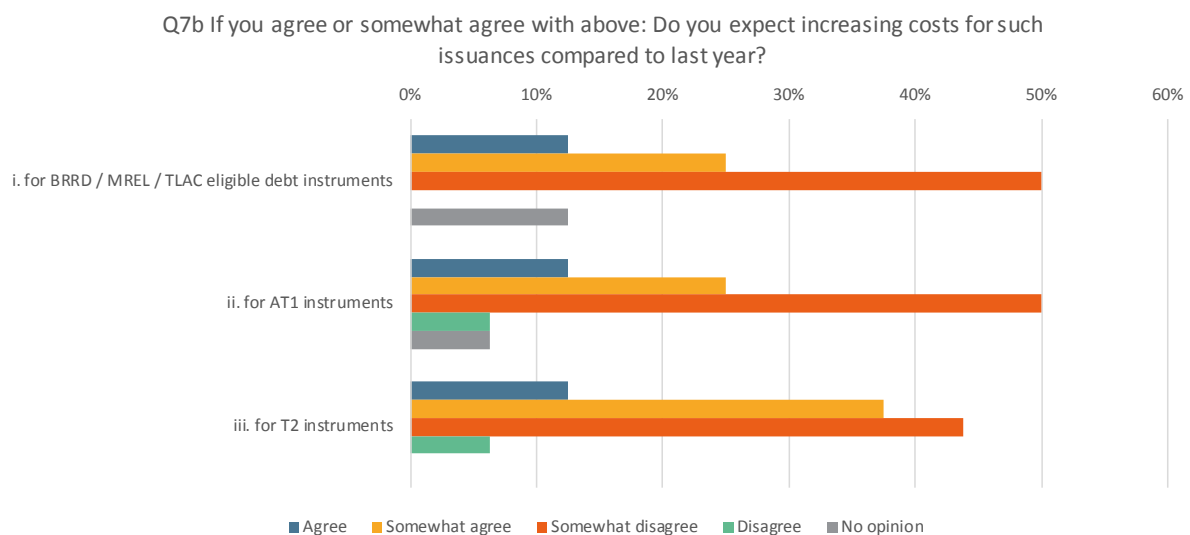
Lower than expected pricing of debt securities might have been feasible due to continued support from central banks' asset purchase programmes. Banks' assumption of increasing pricing for debt securities in 2019 might be due to the need to issue MREL-eligible instruments, which are in general more expensive than ineligible senior unsecured instruments. Even if costs for market-based funding

remain under control in 2019 (funding plan data predict low debt issuance volumes), costs are likely to go up in the years to come, when issuance volumes are expected to rise.

Comparison with market expectations

The banks' assumption of increasing costs for market-based funding in 2019 can be compared with the views expressed by market analysts in response to the EBA's RAQ. Figure 33 shows analysts' views on costs related to debt issuances in 2019. The responses to the EBA's RAQ in April 2019 show that only 38% of respondents believe (agree or somewhat agree) that banks will face higher costs when issuing MREL-eligible instruments in 2019. It is worth noting that analysts' views might have changed significantly after the ECB's announcement on the extension of its TLTRO programme. Therefore, a comparison of banks' funding plan data with analysts' views expressed in Q4 2018 may be more appropriate. In December 2018, 60% of analysts expected that banks would face higher costs when issuing debt instruments in the year ahead.

Figure 33: Analysts' expectations on costs for debt issuances in 2019



Source: EBA RAQ.

Conclusions

Banks expect to fund their growing lending to NFCs and households (+12% over the forecast period) by issuing more debt securities and attracting more client deposits. Deposits from NFCs and household clients will continue to be the main source of funding (around 68% of total funding). Long-term debt instruments are expected to exhibit the highest growth rate of all sources of funding, growing by 14% over the forecast period. Banks plan to issue significantly more unsecured debt instruments (including MREL-eligible non-preferred debt) in the years to come.

