CRD IV-CRR/BASEL III MONITORING EXERCISE —
RESULTS BASED ON DATA AS OF 30 JUNE 2017

06 March 2018
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Abbreviations

ASF  available stable funding
BCBS  Basel Committee on Banking Supervision
BPS  basic points
CCB  capital conservation buffer
CET1  Common Equity Tier 1
CRD  Capital Requirements Directive
CRR  Capital Requirements Regulation
CVA  credit value adjustment
DR  Delegated Regulation
EBA  European Banking Authority
FSB  Financial Stability Board
G-SII  global systemically important institution
HQLA  high-quality liquid assets
LCR  liquidity coverage ratio
LR  leverage ratio
O-SII  other systemically important institution
NSFR  net stable funding ratio
RSF  required stable funding
RWA  risk-weighted assets
Executive summary

Since its publication in December 2010,\(^1\) the impact of the new global banking regulatory framework (‘Basel III’) has been monitored semi-annually by the Basel Committee on Banking Supervision (BCBS) at the global level and by the European Banking Authority (EBA) at the European level, using data provided by banks on a voluntary and confidential basis. The relevant set of regulatory requirements in the EU comprises the Capital Requirements Directive IV (CRD IV) and the Capital Requirements Regulation (CRR) (CRD IV–CRR), which apply as of 1 January 2014.\(^2\) It is noteworthy that the current implementation of the CRD IV–CRR differs from the full implementation of the CRD IV–CRR because the latter does not take into account a set of transitional arrangements.

In line with the previous monitoring reports published by the EBA, the first three parts of this report (on risk-based and non-risk-based capital ratios and the liquidity coverage ratio (LCR)) assess compliance with the current EU definitions,\(^3\) while one part (on net stable funding ratio (NSFR)), in the absence of a finalised EU definition, monitors compliance with the current Basel III standards.

The report does not reflect any BCBS regulatory reforms agreed on 7 December 2017 or other measures that are currently under consideration by the BCBS. The impact of these reforms is assessed in a separate document, ‘Ad hoc cumulative impact assessment of the Basel reform package’,\(^4\) published in December 2017, and will be included as part of the regular monitoring exercises in forthcoming reports.

This report is the 13th publication of the monitoring exercise and summarises the results at the EU level using data as of 30 June 2017.\(^5\) Included in this exercise is a sample of 138 banks,

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\(^3\) The EU definition of leverage ratio (LR; non-risk-based capital ratio) has not yet become an EU binding requirement. On 3 August 2016, the EBA published a report on the impact assessment and calibration of the LR recommending the introduction of an LR minimum requirement in the EU to mitigate the risk of excessive leverage (see https://www.eba.europa.eu/-/eba-recommends-introducing-the-leverage-ratio-in-the-eu for further details). The report informs the work of the European Commission on legislative proposals on LR (for the first proposal, see http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2016:0850:FIN).


comprising 45 Group 1 banks and 93 Group 2 banks. Among EU Member States, coverage of the banking system was notably high for Group 1 banks, reaching 100% in many jurisdictions (aggregate coverage in terms of CRD IV–CRR risk-weighted assets (RWA) 92.3%), while for Group 2 banks it was lower, with more variation across jurisdictions (aggregate coverage 32.8%).

Furthermore, for the second time, the analysis focuses on the joint sample of global systemically important institutions (G-SIIs) and other systemically important institutions (O-SIIs). The sample of O-SIIs contains banks from both Group 1 and Group 2 samples that have been characterised as O-SIIs by the national competent authorities.

Capital requirements and shortfalls

On average, assuming full implementation of the CRD IV–CRR (i.e. without taking into account transitional arrangements), the risk-based capital ratios for Group 1 and Group 2 banks are as follows: Common Equity Tier 1 (CET1) ratio 13.5% and 15.0%, respectively; Tier 1 ratio 14.5% and 15.3%, respectively; and total capital ratio 17.5% and 17.4%, respectively (Table 1).

The average leverage ratios (LRs) for the same sample of banks are 4.9% (Group 1) and 5.6% (Group 2). On average, European banks largely fulfil an LR minimum regulatory capital requirement of 3%, with only a very small number of banks exhibiting potential capital shortfalls.

<table>
<thead>
<tr>
<th></th>
<th>CET1</th>
<th>Tier 1</th>
<th>Total</th>
<th>LR</th>
<th>LCR</th>
<th>NSFR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 1</strong></td>
<td>13.5</td>
<td>14.5</td>
<td>17.5</td>
<td>4.9</td>
<td>137.6</td>
<td>111.1</td>
</tr>
<tr>
<td><strong>Group 2</strong></td>
<td>15.0</td>
<td>15.3</td>
<td>17.4</td>
<td>5.6</td>
<td>178.5</td>
<td>117.5</td>
</tr>
<tr>
<td>Large Group 2</td>
<td>14.6</td>
<td>15.0</td>
<td>17.2</td>
<td>5.7</td>
<td>184.7</td>
<td>116.2</td>
</tr>
<tr>
<td>Medium Group 2</td>
<td>15.7</td>
<td>16.1</td>
<td>18.1</td>
<td>5.8</td>
<td>184.8</td>
<td>120.7</td>
</tr>
<tr>
<td>Small Group 2</td>
<td>15.7</td>
<td>15.9</td>
<td>17.4</td>
<td>4.7</td>
<td>150.6</td>
<td>118.3</td>
</tr>
<tr>
<td><strong>All banks</strong></td>
<td><strong>13.8</strong></td>
<td><strong>14.7</strong></td>
<td><strong>17.4</strong></td>
<td><strong>5.0</strong></td>
<td><strong>143.1</strong></td>
<td><strong>112.3</strong></td>
</tr>
<tr>
<td>G-SIIs and O-SIIs</td>
<td>13.8</td>
<td>14.7</td>
<td>17.6</td>
<td>5.0</td>
<td>139.8</td>
<td>111.8</td>
</tr>
</tbody>
</table>

The shortfall amounts constitute only a very minor fraction of the amounts observed at the beginning of the monitoring period (mid-2011), and the difference between the current and full implementation capital ratios has been shrinking continuously, albeit recently this trend has been slowing down. The present monitoring exercise report takes into account the definition of LR as set out in the relevant EU regulation (EU Delegated Regulation,7 DR) for the purpose of the capital analysis. Conceptually, the LR (non-risk-based ratio) has been developed to serve as a backstop against unduly low capital levels, not captured in the risk-based ratio, and to prevent the excessive

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6 Group 1 banks are banks with Tier 1 capital in excess of EUR 3 billion and which are internationally active. All other banks are categorised as Group 2 banks. This report has classified Group 2 banks into sub-groups: large Group 2 banks have Tier 1 capital in excess of EUR 3 billion without being internationally active; medium-sized Group 2 banks have Tier 1 capital below or equal to EUR 3 billion but above EUR 1.5 billion; and small Group 2 banks have Tier 1 capital below or equal to EUR 1.5 billion.

build-up of leverage, both in the financial cycle and across credit institutions. The analysis contained in this report indicates that the LR is indeed constraining for a significant proportion of institutions in the sample.

