## EBA REPORT ON FUNDING PLANS

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# List of abbreviations

ABS	asset-backed securities			
APP	asset purchase programme			
AT1	additional Tier 1			
BIS	Bank for International Settlements			
BRRD	Bank Recovery and Resolution Directive			
CDS	credit default swap			
COREP	common reporting framework			
EBA	European Banking Authority			
ECB	European Central Bank			
ELA	emergency liquidity assistance			
EU	European Union			
FGS	Funding for Growth scheme			
FLS	Funding for Lending Scheme			
GDP	gross domestic product			
G-SII	global systemically important institution			
FINREP	financial supervisory reporting			
HoldCo	holding company			
LTRO	longer term refinancing operations			
MREL	minimum requirement for own funds and eligible liabilities			
MRO	main refinancing operations			
NFC	non-financial corporate/non-financial corporation			
NPL	non-performing loan			
OMT	Outright monetary transactions			
ОрСо	operational company			
O-SII	other systemically important institution			
T1	Tier 1			



- T2 Tier 2
- TLAC total loss-absorbing capital
- TLTRO targeted LTRO
- YE year-end



## **Executive summary**

The objective of the report is to assess the feasibility of EU banks' funding plans. This report is provided in response to the European Systemic Risk Board's recommendations on the funding of credit institutions (ESRB/12/2). The objective of the report is to assess the feasibility of EU banks' funding plans submitted to the EBA.

Expected asset growth is driven by client loans.

Funding plan data show that in most countries banks' asset side is expected to grow throughout the forecast period. On average, total assets are projected to grow by 3.9% between year-end (YE) 2016 and YE 2019. The main drivers of asset growth are loans to households and to non-financial corporates (NFCs). Whereas the assumed asset growth seems to be reasonable for several countries, for others, when compared with the country's economic growth expectations, it is ambitious, significantly exceeding general economic dynamics.

The ratio of non-<br/>performing loans (NPLs)Analysis shows that the NPL ratio is one important parameter in<br/>explaining banks' loan growth, and there is a strong negative correlation<br/>between the NPL ratio and banks' client loan growth forecast. According<br/>to the analysis, the correlation between NPL ratio and loan growth<br/>forecast is stronger for banks with lower capital ratios, which suggests<br/>that less capitalised banks when considering extending new lending.

The funding mix isAs with the asset side, banks also expect equity and liabilities to increase.assumed to remainGrowth is relatively diversified, including client deposits (from<br/>households and NFCs) as well as long-term debt securities. Client<br/>deposits remain the main component in EU banks' funding mix, with a<br/>share of more than 50%. Interbank financing is expected to decrease,<br/>and short-term debt volume is projected to fall slightly throughout the<br/>forecast period.

Deposits are assumed to grow significantly. Banks' growth assumptions for client deposits are ambitious: the expected increase in deposits is above gross domestic product (GDP) growth in 16 countries. Nonetheless, backtesting of former funding plan data suggests that banks are able to significantly expand their deposit funding in times of GDP growth.



### Issuance of debt securities volumes is set to grow during the forecast period.

For most countries, planned issuances of debt securities in 2017 are below the average of actual 2015/2016 volumes. However, for 2018 and 2019, funding plans indicate increasing gross issuance volumes again, in some cases even exceeding the historical average. These trends might be explained by the assumed asset growth, by abundantly available central bank funding in 2016 and 2017, and by banks' successful issuances in 2016. Another explanation might be that banks plan the issuance of required volumes of instruments eligible for the minimum requirement for own funds and eligible liabilities (MREL) mainly in 2018 and 2019, as their pricing is currently higher than pricing for other funding instruments. Banks probably also anticipate that by 2018 and 2019 there will be certainty around detailed MREL requirements, including the levels required, the date for compliance and eligibility criteria. However, an assumed increase in issuance volumes in 2018 and 2019, following their decline in the preceding year, might pose a challenge for banks in terms of their ability to place them successfully on the markets.

Banks expect mostlyData for loan — as well as deposit — pricing show a mixed picture instable or decreasingdifferent countries. The costs of long-term market-based funding arecosts for long-termassumed to decline or remain stable in 2017 in most countries.market-based funding.

Public sector funding is forecasted to be wound down.

Pressure on interest income will rise amid necessary changes in the funding mix. On average, the use of public sector sources of funding is assumed to increase in 2017 across the EU but to decrease in the following years. However, the reliance on public funding is widely dispersed among countries. In some countries, banks look set to rely heavily on it.

The outlook for funding plans should be seen in the context of the need to issue further MREL-eligible instruments, which are in general more expensive than ineligible senior unsecured instruments. The winding down of central banks' funding support measures is expected to put further pressure on banks' future funding costs. In addition, in cases where banks will need to replace their planned growth in deposit volumes with market instruments, this would increase their funding costs. When certain secondary markets for banks' debt securities, for example for covered bonds, are no longer supported by central banks' purchase programmes, pricing for such instruments is likely to increase also.



No significant share of innovative instruments.

Reported data show that neither innovative instruments nor deposit-like funding account for a significant share in the funding mix.

Policy considerations for regulators and supervisors. High NPL levels combined with more thinly capitalised banks look set to be a drag on new lending unless addressed. Small and medium-sized banks will require particularly careful monitoring if they are to retain unfettered access to capital markets and investors. Banks' forecasted reliance on an expansion of client deposit-based funding will require careful monitoring at both individual and system levels. The assumed deferral of MREL issuances to 2018 and 2019 raises questions about market absorbability and associated pricing, especially at a time when reliance on public sector sources of funding may decrease. Finally, banks' forecasted heavy reliance on interest income to improve profitability will require careful monitoring.



# Introduction

The objective of this report is to provide an assessment of the feasibility of submitted funding plans for the EU banking system. To assess the feasibility of asset growth forecasted by banks on an aggregated level, as well corresponding forecasts on deposit- and market-based funding, the report also compares submitted data with market and statistical information, such as historical issuance volumes and economic forecasts. The aim of the report is to perform an assessment at the EU level. However, it also includes comparisons at the country level.

The analysis is based on funding plans reported in accordance with the EBA Guidelines on harmonised definitions and templates for funding plans of credit institutions. 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.<sup>1</sup> The sample covers the largest institutions in each Member State and in terms of total assets covers 76% of the EU banking sector. The list of 155 reporting banks (including subsidiaries) from all EU jurisdictions is provided in the Annex (Table 6).<sup>2</sup>

Funding plans are in general reported on a consolidated basis.<sup>3</sup> EU aggregated 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 they belong to the largest banks in the jurisdiction in question. The reporting covers balance sheet forecasting for three years, with additional reporting on public sector sources of funding, deposit funding, innovative funding sources, activities in main currencies, information on pricing, and the impact of disposals and acquisitions. Funding plan data and forecasts are based on a base-case scenario, i.e. banks' funding plans are not intended to represent a perception of their ability to attain funding under stressed conditions. For the purpose of the funding plan projections, banks have not been provided with any specific macroeconomic scenarios, as these might be different from the banks' own assumptions. The analysis uses 31 December 2016 as a reference date and covers actual figures for 2016 and forecasts for three subsequent years (2017 to 2019). The cut-off date for all data is 10 July 2017.

<sup>&</sup>lt;sup>1</sup> <u>http://www.eba.europa.eu/documents/10180/16082/EBA+DC+090+%28Decision+on+Reporting+by+Competent+</u> <u>Authorities+to+the+EBA%29.pdf/9beaf5be-2624-4e36-a75b-b77aa3164f3f</u>

<sup>&</sup>lt;sup>2</sup> Throughout the report, country-specific data are not disclosed if the country in question participates in the exercise with fewer than three banks. Country-specific statistics for EE are not shown, as the country has only two banks reporting funding plan data.

<sup>&</sup>lt;sup>3</sup> Competent authorities should exercise their discretion as to the level and perimeter of consolidation on a firm-by-firm basis (paragraph 11 of the Guidelines on Funding Plans).



# Asset trends and dynamics

### Forecasted asset growth and its main drivers

Funding plan data show that, in nearly all countries, banks' asset side is expected to grow throughout the forecast period, i.e. between YE 2016 and YE 2019, and on average, total assets are projected to grow by 3.9%. Among countries, the dispersion of asset growth forecast is wide. LT, SE and SK show the largest cumulative growth, between 15% and 19%, whereas the cumulative growth for five countries (BE, GB, GR, IE and PT) is negative.<sup>4</sup> Cumulative growth of total assets in the EU's larger economies, such as DE, FR and IT, is below 5% (Figure 1).

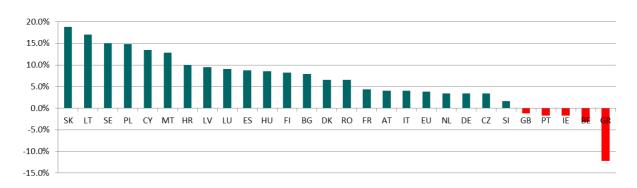


Figure 1: Planned total asset growth by country and for the EU, YE 2016-2019<sup>5</sup>

On average, the main drivers of asset growth are loans to households and to NFCs, i.e. client business. Whereas loans to households are expected to increase in sum by 10.5% between YE 2016 and YE 2019, the growth rate for loans to NFCs is expected to be 9.9% in sum in the same period.<sup>6</sup> After a long period of declining interbank financing — as reported in last year's funding plan data, as well as in data published by the Bank for International Settlements (BIS) — loans to financial corporates are forecasted to grow again.<sup>7</sup>

The trend towards growing client business can be identified on a country-by-country level. Loans to households and to NFCs are projected to grow in nearly all countries and across most of the projection years. However, it is not possible to identify specific patterns in the evolution of forecasted loans to financial corporates. The trends, in terms of both the magnitude and the direction (i.e. negative or positive), vary across countries. Similarly, while some countries have a

<sup>&</sup>lt;sup>4</sup> A detailed annual breakdown of total asset growth for the EU and by country can be found in Figure 33 in the Annex.

<sup>&</sup>lt;sup>5</sup> In particular for BE, GB and PT, asset growth is influenced by planned asset disposals and/or transfers of the reporting banks. Trends on EU and country levels are impacted by the sample of banks submitting funding plan data (see Table 6 in the Annex).

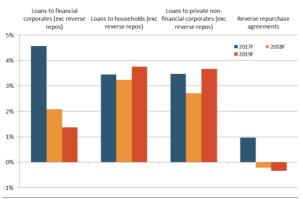
<sup>&</sup>lt;sup>6</sup> See country-specific growth of loans to households and NFCs in Figure 34 and Figure 35 in the Annex.