Banks' reliance on public sector sources of funding (e.g. the ECB's TLTRO programme and the Bank of England's Funding for Lending scheme) is expected to decline significantly in 2020 and 2021. As of December 2018, public sector funding contributed almost 4% to banks' total funding. This share is set to decline to below 1% in 2021. Banks' plans, however, were submitted to competent authorities by the end of March, 3 weeks after the ECB's announcement that it was to extend its TLTRO programme. Therefore, it is not clear if and to what extent banks took the ECB's announcement into account before submitting their plans. As a result, given time constraints and the lack of details on the terms of the new TLTRO programme, it is unlikely that banks had all the information that they would have needed to change their funding plans accordingly.

Funding plan data show that the spread between interest rates for client deposits and for loans to clients reduced further in 2018 (2.51% compared with 2.69% in 2017). For 2019, however, most banks expect the spread decline to be less severe. For household clients, most banks expect the spread to increase slightly in 2019. A trend reversal would be particularly helpful to banks that are already under pressure to increase profitability.

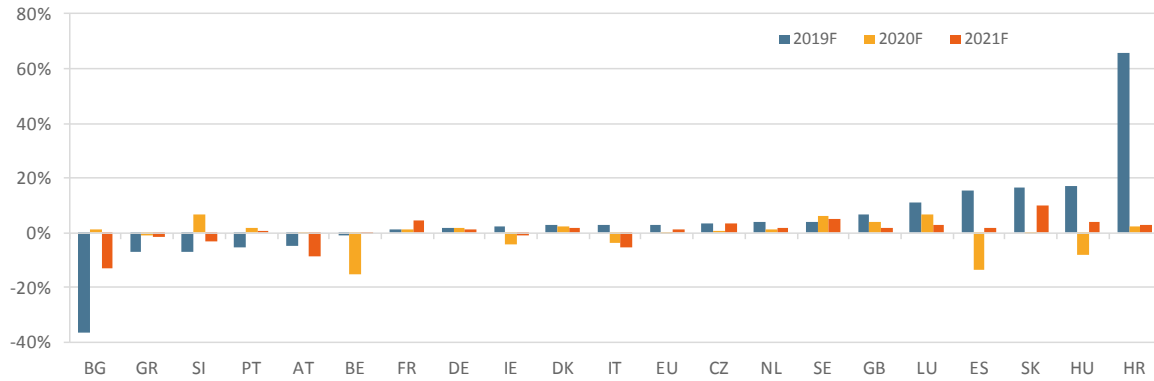
As regards market-based funding, banks indicate that the trend of decreasing costs may reverse in 2019. Combined with the increase in issuance volumes in the years ahead and increased volatility in the financial markets, this raises concerns regarding the capacity of banks to raise their funding at reasonable spreads. This is of particular concern to banks that have made heavy use of central bank funding measures and banks that are already under pressure to raise interest income. Again, banks' funding plans for 2019 were most likely made before the ECB's announcement that it was to extend its TLTRO programme, and it is likely that banks have made some adjustments to their plans since submitting data for this report.

Back-testing results show that banks' forecasts of December 2017 for 2018 were generally more accurate than their forecasts of December 2016 for 2017. However, some banks' forecasting misses were significant in both years. While some of these misses can be attributed to specific circumstances and measures taken by the banks, these discrepancies may be an indicator of management forecasting errors or misreporting. Therefore, competent authorities should investigate the reasons for these discrepancies and challenge banks' forecasts.