**Liquidity requirements and shortfalls**

The monitoring exercise presents, for the fourth time, the results of the LCR analysis in accordance with European Commission DR (EU) No 2015/61 (the LCR DR), which specifies the general requirement set out in Article 412(1) of the CRR.8 As defined in Article 38 of the LCR DR, and in accordance with Article 460(2) of the CRR, the minimum requirement was set at 60% on 1 October 2015 and gradually increased thereafter, reaching 100% in January 2018 (i.e. EU regulation requires a minimum of 100% one year before the Basel standard comes into force). Since the NSFR has not yet been finalised at the EU level, the calculations in this report are based on the revised Basel III NSFR framework, published in October 2014.9

With regard to the LCR, the average ratio for data as of the end of June 2017 is 137.6% and 178.5% for Group 1 and Group 2 banks, respectively. The total sample shows an LCR above 100%, which implies that there is no shortfall of high-quality liquid assets (HQLA). There has been an increase in banks’ LCR over time, which can be attributed to structural adjustments (both an increase in HQLA and a decrease in net outflows), as well as to the recalibration of the LCR framework as published in January 2013. The change in the previous periods is also driven by the first application of the LCR DR, whereas the Basel III LCR framework has been used for reference dates prior to that, i.e. until December 2014. With respect to the NSFR, Group 1 and Group 2 banks show an average ratio of 111.1% and 117.5%, respectively, with an overall shortfall in stable funding of EUR 50.9 billion. The majority (89.1%) of participating banks already meet the minimum NSFR requirement of 100%.10 Since December 2013, the average NSFR has been constantly increasing, being above the 100% minimum requirement. This rise has been less pronounced in recent periods.

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9 [http://www.bis.org/bcbs/publ/d295.pdf](http://www.bis.org/bcbs/publ/d295.pdf).
10 Please note that, throughout the report, the NSFR analysis refers to the Basel III standard.
2. General remarks

2.1 Sample of participating banks

Table 2: Number of banks included in this monitoring exercise

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Large Group 2</th>
<th>Medium Group 2</th>
<th>Small Group 2</th>
<th>G-SIIs and O-SIIs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>8</td>
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<tr>
<td>Belgium</td>
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<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Denmark</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>France</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Germany</td>
<td>7</td>
<td>28</td>
<td>5</td>
<td>5</td>
<td>18</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>Greece</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Hungary</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Ireland</td>
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<td>5</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Italy</td>
<td>2</td>
<td>11</td>
<td>5</td>
<td>6</td>
<td>0</td>
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<td>13</td>
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<tr>
<td>Luxembourg</td>
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<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Malta</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Norway</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Poland</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Portugal</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Spain</td>
<td>2</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Sweden</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>93</strong></td>
<td><strong>23</strong></td>
<td><strong>30</strong></td>
<td><strong>40</strong></td>
<td><strong>69</strong></td>
<td><strong>138</strong></td>
</tr>
</tbody>
</table>

Table 2 shows the participation by jurisdiction and bank group. This report includes an analysis of data submitted by 138 banks in 18 EU Member States and in one country (Norway) from the European Economic Area (EEA). This sample consists of 45 Group 1 banks from 15 countries and 93 Group 2 banks from 17 countries. Group 1 banks in this report are defined as banks with Tier 1 capital in excess of EUR 3 billion that are internationally active. All other banks are classified as Group 2 banks. Coverage of the banking sector is high, reaching 100% of Group 1 banks in many countries (aggregate coverage in terms of CRD IV–CRR RWA 92.3%). Coverage of Group 2 banks is lower and varies across countries (aggregate coverage 32.8%).

11 In one Member State (Greece) all participating banks are classified as Group 1 based on their size and activity.
For the purposes of a more differentiated analysis, the joint sample of G-SIIs and O-SIIs has been analysed separately from the total sample. To analyse the driving forces behind aggregate Group 2 results in more detail, in this report Group 2 banks are classified into three sub-groups: large Group 2 banks have Tier 1 capital in excess of EUR 3 billion; medium-sized Group 2 banks have Tier 1 capital below or equal to EUR 3 billion but above EUR 1.5 billion; and small Group 2 banks have Tier 1 capital below or equal to EUR 1.5 billion. In total, 23 large, 30 medium-sized and 40 small Group 2 banks are included in the current analysis. Pursuant to Article 131(3) of the CRD IV, the identification of O-SIs started in 2015. Authorities can set higher loss absorbency requirements for those institutions, in addition to the obligatory CET1 capital buffer of up to 2%. The additional measures for O-SIs aim to reduce market distortions triggered by their possible negative externalities. For the analysis of June 2017, 69 banks are jointly recognised to be monitored as O-SIs and G-SIs.

Not all banks provided data for all parts of the reporting template of this monitoring exercise. Accordingly, a certain number of banks are excluded from some sections of this monitoring analysis because the data they provided were incomplete. In each section, comparisons with previous periods are based on a consistent sample of banks, i.e. the analyses include only those banks that have consistently reported the required data for all reference dates. This allows comparisons between one reference date and another and time series analyses within each section. Similarly, the analyses relating to the interactions between, and combined effects of, various regulatory ratios have been based on consistent samples of banks.

### 2.2 Methodology

**‘Composite bank’ weighting scheme**

Average amounts in this analysis have been calculated by creating a composite bank at the relevant sample level – i.e. the relevant sample averages are implicitly weighted. For example, the average CET1 capital ratio is the sum of the CET1 capital of all banks included in the relevant sample divided by the sum of the RWA of all banks included in the relevant sample. Similarly, the average Tier 1 LR is the sum of the Tier 1 capital of all banks included in the relevant sample divided by the sum of the LR exposure measure of all banks included in the relevant sample. By using this weighting scheme, the results of this analysis can implicitly be considered more representative of the European banking sector as a whole than unweighted averages.

