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23 December 2014

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EBA Report

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# Second report on impact assessment for liquidity measures under Article 509(1) of the CRR

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## List of acronyms

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ASF:	Available stable funding
BCBS:	Basel Committee on Banking Supervision
BIS:	Bank for International Settlements
bps:	Basis points
BSG:	Banking Stakeholder Group
CET1:	Common Equity Tier 1
CRD:	Capital Requirements Directive
CRR:	Capital Requirements Regulation
DA:	Delegated Act
EBA:	European Banking Authority
ECB:	European Central Bank
ECAI:	External credit assessment institution
EEA:	European Economic Area
EONIA:	Euro overnight index average
ESCB:	European System of Central Banks
ESRB:	European Systemic Risk Board
EU:	European Union
EUR:	Euro
GDP:	Gross domestic product
GHOS:	Group of Governors and Heads of Supervision (oversight body of the Basel Committee on Banking Supervision)
HQLA:	High-quality liquid assets
IMF:	International Monetary Fund
L1/2:	Level 1/2 (HQLA)
LCR:	Liquidity coverage ratio
LR:	Leverage ratio
NCAs:	National competent authorities
NSAs:	National supervisory authorities
NCB:	National central bank
NFC:	Non-financial corporations
NSFR:	Net stable funding ratio
pp:	Percentage points
QIS:	Quantitative impact study
RoA:	Return on assets
RoE:	Return on equity
RSF:	Required stable funding

RWA: Risk-weighted assets

SME: Small and medium-sized enterprises

(v)LTRO: (very) long-term refinancing operation

# Executive summary

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## Mandate of the report

1. Pursuant to Article 509(1) of the CRR, the EBA shall assess on an annual basis whether the specification of the LCR [...] *is likely to have a material detrimental impact on the business and risk profile of institutions or on the stability and orderly functioning of financial markets or on the economy and the stability of the supply of bank lending, with a particular focus on lending to SMEs and on trade financing, including lending under official export credit insurance schemes.*
2. The analysis should also take [...] *due account of markets and international regulatory developments as well as of the interactions with other prudential requirements'* and assess the impact of the framework for the inflows and outflows with a view to determining appropriate calibrations.

## Points noted in the first EBA LCR impact assessment (IA) report

3. The first EBA LCR IA report, published in December 2013, was based on data as at the end of December 2012. This report found that:
  - the cost impact of implementing the LCR on EU GDP would be negligible (3 bps in the long term) due to a relatively low LCR shortfall observed in December 2012 data;
  - banks would be required to make some adjustments to their business models, especially those banks focusing on auto and consumer credit and pass-through financing<sup>1</sup>;
  - the sensitivity analysis showed that the general calibration of the liquidity coverage requirements, as defined by the BCBS and endorsed by the GHOS, was globally an appropriate calibration to be followed by the EU Regulation; and
  - only a few areas needed further investigation (specification of inflow/outflow rates for intra-group flows and the interaction between the LCR and the monetary policy).

## Objectives and content of the second LCR IA report

4. The main objectives of the second LCR IA report are to further develop some of the analysis information provided in the first report, to take account of the most recent data (as at the

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<sup>1</sup> In pass-through financing models, banks are exclusively financed through the issuance of covered bonds (they do not collect deposits) and the payments of mortgage loans are directly pass-through bondholders.



end of December 2013) and to integrate the new developments of the EU Regulation, such as the DA on LCR<sup>2</sup>.

5. As a result, this LCR IA report focuses on the following five areas for which an update or a new analysis is expected to provide additional insight to the Commission:
  - a. *LCR of EU banks as at the end of December 2013 and comparison with the situation at the end of December 2012.* The aim of the analysis is to assess the level of compliance with a hypothetical 100% minimum LCR requirement in December 2013, based on an LCR calculated in accordance with the BCBS LCR framework. The analysis is performed at group level (Group 1 and Group 2 banks<sup>3</sup>), country level and business model level.
  - b. *Drivers of the LCRs and strategies for adjustments since December 2011.* The analysis identifies the major drivers of the LCR and the adjustment mechanisms that have been used by banks since 2011 to comply with the LCR requirements.
  - c. *Interactions between the LCR, the NSFR, the LR and the capital ratios.* The analysis shows the interactions between the regulatory ratios and assesses how different strategies adopted by banks with regard to balance sheet adjustments to comply with the LCR requirements affect the other regulatory ratios.
  - d. *Impact of the LCR on lending supply with a particular focus on SMEs.* The previous report focused on the impact of the LCR on the cost of lending and on the credit demand. The second report provides new insight into the impact of the LCR on the lending supply, including lending to SMEs.
  - e. *Comparison of the EU (based on the DA) and BCBS LCR framework.* In October 2014, the European Commission adopted a DA in accordance with Article 460 and Article 462 of Regulation No 575/2013 (CRR) to define in detail the general requirement specified in Article 412(1) of the CRR. In this section, the main differences between the LCR of the DA<sup>4</sup> and the LCR as defined in the Basel III framework<sup>5</sup> are identified and estimated.
6. The content of the second report does not provide an updated analysis of the following specific items mentioned in Article 509 of the CRR, compared to the first LCR IA report:
  - a. The global impact on the real economy and on the orderly functioning of the financial markets (including the cost-based analysis and its impact on the GDP) — as it is assumed

<sup>2</sup> See [http://ec.europa.eu/internal\\_market/bank/regcapital/acts/delegated/index\\_en.htm#141010-liquidity](http://ec.europa.eu/internal_market/bank/regcapital/acts/delegated/index_en.htm#141010-liquidity), adopted by the Commission on 10 October 2014. The Council and the EP currently have a 3-month period to raise an objection. Either party may extend this period once by a further 3 months. Unless an objection is raised, the text adopted by the Commission will become EU law and will be published in the Official Journal.

<sup>3</sup> Group 1 banks include the internationally active banks with a Tier 1 capital above EUR 3 billion, and Group 2 banks comprise all other types of banks.

<sup>4</sup> Commission delegated regulation (EU) No XXX/201X, 10 October 2014.

<sup>5</sup> 'Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools', January 2013.

that the findings are highly likely to remain the same, particularly because compliance with the LCR has improved even further.

- b. The interactions with the monetary policies — since there are no additional data to perform a new/updated analysis. When preparing last year’s LCR IA report, there was an attempt to assess the interactions between the monetary policies and the LCR using the ISG QIS data and ECB data on monetary policy operations. However, it emerged that the data could not be matched as there were different levels of consolidation (QIS: consolidated level; ECB: solo level). As there were no developments in terms of aligning the two databases, the current LCR IA report is still not in a position to provide an accurate analysis of the interactions between the monetary policies and the LCR.
  - c. The specific calibrations of the ratio (mentioned in Article 509(2) of the CRR) — given the DA on LCR.
7. In addition, this LCR IA report does not include policy recommendations due to the recent adoption of the DA on LCR.