Annex 1

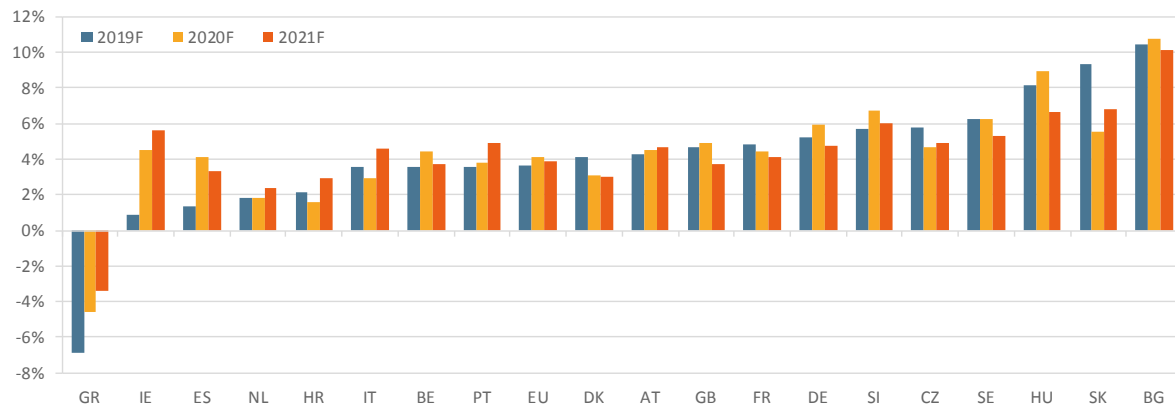
Funding plans: additional charts including country data

Figure 34: Growth in loans to financial corporates by country and for the EU



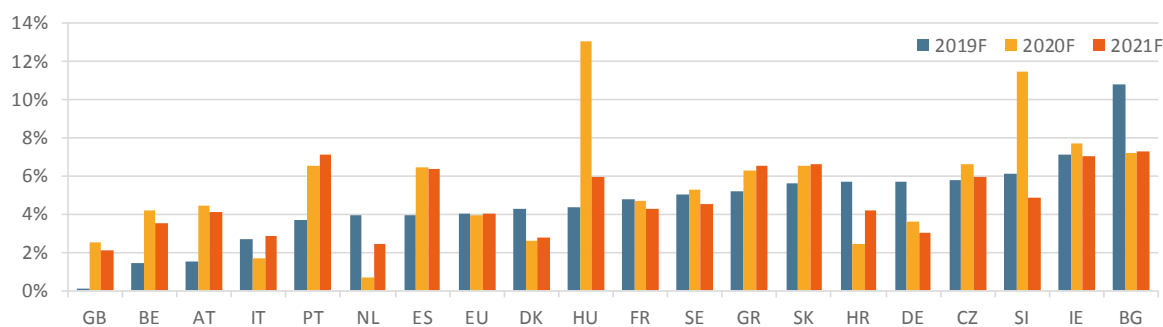
Source: EBA.

Figure 35: Growth in loans to households by country and for the EU



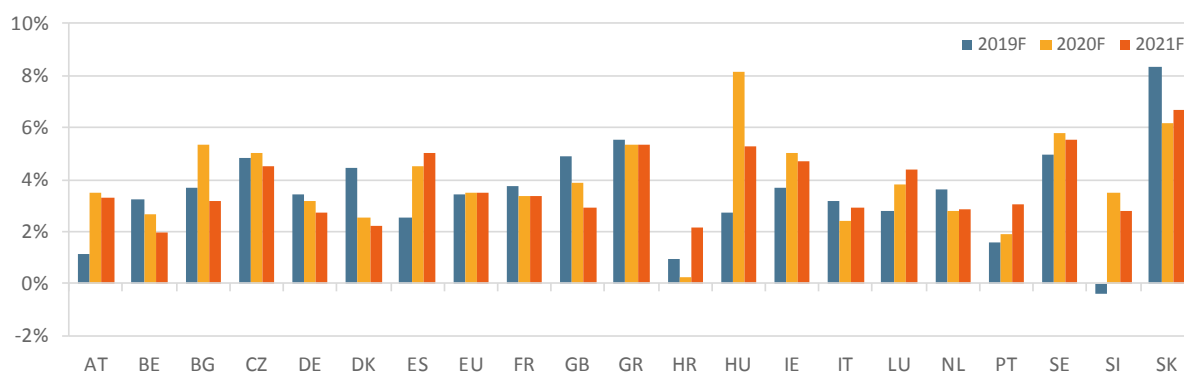
Source: EBA.