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12 See also BCBS, Global systemically important banks — updated assessment methodology and the higher loss absorbency requirement (2013); EBA, Final draft RTS on the methodology for the identification of global systemically important institutions (2014); and Financial Stability Board (FSB), 2017 update of list of G-SIBs (November 2017). The term ‘G-SIB’ in Bank for International Settlements (BIS) and FSB documentation corresponds to ‘G-SII’ in EBA documentation.


14 The sub-category of O-SIs also includes banks that have been nominated as G-SIs.

15 During 2017, one of the participating banks was affected by an M&A (Mergers and acquisitions) operation. This bank was able to provide LCR and liquidity information in a consolidated basis but risk-based ratios and RWAs information is not including information from the absorbed bank.
Box plots illustrating the distribution of results

To present more detailed results, while at the same time ensuring data confidentiality, some charts show box plots that give an indication of the distribution of the results among the participating banks. The features of the box plots are defined as follows:

<table>
<thead>
<tr>
<th>Feature Description</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thick red line</td>
<td>Minimum requirement</td>
</tr>
<tr>
<td>Dashed red line</td>
<td>Minimum requirement plus the capital conservation buffer (CCB) (capital)</td>
</tr>
<tr>
<td>Thin line crossing the interquartile range box</td>
<td>Median value (50% of the observations are below this value, 50% are above this value)</td>
</tr>
<tr>
<td>‘x’</td>
<td>Mean (weighted average)</td>
</tr>
<tr>
<td>Box</td>
<td>25th and 75th percentile values. A percentile is the value of a variable below which a certain percentage of observations fall. For example, the 25th percentile is the value below which 25% of the observations are found</td>
</tr>
<tr>
<td>Black vertical lines (‘whiskers’)</td>
<td>The vertical line represents the 1.5 * interquartile range</td>
</tr>
</tbody>
</table>

2.3 Interpretation of results

This quantitative impact study aims to monitor the convergence of the EU banks with the regulatory requirements under the assumption of full implementation of CRD IV–CRR/Basel III.

The full implementation of the CRD IV–CRR package does not consider the transitional arrangements relating to the phase-in of deductions and to the grandfathering of capital instruments. This implies that the CRD IV–CRR capital amounts shown in this report assume that all common equity deductions are fully phased in and that all non-qualifying capital instruments are fully phased out. As a result, these amounts underestimate the amount of regulatory capital held by banks, as they do not recognise the gradual phase-in of common equity deductions and the non-qualifying instruments that are actually phased out over multiple-year time horizons.

For the calculation of results referred to as ‘current rules’, the report uses figures based on the current CRD IV–CRR framework, i.e. on the current state of implementation, being mindful of the fact that this framework is changing over time. This means that, for the current reference date (June 2017), the figures under the current rules refer to the state of implementation of the CRD IV–CRR framework as of June 2017. Therefore, the difference between the fully phased-in results and the results under the current rules in the risk-sensitive capital ratio and RWA analysis is solely due to the remaining transitional arrangements from June 2017 until the full implementation date.

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16 For details on the transitional arrangements, see in particular Part Ten of the CRR and, in addition, paragraphs 94 and 95 of the Basel III framework (Basel III — A global regulatory framework for more resilient banks and banking systems).
The treatment of deductions and non-qualifying capital instruments under the assumption of full implementation of the CRD IV–CRR similarly affects the figures reported in the LR analysis. The potential underestimation of Tier 1 capital is becoming less of an issue as the implementation date for the LR approaches. In other words, in 2017, the capital amounts, based on the CRD IV–CRR capital requirements in place on the reference date, include the amount of non-qualifying capital instruments at that point in time.

It is important to note that this monitoring exercise is based on the assumption of a static balance sheet. Planned, but not implemented, bank measures to increase capital or decrease RWA are not taken into account. This allows the identification of effective changes in banks’ capital rather than relying on anticipated changes based on underlying behavioural and modelling assumptions. As a consequence, these monitoring results are different from industry estimates, as the latter usually include assumptions on banks’ future profitability, planned capital and/or management actions to mitigate the impact of the CRD IV–CRR framework.

2.4 Data quality

The banks included in this monitoring exercise submitted comprehensive and detailed non-public, confidential data on a best-effort voluntary basis. Supervisors have been working closely with banks to ensure that the data are of high quality, complete and consistent with the reporting instructions. For each of the analyses below, banks are included in the sample only if they provided data of sufficient quality to conduct the analysis in question.

For the risk-based capital ratio and RWA analyses, data from supervisory reporting systems have been used wherever possible to reduce recourse to banks. Data quality has improved significantly since the beginning of the monitoring exercise.
3. Overall impact on regulatory capital ratios and estimated capital shortfall

3.1 Capital ratios

One of the main objectives of the CRD IV–CRR/ Basel III framework is to increase the resilience of the banking sector by strengthening both the quantity and quality of regulatory capital. For this purpose, the framework sets higher quantitative minimum requirements and stricter rules for the definition of capital and for the calculation of RWA. The regulatory capital requirements consist of risk-based (capital ratios in relation to RWA) and non-risk-based (LR) measures.

The risk-based ratios refer to the capital definitions of CET1, Tier 1 and total capital, decreasing in their degree of loss absorbency in relation to RWA. At the date of full implementation, the CRD IV–CRR/ Basel III standard requires a regulatory CET1 ratio of 7% (minimum plus 2.5% conservation buffer), a Tier 1 ratio of 8.5% (including the CET1 conservation buffer) and a total capital ratio of 10.5% (including the CET1 conservation buffer). Figures related to capital shortfalls also reflect the bank-specific CET1 G-SII/O-SII buffer. For time series analysis, the evolution of the capital shortfall is calculated by using the most recent G-SII/O-SII surcharges throughout the whole time series. For G-SIIs, the maximum between the G-SII buffer and the O-SII buffer is taken into account. Additional capital requirements depending on macroprudential considerations (systemic risk and countercyclical buffers), or based on supervisory judgement (Pillar II add-ons), are not included in the analysis below.