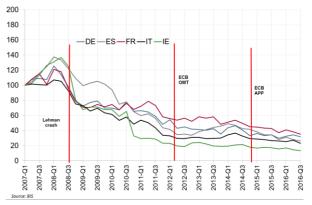
<sup>&</sup>lt;sup>7</sup> The funding plan reporting does not cover any intragroup financing, which might constitute a significant share of banks' funding in some jurisdictions, nor any potential cross-investments of banks (such as banks investing in other institutions' covered bonds issuances).



positive growth rate for reverse repurchase agreements (reverse repos), some show negative growth during the forecast period (Figure 2).

Figure 2: Growth of selected asset classes (EU) and consolidated foreign claims of reporting European banks vis-à-vis selected countries' banks (2007 Q1 = 100 (latest available data))<sup>8</sup>





Source for consolidated foreign claims data: BIS.

<sup>&</sup>lt;sup>8</sup> OMT: outright monetary transactions, APP: asset purchase programme.



#### Backtesting of former plans for loan growth

Besides benchmarking banks' growth assumptions for total assets with expectations for economic activity, such as GDP dynamics, a backtesting of former plans also provides an indication of the reliability of banks' forecasts. In this backtesting exercise, banks' former plans for loan growth are retrospectively compared with the actual growth for the year.

Backtesting the forecasted loan growth for 2016 (according to banks' funding plans as of YE 2015) against actual growth shows that the general trends in the data have not been borne out in many cases (Figure 3).<sup>9</sup> For CY, GR, IE and PT, for example, the originally planned decline in total assets is reported to be even greater in the actual figures. In contrast, for other countries, which expected positive growth, the increase was in several cases greater than originally assumed, for example for FR, HU, LT, NL and SK. For several other countries, the difference between forecasted and real growth was rather small (e.g. for AT, BG and LV). The two most significant country-level mismatches in the data (i.e. BE and GB) were driven by institution-specific measures in these countries.

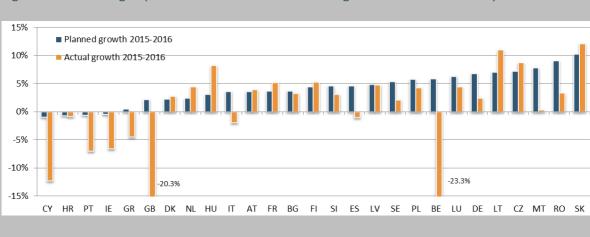


Figure 3: Backtesting of planned versus actual client loan growth in 2016 at country level<sup>10</sup>

<sup>&</sup>lt;sup>9</sup> The analysis is carried out for client loans (loans to households and NFCs) and at country level.

<sup>&</sup>lt;sup>10</sup> The analysis is based on a balanced sample of banks.



### Assessment of planned asset growth

The asset side is considered the driver for banks' business, and in theory its growth is connected to economic conditions. This implies that trends in asset growth might be linked to the dynamics of GDP. At the EU level, historical data suggest that the growth dynamics of GDP and total assets are somewhat comparable. Whereas the GDP growth dynamics are rather flat over time, the dynamics of total assets are more volatile, and only in 2011 did the growth of total assets exceed GDP growth. The analysis also shows that loan growth does not necessarily move in accordance with GDP trends, which can in particular be seen in 2011 and 2015, when loan growth significantly increased and exceeded GDP growth, while the latter remained relatively constant (Figure 4).<sup>11</sup>

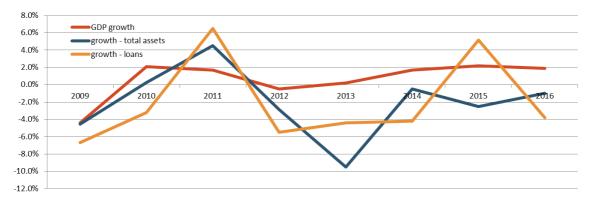


Figure 4: Evolution of GDP, total assets and loans (EU total)

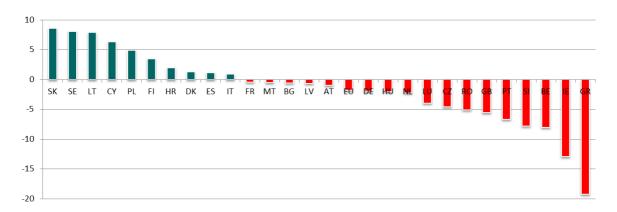
Source: EU Commission and European Central Bank (Consolidated Banking Data).

The analysis of total asset growth shows that, for several countries, cumulative asset growth forecast and GDP growth are comparable, for example for BG, FR and MT. However, there are also countries for which the expected increase in assets is considerably below GDP growth. Whereas in several cases (e.g. BE, GB, GR and PT) this can be explained by asset disposals or transfers, this is not the case for, for example, CZ, RO and SI. In other cases, the increase in total assets seems to be ambitious, as it significantly exceeds general economic dynamics. For CY, LT, SE and SK, for example, the assumed increase in total assets is more than 5 percentage points higher than the country's GDP growth. However, in some of these cases, for example for SE, such differences can be explained by the international nature of the relevant banks' business, which contributes to differences between GDP and total assets dynamics: in the case of an internationally active bank, the economic trends in all of its main countries of operation would need to be considered in such an analysis (Figure 5).

<sup>&</sup>lt;sup>11</sup> Furthermore, in 2016 the negative loan growth differs significantly from the positive GDP development.



Figure 5: Difference between total asset growth and GDP growth by country and for the EU, in percentage points (YE 2016-2019)<sup>12</sup>



Source for GDP growth: EU Commission.

#### Analysis of drivers of loan growth

Client business — loans to households and NFCs — can be considered one of the main drivers of expected total asset growth. Client loans are also at the core of a bank's business and represent banks' role as a provider of credit to the real economy. For this reason, a more detailed investigation of potential drivers of the growth of this asset class was performed in the form of a multiple linear regression analysis.<sup>13</sup> The analysis was based on bank-level observations and its outcome variable was the forecasted growth of client loans in 2017. Bank-specific parameters such as capital ratio, NPL ratio and funding mix, as well as macroeconomic indicators such as unemployment rate and GDP growth were considered potential drivers of banks' loan growth forecasts.

While some of the key variables (e.g. Tier 1 (T1) capital ratio, leverage ratio, GDP growth) do not have a statistically significant impact, other selected variables (e.g. NPL ratio, share of long-term debt securities in total funding, stable funding) have explanatory power on loan growth forecast. The following explanation focuses on the NPL ratio as a main driver, because of its impact of high magnitude.<sup>14</sup> The analysis shows that there is a strong negative correlation between NPL ratio (2016) and banks' client loan growth forecast (2017), suggesting that banks with higher NPL ratios forecast lower loan growth. The correlation coefficient is –0.40 and significant at a 5% level of significance (Figure 6).

<sup>&</sup>lt;sup>12</sup> The cumulative GDP growth is based on the European Commission's European Economic Forecast of May 2017. For validation purposes, expected GDP growth for 2019 (not provided in the Economic Forecast) is assumed to be the same as that for 2018 (see Figure 41 in the Annex).

<sup>&</sup>lt;sup>13</sup> See the Annex for a more detailed explanation of the model specifications.

<sup>&</sup>lt;sup>14</sup> See the Annex for a more detailed presentation of the findings on other parameters considered.



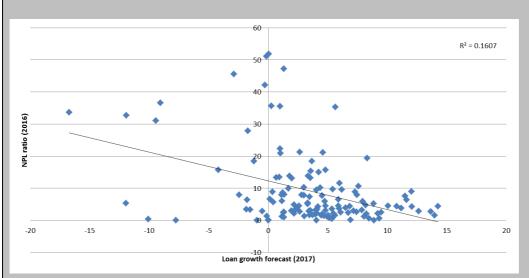
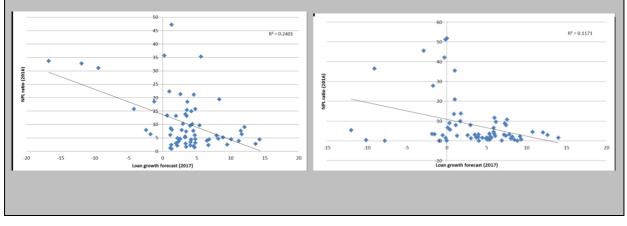


Figure 6: Correlation between NPL ratio (2016) and loan growth forecast (2017) at bank level (%)

The results of the analysis also show that the correlation between NPL ratio and loan growth forecast is stronger for banks with a T1 capital ratio below the median value (15.7%).<sup>15</sup> While the correlation coefficient is -0.49 for less capitalised banks, it is -0.34 for more capitalised banks. This suggests that less capitalised banks are more sensitive to the NPL ratio than higher capitalised banks when considering extending new (household and NFC) lending (Figure 7).

Figure 7: Correlation between NPL ratio (2016) and loan growth forecast (2017) given the level of T1 capital ratio: banks with T1 capital ratio below the median value (left) and above the median value (both analysed at bank level: %)



 $<sup>^{\</sup>rm 15}$  This is the median value of T1 capital ratio in the sample considered for this analysis.

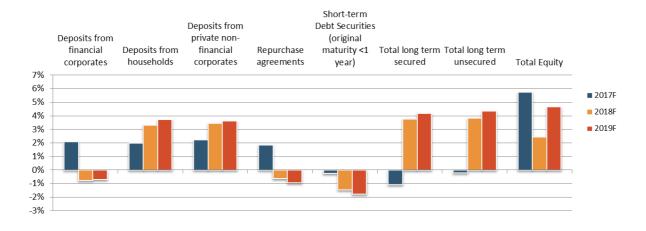


# Liability trends and dynamics

### Forecasted liability growth and its composition

As with the asset side, banks also expect equity and liabilities to increase. Growth is relatively diversified, including client deposits (deposits from households and NFCs) as well as long-term debt securities and equity (Figure 8).

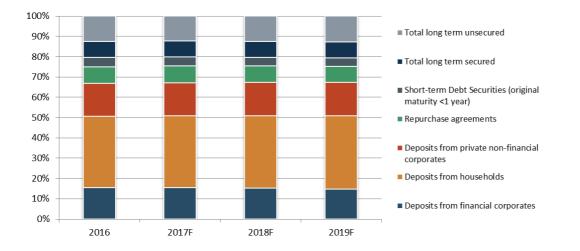
Figure 8: Growth of selected liability classes (EU)



With projected growth throughout all forecast years, client deposits remain the main component in EU banks' funding mix. The share of client deposits in total funding is assumed to increase constantly from 51.3% in 2016 to 52.7% in 2019. The share of long-term market-based funding is assumed to decline from 20.5% in 2016 to 20.1% in 2017, and then to increase again to 20.8% in 2019. Short-term market-based funding is expected to decrease from 4.5% to 4.1% between 2016 and 2019. After a slight increase from 23.8% in 2016 to 23.9% in the following year, in parallel with a similar trend on the asset side, interbank financing (deposits from financial corporates and repurchase agreements) is expected to decrease in the following years to 22.5% (Figure 9).<sup>16</sup>

<sup>&</sup>lt;sup>16</sup> According to the EBA's *Report on asset encumbrance*, published in July 2017, interbank financing is also one of the main sources of asset encumbrance in the EU. However, its share has decreased in the past, in favour of an increase in the share of covered bonds issued, confirming the trend towards an increasing share of covered bonds in market-based funding.