Figure 36: Growth in loans to NFCs by country and for the EU



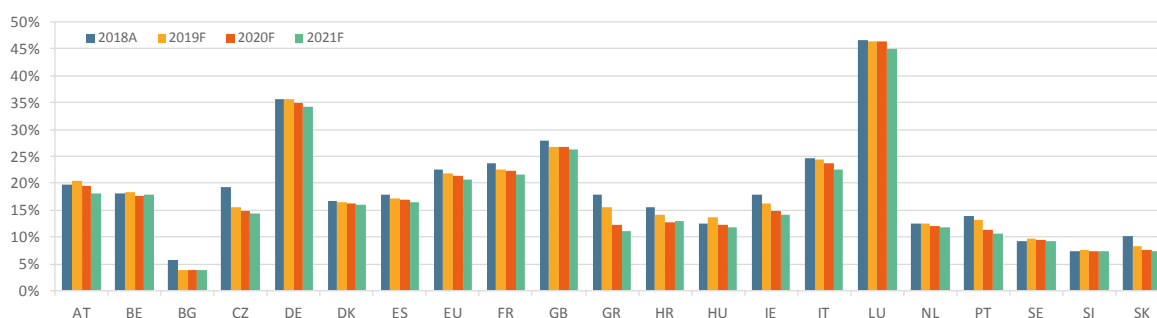
Source: EBA.

Figure 37: Growth in deposits from households and NFCs by country and for the EU



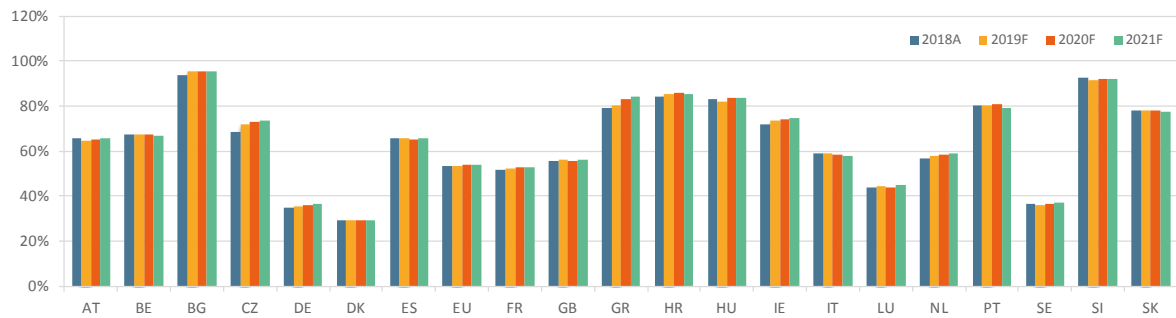
Source: EBA.

Figure 38: Share of repos and deposits from financial corporates in total funding by country and for the EU



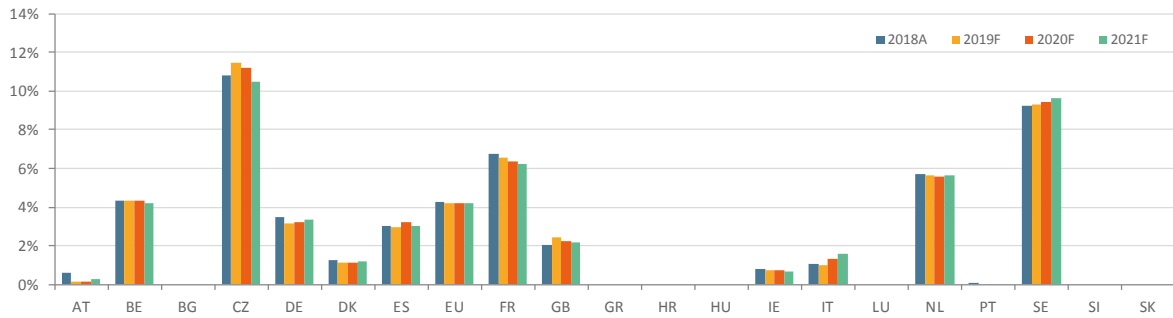
Source: EBA.