The non-risk-based capital requirement — the LR — is defined in terms of Tier 1 capital in relation to a comprehensive (on- and off-balance-sheet) exposure measure. The CRD IV–CRR/ Basel III standard is preliminarily set at the 3% minimum requirement. This monitoring exercise considers the LR as defined in EU legislation for the purpose of capital analysis.

As this exercise envisages full implementation of CRD IV–CRR (without accounting for any transitional arrangements), in most parts it compares banks’ actual capital ratios with the capital ratios that banks would have exhibited had the set of rules of the CRD IV package been fully implemented at the reference date. The results under ‘current rules’ are based on the state of regulatory implementation at the reference date. In this context, it is important to elaborate on the implications of full implementation of the CRD IV package for the monitoring results. These amounts may underestimate the amount of capital actually held by banks, as they do not take into account any non-qualifying instruments that will be phased out or any deductions to common equity that will be phased in during the transitional period.

17 The 50% G-SIB surcharge, agreed by the BCBS on 7 December 2017, is not included in the estimation of the impact.
Table 3 shows the difference between banks’ risk-based capital ratios and LRs, calculated according to the current rules, as of 30 June 2017, and the levels that would result if the CRD IV–CRR requirements were already fully implemented.

For Group 1 banks, full implementation would result in a reduction in the CET1 ratio from 13.8% under the current rules (i.e. taking into account the transitional arrangements applying in 2017) to 13.5%, while the average Tier 1 and total capital ratios would decline under the full implementation regime, from 15.2% to 14.5% and from 18.1% to 17.5%, respectively. Assuming that the LR is implemented at the reference date as defined in EU legislation, the average LR of Group 1 banks stands at 5.1%. Under full implementation of the CRD IV–CRR, the LR would decrease to 4.9%.

Under full implementation of the risk-sensitive capital requirements for banks, the CET1 ratio of Group 2 banks would, on average, drop from 15.2% to 15.0%, while the Tier 1 ratio would fall from 15.6% to 15.3% and the total capital ratio would fall from 17.9% to 17.4%. The LR of Group 2 banks would fall from 5.7% at the current rules to 5.6% under full implementation. The greatest difference in risk-based capital requirements between the current state and full implementation is exhibited by large Group 2 banks.

Comparing Group 1 and Group 2 banks, the distance from current to full implementation of CET1 regulatory capital requirement appears smaller for Group 2 banks, as does the distance in terms of Tier 1 and total capital ratio. Furthermore, the difference between current and full implementation of LR appears bigger for Group 1, as for Group 2 the LR ratio remains the same.

The joint G-SIls/O-SIIs18 sample shows very similar results for capital requirements (in relation to RWA and LR) to the Group 1 banks sample.

Figure 1 presents basic descriptive statistics19 on risk-based capital ratios and the LR (non-risk-based) for Group 1 and Group 2 banks assuming full implementation of the CRD IV–CRR. It shows that the large majority of banks — in both Group 1 and Group 2 — have capital ratios above the current regulatory minimum requirements with respect to risk-based measures. This result holds true when the CCB is included. The results indicate a wider dispersion of extreme capital ratios (approximated by the 5th and 95th percentiles) for Group 2 banks than for Group 1 banks. An implication of the wider dispersion is that capital ratios in Group 2 banks are less concentrated around the mean and median values of the distribution (less concentration in the interquartile range).

18 Note that, in this context, G-SIls/O-SIls are subject to additional capital requirements based on their systemic importance.

19 For the methodology underlying the development of these box plots, refer to section 1.2 of this report.
Table 3: Comparison of risk-based capital ratios and LR under alternative states of implementation (%)

<table>
<thead>
<tr>
<th>Number of banks</th>
<th>CET1 Current</th>
<th>CET1 2024</th>
<th>Tier 1 Current</th>
<th>Tier 1 2024</th>
<th>LR Current</th>
<th>LR 2024</th>
<th>Total capital Current</th>
<th>Total capital 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>38</td>
<td>13.8</td>
<td>13.5</td>
<td>15.2</td>
<td>14.5</td>
<td>5.1</td>
<td>4.9</td>
<td>18.1</td>
</tr>
<tr>
<td>Group 2</td>
<td>84</td>
<td>15.2</td>
<td>15.0</td>
<td>15.6</td>
<td>15.3</td>
<td>5.7</td>
<td>5.6</td>
<td>17.9</td>
</tr>
<tr>
<td>Large Group 2</td>
<td>22</td>
<td>15.0</td>
<td>14.6</td>
<td>15.4</td>
<td>15.0</td>
<td>5.8</td>
<td>5.7</td>
<td>17.6</td>
</tr>
<tr>
<td>Medium Group 2</td>
<td>25</td>
<td>15.8</td>
<td>15.7</td>
<td>16.3</td>
<td>16.1</td>
<td>5.8</td>
<td>5.8</td>
<td>18.6</td>
</tr>
<tr>
<td>Small Group 2</td>
<td>37</td>
<td>15.9</td>
<td>15.7</td>
<td>16.0</td>
<td>15.9</td>
<td>4.8</td>
<td>4.7</td>
<td>17.8</td>
</tr>
<tr>
<td>All banks</td>
<td>122</td>
<td>14.1</td>
<td>13.8</td>
<td>15.2</td>
<td>14.7</td>
<td>5.2</td>
<td>5.0</td>
<td>18.0</td>
</tr>
<tr>
<td>G-SIs and O-SIs</td>
<td>60</td>
<td>14.1</td>
<td>13.8</td>
<td>15.3</td>
<td>14.7</td>
<td>5.2</td>
<td>5.0</td>
<td>18.1</td>
</tr>
</tbody>
</table>

Figure 1: Distribution of CET1, Tier 1, total capital ratios and LR per bank group under full implementation of CRD IV–CRR

Figure 2 shows the trend in the current and full implementation CET1 ratio for the period from June 2011 to June 2017 for the consistent sample, in other words the banks that have consistently submitted data for all reference dates. The CET1 ratio for Group 1 banks under full implementation of the CRD IV–CRR package increased continuously over the observation period, with an overall increase since June 2011 of 702 bps (basic points) and a slower growth rate in recent periods. The
reduction observed in June 2014 can be explained by the introduction of the CRD IV–CRR in January 2014, which is reflected for the first time in the monitoring exercise for reporting date June 2014.\(^{20}\)

Similarly, for Group 2 banks, the average CET1 capital ratios, in accordance with fully implemented European regulatory requirements, have increased steadily since June 2011 (by 737 bps). However, the results are very heterogeneous among participating banks.