### Figure 9: Funding composition (EU)<sup>17</sup>

Furthermore, according to the results of the EBA's latest Risk Assessment Questionnaire, banks are optimistic about the growth of client deposits as well as market-based funding.<sup>18</sup> The answers to the questionnaire support the finding based on the funding plan data that, in their own opinion, banks continue to rely on funding from retail deposits.<sup>19</sup> However, compared with banks, significantly fewer analysts expect an increase in deposits from retail clients.<sup>20</sup> With respect to market-based funding, more than 40% of the banks intend to attain more senior unsecured funding, according to the answers to the same questionnaire. An even larger share of market analysts expects growth in this asset class (Figure 10 and Figure 11).<sup>21</sup>

<sup>&</sup>lt;sup>17</sup> Figure 37, Figure 38, Figure 39 and Figure 40 in the Annex show the share of the different funding instruments by country.

<sup>&</sup>lt;sup>18</sup> The Risk Assessment Questionnaire is conducted on a semi-annual basis among banks and market analysts, with the latest one taking place in April and May 2017

<sup>(</sup>https://www.eba.europa.eu/documents/10180/1898284/Risk+Assessment+Questionnaire+-+June+2017.pdf/fe1990a6-91af-40b3-b381-85908e64a6bb).

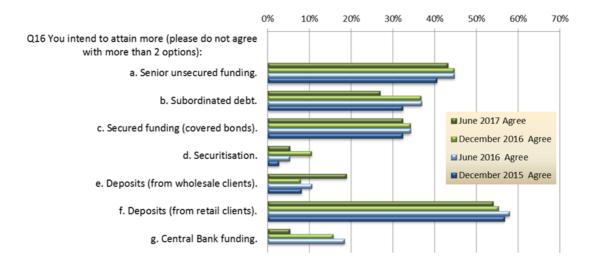
<sup>&</sup>lt;sup>19</sup> The share of banks that want to attain more retail deposits is about 55%, which is in line with December 2016 results.

<sup>&</sup>lt;sup>20</sup> The share of agreements went down from 25% in December 2016 to 15% in June 2017.

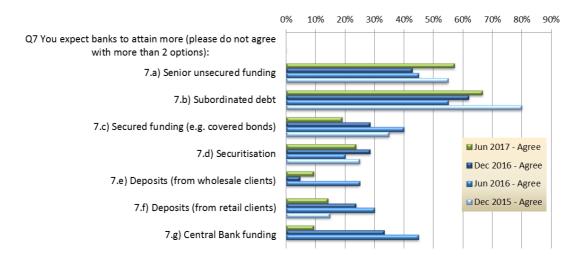
<sup>&</sup>lt;sup>21</sup> The share of agreements went up to 55% in June 2017 from less than 45% in December 2016.



#### Figure 10: EBA's Risk Assessment Questionnaire for banks



#### Figure 11: EBA's Risk Assessment Questionnaire for market analysts



### Trends in planned client deposits

Client deposits are projected to grow in all countries on a cumulative basis. Trends in client deposits' growth are in line with asset growth rates. The top five countries projecting the highest growth rates (LT, SE, SK and PL) are the same as for the asset side (see Figure 2). Following a decrease in their deposit base, GR banks project gradually increasing growth in both household and NFC sectors between YE 2016 and 2019. Trends are approximately similar in CY. None of the countries expects a



decrease in deposits in the forecast period, even though for six countries deposit growth in 2017 is assumed to be negative (Figure 12).<sup>22</sup>

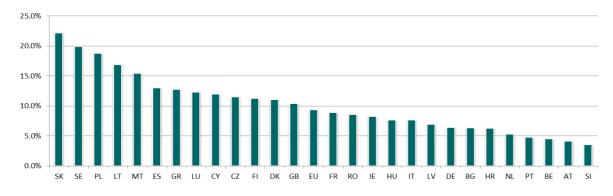


Figure 12: Growth of deposits from households and NFCs by country and for the EU, YE 2016-2019

#### Backtesting of former plans for deposit growth

For client deposits, backtesting shows that for many countries expected growth rates have been met or even exceeded. In contrast with the trends for loans, even countries expecting a decline saw positive growth in 2016 (e.g. HR, HU and SI). However, for PT the negative growth was greater than expected, and IE and LV saw a decline in client deposits despite forecasting their increase. For the countries that had planned the most significant growth in client deposits (GR, MT and PL), this was not achieved. Furthermore, for ES the increase was smaller than originally assumed. Similarly to the dynamics for loans, the two most significant mismatches, in BE and GB, were driven by institutionspecific measures in these countries (Figure 13).

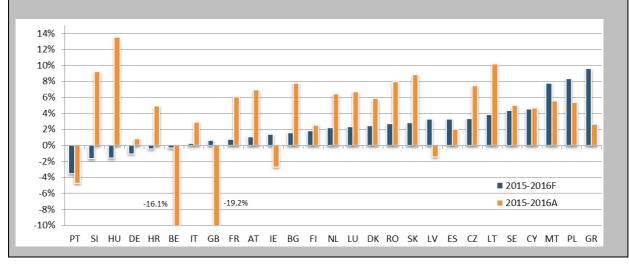


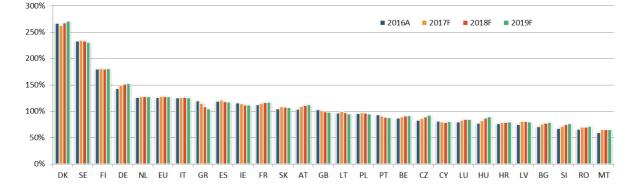
Figure 13: Backtesting: planned versus actual client deposit growth in 2016 at country level<sup>23</sup>

<sup>&</sup>lt;sup>22</sup> A detailed annual breakdown of client deposits for the EU and by country can be found in Figure 36 in the Annex.

<sup>&</sup>lt;sup>23</sup> The analysis is based on a balanced sample of banks.



With parallel growth in loans and deposits for most countries and at the EU level, on average, loanto-deposit ratios are expected to remain relatively stable.<sup>24</sup> However, the dispersion of the loan-todeposit ratio among countries remains broad. This dispersion is driven by different funding models in different Member States. For example, in DK there is a less significant role for deposits, as banks focus on the covered bond-based funding model. Three key trends in the development of the loanto-deposit ratio can be identified. For several countries, for example for FI, NL and IT, as well as for the EU on average, the ratio remains relatively stable. Other countries see a decline as increase in deposits dominates increase in loans, or decrease in loans is larger in magnitude than decrease in deposits, for example in GB, IE and PT. GR shows a material fall in the ratio, driven by the ambitious plans for deposit growth. Finally, there is a group of countries with a growing loan-to-deposit ratio, with client loans projected to grow faster than client deposits. Countries in this group include AT, CZ, DE, FR and HU (Figure 14).



#### Figure 14: Loan-to-deposit ratio by country and for the EU

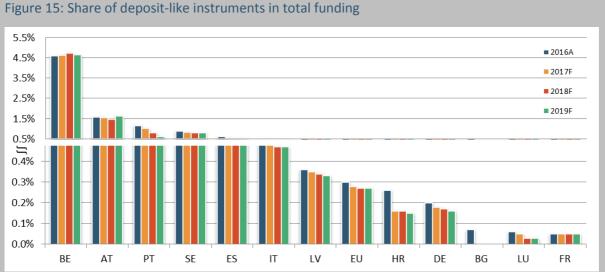
#### Deposit-like and innovative funding instruments<sup>25</sup>

Reported data show that neither deposit-like nor innovative funding instruments form a significant proportion of banks' total funding. In cases where banks reported such instruments, these were multi-currency deposits, structured deposits, bancassurance or similar products. Innovative funding instruments are non-vanilla structures that the industry has started to issue in the recent past (Figure 15 and Figure 16).

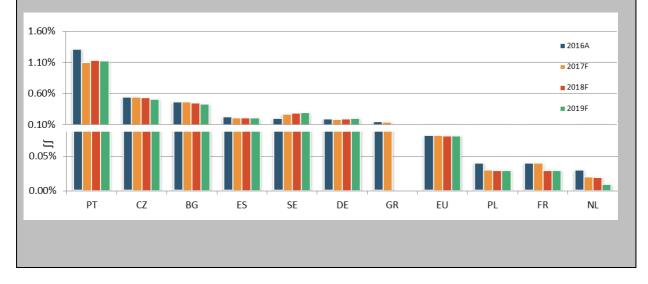
<sup>&</sup>lt;sup>24</sup> Loan-to-deposit ratio describes balance sheet structure and does not take into account the maturities of loans or deposits.

<sup>&</sup>lt;sup>25</sup> 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.









### Assessment of planned growth in client deposits

Similarly to the assessment of the growth assumption on the asset side, the following analysis compares the dynamics of deposits with GDP growth at country level. The underlying assumption is that economic growth might be considered a cap for the expected increase in deposits. In contrast to the asset side, expected deposit growth is above GDP growth in 16 countries (for the asset side, 10 countries; see Figure 5 for the asset side data). For 9 countries, the assumed increase in deposits is more than 5 percentage points above forecasted GDP growth (for the asset side, 4 countries).



However, for many countries, such as ES, FR and SE, a simple comparison of deposits with the GDP trends, which indicates domestic economic characteristics, once again does not capture the full picture, as certain banks have significant cross-border activities and are therefore influenced by further economic parameters (Figure 17).





Source for GDP growth: EU Commission.

The analysis shows that planned deposit growth is ambitious in many countries. Evidence suggests that banks are able to significantly expand their deposit funding (see box above, 'Backtesting of former plans for deposit growth'), but caution is needed in case such expansion will no longer be possible. If banks do not meet their target deposit growth rates, it will mean that they will have to either reduce their assumed expansion on the asset side or replace planned deposits with market-based funding instruments. The latter would be a drag on net interest income, as funding through debt securities issued is in many cases more expensive than funding through deposits.