Figure 39: Share of client deposits (households and NFCs) in total funding by country and for the EU



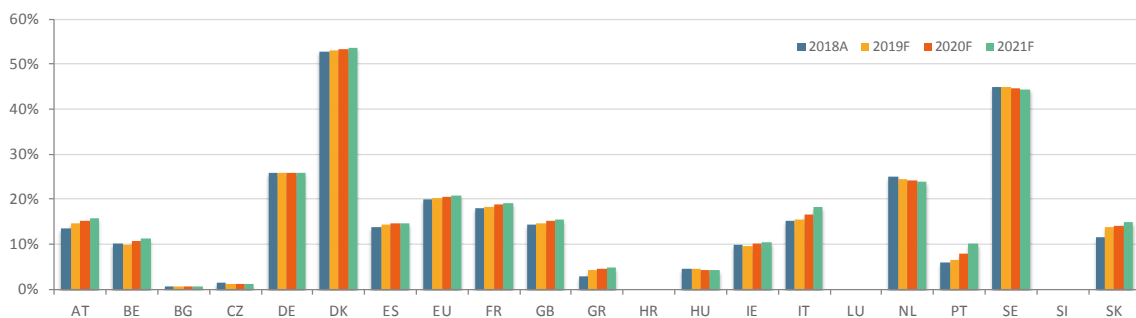
Source: EBA.

Figure 40: Share of short-term debt instruments in total funding by country and for the EU



Source: EBA.

Figure 41: Share of long-term debt instruments (secured and unsecured) in total funding by country and for the EU



Source: EBA.

Annex 2

List of participating banks

Entity name	Country	Is the bank included in the analysis?			
		Asset/liability analysis (for 2018)	Asset/liability analysis (for 2016, 2017 and 2018)	Interest spread analysis (for 2016, 2017 and 2018)	Debt rate analysis (for 2016, 2017 and 2018)
Aareal Bank AG	Germany	Yes	Yes	Yes	Yes
AB SEB bankas	Lithuania	Yes	Yes	No	Yes
ABANCA Holding Financiero, S.A.	Spain	Yes	Yes	Yes	Yes
Abanka d.d.	Slovenia	Yes	Yes	Yes	Yes
ABN AMRO Group N.V.	Netherlands	Yes	Yes	No	Yes
AIB Group plc	Ireland	Yes	Yes	Yes	No
Akcine bendrove Šiaulių bankas	Lithuania	Yes	No	No	No
Aktiebolaget Svensk Exportkredit	Sweden	Yes	Yes	No	No
Alpha Bank, S.A.	Greece	Yes	Yes	Yes	No
Arion banki hf	Iceland	No	No	No	No
AS SEB banka	Latvia	Yes	Yes	No	No
AS SEB Pank	Estonia	Yes	Yes	Yes	Yes
AXA Bank Belgium	Belgium	Yes	Yes	Yes	Yes
Banca Carige S.p.A. — Cassa di Risparmio di Genova e Imperia	Italy	Yes	Yes	Yes	Yes
Banca Comerciala Romana S.A.	Romania	Yes	Yes	Yes	No
Banca Monte dei Paschi di Siena S.p.A.	Italy	Yes	Yes	Yes	No
Banca Popolare di Sondrio, Società Cooperativa per Azioni	Italy	Yes	Yes	Yes	No
Banca Transilvania	Romania	No	No	Yes	No
Banco Bilbao Vizcaya Argentaria, S.A.	Spain	Yes	Yes	Yes	Yes
Banco BPI, S.A.	Portugal	Yes	Yes	No	No
Banco BPM SpA	Italy	Yes	No	Yes	Yes
Banco Comercial Português, S.A.	Portugal	Yes	Yes	Yes	No