In June 2017, the full implementation CET1 capital ratio of Group 2 banks for a consistent sample over time was 14.5%, while the corresponding ratio under current rules was 14.6%. As expected, the difference between the CET1 ratio under the current rules and that under full implementation decreased markedly over the observation period for both groups of banks.

**Figure 2: Evolution of CET1 ratios over time**

The historical upwards trend in the CET1 ratio under full implementation of the CRD IV–CRR for Group 1 banks is mainly explained by the increase in CET1 capital (by 57.1%) and to a lesser extent

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\(^{20}\) It should be noted that fully phased-in figures reflect the definition of the CRR/CRD IV since December 2013, while figures under current rules reflect the definition of the CRR/CRD IV since June 2014. The visual separation shown in Figure 2 reflects the structural change since December 2013.
by the decrease in RWA (by 24.1%, as shown in Figure 3). This trend has been observed reasonably continuously since June 2011.

The increase in full implementation CET1 capital over the observation period indicates that banks are already trying to meet market expectations well in advance of the legislative date for the full implementation of the CRD IV–CRR/Basel III framework.21

Figure 3: Evolution of CET1 capital versus RWA over time (for Group 1 banks) under full implementation of CRD IV–CRR

The increase in the level of capital is also generally reflected in the LR. Taking a consistent sample of banks, between June 2013 and December 2013 there was a significant increase in banks’ LRs (see Figure 4). However, this increase can be partly attributed to the recalibration of the LR exposure in January 2014, with the first application being as of reporting date December 2013, i.e. it is important to keep in mind that the data reflect the calculation methodology at each reference date. The increase also continued for the period from December 2013 to December 2015 for both groups of banks. Overall, until mid-2013, Group 1 and Group 2 banks, on average, showed LRs very close to the target ratio (3%), and since then have increased their capital beyond the minimum requirement. In contrast to the previous trends, the period between December 2015 and June 2016 shows a slight decline in the LR for both groups. However, between then and the last reporting

21 The trend of improving capital positions of European banks is consistent with the findings of the EBA’s reports on transparency and risks and vulnerabilities of the European banking sector (EBA, EU-wide transparency exercise (December 2016); and EBA, Risk Assessment of the European banking system (December 2016)).
period (June 2017) there is an upwards trend for both Group 1 (+28 bps) and Group 2 banks (+28 bps).

Over the observation period, Group 2 banks have exhibited consistently higher average LRs than Group 1 banks.

**Figure 4: Evolution of LR by bank group over time (%) under full implementation of CRD IV–CRR**

![Graph showing LR evolution by bank group over time](image)

3.2 Capital shortfall

Table 4 provides estimates of the additional amount of capital that Group 1 and Group 2 banks would need in order to meet the target risk-sensitive capital ratios (including G-SII/O-SII buffer) and the LR under the CRD IV package. These estimates assume fully phased-in target requirements and deductions. In this analysis, the capital shortfall is calculated as the difference between capital requirements and eligible capital held at the bank level, and represents the capital needs assuming that capital requirements had to be met to achieve successively higher-quality capital layers.\(^{22}\)

For Group 1 banks, there is no capital shortfall for any of the risk-sensitive capital ratios. In terms of CET1, this means that banks do not need additional capital to meet the minimum requirement.

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\(^{22}\) Note that the total Tier 1 capital shortfall for a bank represents the maximum of the Tier 1 capital shortfall for risk-based Tier 1 capital ratio and the Tier 1 shortfall for the LR.
of 4.5% (not shown in the table) and the target level of 7%, i.e. the minimum requirement plus the CCB. For Group 2 banks, there is also no CET1 capital shortfall. However, the total shortfall of Tier 1 capital to meet both the risk-based capital ratio and the LR amounts to EUR 2.0 billion. The total capital shortfall necessary to fulfil the risk-based requirements (7% CET1, 8.5% Tier 1 and 10.5% total capital) and the LR requirement (3% Tier 1 capital) is EUR 2.0 billion.

Table 4: Capital shortfall by bank group (EUR bn) under full implementation of CRD IV–CRR

<table>
<thead>
<tr>
<th>Number of banks</th>
<th>CET1</th>
<th>Tier 1</th>
<th>Total capital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tier 1</td>
<td>Tier 1 8.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LR 3%</td>
<td>and LR 3%</td>
</tr>
<tr>
<td>Group 1</td>
<td>38</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Group 2</td>
<td>84</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>Large Group 2</td>
<td>22</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Medium Group 2</td>
<td>25</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>Small Group 2</td>
<td>37</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>All banks</td>
<td>122</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>G-SIIs and O-SIIs</td>
<td>60</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The joint G-SIIs/O-SIIs sample exhibits no capital shortfalls at the CET1, the Tier 1 (risk-based and LR) and total capital requirements levels.

The significant reduction in capital shortfalls over time (because of full implementation) can be analysed in more detail, as shown in Figure 5. At the beginning of the observation period (June 2011), banks (Group 1 and Group 2) lacked more than EUR 400 billion of total capital (half of which was CET1); by June 2017 there was no total shortfall for Group 1 banks and for Group 2 banks and the total shortfall was only a very minor fraction of this amount (EUR 0.1 billion). However, the large decrease in capital shortfall for Group 2 banks between June 2013 and June 2014 is largely attributable to two larger Group 2 banks that significantly built up capital in this period.

\[23\] The calculation method applied in this report may overstate the actual shortfall for those banks affected by the 10% and 15% threshold deductions because the decline in deductions due to higher thresholds is not taken into account.
Table 5 presents a particular aspect of the interaction between the LR and the risk-based Tier 1 capital ratio requirements. More concretely, it analyses which of the capital ratios — risk-based or LR (non-risk-based) — represents the stricter (constraint) requirement for banks. Regardless if a bank is non-compliant or bound by the capital requirements, the LR, rather than the risk-based Tier 1 capital ratio, is said to be a constraint if the bank needs more Tier 1 capital to meet the LR requirement than it does to meet the risk-based Tier 1 capital requirement. Mathematically, LR is deemed to be a constraint when the minimum required LR Tier 1 capital, i.e. 3% of the LR exposure measure, exceeds the minimum required Tier 1 capital, i.e. 6% or 8.5% (when CCB is included) of the bank’s RWA.