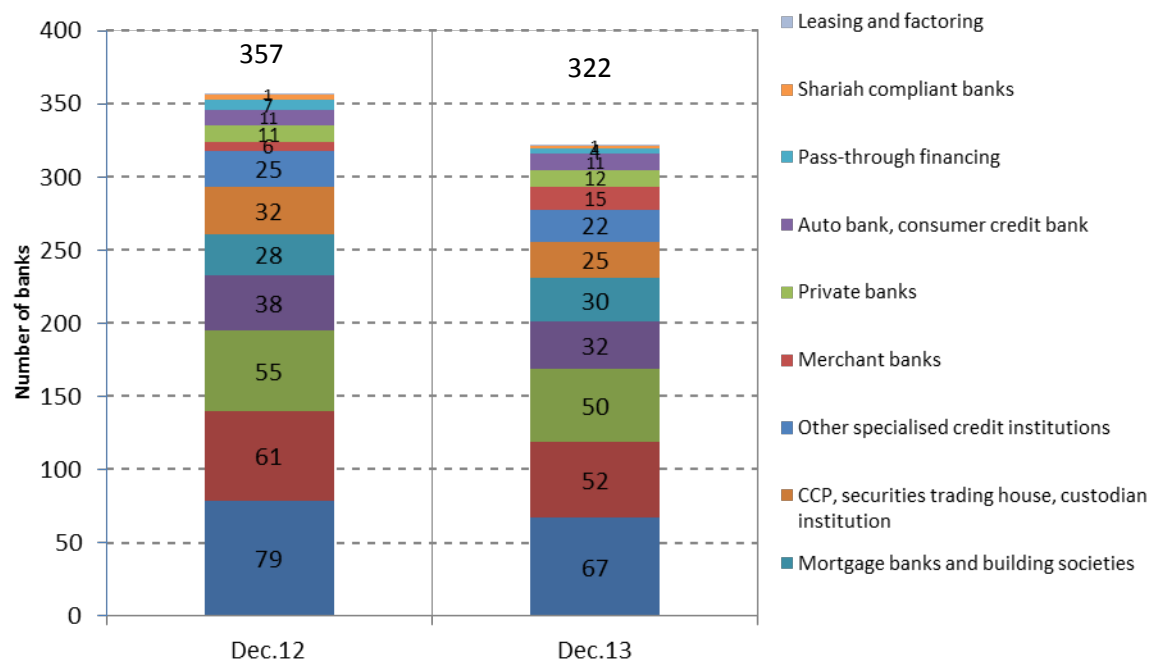
#### **Data used for the second LCR IA report**

8. This second report is based on the sample of banks that participated in the EU QIS monitoring exercise sample. This sample comprises 322 banks<sup>6</sup> (48 Group 1 banks and 274 Group 2 banks) that submitted data for the LCR in December 2013. Compared with last year, the sample decreased by 35 banks (10%). Moreover, the representativeness of banks included within each business model category similarly decreased, with the exception of the following categories: merchant banks (+9 entities), mortgage banks and buildings society (+2 entities) and private banks (+1 entity).

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<sup>6</sup>The sample comprised of those banks that participated in the EU QIS monitoring exercise, although this sample was reduced for the sake of consistency when analysing time series data and/or to ensure availability of data for all regulatory ratios when analysing panel data.

Figure 1: Sample of banks used in the new report



Source: Basel III monitoring exercise, EBA calculation

## Main findings

### Analysis of the LCR as of the end of December 2013 (Section 2)

9. The average LCR of the entire sample increased in December 2013 from December 2012. This continuing increasing trend is in line with the trend noted since the beginning of the Basel III monitoring exercise in December 2011. Under full implementation of the BCBS LCR requirement (with a threshold at 100%), the aggregate ratio is 116.7% and the gross shortfall is EUR 177 billion, which represents a EUR 58 billion decrease compared with December 2012. Of the participating banks in the sample, around 74% of the banks would already comply. Taking into account the phase-in period<sup>7</sup>, the gross shortfall in 2015 (60% LCR threshold) would be EUR 39 billion and 86% of the participating banks in the sample would be compliant.
10. The business models analysis confirms the main conclusions of the previous report. The dispersion of LCR levels within some business models is high. A high level of dispersion could be due to inconsistencies in the business model clustering (banks included in a specific business model group do not share enough features) or due to the fact that the LCR is not highly correlated relative to the business models. Furthermore, due to the relatively small

<sup>7</sup> Following the BCBS GHOS agreement in January 2013, the LCR will be introduced on 1 January 2015, but the minimum requirement will begin at 60%, rising in equal annual steps of 10 percentage points to reach 100% on 1 January 2019. This graduated approach was designed to ensure that the LCR can be introduced without disruption to the orderly strengthening of banking systems or the ongoing financing of economic activity.

sample of banks analysed, the conclusions from analyses for some specialised business models may not be wholly representative. Nevertheless, on the whole, the analysis confirms that diversified business model categories still tend to be more compliant with the LCR than some specialised banks.

### Drivers of the LCRs and strategies for adjustment (Section 3)

11. Everything else being equal, the Level 1 HQLA are the key component driving the LCR, followed by non-operational unsecured wholesale deposits. Assuming a 1% increase in these items, the LCR would increase by 1.05 pp and decrease by 0.7 pp respectively. By contrast, a 1% change in retail and SME deposits as well as in unsecured debt issuances has limited impact on the LCR.

Table 1: Impact on the LCR in percentage points assuming a 1% change in the underlying item as at the end of December 2013

	All banks (322 banks)			Group 1 (48 banks)			Group 2 (274 banks)		
	Δ LCR in pp	Amount, in €bn	Avg. weight*	Δ LCR in pp	Amount, in €bn	Avg. weight*	Δ LCR in pp	Amount, in €bn	Avg. weight*
Level 1 assets <sup>8</sup>	1.049	3 231	100.00%	0.977	2 545	100.00%	1.445	686	100.00%
Level 2A assets <sup>9</sup>	0.107	349	85.00%	0.089	246	85.00%	0.205	103	85.00%
Level 2B assets <sup>10</sup>	0.036	199	49.92%	0.035	170	48.03%	0.042	29	60.78%
Retail and SME deposits	-0.191	7 634	5.93%	-0.157	5 512	6.16%	-0.427	2 122	5.34%
Operational unsecured wholesale deposits	-0.117	1 265	21.88%	-0.104	1 014	22.07%	-0.200	251	21.13%
Non-operational unsecured wholesale deposits	-0.676	2 603	61.98%	-0.626	2 196	61.78%	-0.962	407	63.05%
Unsecured debt issuances	-0.109	260	100.00%	-0.104	225	100.00%	-0.130	35	100.00%
Outflows arising from secured funding transactions	-0.178	2,163	19.59%	-0.185	1 898	21.08%	-0.089	266	8.93%
Other outflows	-0.496	8 271	14.28%	-0.470	7 031	14.46%	-0.618	1 240	13.25%
Inflows arising from secured funding transactions	0.165	2 093	18.70%	0.160	1 881	18.33%	0.176	212	22.01%
Contractual inflows	0.327	1 113	69.50%	0.269	850	68.06%	0.739	263	74.16%
Other inflows	0.147	598	58.26%	0.144	530	58.52%	0.144	68	56.26%

<sup>8</sup> Level 1 assets comprise 1) coins and banknotes, 2) central bank reserves which can be drawn in times of stress, 3) 0% risk-weighted marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs, the Bank for International Settlements, the International Monetary Fund, the European Central Bank and European Community, or multilateral development banks and 4) non-0% risk weight, sovereign or central bank debt securities issued in domestic currencies.

<sup>9</sup> Level 2A assets comprise 1) 20% risk-weighted marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs or multilateral development banks that satisfy all of the following 2) corporate debt securities (including commercial paper) and 3) covered bonds not issued by the bank itself or any of its affiliated entities.

<sup>10</sup> Level 2B assets comprise 1) residential mortgage-backed securities (AA or higher), 2) corporate debt securities (between A+ and BBB-) and 3) common equity shares not issued by a financial institution or any of its affiliated entities.

*\*The average weight refers to the average rate applied in the LCR to the class of assets or liabilities mentioned in the table.*

*Source: Basel III monitoring exercise*

12. The main observed strategy used by non-compliant banks to increase their LCR, since December 2011, has been to swap their non HQLA with HQLA primarily by increasing central bank deposits and reducing lending to non-financial corporates.