### Trends in market-based funding

The proportion of long-term debt securities (including unsecured and secured instruments) in the total funding mix was 20.5% in 2016 and is assumed to be 20.8% in 2019. The outstanding amounts of long-term unsecured debt securities are projected to increase from EUR 2.3 trillion to EUR 2.5 trillion. Similarly, long-term secured funding is expected to grow, with an expected overall increase from EUR 1.5 trillion in 2016 to approximately EUR 1.6 trillion in 2019. This suggests that the share of covered bonds as a source of asset encumbrance will continue the rising trend that has been observed.<sup>27</sup> Within long-term secured instruments, the proportion of covered bonds is significantly larger than the proportion of asset-backed securities (ABS). In 2016, approximately 84% of these

<sup>&</sup>lt;sup>26</sup> The cumulative GDP growth is based on the European Commission's European Economic Forecast of May 2017. For validation purposes, the expected GDP growth for 2019 (not provided in the Economic Forecast) is assumed to be the same as that for 2018 (see Figure 41 in the Annex).

<sup>&</sup>lt;sup>27</sup> See the EBA's *Report on asset encumbrance*, published in July 2017.



instruments were in the form of covered bonds and only 9% were in the form of ABS. Issuance volumes of covered bonds are strongly driven by DE, DK, FR and SE. The remainder is comprised of other secured funding instruments. Within the planning horizon, secured funding also remains driven by covered bonds, and ABS are expected to continue to play a rather subdued role in banks' overall funding mix (Figure 18).





Projected gross issuance volumes are growing in most jurisdictions and for most of the market funding instruments covered (long-term unsecured instruments, covered bonds, ABS) over the forecast years, driven by several factors, which include maturing debt, asset growth and to an extent also replacement of short-term debt with long-term instruments.<sup>28</sup> Projected gross issuance volumes are highest for unsecured instruments, which include common senior unsecured instruments but also subordinated debt instruments; changes in the funding mix are also being driven by MREL-eligible instruments. The latter may involve shifts from issuances by banks' operational companies (OpCos) to issuances by holding companies (HoldCos) — so-called structural subordination — or to issuances of non-preferred senior debt.<sup>29</sup> The most significant gross issuance volumes are expected by banks domiciled in the EU's largest economies. Planned annual gross issuance volumes for at least one of the forecast years reach approximately EUR 80 billion for banks domiciled in DE and FR and about EUR 50 billion for banks headquartered in IT, NL and SE (Figure 19).

<sup>&</sup>lt;sup>28</sup> Gross issuance volumes are reported for the forecast years only and for long-term instruments but not short-term ones. As 'short-term' is defined as a maturity < 1 year, gross issuance volumes of such instruments per year might be misleading or might be misunderstood because of their intra-annual rollovers.

<sup>&</sup>lt;sup>29</sup> On legal subordination methods (structural, statutory and contractual subordination), see the EBA's *Report on the implementation and design of the MREL framework*, pp. 116 f.



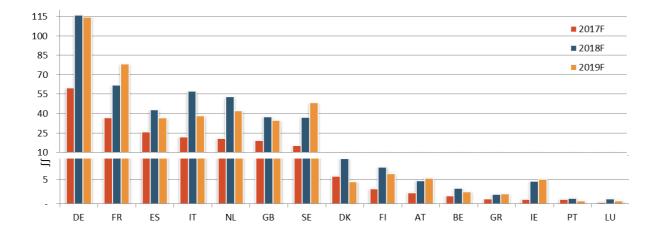
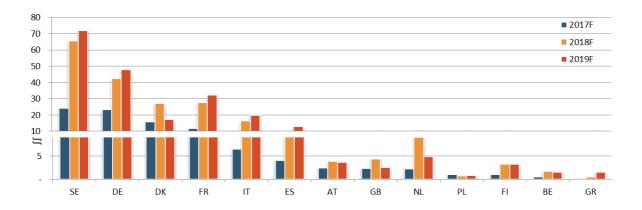


Figure 19: Gross issuance volumes of long-term unsecured instruments by country and year (EUR billions, countries with issuance volume > EUR 1 billion in at least one year)

Projected gross issuance volumes of covered bonds are significantly lower than for unsecured instruments for most countries. However, several countries with a focus on these instruments in banks' funding mix, such as DK and SE, show significant planned issuance volumes, with above EUR 70 billion for SE for 2019. Banks in Member States that traditionally use this type of instrument as part of their funding mix, but to a lesser degree, still show significant projected gross issuance volumes. These include DE, ES, FR and IT (Figure 20).<sup>30</sup>

Figure 20: Gross issuance volumes of covered bonds by country and year (EUR billions, countries with issuance volume > EUR 1 billion in at least one year)



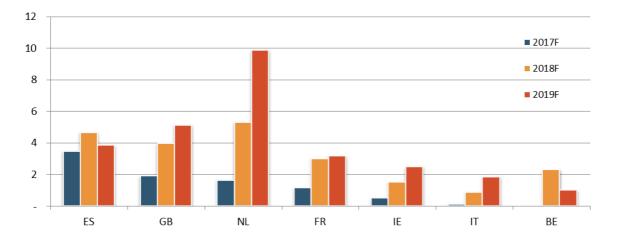
Securitised products are traditionally used in a smaller number of countries, which is reflected in the funding plans. The largest planned issuance volumes are expected from ES (around EUR 4 billion per

<sup>&</sup>lt;sup>30</sup> High levels of covered bond financing come in parallel with high levels of asset encumbrance, as shown in the EBA's *Report on asset encumbrance*, published in July 2017



year), GB (increasing from EUR 2 billion in 2017 to about EUR 5 billion in 2019) and NL (increasing from around EUR 2 billion in 2017 to nearly EUR 10 billion in 2019) (Figure 21).





#### Market-based funding is expected to grow on a net basis

The following analysis is based on yearly changes in the balances of debt securities issued. It shows the difference between the outstanding volumes at the beginning and end of the year. If this difference is positive, it means that gross issuances are larger than redemptions for that year.<sup>31</sup> 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 for a year, the assumed net issuance volume is negative, and the outstanding volume decreases during the year.

Funding plan data show that forecasted net issuance volumes exceed EUR 10 billion in several cases, mainly in large and economically stable countries (DE, FR, SE) or in large countries that suffered from a significant economic downturn as a result of the financial crisis and are expected to recover further in the forecast years (ES and IT in 2019). Negative bars are mainly a result of the drop in gross issuance volumes in 2017 described above (Figure 22).

<sup>&</sup>lt;sup>31</sup> As this calculation takes into consideration year-by-year change in outstanding debt securities, it includes short- and long-term debt securities.



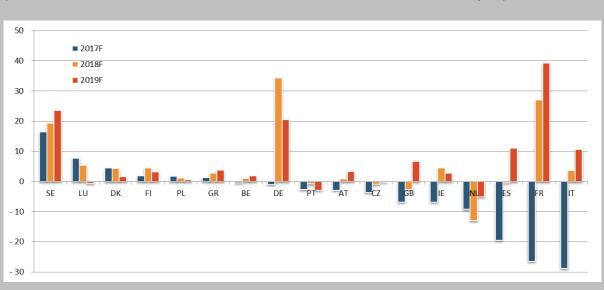
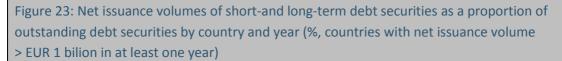
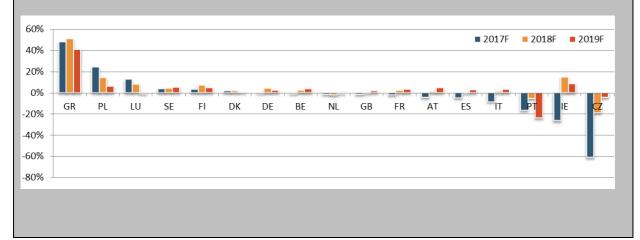


Figure 22: Net issuance volumes of short- and long-term debt securities by country and year (EUR billions, countries with net issuance volume > EUR 1 billion in at least one year)

An analysis that sets the net issuance volumes in relation to outstanding debt instruments shows that large net issuance volumes do not translate into higher shares of outstanding debt securities. Countries that expect a significant increase in the volume of net issuances, such as DE, FR and SE, have relatively low ratios in this calculation. In contrast, the ratios are higher for GR and PL, for which the level of outstanding debt securities, the denominator of the ratio, is low (Figure 23).







### Assessment of banks' issuance plans

The funding plan and other supervisory data, as submitted by the banks, do not cover any historical gross issuance volumes. Consequently, direct validation with fully comparable data is not possible. However, the European Central Bank (ECB) financial market and interest rate statistics ('securities issued') provide information on historical issuance volumes by country. These data are used as a starting point for the validation of planned issuances, assuming that they provide an indication of the volumes banks have been able to place on the markets in recent years in the countries in question.<sup>32</sup>

The ECB's data cover euro area countries as well as several other EU Member States. The following analysis is based on the ECB's gross issuance and outstanding volumes data for 2015 and 2016. It focuses on gross issuances of long-term instruments, without any further differentiation between secured and unsecured instruments, and excludes financial derivatives and shares. As the ECB data cover issuances from more financial institutions than are covered by the funding plans, an adjustment factor has been applied. This factor is based on the ratio of outstanding volumes according to the ECB data and outstanding volumes according to the funding plan data for YE 2016 (Table 1).

<sup>&</sup>lt;sup>32</sup> See <u>http://sdw.ecb.int/browse.do?node=9691129</u>. The data do not cover any issuances abroad.



# Table 1: Gross issuance volumes of long-term instruments by country and year (actual average for 2015 and 2016 after adjustment, and plans, billion EUR)

Member State	Average gross issuance volume 2015 and 2016, after adjustment <sup>33</sup>	Funding plan gross issuance volume 2017	Funding plan gross issuance volume 2018	Funding plan gross issuance volume 2019
AT	13.2	4.9	9.4	9.6
BE	5.3	2.2	7.3	5.0
CY	0.0	0.3	0.3	0.2
DE	179.4	83.2	158.5	162.3
DK	33.2	21.7	36.4	21.7
ES	72.6	33.9	56.8	53.5
FI	9.7	4.2	10.9	9.6
FR	156.0	50.1	92.7	113.8
GB	90.1	24.0	45.9	42.6
GR	1.9	1.4	2.7	3.6
IT	62.3	29.1	74.4	60.2
LT	0.0	_	_	_
LU	1.7	0.4	1.0	0.7
LV	0.2	0.2	0.3	0.2
MT	0.1	-	0.1	-
NL	79.6	25.1	67.6	56.9
PL	—	1.2	1.2	1.1
PT	3.2	1.5	1.9	0.7
SE	82.2	39.9	103.0	120.2
SI	0.1	-	0.3	-
SK	0.9	0.5	1.1	1.1

Source: ECB Statistical Data Warehouse, financial market and interest rate data, debt securities issued by monetary financial institutions, and funding plans.