In June 2017, all Group 1 banks were compliant with the 3% minimum Tier 1 LR requirement, and only three Group 2 banks were non-compliant. The LR capital shortfall is limited to EUR 1.9 billion, which consists solely of Group 2 banks’ contribution.

The constraining power of the risk-based Tier 1 capital requirements increases if CCB and G-SII/O-SII buffers (8.5% plus G-SII/O-SII buffer) are included in the calculation. Thus, capital shortfall due to the unchanged LR requirement decreases. However, even under the more conservative scenario

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24 Please note that a common sample of banks that participated in the risk-based and LR parts of this exercise has been used to carry out the interaction analysis shown in Table 5.
of the risk-based Tier 1 requirements, 39.5% of Group 1 banks and 16.7% of Group 2 banks are constrained by the LR.

Table 5: Banks that are constrained by the LR requirement rather than the risk-adjusted capital ratio (excluding and including capital buffer) under full implementation of CRD IV–CRR

<table>
<thead>
<tr>
<th>Number of non-compliant banks</th>
<th>Non-compliant banks (%)</th>
<th>LR shortfall</th>
<th>Tier 1 6%</th>
<th>Tier 1 8.5%</th>
<th>Additional capital requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Constrained by LR (%)</td>
<td>Non-compliant after meeting T1 ratio (%)</td>
<td>Constrained by LR (%)</td>
</tr>
<tr>
<td>Group 1</td>
<td>0</td>
<td>0.0</td>
<td>76.3</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Group 2</td>
<td>3</td>
<td>3.6</td>
<td>1.9</td>
<td>71.4</td>
<td>3.6</td>
</tr>
<tr>
<td>Large Group 2</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>81.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Medium Group 2</td>
<td>1</td>
<td>4.0</td>
<td>0.6</td>
<td>60.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Small Group 2</td>
<td>2</td>
<td>5.4</td>
<td>1.3</td>
<td>73.0</td>
<td>5.4</td>
</tr>
<tr>
<td>All banks</td>
<td>3</td>
<td>2.5</td>
<td>1.9</td>
<td>73.0</td>
<td>2.5</td>
</tr>
<tr>
<td>G-SIIs and O-SIIs</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>75.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

3.3 Impact of phase-in arrangements

At the current implementation stage of CRD IV–CRR, banks are still subject to transitional arrangements (phase-in of deductions and capital buffers and phase-out of capital elements). It is therefore reasonable to expect a decrease in the level of capital for both Group 1 and Group 2 banks under full implementation, mainly as a result of the reduction of eligible capital elements.

Table 6: Relative percentage change in CET1, Tier 1, total capital and RWA under full implementation of CRD IV–CR (%)
Note: Several banks submitted data on capital and RWA, but did not report data on the EU LR exposure measure. As Table 6 refers only to data on capital and RWA, the number of banks included is higher than in other tables in this chapter.

The aggregate CET1 capital of Group 1 banks shows a decrease of 1.7%, while Tier 1 and total capital decreased by 4.7% and 5.1%, respectively (Table 6). For Group 2 banks, the relative percentage change in CET1, Tier 1 and total capital is –1.4%, –1.5% and –2.1%, respectively.

3.4 Composition of capital

Figure 6 shows the composition of total capital for Group 1 and Group 2 banks under the assumption of full implementation.

Time series analysis based on a consistent sample shows that among Group 1 banks CET1 capital as a proportion of total capital decreased, on average, between June 2012 and June 2017. One exception is the December 2016 reporting date, which shows a reverse trend as a result of a decrease in the Tier 2 portion of the total capital. In contrast, among Group 2 banks, the proportion of total capital accounted for by CET1 in June 2017 increased by 11.6 percentage points compared with the proportion as of June 2011. In the case of Group 1 banks, this is a result of greater accumulation of additional Tier 1 capital (which has more than tripled since June 2011) than of CET1 and Tier 2 capital combined. As of June 2017, Group 1 banks’ figures indicate that fully implemented CET1 capital accounts for 75.9% of total capital while additional Tier 1 and Tier 2 capital amounts to 7.1% and 17.0% of total capital, respectively. Among Group 2 banks, CET1 capital accounts for an even higher proportion of total capital than in Group 1 banks (under the assumption of full implementation of CRD IV–CRR), being 83.1% as of June 2017. Additional Tier 1 capital and Tier 2 capital account for correspondingly lower proportions (2.8% and 14.0%, respectively).
3.5 Composition of RWA

After analysing the regulatory capital, i.e. the numerator of capital ratios in the previous sections, this sub-section deals with the RWA — the denominator of risk-sensitive capital ratios.

Figure 7 shows that under the fully phased-in CRD IV package credit risk is the major component of RWA for both Group 1 and Group 2 banks. Credit risk accounts for 83.1% of RWA for Group 1 banks and 87.5% for Group 2 banks. After a drop in June 2012, credit risk as a proportion of RWA increased again, almost reaching the previous levels for both groups of banks.

Operational risk accounts for the second highest proportion of RWA for both groups of banks (11.2% and 8.5% for Group 1 and Group 2 banks, respectively). The proportion of RWA attributable to the market risk category is roughly twice as high for Group 1 banks as for Group 2 banks. The decline over time in the proportion of RWA attributable to credit value adjustment (CVA) suggests that the new regulatory framework has had a direct impact on bank behaviour.

Figure 7 also indicates that the introduction of the CVA capital charge resulted in portfolio adjustments and the cutting down of CVA positions, which might have been caused by the
reduction in positions in derivatives not subject to central clearing at CCPs in favour of those centrally cleared, which contributed to the reduction in total RWA.\footnote{The orders of magnitude of different risk categories observed in this monitoring exercise are very consistent with the results of previous transparency exercises and supervisory disclosures for the European banking sector. See also the EBA’s aggregate statistics on the European banking sector (http://www.eba.europa.eu/supervisory-convergence/supervisory-disclosure/aggregate-statistical-data).}

\textbf{Figure 7: Evolution of the composition of RWA by risk category over time under current implementation of CRD IV–CRR}

![Graph showing the evolution of RWA composition by risk category over time.](image)

\begin{figure}[h]
\begin{center}
\includegraphics[width=\textwidth]{rwa_composition.png}
\end{center}
\caption{Evolution of the composition of RWA by risk category over time under current implementation of CRD IV–CRR.}
\end{figure}

\section{3.6 Composition of the LR exposure measure}

This section looks at the definition of the exposure measure that is used as the denominator of the LR. Figure 8 shows the composition of the LR exposure measure by asset category. For both groups of banks, ‘other on-balance-sheet items’ are the main component of exposures. Group 1 banks’ exposures relating to derivatives, securities financing transactions and off-balance-sheet items account for around 20% of the total LR exposure, while for Group 2 banks this aggregate is lower (8%).
The development and implementation of an LR is not intended to reduce any of the positive prudential effects of the risk-based capital requirements.\textsuperscript{26} Therefore, the interaction between the LR and risk-based capital ratios is being monitored.