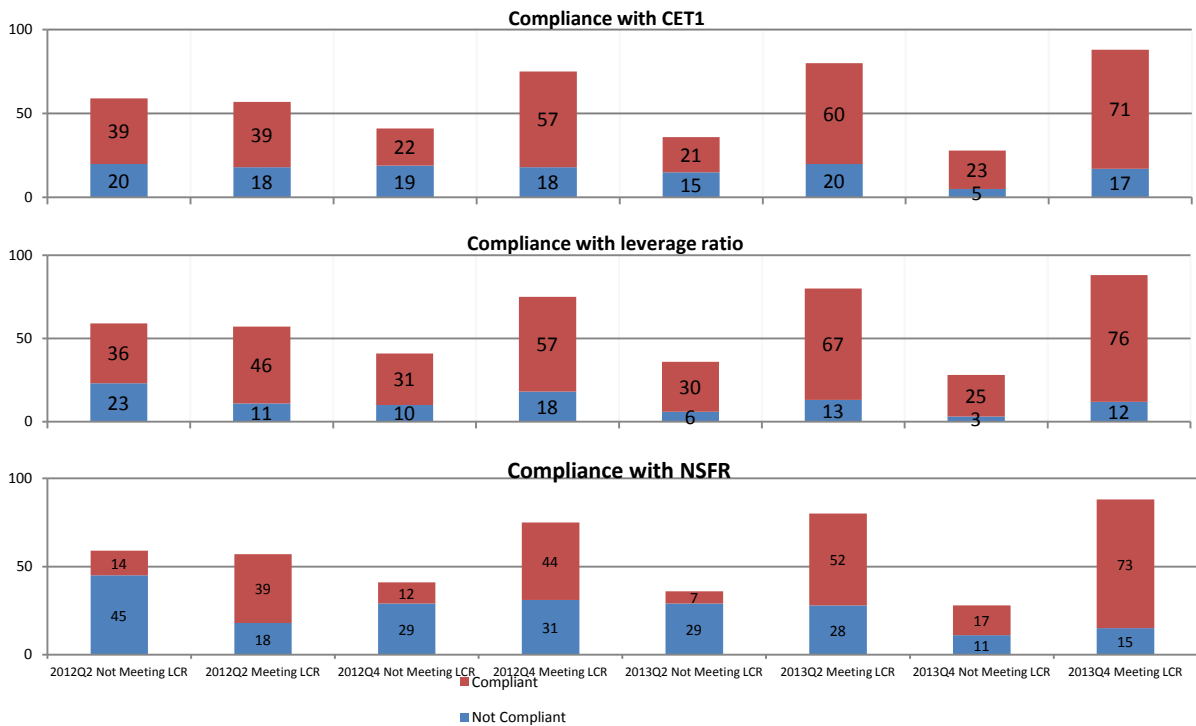
Table 2: Observed bank strategies implemented for adjusting LCR since 2011

Balance sheet	Strategy	Degree of evidence of implementation uncovered by the multivariate analysis
Assets	Reallocation of assets	Sell/cut non-eligible assets and use the proceeds to place deposits at the central bank and/or purchase eligible assets High
	Maturity shortening	Shorten the average maturity of assets None
Liabilities	Maturity lengthening	Lengthen funding maturities None
	Deposits	Increase retail deposits Medium
Assets & liabilities	Deleveraging	Sell/cut non-eligible assets to pay off/reduce short-term liabilities Low
	Leveraging	Issue long-term wholesale debt to buy liquid assets Low

#### Interactions amongst the LCR, the NSFR, the leverage and CET1 ratios (Section 4)

13. At the sample level, there is no clear pattern between meeting the LCR and being compliant with the other requirements; both those banks meeting the LCR and those not meeting the LCR exhibit various states of compliance with the other ratios and this appears to continue to be the case as more banks become LCR compliant.

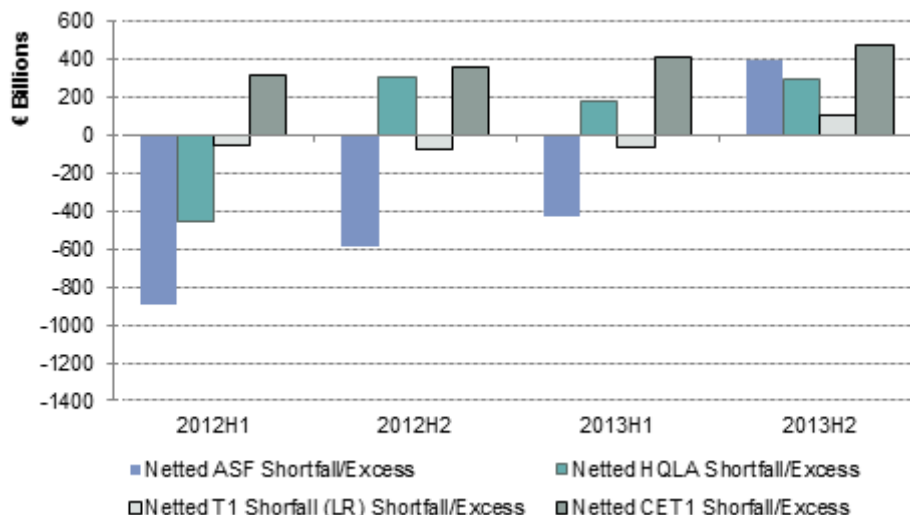
Figure 2: Number of banks complying with regulatory ratios other than the LCR (CET1, LRs and NSFR)



Source: Basel III monitoring exercise, EBA calculation

14. December 2013 was the first quarter observed during which the extra buffers accumulated by compliant banks exceeded the shortfalls of non-compliant banks for all ratios. This excess indicates that, in theory, a reallocation of assets and liabilities on banks’ balance sheets would make compliance possible for all banks. However, at a more granular level, some large LCR and NSFR shortfalls remain in a few Member States and in some business models (well diversified cross-border groups, cooperative banks and other well-diversified banks).

Figure 3: Aggregate sum of all individual bank shortfalls/surplus



*Source: Basel III monitoring exercise, EBA calculation*

15. The report also shows how the NSFR, the CET1 and the LR would be affected if all 27 non-LCR compliant banks in the EBA sample followed some of the strategies implemented by the compliant banks to meet the minimum LCR requirement. The analysis finds that at different aggregation levels (country, business model, Group 1/Group 2), the impact is either positive or negligible, i.e. the adjustments to the balance sheet used by non-compliant banks to meet the LCR requirements would have a positive impact on the average of the other regulatory ratios or would have a very limited impact.

#### Impact of the LCR on lending supply, with a focus on SMEs (Section 5)

16. Adjustments by individual banks to meet the LCR requirements could lead to temporary supply constraints by those banks. However, the econometric analysis of bank lending trends suggests that these constraints are small or that any excess demand has been picked up by other banks in the industry.

17. In addition, a country-level analysis — based on the ECB Bank Lending Survey (BLS) of December 2013 — shows that when other macroeconomic factors (unemployment rate, long-term interest rates and GDP growth) are taken into account, there is no evidence to suggest that higher LCR shortfalls have resulted in higher supply constraints. The analysis indicated that unemployment is the best macroeconomic risk factor when estimating credit supply constraints.

#### Comparison of the EU and BCBS LCR framework (Section 6)

18. In this section, the main differences between the EU LCR (as specified in the DA on LCR)<sup>11</sup> and the LCR as defined in the Basel III framework<sup>12</sup> are identified and estimated. This analysis has been performed using information from the BCBS QIS templates<sup>13</sup>, including the EU-specific worksheet 'LCR EU only' for data as of 31 December 2013. Given that the BCBS QIS templates do not capture all the elements of the DA on LCR (due to a different definition under Basel III compared with the DA), the results can only be viewed as an approximation.

19. Accordingly, the analysis has been based on a number of assumptions<sup>14</sup> to estimate the impact of the DA on LCR. One of these assumptions relates to the inclusion of additional assets in the Level 2B buffer. As no data on these Level 2B assets is available in the BCBS QIS templates, the impact is estimated by assuming that credit institutions add Level 2B assets to their existing stock of HQLA until the cap on HQLA is binding and the allowed level of the

<sup>11</sup> Commission delegated regulation (EU) No XXX/201X, 10 October 2014.