Banco de Crédito Social Cooperativo, S.A.	Spain	Yes	Yes	Yes	Yes
Banco de Sabadell, S.A.	Spain	Yes	Yes	Yes	No
Banco Santander, S.A.	Spain	Yes	Yes	Yes	Yes
Bank of Cyprus Holdings Public Limited Company	Cyprus	Yes	Yes	Yes	No
Bank of Ireland Group plc	Ireland	Yes	Yes	Yes	No
Bank of Valletta Plc	Malta	Yes	Yes	Yes	Yes
Bank Polska Kasa Opieki S.A.	Poland	Yes	Yes	Yes	Yes
Bankinter, S.A.	Spain	Yes	Yes	No	Yes
Banque et Caisse d'Épargne de l'État, Luxembourg	Luxembourg	Yes	Yes	No	No
Banque Internationale à Luxembourg	Luxembourg	Yes	No	No	No
Barclays plc	United Kingdom	Yes	Yes	Yes	Yes
BAWAG Group AG	Austria	Yes	Yes	No	Yes
Bayerische Landesbank	Germany	Yes	Yes	Yes	Yes
Belfius Banque	Belgium	Yes	Yes	No	No
BFA Tenedora de Acciones, S.A.	Spain	Yes	Yes	Yes	Yes
Biser Topco S.à r.l.	Slovenia	Yes	Yes	Yes	Yes
BNG Bank N.V.	Netherlands	Yes	Yes	No	No
BNP Paribas	France	Yes	Yes	Yes	Yes
BNP Paribas Fortis	Belgium	Yes	No	No	No
BPER Banca S.p.A.	Italy	Yes	Yes	Yes	Yes
Bpifrance S.A. (Banque Publique d'Investissement)	France	Yes	Yes	No	No
BRD-Groupe Société Générale S.A.	Romania	Yes	Yes	Yes	No
C.R.H. — Caisse de refinancement de l'habitat	France	Yes	Yes	Yes	No
Caixa Central — Caixa Central de Crédito Agrícola Mútuo, CRL	Portugal	Yes	Yes	Yes	No
Caixa Económica Montepio Geral, Caixa Económica Bancária, S.A.	Portugal	Yes	Yes	Yes	No
Caixa Geral de Depósitos, S.A.	Portugal	Yes	Yes	Yes	No
CaixaBank, S.A.	Spain	Yes	Yes	No	No
Ceská sporitelna, a.s.	Czechia	Yes	No	Yes	No
Ceskoslovenská obchodní banka, a.s.	Czechia	Yes	No	Yes	Yes