Figure 9 illustrates the development of the relationship between fully phased-in RWA and the LR exposure measure by bank group. A quotient below the dotted blue line (in the case of Group 1 banks), or the dotted yellow line (in the case of Group 2 banks),\textsuperscript{27} implies that the main constraint is the LR rather than the risk-based Tier 1 capital ratio of 8.5\% (minimum requirement plus CCB). A quotient above the dotted line implies that the risk-based Tier 1 capital ratio rather than the LR would be, on average, a constraint.\textsuperscript{28} The quotient was generally decreasing over the period from June 2011 to June 2013, which was caused by a decrease in RWA coupled with an increase in exposure (in the sense that, on average, banks preferred to follow a derisking rather than a deleveraging strategy). Between June 2013 and December 2013, the quotient increased by around

\textsuperscript{26} For an argument about the benefits of the LR as a capital backstop over the financial cycle and across banks using internal models, see also BCBS, ‘The regulatory framework: balancing risk sensitivity, simplicity and comparability’ (Working Paper July 2013); and BIS, ‘The leverage ratio over the cycle’ (Working Paper No 471, November 2014).

\textsuperscript{27} Calculated as the quotient between the LR requirement (3\%) and the risk-based Tier 1 capital ratio requirement (8.5\%, plus the G-SII/O-SII buffer where applicable).

\textsuperscript{28} The dotted red line has been calculated as the quotient between the LR requirement (3\%) and the risk-based Tier 1 capital ratio requirement before CCB (6\%). A quotient below this line implies that the main constraint is the LR rather than the risk-based Tier 1 capital ratio of 6\%. 
440 bps for Group 1 banks and by 200 bps for Group 2 banks. This change was caused by a decrease in the LR exposure measure, partly driven by the recalibration of the exposure definition. Between the previous reference date and the current reference date (June 2017), the ratio of RWA to the LR exposure measure decreased slightly for Group 1 banks but continued to increase slightly for Group 2 banks.

Figure 9 also indicates that, on average, banks are constrained more by the risk-based Tier 1 ratio than by the LR requirement, and this is particularly true for Group 2 banks. This result is in line with the findings in Table 5, which shows that the significant LR constraint falls as the calculation accounts for CCB and the G-SII/O-SII buffers.  

Figure 9: Relation of RWA to exposure

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Note also that there are methodological differences between Table 5 and Figure 9. First, Table 5 is based on a cross-sectional sample, whereas Figure 9 is based on a time series consistent sample. Second, the former shows the proportions of banks constrained by capital requirements whereas the latter presents weighted averages that are subject to offsetting effects across banks.
4. Liquidity

4.1 Liquidity coverage ratio

Another minimum standard in the CRD IV package is the 30-day LCR provision, which is intended to promote short-term resilience to potential liquidity disruptions. The LCR requires banks to have a sufficient level of HQLA to withstand a stressful funding scenario for 30 days. The LCR defines the minimum stock of unencumbered HQLA that must be available to cover the net outflow expected to occur in a severe stress scenario. The last year of phased in implementation was 2017, when banks were required to have a minimum LCR ratio of 80%. Since January 2018, a minimum LCR ratio of 100% is required, as there is full implementation in the EU framework.

At the EU level, with the adoption of the Commission DR (EU) No 2015/61 on the LCR in October 2014, the EU LCR framework introduced several features that differ from the Basel III LCR framework. This report presents EU-specific LCR analysis based on the framework of the EU LCR DR.30

*LCR and shortfall in liquid assets*

Figure 10 provides an overview of the distribution of the LCR by bank group. As of June 2017, Group 1 banks exhibited a weighted-average LCR of 137.6%, while Group 2 banks’ LCR was 178.5%. No bank within Group 1 or Group 2 fails to meet the 100% requirement.

---

Figure 10: Distribution of LCR by bank group

Figure 10 also indicates that variation in the level of LCR is greater among Group 2 banks than among Group 1 banks. The value of LCR varies among Group 1 banks from 116.2% (minimum) to 227.4% (maximum), while among Group 2 banks this range is from 101.0% (minimum) to 1356.1% (maximum). The red line in shows the 100% minimum requirement under full implementation whereas the dashed red line shows the current 80% minimum requirement.

Table 7 illustrates the LCR and the LCR shortfall for different minimum ratios as defined in Article 38 of the LCR DR.

---

31 Dashed red line: LCR = 80%; Solid red line: LCR = 100%.
Table 7: LCR and LCR shortfall for different minimum ratios according to Article 460(2) of the CRR — Group 1

<table>
<thead>
<tr>
<th></th>
<th>Number of banks</th>
<th>LCR shortfall (EUR bn) at a minimum level of</th>
<th>70% (2016)</th>
<th>80% (2017)</th>
<th>100% (2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>35</td>
<td>137.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Group 2</td>
<td>83</td>
<td>178.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Large Group 2</td>
<td>21</td>
<td>184.7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Medium Group 2</td>
<td>25</td>
<td>184.8</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Small Group 2</td>
<td>37</td>
<td>150.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>All banks</td>
<td>118</td>
<td>143.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>G-SIIs and O-SIIs</td>
<td>55</td>
<td>139.8</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Evolution of the LCR over time

When analysing the evolution of the LCR over time, it should be noted that figures for periods before June 2015 are based on Basel III definitions, which is to say that, excluding structural changes, part of the change can also be attributed to differences between Basel III and the LCR DR. Some changes in the LCR between June and December 2012 are also driven by the recalibration of the Basel III LCR framework, published in January 2013. Nevertheless, banks have, on average, put significant effort into increasing their LCRs, both by increasing their liquidity buffer and by decreasing their net cash outflows. Since June 2011, Group 1 and Group 2 banks have, on average, increased their LCRs by approximately 71 and 101 percentage points, respectively (Figure 11).