The analysis shows that, for all countries, with the exception of CY, LV and PL, planned issuance volumes for 2017 are below the average actual 2015/2016 issuance volumes. However, in the two following years, gross issuance volumes are planned to increase, and in some cases even exceed the historical average, for example for SE in 2018 and 2019 and BE, DK, FI and IT in 2018. These trends might be explained by expected asset growth. Furthermore, the surprisingly low gross issuance volumes for 2017 — compared with the following forecast year but also compared with historical market data for such issuances — can partly be explained by abundantly available central bank funding as well as banks' successful issuances in 2016. Another explanation might be that banks plan the issuance of required volumes of MREL-eligible instruments in 2018 and 2019, as their pricing is

<sup>&</sup>lt;sup>33</sup> Adjustments are made for the outstanding volumes, i.e. the adjustment factor is a result of the ratio between outstanding volume according to ECB data versus funding plan data, as per YE 2016.



higher than pricing for other funding instruments.<sup>34</sup> Banks probably also anticipate that by 2018 and 2019 there will be certainty around detailed MREL requirements, including the levels required, the date for compliance and eligibility criteria. However, it might be challenging if a significant number of banks came to the market with such instruments at one point in time. It would become a buyer-driven market, giving investors the power to ask for even higher prices.

Planned issuance volumes for 2017 might be considered reasonable and can probably be placed comfortably on the markets, as they are lower than the volumes placed during the last two years on average. However, an increase in issuance volumes in 2018 and 2019, following their decline in the preceding year, might pose an additional challenge for banks, as investors might be switching to other asset classes in their investment mix, moving away from bank debt. They might then no longer be prepared to return to this asset class in large volumes in the following years.

Furthermore, as parts of these issuances are currently eligible for central banks' asset purchase programmes, it can be assumed that markets are broader than the volume that common investors are willing to buy. This means that placed issuances might exceed the volumes that could be placed on the markets before central banks' asset purchase programmes began.<sup>35</sup> Even where such central bank purchases are restricted to secondary markets, they still support the primary markets, as could be seen on the covered bond markets in 2016. This would create an additional risk if central bank purchases were reduced or ended, as banks would then have to demonstrate that they would still be in a position to place their issuances on the market.

### Funding mix dynamics

This analysis categorises countries on the basis of the shares of deposits and debt securities issued in their total funding mix (represented by the position of the bubbles in Figure 24), and considers at the same time their gross issuance volumes of long-term debt securities over the forecast horizon (represented by the size of the bubbles). Therefore, Figure 24 shows in a single diagram the trends in deposit funding and those in market-based funding, as described above.

Figure 24 covers the five countries with the largest issuance volumes. It can be seen that, for most of the countries, the darkest bubble (representing the position with respect to shares of deposits and market-based funding in 2019) is further to the right of the lightest bubble (representing the year 2017). For example, for SE the share of client deposits in total funding is expected to increase from

<sup>&</sup>lt;sup>34</sup> Commission Delegated Regulation (EU) 2016/1450 on the criteria for setting MREL on an institution-by-institution basis (based on the EBA regulatory technical standards on MREL) was adopted in 2016. Resolution authorities may determine an appropriate transitional period to reach the final MREL, which is not defined but should be 'as short as possible'. On 23 November 2016, the Commission presented proposed changes to CCR/CRD IV, BRRD and SRMR legislation. The proposed changes include new standards on the total loss-absorbing capacity (TLAC) for global systemically important institutions (G-SIIs) and also changes to the MREL framework applicable to other banks. It should be noted that funding plan data does not provide any breakdown of unsecured debt securities into additional Tier 1 (AT1)/Tier 2 (T2), MRELeligible and other ineligible senior unsecured instruments.

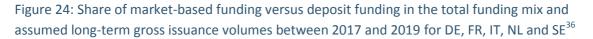
<sup>&</sup>lt;sup>35</sup> An example of such asset purchase programmes include those of the ECB, in accordance with which the central bank buys covered bonds, ABS and other eligible debt instruments

<sup>(</sup>https://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html).



34.5% to 35.4% and the share of long-term market-based funding is also expected to increase (by 0.5 percentage points) to 47.3%, with planned gross issuances of EUR 263 billion over the three-year forecast period.

For FR, the expected move to the right is driven by its significant net increase in debt securities issued and reduction in interbank funding, keeping the proportion of deposit funding largely the same. DE follows a similar trend, but with a less significant move. For NL, planned total net issuance volumes throughout the forecast period are less significant, and the bubbles remain more or less in the same position. For IT, the move to the right is not large, as expected net issuance volumes come in parallel with a planned increase in deposits. Furthermore, as described in the chapter on the funding mix, the increase in deposits and debt securities also comes at the expense of a decline in interbank funding.



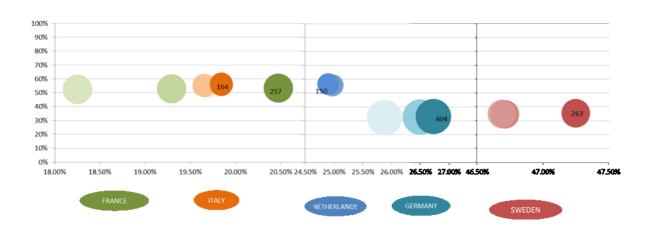
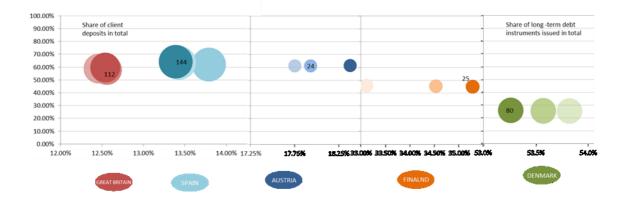


Figure 25 covers the second group of five countries by largest issuance volumes. The bubbles for AT and FI move to the right during the forecast years. However, the opposite happens for DK and ES, where the driver of the movement is the decrease in long-term debt securities issued. The position of GB is roughly constant.

<sup>&</sup>lt;sup>36</sup> The size of the bubbles represents the gross issuance volumes of long-term debt securities between 2016 and 2018; the lightest bubble represents the position in respect of the funding mix in 2017, whereas the darkest bubble shows the position in 2019.



# Figure 25: Share of market-based funding versus deposit funding in the total funding mix and assumed long-term gross issuance volumes between 2017 and 2019 for AT, DK, ES, FI and GB<sup>37</sup>



<sup>&</sup>lt;sup>37</sup> See footnote 36 for an explanation of the diagram.

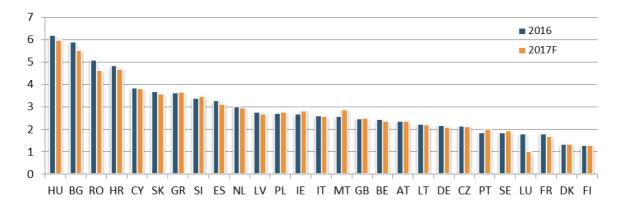


# **Pricing forecasts**

### Banks' pricing assumptions for deposits and debt securities issued

In addition to data on trends in asset and liability volumes, funding plans also provide one-year forecasts for loan as well as deposit and debt securities pricing. The data show a rather mixed picture of banks' assumptions for their client business spreads, i.e. spreads between client loans and client deposits. While the spread is expected to increase for several countries (e.g. IE, MT, PL, PT, SE and SI), for others (e.g. BE, BG, ES, HR, HU and RO) it is expected to decrease. In other cases (e.g. AT, CY, and FI), the spread is projected to remain stable. The main driver for an assumed decrease in client spreads comes mainly from the asset side, through a decline in client loans' interest rates that is greater than the contraction in client deposits' interest rates. In case of increasing spreads, the driver is in most cases an assumed increase in client loans' rates (e.g. IE, MT, PL and SE), whereas in some other cases (e.g. PT and SI) the expected decline in client deposit pricing exceeds the forecasted contraction in interest rates for client loans (Figure 26).

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



A comparison between expected spreads and loan-to-deposit ratios (Figure 14) shows that countries with a higher loan-to-deposit ratio are in many cases those on the right side of Figure 26, i.e. those with rather narrow client spreads. Countries with a lower ratio are in many cases those assuming a contraction in client spreads. This indicates that banks with higher shares of client deposit funding compared to client loans face greater pressure on the spreads: the decline in interest rates on client loans cannot be further mirrored in client deposits, as the banks rely heavily on these instruments in their funding mix and are less willing to risk losing them following a reduction in their pricing.

Banks' funding plan data also show that only in some countries (GR, IE, MT and SI) are the costs of long-term market-based funding expected to increase in 2017. In most other countries, they are assumed to decline or remain flat. This trend towards stable or declining costs for market-based



funding comes in parallel with a decrease in gross issuance volumes in 2017 (see Table 1). However, as forecasted pricing data is reported for only one year, it is not clear if banks assume higher costs in the event of increasing issuance volumes in the following years (Figure 27).

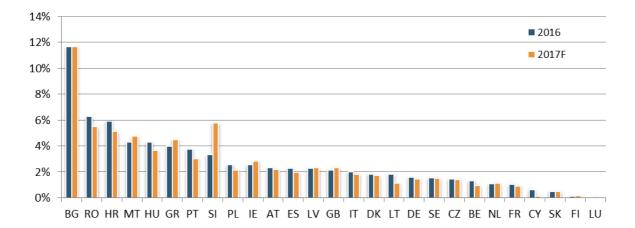


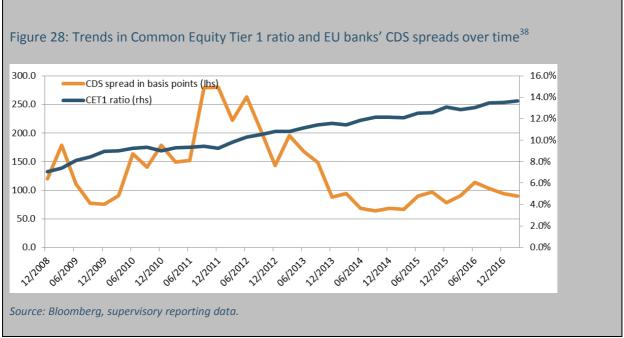
Figure 27: Actual and forecasted interest rates for long-term debt securities

#### The potential impact of banks' capitalisation on their credit spreads

Credit spreads are one component in banks' funding costs and they can be approximated by banks' credit default swap (CDS) spreads. Such spreads can be influenced by two sets of drivers: idiosyncratic and systemic. The first are connected to a bank's individual risk and performance profile, reflected in its capitalisation, asset quality and profitability, while the latter impact the CDS spreads through general economic conditions (e.g. GDP growth versus GDP decline), general capital market conditions (e.g. a broad or small investor base and trading volumes) and the general risk perception of the sector.