Citibank Holdings Ireland Ltd	Ireland	No	No	Yes	No
Commbank Europe Ltd	Malta	No	No	No	No
COMMERZBANK Aktiengesellschaft	Germany	Yes	Yes	No	No
Confédération Nationale du Crédit Mutuel	France	Yes	Yes	Yes	Yes
Coöperatieve Rabobank U.A.	Netherlands	Yes	Yes	Yes	No
Credito Emiliano Holding S.p.A.	Italy	Yes	Yes	Yes	No
Danske Bank A/S	Denmark	Yes	Yes	Yes	Yes
de Volksbank B.V.	Netherlands	Yes	Yes	Yes	No
DekaBank Deutsche Girozentrale	Germany	Yes	Yes	Yes	Yes
DePfa Bank plc	Ireland	Yes	No	No	Yes
Deutsche Apotheker- und Ärztebank EG	Germany	Yes	Yes	Yes	Yes
Deutsche Bank AG	Germany	Yes	Yes	Yes	Yes
Deutsche Pfandbriefbank AG	Germany	Yes	Yes	Yes	No
DSK Bank Bulgaria	Bulgaria	Yes	Yes	Yes	No
DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main	Germany	Yes	Yes	Yes	Yes
Erste & Steiermärkische Bank d.d.	Croatia	Yes	Yes	Yes	Yes
Erste Group Bank AG	Austria	Yes	Yes	Yes	Yes
Erwerbsgesellschaft der S-Finanzgruppe mbH & Co. KG	Germany	Yes	Yes	Yes	No
Eurobank Ergasias, S.A.	Greece	Yes	Yes	Yes	No
First Investment Bank	Bulgaria	Yes	Yes	Yes	No
Groupe BPCE	France	Yes	Yes	Yes	Yes
Groupe Crédit Agricole	France	Yes	Yes	No	No
Hamburg Commercial Bank AG	Germany	No	No	Yes	No
HASPA Finanzholding	Germany	Yes	Yes	Yes	No
Hellenic Bank Public Company Ltd	Cyprus	No	No	Yes	No
HSBC Bank Malta plc.	Malta	Yes	Yes	Yes	No
HSBC France	France	No	No	No	No
HSBC Holdings Plc	United Kingdom	No	No	No	No
Ibercaja Banco, S.A.	Spain	Yes	Yes	Yes	Yes

ICCREA Banca S.p.A. — Istituto Centrale del Credito Cooperativo	Italy	Yes	Yes	No	No
ING Groep N.V.	Netherlands	Yes	Yes	Yes	Yes
Intesa Sanpaolo S.p.A.	Italy	Yes	Yes	Yes	No
Investeringsmaatschappij Argenta	Belgium	Yes	Yes	Yes	Yes
Íslandsbanki hf.	Iceland	No	No	No	No
J.P. Morgan Bank Luxembourg S.A.	Luxembourg	No	No	No	No
Jyske Bank A/S	Denmark	Yes	Yes	Yes	No
KBC Bank Ireland plc	Ireland	Yes	No	No	No
KBC Groupe	Belgium	Yes	Yes	Yes	No
Kereskedelmi és Hitelbank Zrt.	Hungary	Yes	Yes	Yes	Yes
Komerční banka, a.s.	Czechia	Yes	Yes	Yes	No
Kommuninvest — group	Sweden	Yes	Yes	No	No
Kuntarahoitus Oyj	Finland	Yes	Yes	No	No
Kutxabank, S.A.	Spain	Yes	Yes	No	No
La Banque Postale	France	Yes	Yes	No	No
Landesbank Baden-Württemberg	Germany	Yes	Yes	Yes	No
Landesbank Hessen-Thüringen Girozentrale	Germany	Yes	Yes	Yes	Yes
Landeskreditbank Baden-Württemberg — Förderbank	Germany	Yes	Yes	No	No
Landsbankinn	Iceland	No	No	No	No
Landwirtschaftliche Rentenbank	Germany	Yes	Yes	No	No
Länsförsäkringar Bank AB (publ.)	Sweden	Yes	Yes	Yes	No
Liberbank, S.A.	Spain	Yes	Yes	Yes	Yes
Lloyds Banking Group Plc	United Kingdom	No	No	No	No
LSF Nani Investments S.à.r.l.	Portugal	Yes	Yes	No	No
Luminor Bank AS	Estonia	No	No	No	No
MDB Group Limited	Malta	No	No	No	No
Mediobanca — Banca di Credito Finanziario S.p.A.	Italy	Yes	Yes	Yes	No
Münchener Hypothekenbank EG	Germany	Yes	Yes	Yes	No
National Bank of Greece, S.A.	Greece	Yes	Yes	Yes	No