For most Group 1 banks, the main driver of the increase in the level of LCR over time is the increase in HQLA, while the level of net cash outflows remained relatively constant.

---

During the period from June 2011 to December 2012, both Group 1 and Group 2 banks increased mostly cash and central bank reserves to comply with the LCR requirements, while from June 2013 to June 2015 securities were the major driver of compliance among all banks. Between June 2015 and June 2017, the cash and central bank reserves component started to increase again for both Group 1 and Group 2 banks.

The dashed red line in Figure 11 shows the 100% minimum requirement under full implementation, whereas the solid red line shows the current 80% minimum requirement.
In line with the improvements in the LCR, the shortfall has declined significantly for both Group 1 and Group 2 banks and as of June 2017, there is no shortfall among all banks.

Figure 13 shows, for the consistent sample, the trend over time in LCR shortfall at different minimum requirements during the period from June 2011 to June 2017.
The positive trend in the evolution of the LCR is also reflected in the increase in the proportion of banks with an LCR above 100% compared with the first data point (Figure 14). In June 2011, only 18.2% of Group 1 and 34.7% of Group 2 banks met the LCR minimum requirement of 100%. In contrast, all banks reported an LCR above 100% in June 2017.
4.2 Net stable funding ratio

The second liquidity standard is the NSFR — a longer-term structural ratio that addresses liquidity mismatches and provides incentives for banks to use stable sources to fund their activities. The NSFR is defined as the amount of available stable funding (ASF) relative to the amount of required stable funding (RSF). The Basel framework intends that, from 1 January 2018, this ratio should be equal to or higher than 100%. The ASF is defined as the portion of capital and liabilities expected to be reliable over the time horizon considered by the NSFR, which extends to one year. The amount of RSF is a function of liquidity characteristics and residual maturities of the various assets held by a particular institution, as well as those of its off-balance-sheet exposures.

NSFR and shortfall in stable funding

Figure 15 provides an overview of the distribution of the NSFR by bank group. In June 2017, the average NSFR for Group 1 and Group 2 banks was 111.1% and 117.5%, respectively, with 79.5% of Group 1 banks and 94.1% of Group 2 banks already fulfilling the minimum NSFR requirement of 100%. Non-compliant Group 2 banks had, on average, a higher NSFR than Group 1 banks.

Nevertheless, the NSFR ratio is not yet binding in the EU.
The range of the NSFR across banks is narrower than that of the LCR in the overall sample. This reflects, to some extent, the differences in the nature and design of the two ratios, i.e. the short-term nature of the LCR and the long-term nature of the NSFR and the parameters included in their calculations.

**Figure 15: Distribution of NSFR by bank group**

Overall, as of June 2017, banks in the sample needed additional stable funding of EUR 50.9 billion (Table 8), equivalent to 4.5% of total weighted ASF (EUR 1.1 trillion) and 2.5% of total assets (EUR 2.0 trillion) of all non-compliant banks participating in the NSFR-related part of this exercise. The need for stable funding is estimated by aggregating only the positive differences between RSF and ASF (RSF minus ASF) – the deficit in the stable funding of banks whose NSFR is below the 100% requirement – and does not account for any surplus of stable funding observed in banks with an NFSR above the 100% requirement. Banks that do not yet meet the 100% minimum requirement are still able to take a number of measures between now and 2018 to meet the NSFR standard (e.g. lengthening their funding term or decreasing maturity mismatches on their balance sheet).
It should also be noted that the shortfalls in the LCR and the NSFR are not necessarily additive, as decreasing the shortfall on one standard may result in a similar decrease in the shortfall on the other, depending on the steps taken to decrease the shortfall.34

Table 8: NSFR and shortfall in stable funding

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of banks</th>
<th>NSFR (in %)</th>
<th>NSFR Shortfall (bn EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>44</td>
<td>111.1</td>
<td>47.2</td>
</tr>
<tr>
<td>Group 2</td>
<td>85</td>
<td>117.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Large Group 2</td>
<td>20</td>
<td>116.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Medium Group 2</td>
<td>29</td>
<td>120.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Small Group 2</td>
<td>36</td>
<td>118.3</td>
<td>1.9</td>
</tr>
<tr>
<td>All banks</td>
<td>129</td>
<td>112.3</td>
<td>50.9</td>
</tr>
<tr>
<td>G-SIIs and O-SIIs</td>
<td>63</td>
<td>111.8</td>
<td>49.2</td>
</tr>
</tbody>
</table>

Evolution of the NSFR over time

Figure 16 illustrates the development of the NSFR over time using a consistent sample of banks. The findings show that between June 2011 and June 2017 the average NSFR for both Group 1 and Group 2 banks increased by 24 percentage points. The significant increase in banks’ NSFRs in December 2013 may also have been driven by the revisions made by the BCBS, which were considered for the first time in December 2013. Since the previous reporting date of December 2016, the NSFR has increased by 2.7 percentage points for Group 1 banks and by 1.7 percentage points for Group 2 banks.

34 For example, if a bank receives long-term (e.g. between six months and one year) stable funding (e.g. nine-month stable term deposits) and invests this in Level 1 HQLA, it increases (i) its LCR position, since the liquidity buffer increases with no impact on the outflows; and (ii) its NSFR position. The NSFR position increases because the increase in the numerator dominates the increase in the denominator. In the NSFR, the weight attributed to long-term stable funding and Level 1 liquid assets is 95% and 5%, respectively.
Figure 16: Evolution of NSFR by bank group over time (%)

The overall positive trend is also reflected in the reduction in the shortfall in stable funding needed to meet the 100% ratio requirement, which, compared with June 2011, decreased by 99.1% for Group 1 banks and by 98.9% for Group 2 banks.
The NSFR is less volatile than the LCR and cannot be adjusted easily in a short period of time. This is mainly because of the long-term nature of the parameters included in the calculation of the NSFR. Therefore, there will be a special focus on those banks with a ratio below 85%. As shown in Figure 18, the proportion of banks whose NSFR is below this threshold has decreased significantly since the beginning of this exercise, with only 2.5% of Group 1 banks and 1.2% (corresponding to a single bank) of Group 2 banks reporting an NSFR below 85% as of June 2017.

35 Note that the arbitrary threshold of 85% is based on the distribution of the NSFR in previous monitoring exercises and does not relate to any provision in the CRR.
Figure 18: Distribution of NSFRs