Historical data show that the CDS spreads of EU banks have on average been following a declining trend between YE 2011 and YE 2013, following the global financial crisis and European debt crisis in the years before. Since the beginning of 2015, they have still been volatile, but have not reached the levels they did during the crisis years. This comes in parallel with rising capital ratios, which might be considered a buffer for any potential loss participation by debt investors. However, the general risk perception of the financial sector, as well as economic recovery, have certainly also contributed to these trends in CDS spreads (Figure 28).





### Assessment of banks' pricing assumptions

Decreasing client spreads in several countries indicate that there will be further pressure on banks' interest income. In the case of banks' more optimistic predictions of an increase in client spreads driven by rising loan pricing, it is questionable if banks will be in a position to realise these forecasts. In addition, in these cases further pressure on banks' interest income cannot be excluded.

Banks' assumptions of stable or decreasing pricing for debt securities issued might be questionable amid a need to issue further MREL-eligible instruments, which are in general more expensive than ineligible senior unsecured instruments. Even if costs for market-based funding do really decrease in 2017 amid a forecasted decline in gross issuance volumes, this would then in the following years be reversed, as gross issuance are expected to rise again, with the need to attract a sufficiently broad investor base.

Such potential pressure on funding costs will come in parallel with a winding down of central banks' funding support measures, such as the ECB's (targeted) longer term refinancing operations ((T)LTRO). Such funding is cheaper than funding from other sources, which means that, with its winding down, funding costs are assumed to increase. An analysis of banks' net issuances in comparison with maturing (T)LTRO volumes shows that the latter are significantly higher than the former (Table 2).

<sup>&</sup>lt;sup>38</sup> Common Equity Tier 1 ratio (before: T1 ratio minus hybrid instruments) based on supervisory reporting data; CDS spreads are an average for European financial institutions, five-year CDS (SNRFIN CDSI GEN 5Y Corp).



Table 2: Net issuance volumes of short- and long-term debt securities (euro area countries only)
versus maturing (T)LTRO volumes (EUR billion)

	2017	2018	2019	2020	2021
Debt securities: net issuances	-73	92	120	n/a	n/a
Maturing (T)LTRO volumes	23	432	0	507	233

Source: European Central Bank, history of all ECB open-market operations,<sup>39</sup> funding plans.

This comparison suggests that banks envisage replacing maturing (T)LTRO funding not with debt securities but mainly with deposits, which are in general cheaper than market-based funding. This being the case, if banks are not able to attract sufficient deposit volumes, they will have to increase issuance volumes of debt securities even further in 2018 and the following years. This would result in additional pressure on banks' net interest income.

Central banks' asset purchase programmes are also assumed to end in the future. These programmes currently absorb significant volumes of outstanding covered bonds on secondary markets (see also the assessment and conclusions on banks' gross issuance plans). When these markets are no longer supported by the purchase programmes, pricing for these instruments is likely to increase again.

#### Potential impact of rising interest rates on banks' profitability

Amid market discussions about potential rises in central banks' benchmark interest rates, one question is how this might impact banks' interest income and profitability. An analysis of EU banks' financial statements and Pillar 3 disclosures shows that they expect a positive impact on their net interest income from parallel upward shifts in interest rate curves. However, the dispersion of the impact is wide: even though hardly any further information is provided in banks' disclosures on this, one can assume that the materiality of the impact will be driven by, for example, the stickiness of the asset and/or liability side.

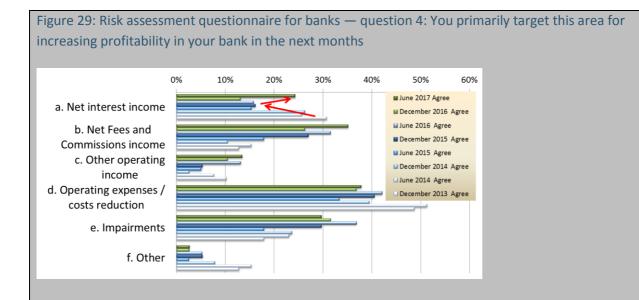
The results of the EBA's Risk Assessment Questionnaire, published in June 2017, show that more banks are targeting their net interest income to increase their profitability (question 4 of the Risk Assessment Questionnaire for banks, Figure 29).<sup>40</sup> Taken together with the banks' expectation that rising benchmark interest rates will improve their net interest income, these results might indicate that banks indeed expect such a rise and speculate that this will immediately improve profitability. Potential offsetting factors should be kept in mind in that case.

<sup>&</sup>lt;sup>39</sup> <u>https://www.ecb.europa.eumopo/implement/omo/html/top\_history.en.html</u>, data as of June 2017.

<sup>&</sup>lt;sup>40</sup> The Risk Assessment Questionnaire is conducted on a semi-annual basis among banks and market analysts, with the latest one taking place in April and May 2017

<sup>(</sup>https://www.eba.europa.eu/documents/10180/1898284/Risk+Assessment+Questionnaire+-+June+2017.pdf/fe1990a6-91af-40b3-b381-85908e64a6bb).





Even though rising benchmark interest rates have the potential to improve banks' spreads in client business and their net interest margins other things being equal, there are also opposing effects. These include potentially lower loan volumes in some cases, as clients might not be willing or in a position to pay higher rates. Furthermore, higher default rates might result from rising rates, as certain loan clients might not be in a position to cover higher loan payments in case of variable interest rate loans. Both of these aspects are relevant for loans to households and loans to NFCs. The overall impact of rising rates depends, among other parameters, on the elasticity of interest rates on the asset and liability sides, for example on the shares of fixed versus variable rate loans and funding. On the liability side, the net interest income is affected by changes in the funding mix, too. Such changes are driven by the fact that banks will still have to increase the share of MREL-eligible instruments in their overall funding. Pricing for such MREL-eligible instruments is higher than pricing for ineligible senior unsecured and secured debt securities. As a result, an increase in central banks' benchmark interest rates will most probably not automatically translate into higher interest income.



# Public sector sources of funding

## Planned public sector sources of funding

In the analysis of the funding plan data, public sector sources of funding are split into repo funding programmes, credit guarantee programmes and credit supply incentive schemes. The programmes cover terms longer than one 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 (ELA) measures provided by central banks are included in these data.

- <u>Repo funding programmes:</u> programmes capturing wholesale term-secured funding via repo transactions. An example of such a programme is the ECB's ((T)LTRO) programme.<sup>41</sup>
- <u>Credit guarantee funding programmes:</u> programmes capturing 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. The Credit Guarantee Scheme of the British Ministry of Finance is an example of such a programme.
- <u>Credit supply incentive scheme to the real economy</u>: programmes capturing funding support to banks via pricing or quantum incentives from a national and/or supra-national authority. Examples of such a programme are the Bank of England's Funding for Lending Scheme (FLS) and the Hungarian National Bank's Funding for Growth Scheme (FGS).

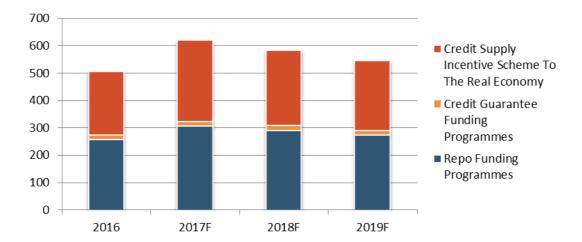
Public sector support for funding has been increasingly used following the financial crises in the years since 2008.<sup>42</sup> Based on the funding plan data, public sector-supported funding programmes amounted to a volume of about EUR 505 billion in 2016. Repo funding programmes form the largest proportion, at about EUR 256 billion, followed by credit supply incentives (EUR 231 billion). Credit guarantee funding programmes are relatively negligible (EUR 18 billion). Such programmes were in place mainly at the beginning of the financial crisis, in times of elevated market stress, in 2008 and during the following years. Banks from four countries (CZ, PL, RO and SE) do not use any public sector sources of funding, according to funding plan data (i.e. none with a term longer than one year) (Figure 30).<sup>43</sup>

<sup>&</sup>lt;sup>41</sup> Short-term repo-based funding by central banks might also have significant volumes, but is not covered by the funding plans.

<sup>&</sup>lt;sup>42</sup> See also in this regard the EBA's *Report on the use and benefits from central banks' funding support measures*, published in 2014.

<sup>&</sup>lt;sup>43</sup> Funding plan data covers public sector sources of funding with a term of more than one year. Therefore, measures with shorter terms are not covered, and these include, for example, the ECB's main refinancing operations (MRO). Banks in the Member States mentioned might still make use of such shorter term public sector sources of funding.





### Figure 30: Public sector sources of funding (EU, outstanding volumes, EUR billions)

The amounts of repo funding are expected to increase in 2017 and then decline marginally in the following years. Relatively high and persistent levels of public sector funding are driven strongly by the ECB's recent TLTRO II programme (announced in March 2016), which extends the facility and the duration of this funding mechanism. As this new policy development has been captured in the funding plan data from December 2016, it shows a significantly different picture compared with the same data collected in December 2015.

For the EU, the usage of repo-based funding support, measured as a share of total funding, was around 1.3% in 2016, projected to increase by 0.3 percentage points in 2017 and then to decrease in the following years back to approximately 1.3% in 2019. However, the share of repo funding in total funding is widely dispersed among countries. For most of the countries that suffered the most in the financial crisis, the ratio is above 2%, and for several years even above 3%. For IT, it is higher than 6% for 2017-2019. Such high levels of central bank funding are reflected in high levels of asset encumbrance in countries that were severely affected by the sovereign debt crisis.<sup>44</sup> For other countries, in contrast, the ratio is around or below 1% for nearly all years. The expected decline in central bank repo-based funding in 2019 is probably in line with the maturity of the ECB's TLTRO programme, which is also reflected in the projected increase in client deposits and issuance of debt securities (Figure 31).

<sup>&</sup>lt;sup>44</sup> See the EBA's *Report on asset encumbrance*, published in July 2017.



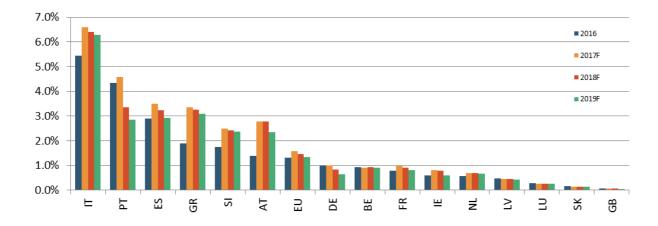


Figure 31: Public sector funding (repo-based funding) as a proportion of total funding by country and for the EU

In addition, the EBA's Risk Assessment Questionnaires provide evidence that banks as well as market analysts expect central bank funding to decrease. According to the responses, about 5% of the participating banks intend to attain central bank funding (compared with more than 15% in December 2016 and almost 20% in June 2016). The share of market analysts expecting an increase in central bank funding has also decreased since December last year (see Figure 10 and Figure 11).<sup>45</sup>

The share of credit supply incentive schemes shows a moderate projected decline between 2017 and 2019 for most countries. Accordingly, at the EU level, it is forecasted to decrease from 1.2% in 2017 to 1.0% in 2019. At country level, the data show the same decreasing trend, except for in HR, PT and SK, where the share of credit supply incentive schemes is projected to grow between 2017 and 2019 (Figure 32).