<sup>12</sup> 'Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools', January 2013.

<sup>13</sup> BCBS QIS templates, including the template on LCR.

<sup>14</sup> See Appendix 6 Table 104.

'other central bank eligible assets' is attained for all banks. This assumption constitutes a 'liberal'<sup>15</sup> estimate of the amount of HQLA under the DA, which provides the 'higher' impact on the LCR. Similarly, the lower estimate of the DA's impact ('conservative' approach) is calculated by including Level 2B in the estimation. Under these assumptions, the range of the global impact of the DA on LCR is estimated between +4.3 pp under the 'conservative' approach and +13.9 pp under the 'liberal' approach.

Table 3: Impact of the DA on the LCR on both a 'conservative' and 'liberal' basis for estimating the amount of HQLA

		<b>Conservative approach</b> <i>(based on the exclusion of Level 2B assets from the calculation)</i>	<b>Liberal approach</b> <i>(based on the inclusion of Level 2B assets in the calculation)</i>
<b>Δ HQLA (in EUR million)</b>		+3 337.8	+3 609.3
<b>Δ Outflows (in EUR million)</b>		+4 232.0	+4 232.0
<b>Δ Inflows (in EUR million)</b>		+1 468.5	+1 468.5
LCR	<b>LCR (in percentage terms)</b>	121	130.6
	<b>Δ LCR (in pp)</b>	+4.3	+13.9

*Source: Basel III monitoring exercise, EBA calculation*

20. Under the 'liberal approach' the main driver behind the change in the LCR is the inclusion of the Level 2B assets, not already considered by the BCBS. The EU weighted average LCR is estimated at 130.6% (an increase of 13.9 pp compared with the LCR under the Basel III rules), and the shortfall in EU liquid assets amounts to EUR 98.4 billion (a decrease of EUR 78.8 billion compared with Basel III rules).

<sup>15</sup> Using this assumption provides the maximum value of the LCR.



Table 4: Main drivers behind the change in the LCR due to the application of the DA  
(in EUR billion)<sup>16</sup>

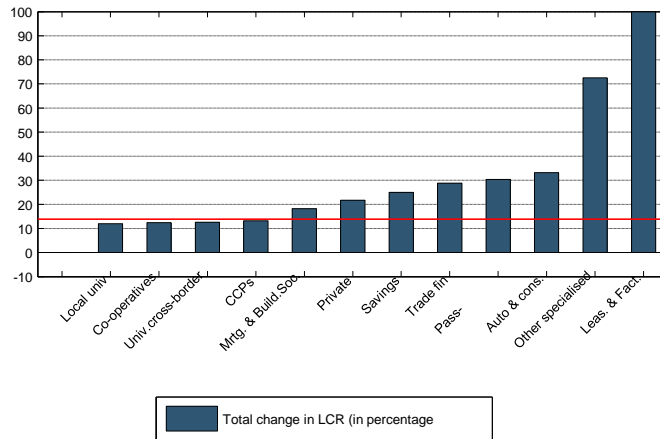
Section	Item	All banks	Group 1	Group 2
<b>Number of banks</b>		<b>322</b>	<b>48</b>	<b>274</b>
<b>HQLA</b>	<b>HQLA UNDER BASEL III</b>	<b>3,231.0</b>	<b>2,545.0</b>	<b>685.9</b>
	Modifying the requirements for instruments captured as HQLA	+ 20.7	+ 14.1	+ 6.5
	Widening the number of instruments that qualify as HQLA (L1/L2A)	+ 70.1	+ 40.3	+ 29.8
	Widening the number of instruments that qualify as HQLA (L2B)	+ 271.8	+ 234.8	+ 37.0
	Modification of the composition of the liquidity buffer	+ 15.8	+ 7.5	+ 8.3
<b>HQLA UNDER THE DA</b>		<b>3,609.3</b>	<b>2,841.7</b>	<b>767.6</b>
<b>Outflows</b>	<b>OUTFLOWS UNDER BASEL III</b>	<b>4,207.6</b>	<b>3,562.4</b>	<b>645.2</b>
	Higher outflow rate for certain less stable retail deposits	+ 24.9	+ 18.9	+ 5.9
	Lower outflow rate for undrawn credit or liquidity facilities	- 0.5	- 0.4	- 0.1
	<b>OUTFLOWS UNDER THE DA</b>	<b>4,232.0</b>	<b>3,580.9</b>	<b>651.1</b>
<b>Inflows</b>	<b>INFLOWS BEFORE CAP UNDER BASEL III</b>	<b>1,513.5</b>	<b>1,233.6</b>	<b>279.8</b>
	Symmetrical inflow rate for operational deposits	+ 7.0	+ 5.5	+ 1.5
	Higher inflow rate for undrawn credit and liquidity facilities	+ 1.3	+ 0.9	+ 0.4
	100% inflow rate for other inflows	+ 43.5	+ 14.9	+ 28.7
	<b>INFLOWS BEFORE CAP UNDER THE DA</b>	<b>1,565.3</b>	<b>1,254.9</b>	<b>310.4</b>
	Cap on inflows under Basel III	- 73.9	- 13.1	- 60.9
	Cap on inflows under the DA	- 96.8	- 13.5	- 83.3
	<b>INFLOWS AFTER CAP UNDER BASEL III</b>	<b>1,439.5</b>	<b>1,220.6</b>	<b>218.9</b>
<b>INFLOWS AFTER CAP UNDER THE DA</b>	<b>1,468.5</b>	<b>1,241.4</b>	<b>227.1</b>	
<b>LCR</b>	<b>Basel III (in per cent)</b>	<b>116.7</b>	<b>108.7</b>	<b>160.9</b>
	<b>DA (in per cent)</b>	<b>130.6</b>	<b>121.5</b>	<b>181.1</b>
	<b>Δ LCR due to application of DA (in percentage points)</b>	<b>+ 13.9</b>	<b>+ 12.8</b>	<b>+ 20.2</b>

Source: Basel III monitoring exercise, EBA calculation

21. In addition, as intended, the DA has a marked estimated impact on the LCR of specialised credit institutions, such as factoring and leasing, auto and consumer credit banks and other specialised credit institutions. This is mainly explained by the exemption/derogation of the 75% cap on inflows for some specialised business models.

Figure 4: Overall impact (in percentage points) of the DA LCR on the BCBS LCR across business models

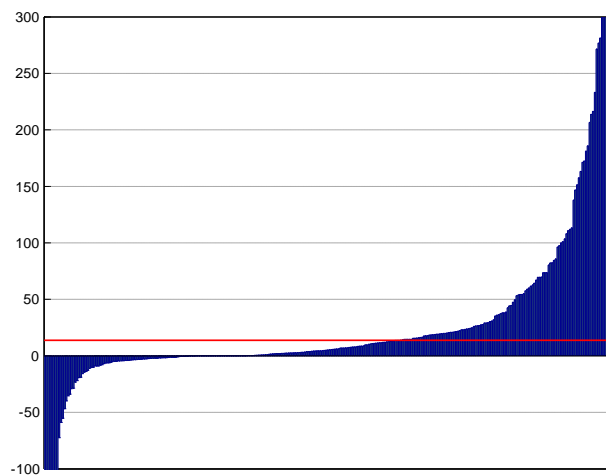
<sup>16</sup> These computations do not take into account all of the differences between the DA LCR and the Basel LCR, e.g. changes in cash flows related to secured funding on the basis of assets changing HQLA liquidity category are not included.