Nationwide Building Society	United Kingdom	Yes	Yes	Yes	Yes
Nederlandse Waterschapsbank N.V.	Netherlands	Yes	Yes	No	Yes
Norddeutsche Landesbank Girozentrale	Germany	Yes	Yes	Yes	No
Nordea Bank Abp	Finland	No	No	Yes	No
Nova Ljubljanska Banka d.d., Ljubljana	Slovenia	Yes	Yes	Yes	Yes
NRW.BANK	Germany	Yes	Yes	Yes	Yes
Nykredit Realkredit A/S	Denmark	Yes	Yes	No	No
OP Osuuskunta	Finland	Yes	Yes	Yes	No
OTP Bank Nyrt.	Hungary	Yes	Yes	Yes	Yes
Permanent TSB Group Holdings Plc	Ireland	Yes	Yes	Yes	No
Piraeus Bank, S.A.	Greece	Yes	Yes	Yes	No
Powszechna Kasa Oszczednosci Bank Polski SA	Poland	Yes	Yes	Yes	Yes
Precision Capital S.A.	Luxembourg	No	No	Yes	No
Privredna Banka Zagreb d.d.	Croatia	Yes	No	Yes	Yes
Raiffeisen Bank International AG	Austria	Yes	No	No	No
Raiffeisenbankengruppe OÖ Verbund eGen	Austria	Yes	Yes	No	No
RBC Investor Services Bank S.A.	Luxembourg	Yes	Yes	No	No
RCB Bank Ltd	Cyprus	No	No	Yes	Yes
RCI Banque	France	Yes	Yes	No	No
Santander Bank Polska SA	Poland	No	No	Yes	Yes
Santander Totta, SGPS, S.A.	Portugal	Yes	No	No	No
SBAB Bank AB — group	Sweden	Yes	Yes	Yes	Yes
Sberbank Europe AG	Austria	Yes	Yes	Yes	Yes
SFIL	France	Yes	Yes	Yes	No
Skandinaviska Enskilda Banken — group	Sweden	Yes	Yes	Yes	Yes
Slovenská sporitelna, a.s.	Slovakia	Yes	Yes	Yes	No
Société générale S.A.	France	Yes	Yes	No	No
State Street Bank Luxembourg S.C.A.	Luxembourg	No	No	No	No
State Street Europe Holdings Germany S.a.r.l. & Co. KG	Germany	Yes	Yes	No	Yes
Svenska Handelsbanken — group	Sweden	Yes	Yes	Yes	Yes

Swedbank — group	Sweden	Yes	Yes	Yes	Yes
Swedbank AB	Lithuania	No	No	No	Yes
Swedbank AS	Estonia	Yes	Yes	Yes	No
Swedbank AS	Latvia	Yes	Yes	No	Yes
Sydbank A/S	Denmark	Yes	Yes	Yes	No
Tatra banka, a.s.	Slovakia	Yes	Yes	Yes	No
The Bank of New York Mellon SA	Belgium	No	No	No	Yes
The Royal Bank of Scotland Group Public Limited Company	United Kingdom	Yes	Yes	No	No
Ulster Bank Ireland Designated Activity Company	Ireland	Yes	Yes	Yes	No
Unicaja Banco, S.A.	Spain	Yes	Yes	Yes	Yes
UniCredit Bank Austria AG	Austria	Yes	Yes	No	No
UniCredit Bank Hungary Zrt.	Hungary	Yes	Yes	Yes	No
UniCredit Bank Ireland plc	Ireland	Yes	No	No	No
UniCredit Banka Slovenija d.d.	Slovenia	Yes	Yes	Yes	Yes
UniCredit Bulbank Bulgaria	Bulgaria	Yes	Yes	Yes	No
UniCredit S.p.A.	Italy	Yes	Yes	Yes	No
Unione di Banche Italiane Società per Azioni	Italy	Yes	Yes	Yes	No
Volksbanken Verbund	Austria	Yes	Yes	Yes	Yes
Volkswagen Bank Gesellschaft mit beschränkter Haftung	Germany	Yes	No	No	No
Všeobecná úverová banka, a.s.	Slovakia	Yes	Yes	Yes	Yes
Zagrebacka Banka d.d.	Croatia	Yes	Yes	Yes	No



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