 $<sup>^{\</sup>rm 45}$  The rate of agreement fell from 35% in December 2016 to 10% in June 2017.





Figure 32: Public sector funding (credit supply incentive schemes) as a proportion of total funding by country and for the EU

### Assessment of assumed public sector sources of funding

In several countries, banks still rely heavily on public sector sources for funding. As their pricing is in general cheaper than pricing for deposit- and debt securities-based funding, this supports banks' net interest income. It might also be questionable if banks will be able to replace such funding with other sources. Questions about the viability of banks that have attained significant shares of public sector sources of funding should be raised now, and not only when these measures will be phased out. ECB data shows that maturing volumes will be significant in 2018 and the following years, reaching EUR 432 billion in 2018 and EUR 507 billion in 2020 (**Error! Reference source not found.**).

	2014	2015	2016	2017	2018	2020	2021
Allotments	437	514	610	245 <sup>46</sup>	n/a	n/a	n/a
Maturing	213	1 327	129	23	432	507	233

Table 3: ECB (T)LTRO — alloted and maturing amounts per year

Source: European Central Bank, history of all ECB open-market operations<sup>47</sup>.

<sup>&</sup>lt;sup>46</sup> Year to date.

<sup>&</sup>lt;sup>47</sup> See <u>https://www.ecb.europa.eumopo/implement/omo/html/top\_history.en.html</u>; data as of June 2017.



# Conclusions

High NPL levels combined with more thinly capitalised banks look set to be a drag on new lending unless addressed. Small and medium-sized banks will require particularly careful monitoring if they are to retain unfettered access to capital markets and investors. Banks' forecasted reliance on an expansion of client deposit-based funding will require careful monitoring at both individual and system levels, as the market for client deposits might become more competitive, or clients might become less willing to further increase deposits.

The assumed deferral of MREL issuances to 2018 and 2019 raises questions about market absorbability and associated pricing, especially at a time when reliance on public sector sources of funding may decrease. Questions about the funding plans of banks that are significantly reliant on public sector financing should be raised before these support measures are phased out. Finally, banks' forecasted heavy reliance on interest income to improve profitability will require careful monitoring.

In most countries, the asset side is assumed to grow, mainly driven by client loans. Banks contribute to economic growth through such expansion of client loans. However, an analysis of the main drivers of lending growth suggests that banks' NPL ratios have a significant impact on the extension of new client loans. According to this analysis, there is a strong negative correlation between banks' NPL ratios (2016) and their client loan growth forecast (2017). In the case of less capitalised banks, the correlation is even more negative, i.e. less capitalised banks are more sensitive to the NPL ratio when considering extending new client loans than higher capitalised banks.

Banks are very ambitious with respect to deposit funding: client deposits are one of the main drivers of liability growth. Evidence suggests that banks have been able to significantly increase their client deposit bases, even beyond originally forecasted growth. However, if markets become more competitive, banks might not be able to expand their deposits as forecasted, and would have to reduce their planned asset growth, or replace client deposits with more expensive funding instruments.

The issuance of MREL-eligible instruments is another challenge for banks. Markets have so far demonstrated their capacity to absorb eligible issuances. However, more and more banks will access the market with such instruments. Low volumes of newly issued debt securities in 2017, which are assumed to increase again in the following years, indicate that banks might try to delay MREL issuances. Banks might in that case not be in a position to place high volumes of eligible debt securities as planned or as needed, or only at higher prices.

Whereas MREL issuances seem to be driven mainly by larger banks so far, small and medium-sized institutions risk facing challenges when they want to issue such instruments. Fragmentation between smaller and medium-sized banks on the one hand and their larger peers on the other hand could even become a more general trend when accessing capital markets. In particular, small and medium-



sized banks with low capitalisation, asset quality issues and low profitability might face challenges in issuing the required volumes of debt securities.

Maturing funding provided by central banks, winding down of central banks' asset purchase programmes and increasing shares of MREL-eligible instruments in banks' funding mix are expected to put pressure on interest income. In cases where banks will need to replace parts of their client deposits with market-based funding, this will be an additional drag on banks' interest income. Therefore, interest income remains under pressure.

High reliance on public sector sources of funding by banks in several countries is another cause for concern. Banks will have to demonstrate that they will be able to replace high levels of funding support from the public sector with deposits or market-based instruments.



# Annex

## Analysis of drivers of loan growth: approach and further explanations

### a. Rationale and model specifications

The objective of this analysis is to investigate whether loan growth forecast data as reported in funding plans can be explained by other bank-level and macroeconomic parameters. Forecasted loan growth in 2017 is expressed as a function of a set of bank-level variables such as the T1 capital ratio, the leverage ratio, the level of stable funding, the share of long-term debt securities in liabilities and the NPL ratio, as well as key macroeconomic variables such as GDP and unemployment.

The function is expressed in the following cross-sectional linear regression equation:

$$y = X\beta + \varepsilon$$

where

- y is the  $(N \times 1)$  vector of observations on the dependent variable,
- X is the  $(N \times K)$  matrix,
- $\beta$  is the ( $K \times 1$ ) vector of parameters to be estimated, and
- $\varepsilon$  is the ( $N \times 1$ ) vector of errors.

with N = 132, the number of banks in the sample, and K = 14, the number of explanatory variables to be tested in the equation.



### Table 4: Description of the regression parameters

	Variable	Definition
$y_i$	$\Delta Loans_{2017i}$	This is the dependent variable and defined as the percentage change in the sum of household and NFC loans between 2016 (actual) and 2017 (forecast), i.e. forecasted loan growth rate.
<i>x</i> <sub>0<i>i</i></sub>	Constant	Intercept of the equation.
<i>x</i> <sub>1<i>i</i></sub>	$\Delta Loans_{2016i}$	Lagged dependent variable captures persistence in loan growth. It is the actual loan growth rate between 2015 and 2016.
<i>x</i> <sub>2<i>i</i></sub>	D <sub>2017<i>i</i></sub>	Forecasted long-term secured and unsecured debt securities as a share of total liabilities.
<i>x</i> <sub>3<i>i</i></sub>	D <sub>2016i</sub>	Actual share of long-term secured and unsecured debt securities in total liabilities.
<i>x</i> <sub>4<i>i</i></sub>	Stablefunding <sub>2017i</sub>	The variable measures the impact of the forecasted stable funding sources expressed as a share of total liabilities. Stable funding is defined in terms of the liquidity coverage ratio, i.e. funding that receives lower outflow rates. In this case, it is defined as the sum of retail and NFC deposits.
<i>x</i> <sub>5<i>i</i></sub>	$Stablefunding_{2016i}$	The variable is identical the previous one; however, in this case it is the actual (2016) figure instead of the forecast.
<i>x</i> <sub>6<i>i</i></sub>	<i>K</i> _ <i>T</i> 1 <sub>2016<i>i</i></sub>	Actual T1 capital ratio under full implementation and including capital conservation buffer in 2016.
<i>x</i> <sub>7<i>i</i></sub>	NPL <sub>2016i</sub>	Actual NPL ratio in 2016.
<i>x</i> <sub>8i</sub>	$K_T 1_{2016i} \times NPL_{2016i}$	A cross-product term that captures the interaction between the T1 capital ratio and the NPL ratio in 2016 in their impact on the dependent variable. In this case, the T1 capital ratio variable is defined as a dummy variable, where banks with a T1 capital ratio above the median value take the value of 1 and the others take 0.
<i>x</i> <sub>9i</sub>	<i>LR</i> <sub>2016<i>i</i></sub>	Actual leverage ratio with T1 capital definition under full implementation.
<i>x</i> <sub>10<i>i</i></sub>	<b>G</b> <sub>2017i</sub>	Forecasted growth rate of GDP at constant prices between 2016 and 2017. Variations in the macroeconomic variable data are at country level. <sup>48</sup>
<i>x</i> <sub>11<i>i</i></sub>	<b>g</b> <sub>2016i</sub>	Actual growth rate of GDP at constant prices between 2015 and 2016. Variations in the macroeconomic variable data are at country level.
<i>x</i> <sub>12<i>i</i></sub>	<i>u</i> <sub>2017<i>i</i></sub>	Forecasted rate of unemployment in 2017. Variations in the unemployment rate are measured at country level.
<i>x</i> <sub>13<i>i</i></sub>	<i>u</i> <sub>2016<i>i</i></sub>	Actual rate of unemployment in 2016. Variations in the unemployment rate are measured at country level.

<sup>&</sup>lt;sup>48</sup> Although the variable has a subscript for bank *i*, the value of the variable is constant across all banks within a specific country. This applies to all other macroeconomic variables used in this analysis.



The estimation is carried out using a standard ordinary least squares (OLS) method. The regression equation initially included all the above mentioned variables, and the variables were dropped if they are not statistically significant.

### b. Data

The data sources for this analysis are the submitted funding plans, financial supervisory reporting (FINREP) and the common reporting framework (COREP) for bank-level statistics, and the European Commission's Economic and Financial Affairs AMECO database<sup>49</sup> for macroeconomic data. The reference date for bank-level supervisory reporting is December 2016.

The analysis is based on a common sample of banks across the abovementioned supervisory templates. For consistency and robustness, banks with low-quality data were excluded from the analysis. Furthermore, a set of outliers, i.e. banks that forecasted a loan growth greater than 15%, were also excluded from this analysis.

### c. Main findings

In most cases, the estimated coefficients are not statistically significant<sup>50</sup> and do not have the expected signs. For example, the estimated coefficient between forecasted GDP growth and actual GDP growth is expected to be positive and statistically significant. Indeed, the theory suggests that economic growth is one of the major drivers of loan growth. Banks grow their lending to business together with economic growth. However, the findings showed that the analysis does not capture this causality.<sup>51</sup> The lack of significant causality may be due to the cross-border nature of the banking sector, as the GDP indicator focuses on domestic aspects of the countries' economies.<sup>52</sup>

Similarly, the estimated coefficient for T1 capital ratio is not statistically significant. It is reasonable to argue that banks with sufficient capital levels are willing to extent new lending to their clients, as any increase in risk-weighted assets should be offset with additional regulatory capital, i.e. the higher the T1 capital ratio is in 2016, the more new loans the bank is able to issue in 2017. However, the analysis did not find any statistically significant causality. This may be due to Pillar 2 capital requirements that affect the T1 capital ratio.<sup>53</sup>

<sup>&</sup>lt;sup>49</sup> <u>http://ec.europa.eu/economy\_finance/ameco/user/serie/SelectSerie.cfm</u>

<sup>&</sup>lt;sup>50</sup> *P*-values are above 5% (and 10%) level.