Source: Basel III monitoring exercise, EBA calculation

22. At an individual level, the estimated impact of the DA on the LCR is unevenly distributed. Some banks are significantly affected by the DA in a positive or negative way. However, banks that are highly affected by the DA are predominantly small banks since the absolute impact on the shortfall is negligible on an overall basis. The weighted average impact of the DA on the LCR (13.9 pp) is indeed mainly driven by large banks, which show a moderate increase of their ratio under the DA.

Figure 5: Overall impact (in percentage points) of the DA LCR on the BCBS LCR across banks



Source: Basel III monitoring exercise, EBA calculation

## Conclusions

23. The second LCR IA report confirms the main conclusions of the previous report: the specification of the LCR is not expected to have 'a material detrimental impact on the business and risk profile of institutions established in the Union [...] or on the economy and the stability of the supply of bank lending with a particular focus on lending to SMEs and on trade financing, including lending under official export credit insurance scheme'.
24. The absence of any detrimental impact at aggregate level is mainly explained by:
- The significant improvement of compliance of EU institutions with LCR requirements. In December 2013, the shortfall was rather low compared to the total EU banking assets, while the number of banks below the minimum requirements was small and lower than that of the previous IA report.
  - The potential for balance sheet adjustments to meet LCR requirements. At sample level, there are no major constraints arising from the other regulatory requirements that could negatively affect the LCR, and vice versa, as (i) there is no clear pattern indicating that the LCR compliance is affected by banks' effort to comply with the other regulatory ratios and (ii) the extra buffers accumulated by compliant banks exceeded the shortfalls of non-compliant banks for all ratios. Therefore, non-compliant banks could improve their LCR without necessarily having a negative impact on their position in relation to other regulatory ratios.
  - The reduction of credit supply from non-compliant institutions has been counterbalanced by the credit supply of compliant banks in the industry, while higher LCR shortfalls did not lead to higher supply constraints overall at country level.
25. In addition, the implementation of the DA will have a marked positive impact on the LCR of specialised credit institutions (such as factoring and leasing, auto and consumer credit banks and other specialised credit institutions) which were identified in first LCR IA report as being potentially detrimentally affected by the LCR.
26. However, the application of the DA should not lead to an increase in the LCR across all banks and business models. The EU-specific derogations mainly affect the specialised business models (as mentioned above) and/or capture some specifications of the European financial markets. Moreover, many assumptions had to be made to estimate the EU-specific LCR using QIS data, which was initially intended for the calculation of the Basel III LCR (i.e. treatment of less stable retail deposits subjected to higher outflow, treatment of Level 2B assets which could significantly overestimate the level of EU-specific LCR). Therefore, the actual quantitative results must be interpreted with care.
27. The second LCR IA also shows that the majority of EU institutions exhibit a high liquidity surplus.
- with an aggregated BCBS LCR ratio of 116.7% in December 2013, the level of compliance of the EU banks against the LCR has improved compared with last year;

- around 74% of the banks in the sample have already reached the full-implementation stage (LCR threshold at 100%) and, taking into account the phasing-in period (LCR threshold of 60%), 86% of the sample would already be compliant;
  - the report also acknowledges that the implementation of the DA may further improve the compliance of EU banks with the LCR.
28. In this regard supervisors have the ability to use Pillar 2 supervisory measures, especially during the transition period to ensure that credit institutions keep an adequate level of liquidity buffer and comply fully with the LCR requirements by 2018.
29. The way forward for the next LCR IA report: The first and second LCR IA reports assessed the impact of the LCR applying the BCBS methodology. It is suggested that for the next IA report, the EBA assesses the impact of the LCR in accordance with the EU framework; pays particular attention to specialised business models for which specific derogations have been implemented; and focuses its analysis on negative outliers at a bank level and across all business models, for which compliance with the overall LCR framework is more challenging. In addition, given the stress on the US dollar funding during the crisis, it is also suggested that the 2015 report provides an analysis of the risk of liquidity maturity mismatches within currencies.

# 1. General remarks

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## 1.1 Scope of the report

### 1.1.1 Article 509 of the CRR

1. *EBA shall monitor and evaluate the reports made in accordance with Article 415(1), across currencies and across different business models. EBA shall, after consulting the ESRB, non-financial end-users, the banking industry, competent authorities and the ESCB central banks annually and for the first time by 31 December 2013 report to the Commission on whether a specification of the general liquidity coverage requirement in Part Six based on the items to be reported in accordance with Part Six, Title II and Annex III, considered either individually or cumulatively, is likely to have a material detrimental impact on the business and risk profile of institutions established in the Union or on the stability and orderly functioning of financial markets or on the economy and the stability of the supply of bank lending, with a particular focus on lending to SMEs and on trade financing, including lending under official export credit insurance schemes.*

*The report referred to in the first subparagraph shall take due account of markets and international regulatory developments as well as of the interactions of the liquidity coverage requirement with other prudential requirements under this Regulation such as the risk based capital ratios as specified in Article 92 and the LR.*

*The European Parliament and the Council shall be given the opportunity to state their views on the report referred to in the first subparagraph.*

2. *EBA shall in the report referred to in paragraph 1 assess the following in particular:*
  - (a) *the provision of mechanisms restricting the value of liquidity inflows, in particular with a view to determining an appropriate inflow cap and the conditions for its application, taking into account different business models including pass through financing, factoring, leasing, covered bonds, mortgages, issuance of covered bonds, and the extent to which that cap should be amended or removed to cater for the specificities of specialised financing;*
  - (b) *the calibration of inflows and outflows referred to in Part Six, Title II, in particular under Article 422(7) and Article 425(2);*
  - (c) *the provision of mechanisms restricting the coverage of liquidity requirements by certain categories of liquid assets, in particular assessing the appropriate minimum percentage for liquid assets referred to in points (a), (b) and (c) of Article 416(1) to the total of liquid assets, testing a threshold of 60 % and taking into account international regulatory developments. Assets owed and due or callable within 30 calendar days should not count towards the limit*

*unless the assets have been obtained against collateral that also qualifies under points (a), (b) and (c) of Article 416(1);*

- (d) the provision of specific lower outflow and/or higher inflow rates for intragroup flows, specifying under which conditions such specific in- or outflow rates would be justified from a prudential point of view and setting out the high level outline of a methodology using objective criteria and parameters to determine specific levels of inflows and outflows between the institution and the counterparty when they are not established in the same Member State;*
- (e) the calibration of the draw-down rates applicable to the undrawn committed credit and liquidity facilities that fall under Article 424(3) and (5). In particular, EBA shall test a draw-down rate of 100 %;*
- (f) the definition of retail deposit in point (2) of Article 411, in particular the appropriateness of introducing a threshold on deposits of natural persons;*
- (g) the need to introduce a new retail deposit category with a lower outflow in the light of the specific characteristics of such deposits that could justify a lower outflow rate and taking into account international developments;*
- (h) derogations from requirements on the composition of the liquid assets institutions will be required to hold, where in a given currency the institutions' collective justified needs for liquid assets are exceeding the availability of those liquid assets and conditions to which such derogations should be subject;*
- (i) the definition of Shari'ah-compliant financial products as an alternative to assets that would qualify as liquid assets for the purposes of Article 416, for the use of Shari'ah-compliant banks;*
- (i) the definition of circumstances of stress, including principles for the use of the stock of liquid assets and the necessary supervisory reactions under which institutions would be able to use their liquid assets to meet liquidity outflows and how to address non-compliance;*
- (j) the definition of established operational relationship for non-financial customer as referred to in Article 422(3)(c);*
- (k) the calibration of the outflow rate applicable to correspondent banking and prime brokerage services as referred to in the first subparagraph of Article 422(4);*
- (l) mechanisms for the grandfathering of government guaranteed bonds issued to credit institutions as part of Government support measures with Union State aid approval, such as bonds issued by the National Asset Management Agency (NAMA) in Ireland and by the Spanish*

*Asset Management Company in Spain, designed to remove problems assets of extremely high liquidity and credit quality until at least December 2023.*

### 1.1.2 Main findings of the first LCR IA report based on December 2012 QIS data

1. The first LCR impact assessment report (IA), based on December 2012 data. was published on the 20 December 2013. The main findings were that:
  - the cost impact on EU GDP from implementing the LCR would be negligible (3 bps in the long term) due to a relatively low LCR shortfall in December 2012.
  - banks would be required to make some adjustments to their business models, particularly those banks focusing on auto, consumer credit and pass-through financing.
  - the sensitivity analysis showed that the general calibration of the liquidity coverage requirements, defined by the BCBS and endorsed by GHOS, was globally an appropriate one to be followed by the EU Regulation.
  - only few areas needed further investigation (specification of inflow/outflow rates for intra-group flows and the interaction between the LCR and the monetary policy).

### 1.1.3 Objectives and focus of the second report based on December 2013 QIS data

2. The main objectives of the second LCR IA report are 1) to further develop some of the analysis information provided in the first report, 2) to revisit the report with the most recent data as of December 2013 and 3) to integrate the new developments of the EU Regulation (publication of the DA) into the analysis of the LCR.
3. As a result, the new LCR IA report focuses on the five following areas for which an update or a new analysis is expected to bring additional insight to the Commission:
  - *LCRs of EU banks in December 2013 and comparison with the December 2012.* This section identifies the level of compliance with LCR requirements in December 2013, based on an LCR calculated in accordance with the BCBS LCR framework rather than the EU specification of the LCR. The analysis is performed at Group level (Group 1 and Group 2 banks), country level and business model level.
  - *Drivers of the LCRs and strategies for adjustments since December 2011.* The analysis identifies the major drivers of the LCR and the adjustment mechanisms that have been used by banks since 2011 to comply with the LCR.
  - *Interactions amongst the LCR, the NSFR, the LR and capital ratios.* The analysis shows the interactions amongst the regulatory ratios and assesses how different strategies for balance sheet adjustments to comply with the LCR requirements affect the other regulatory ratios.

- *Impact of the LCR on lending supply with a particular focus on SMEs.* The previous report focused on the impact of the LCR on the cost of lending and on the credit demand. The second report provides new insight into the impact of the LCR on the supply of lending.
  - *Comparison of the EU (based on the DA) and BCBS LCR framework:* This section identifies the main differences between the EU DA LCR and estimates the impact of the DA on the LCR, as far as possible.
4. The content of the second report may deviate from the previous one as it does not include/update some specific items mentioned in Article 509 of the CRR. These items, together with the reason why they have not been included in the analysis, are as follows:
- The global impact on the real economy and on the orderly functioning of the financial markets <sup>17</sup>(including the cost-based analysis and its impact on the GDP), since the findings are very likely to remain the same, particularly because compliance with the LCR has improved even further.
  - The interactions with the monetary policies, since there is no additional data to perform a new/updated analysis. When preparing last year's LCR IA report, there was an attempt to assess the interactions between the monetary policies and the LCR using the ISG QIS data and ECB data on monetary policy operations. However, it emerged that the data could not be matched as there were different levels of consolidation (QIS: consolidated level; ECB: solo level). As there were no developments in terms of aligning the two databases, the current LCR IA report is still not in a position to provide an accurate analysis of the interactions between the monetary policies and the LCR.
  - The specific calibrations of the ratio (mentioned in Article 509(2) of the CRR), since the DA is at the final stage of adoption.
5. In addition, there are no policy recommendations to be included given the publication of the DA.

## 1.2 Data source and sample

6. The report is mainly based on the EU QIS monitoring exercise sample, comprising 322 banks (48 Group 1 banks and 274 Group 2 banks) that submitted data for the LCR in December 2013. However, the sample has been reduced for the sake of consistency when analysing time series data and/or to ensure availability of data for all regulatory ratios (incl. LCR) when analysing panel data. Table 5 provides a detailed description of the sample for the analyses of the various sections.

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<sup>17</sup> In that respect it should be noted that the CRDIV-CRR does not provide specific macro-prudential instruments to address systemic liquidity risk and that the LCR is not expressly calibrated to take economic cycle into account.



Table 5: Description of the sample size per section of the LCR IA analysis, distinguishing between the point-in-time and time series analysis

	Section	Data source	Time range for the analysis	Sample used, no of banks	Representation of the sample (% of total assets of the participating banks)	Explanation of the variation of the sample size
2	<b>LCR EU banking sector</b>	EBA LCR data collection (QIS monitoring exercise)	2012Q4 to 2013Q4	Point-in-time analysis (2013Q4): 322 banks Time series analysis: 274 banks	Point-in-time analysis: 100% Time series analysis: 97%	Number of banks is lower for the period comparison due to the need to maintain a consistent sample across the period.
3	<b>LCR sensitivity analysis</b>	EBA LCR data collection (QIS monitoring exercise)	2013Q4	Point-in-time analysis (2013Q4): 322 banks	Point-in-time analysis: 100%	
	<b>Balance sheet drivers of the LCR</b>	EBA LCR data collection (QIS monitoring exercise)	2011Q4 to 2013Q4	Time series analysis 1 (2012Q4 and 2013Q4): 114 banks Time series analysis 2 (2011Q4 to 2013Q4): 103 banks	Time series analysis 1 (2012Q4 and 2013Q4): 75% Time series analysis 2 (2011Q4 to 2013Q4): 71%	The analysis focuses only on banks that have reported CR, NSFR and LR data for the whole period.
	<b>Identification of the strategy for adjustment to the LCR</b>	EBA LCR data collection (QIS monitoring exercise)	2011Q4 to 2013Q4	Time series analysis (2012Q4 and 2013Q4): 114 banks Time series analysis (2011Q4 to 2013Q4): 103 banks	Time series analysis 1 (2012Q4 and 2013Q4): 75% Time series analysis 2 (2011Q4 to 2013Q4): 71%	The analysis focuses only on banks that have reported CR, NSFR and LR data for the whole period.
4	<b>Interactions between the LCR and other regulatory ratios</b>	EBA LCR data collection (QIS monitoring exercise)	2013Q4 2011Q4 to 2013Q4	Point-in-time analysis and time series analysis: 115 banks	Point-in-time and time series analysis: 82%	The analysis focuses only on banks that have reported CR, NSFR and LR data for the whole period.
5	<b>Impact of the LCR on lending</b>	EBA LCR data collection (QIS monitoring exercise) and ECB BLS	2013Q4	Point-in-time and time series analysis: 115 banks	Point-in-time analysis: 82%	-
6	<b>Comparison of the EU and BCBS</b>	EBA LCR data collection (QIS monitoring exercise)	2013Q4	Point-in-time analysis: 322 banks	Point-in-time analysis: 100%	-

## 1.3 Key definitions

- Group 1 banks: internationally active and Tier 1 capital above EUR 3 billion
- Group 2 banks: all other banks
- Gross shortfall: the shortfall estimated by taking into account only the banks exhibiting a deficit in liquid assets
- Net shortfall: the shortfall estimated by taking into account both the banks exhibiting a deficit and those exhibiting a surplus in liquid assets

## 2. LCR of the EU banking sector

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### 2.1 Section summary

#### 2.1.1 Objectives

- This section provides an overview of the EU LCRs as of 2013Q4 and a comparison with the 2012 Q4. It also identifies the key components that explain the year-on-year change.
- The main objective is to assess the level of compliance with a hypothetical 100% minimum LCR requirement as at the end of December 2013, based on an LCR calculated in accordance with the BCBS LCR framework.