<sup>&</sup>lt;sup>51</sup> Note that the (bivariate) correlation (i) between future GDP growth and forecasted loan growth is 0.18 and statistically significant, and (ii) between GDP growth and forecasted loan growth is 0.15 and statistically significant.

<sup>&</sup>lt;sup>52</sup> During the computation, a dummy variable on G-SIIs/other systemically important institutions (O-SIIs) is also included, i.e. the variable has the value of 1 if the bank is a G-SII/O-SII and 0 otherwise. This aimed to capture the cross-border nature of banks. However, the variable is not statistically significant and therefore it is not discussed further. Business model aspects have not been captured in this analysis.

<sup>&</sup>lt;sup>53</sup> The analysis tried to account for Pillar 2 requirements; however, it was not possible to reach a robust outcome because of data issues in the reporting of Pillar 2 capital requirements.



Table 5 shows the output of the final regression analysis with heteroscedasticity-robust standard errors<sup>54</sup> excluding all the regressors that are not statistically significant.

Explanatory variables	Estimated coefficients	Robust std errors	t-statistic	<i>P</i> -value
$\Delta Loans_{2016}$	0.047	0.0216	2.18	0.031
D <sub>2017</sub>	0.055	0.0272	2.03	0.045
$Stablefunding_{2017}$	0.054	0.0272	1.99	0.049
$Stablefunding_{2016}$	0.071	0.0173	4.13	0.000
NPL <sub>2016</sub>	-0.180	0.0431	-4.17	0.000
Constant	-0.721	1.678	-0.43	0.668
Dependent variable	= $\Delta Loans_{2017}$			
Number of observatio	ns = 132			
F(5, 126)	= 11.53			
P > F	= 0.0000			
R-squared	= 0.3234			
Root MSE	= 4.2734			
Mean VIF	= 1.66			

#### Table 5: Results of the regression analysis

Planned shares of long-term debt securities in total liabilities, planned and actual shares of stable funding in total liabilities as well as actual loan growth in the previous period have a positive impact on banks' loan growth in the first forecast period (YE 2017). On the other hand, the estimated coefficient for the NPL ratio is -0.180, i.e. other things being equal, a percentage point increase in the NPL ratio in 2016 reduces a bank's loan growth forecast by on average 0.180 percentage points.

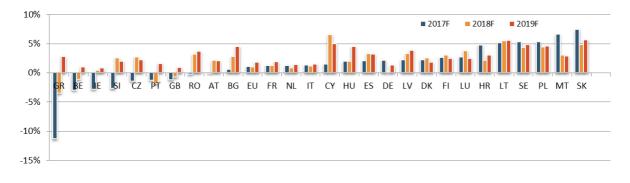
The magnitude of the (bivariate) correlation between NPL ratio and loan growth forecast as depicted in Figure 6 is different from that of the coefficient reported in the regression analysis output (see Table 5). This difference is somewhat expected. It suggests that other variables included in the multiple regression analysis are correlated with the NPL ratio and that these correlations between the NPL ratio and other regressors diminish the magnitude of the (bivariate) correlation between NPL ratio and the loan growth forecast. In the regression analysis output (see Table 5), all estimated coefficients (except the constant) are statistically significant, with *P*-values below 5%.

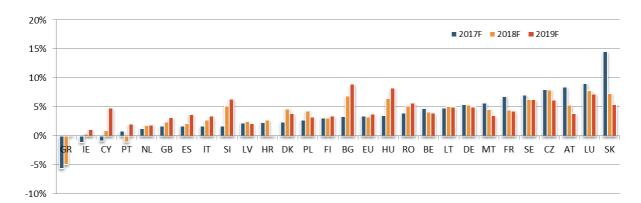
<sup>&</sup>lt;sup>54</sup> Under a set of tests for heteroscedasticity (e.g. Breusch–Pagan test and White's test) the findings indicated that the homoscedasticity assumption did not hold. As a result, heteroscedasticity-robust standard errors were calculated and reported.



## Funding plans: country data and list of data-submitting banks

### Figure 33: Total asset growth by country and for the EU





#### Figure 34: Growth of loans to households by country and for the EU



### Figure 35: Growth of loans to NFCs by country and for the EU

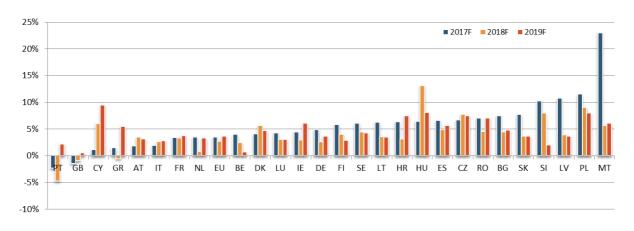
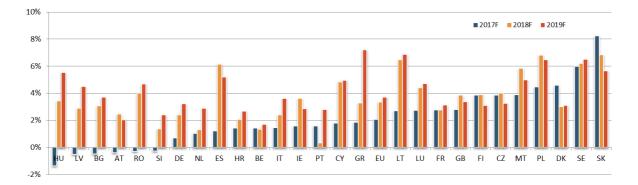
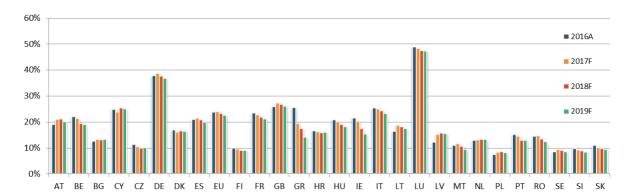


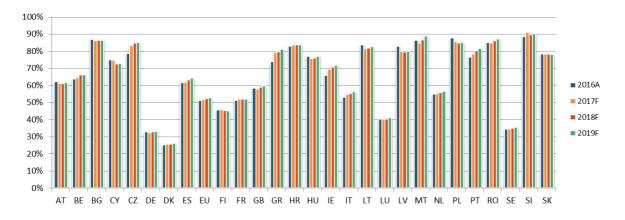
Figure 36: Growth of deposits from households and NFCs by country and for the EU





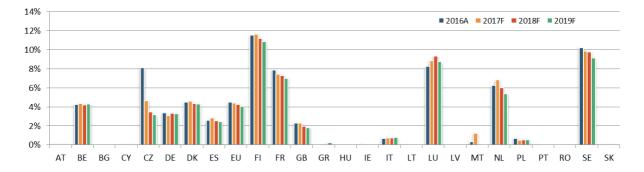
### Figure 37: Share of repos and deposits from financial corporations in total funding by country



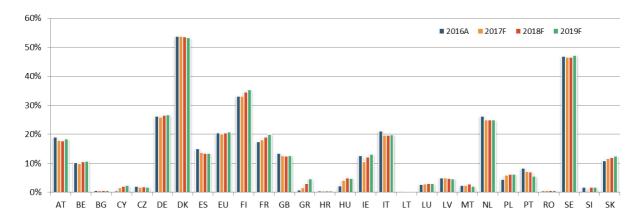


### Figure 38: Share of client deposits (households and NFCs) in total funding by country

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

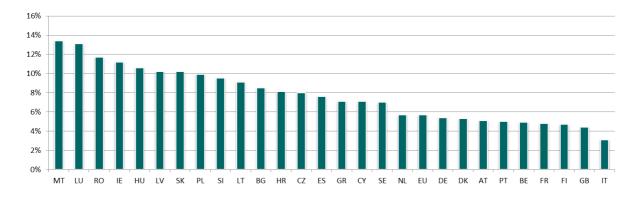


### Figure 40: Share of long-term debt instruments (secured and unsecured) in total funding by country





### Figure 41: Accumulated GDP growth 2017-2019<sup>55</sup>



<sup>&</sup>lt;sup>55</sup> GDP growth is based on the European Commission's European Economic Forecast of May 2017. For validation purposes, as used in the assessment of total asset and deposit growth, expected GDP growth for 2019 (not provided in the Economic Forecast) is assumed to be the same as that for 2018.



### Table 6: List of banks (including subsidiaries) submitting funding plan data

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Piraeus Bank, S.A. GR		GR
		GR



Entity name	Country code
Privredna Banka Zagreb d.d.	HR
Zagrebacka Banka d.d.	HR
Erste Bank Hungary Zrt.	HU
Kereskedelmi és Hitelbank Zrt.	HU
OTP Bank Nyrt.	HU
UniCredit Bank Hungary Zrt.	HU
Allied Irish Banks, Plc	IE
Bank of Ireland	IE
Citibank Holdings Ireland Ltd	IE
DePfa Bank plc	IE
Permanent TSB Group Holdings Plc	IE
Ulster Bank Ireland Limited	IE
BPER Banca SpA	IT
Banca Carige SpA — Cassa di Risparmio di Genova e Imperia	IT
Banca Monte dei Paschi di Siena SpA	IT
Banca Popolare di Milano Scarl	IT
Banca Popolare di Sondrio SCpA	IT
Banca Popolare di Vicenza SpA	IT
Banco Popolare Società Cooperativa	IT
Credito Emiliano Holding SpA	IT
Iccrea Banca SpA — Istituto Centrale del Credito Cooperativo	IT
Intesa Sanpaolo SpA	IT
Mediobanca — Banca di Credito Finanziario SpA	IT
UniCredit SpA	IT
Unione di Banche Italiane SpA	IT
Veneto Banca SpA	IT
AB DNB bankas	LT
AB SEB bankas	LT
Swedbank AB	LT
BGL BNP Paribas	LU
Banque et Caisse d'Épargne de l'État, Luxembourg	LU
Precision Capital S.A.	LU
RBC Investor Services Bank S.A.	LU
Société Générale Bank & Trust	LU
State Street Bank Luxembourg S.C.A.	LU
ABLV Bank AS	LV
AS SEB banka	LV
Swedbank AS	LV
HSBC Bank Malta Plc	MT
Bank of Valletta Plc	MT
Commbank Europe Ltd	MT
MeDirect Group Limited	MT



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Tatra banka, a.s. SK	UniCredit Banka Slovenija d.d.	SI
	Slovenská sporitelna, a.s.	SK
Všeobecná úverová banka, a.s. SK	Tatra banka, a.s.	SK
	Všeobecná úverová banka, a.s.	SK

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