#### 2.1.2 Methodology

- The methodology follows the calibration of the LCR as defined by the Basel GHOS in 2013, but sets aside any potential EU derogations and the use of alternative liquidity approaches (ALA), as defined by the Basel standard. This is in contrast to that used in the previous LCR IA report, which included alternative liquidity approaches for the relevant jurisdictions.
- The analysis uses the December 2013 LCR data collected via the voluntary EBA LCR monitoring exercise. The sample comprises 322 banks for the point-in-time analysis and 274 banks for the time series analysis.
- The analysis does not account for the potential waivers within cross border groups that could be applied to subsidiaries/sub-entities. Further this analysis assumes that all banks in the sample would have to comply with LCR requirements.

#### 2.1.3 Key findings

##### a. At aggregate level

- With an aggregated LCR ratio of 116.7%, the level of compliance of EU banks has improved slightly during 2013 (+1pp y-o-y). 74% of banks have already reached the full-implementation LCR threshold of 100%.
- The global gross liquidity shortfall as of 2013Q4 accounts for EUR 177 billion, reduced by EUR 58 billion compared with 2012Q4. The net shortfall (assuming that banks are able to re-distribute the excess of liquid assets across banks within the same country) amounts to EUR 58 billion.
- Taking into account the phasing-in period, the gross shortfall in 2015 (with an LCR threshold of 60%) would be EUR 39 billion, and 86% of the banks in the sample would be compliant with this threshold.

## b. At business model level

- There is still an imbalance in the sample as of December 2013, with a high concentration of banks in a few business model categories while some specialised business models remain under-represented.
- The dispersion of LCR levels within some business models is high, which could be attributed to the fact that the LCR in these business models is bank-specific rather than business model-specific, i.e. the LCR is not highly correlated to the business models.
- Compared with last year, in December 2013, the LCR compliance level has improved significantly in all business model groups:
  - both the median and average LCR values are above 100% in all business models;
  - all private and merchant banks exceed the minimum full-implementation LCR threshold of 100%, whereas last year there were non-compliant banks in the relevant business models;
  - the LCR level for auto and consumer credit banks and private banks has improved significantly compared to the critical LCR level in December 2012.
- The analysis at aggregate level shows that diversified business model categories still tend to be more compliant with the LCR than the specialised ones.

## c. Across outliers

- The analysis across outliers shows the main drivers of the extreme LCR values, i.e. LCR values that deviate (above or below) from the average LCR. Outliers below the average LCR are almost exclusively driven by the lack of HQLA. Banks with LCR outliers are shown to have around 4 times less Level 1 assets than the average, and are highly affected by the cap on liquid assets (20 times more so than the average).
- Cash inflows and outflows do not seem to be notably correlated to a significantly low LCR, as the LCR values for the 30 banks with the lowest LCR are close to the average amounts of inflows and outflows.

## 2.2 Data sources and methodology for the current section

### 2.2.1 Data source

1. This chapter is devoted to the analysis of the reports put together in accordance with the voluntary LCR monitoring exercise which commenced in 2011Q4. In 2011, the EBA started — on its own initiative — to collect data based on a voluntary LCR data collection exercise.
2. All national supervisory authorities (NSAs) that submitted data in the EBA LCR monitoring exercise were obliged to conduct comprehensive data quality checks. The final sample consists only of those banks for which data quality is assured by the relevant NSAs. While this reduces the size of the sample, it increases the reliability of the quantitative analysis.
3. The descriptive analysis of LCR data under the voluntary EBA LCR monitoring exercise is based on the Basel GHOS 2013 recalibration of the standard, as the CRR includes reporting requirements only and does not include LCR calibration. Unlike in the previous report, the EBA ITS and RTS on insufficient liquid assets and the derogations (Article 419(4) and (5) of the CRR) have not been applied to the data of Norway and Denmark, which had been treated as countries with insufficient liquid assets, in line with the Basel LCR alternative liquidity approach treatment, for the last analysis. The cap on Level 2A and Level 2B assets has not been removed for these countries this time.
4. In addition to the aggregate data for the sample, the report investigates the distribution across large and small banks and across countries.
5. The liquidity shortfall has been calculated for the whole sample (i.e. both for consolidated and solo reports) and at consolidated level; the results showed a small difference. Both consolidated and sub-consolidated reports are used for the analysis; double counting of gross liquidity shortfalls is possible when foreign subsidiaries of banking groups report to the competent authority separately. This may specifically affect data analysis for some countries where data are solo data and excess liquidity is in most cases not invested into liquid assets at a local level, but rather is channelled to the group outside the Member State and therefore increases the estimate. However, the gross shortfall equals the sum of liquidity shortfalls across non-compliant banks only. This means that liquidity surpluses are not taken into account. This is akin to the assumption that liquidity surpluses are not redistributed across banks.
6. Average amounts in this document have been calculated by creating a composite bank at a total sample level, which implies that the total sample averages are weighted. For example, the average LCR is the sum of all banks' HQLA for the total sample divided by the sum of all banks' net cash outflows for the total sample.

## 2.2.2 Sample

7. Competent authorities were ultimately responsible for the sample selection, as they selected the national samples. Individual national samples were not challenged; only the representativeness of the sample at European level has been considered relevant for the analysis. For this reason, there may be a low/absence of representativeness of some particular business models very specific to some countries for which no quantitative analysis was possible. In the same vein, the quantitative analysis of some more common business models may have been limited by the low number of banks representing this business model in the sample.
8. The univariate LCR data analysis is based on two different samples.
9. For point-in-time analysis, we used the data as of the end of December 2013 from 322 European banks across 20 Member States. Total assets amount to EUR 27 828 billion, covering about 2/3 of the total assets of European banks.<sup>18</sup>
10. There are 48 Group 1 banks and 274 Group 2 banks in the sample (Table 6).<sup>19</sup> The share of Group 1 banks in the whole sample is 15% (representing 78% of total assets). The share of Group 2 banks in the whole sample is 85% (representing 22% of total assets).

Table 6: Number of banks submitting data for the monitoring exercise (2013Q4)

	<b>All</b>
Austria	8
Belgium	12
Cyprus	4
Czech Republic	14
Denmark	4
France	10
Germany	87
Ireland	13
Italy	34
Lithuania	2
Luxembourg	5
Malta	4
Netherlands	19
Norway	11
Poland	5
Portugal	6
Slovakia	5
Spain	9
Sweden	11
United Kingdom	59
<b>Total</b>	<b>322</b>

*Source: Basel III monitoring exercise, EBA calculation*

<sup>18</sup> Aggregated balance sheet of all European banks by 2013: EUR 42 490 billion (data from ECB statistical data warehouse).

<sup>19</sup> G1 banks are internationally active, well-diversified banks with a total regulatory capital of above EUR 3 billion. G2 banks are all other banks. It is at the discretion of national supervisors to include a bank in G2.

11. The large range of numbers reported by the Member States has an impact on the precision of the analysis. Statements about Group 1 banks are reliable as the analysis covers data of almost all of these banks for each Member State. But it must be taken into account that statements about the shortfall are based only on the available records. Because there are records missing from a few Group 1 banks and several Group 2 banks, the actual shortfall may be somewhat higher than estimated in this analysis. Then again, the shortfall may also be overestimated because the analyses include subsidiaries, resulting in some double counting.
12. The sample has changed marginally in comparison with the previous report. Finland and Hungary are no longer part of the IA, while Cyprus has been added. Luxembourg reduced the sample size from thirteen to five<sup>20</sup> Overall, the number of banks has decreased slightly by 35. Nevertheless, the IA still represents 2/3 of the whole European banking sector.
13. For all analysis regarding changes since the last report, we needed to compare two data points. This requires a consistent sample comprising only banks that have contributed data for all relevant data points. Considering whether we should use only two data points or a longer time series for comparison, we decided to work with just two data points (2012Q4 and 2013Q4). The reason for this is that the longer the time series is, the smaller the available consistent sample is. We wanted the sample to be as representative as possible. Another reason against using a longer time series is that the current calibration of the LCR has only been in effect since the beginning of 2013. For all data points before 2012Q4, no data based on the current calibration is available. Converting data that was collected under the old calibration to the new calibration would lead to further inaccuracies and therefore would negatively affect the accuracy of the figures. For information about the change in the LCR before 2012Q4, please consult the previous report. For the analysis on the change in the LCR between 2012Q4 and 2013Q4, we used consistent data from the reports of 274 banks from 19 Member States (Table 7). For the sake of simplifying the analysis, we have not differentiated between Group 1 and Group 2 banks in this regard.

Table 7: Number of banks submitting consistent data for the monitoring exercise (2012Q4 and 2013Q4)

	All
Austria	8
Belgium	11
Cyprus	-
Czech Republic	10
Denmark	84
France	10
Germany	84
Ireland	13
Italy	33
Lithuania	2
Luxembourg	5
Malta	4
Netherlands	19

<sup>20</sup> Luxembourg excluded most foreign subsidiaries from the sample to avoid the double counting of individual banks (solo and consolidated).

Norway	9
Poland	5
Portugal	6
Slovakia	5
Spain	9
Sweden	10
United Kingdom	27
<b>Total</b>	<b>274</b>

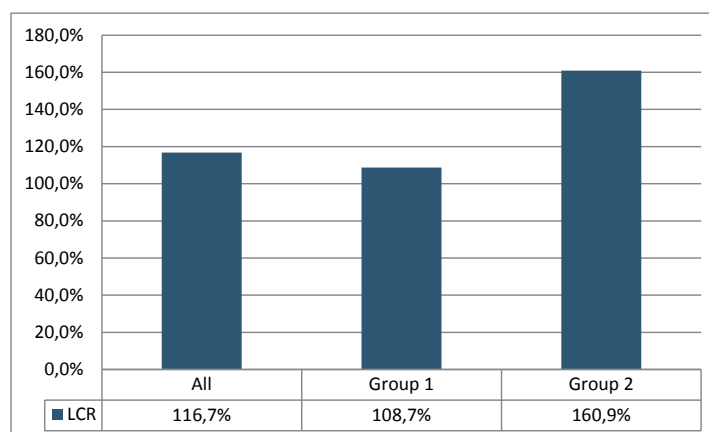
Source: Basel III monitoring exercise, EBA calculation

## 2.3 LCRs at EU aggregate level

### 2.3.1 LCR

14. The average LCR across all banks in all countries in the sample is 116.7% (Figure 6). Group 2 banks tend to have a higher LCR than Group 1 banks.

Figure 6: LCR 2013Q4 (EU aggregated)



Source: Basel III monitoring exercise, EBA calculation

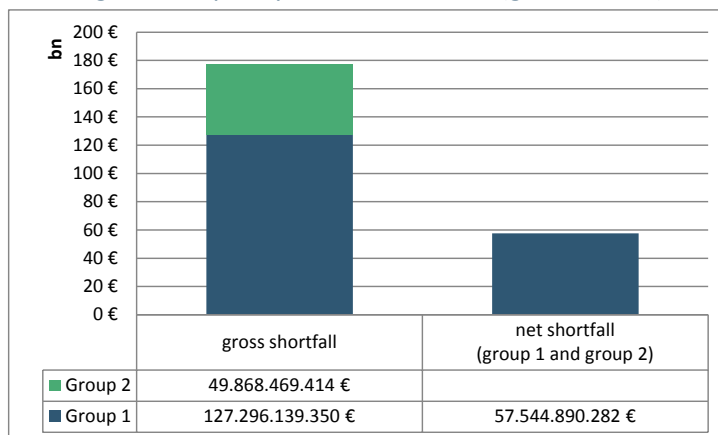
### 2.3.2 Liquidity shortfall

15. The gross liquidity shortfall amounts to EUR 177 billion across all banks in all countries in the sample (Figure 7). This is 0.71% of the total assets. The majority of the shortfall is due to Group 1 banks. The gross shortfall equals the sum of liquidity shortfalls across non-compliant banks only. This means that liquidity surpluses are not taken into account.

16. The difference between the gross and the net liquidity shortfall is substantial if banks were able to re-distribute liquid assets across banks.



Figure 7: Liquidity shortfall 2013Q4 (gross vs. net)

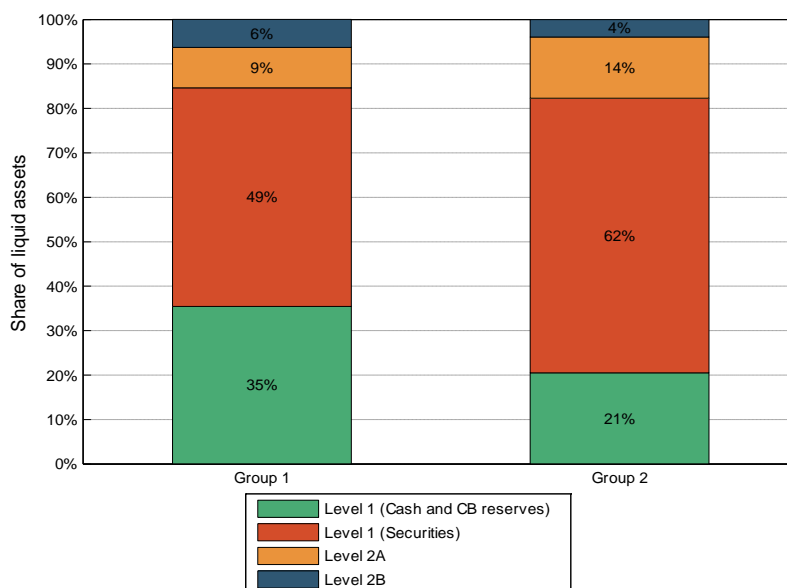


Source: Basel III monitoring exercise, EBA calculation

### 2.3.3 Composition of liquid assets

17. Figure 8 shows that more than 80% of the liquidity buffer (before weight and cap on liquid assets) consists of Level 1 assets. Cash and central banks reserves constitute a huge part of banks’ stock of liquid assets. Banks may have to substitute withdrawable central bank reserves once central banks attempt to return to pre-crisis liquidity policies, e.g. discontinuation of vLTROs and Quantitative Easing (QE) (though presumably central banks will only return to pre-crisis policies when the economic situation and banks’ capacity to manage liquidity risk are both stronger). Given the crisis experience, a return to pre-crisis bank behaviour (zero excess reserves) is unlikely. However, increasing the opportunity costs of excess reserves will encourage banks to economise on them and reduce net cash outflows.

Figure 8: Composition of liquid assets

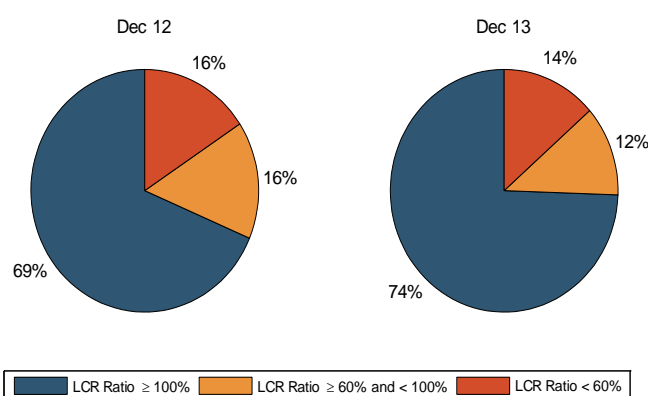


Source: Basel III monitoring exercise, EBA calculation

### 2.3.4 Year-to-year comparison

18. Based on the reduced sample a comparison between the LCR by the end of 2012 and the LCR by the end of 2013 showed that it only slightly increased on average from 115% to 116%, while the proportion of banks that achieved a LCR ratio of 100% or more increased by 5 pp (Figure 9).

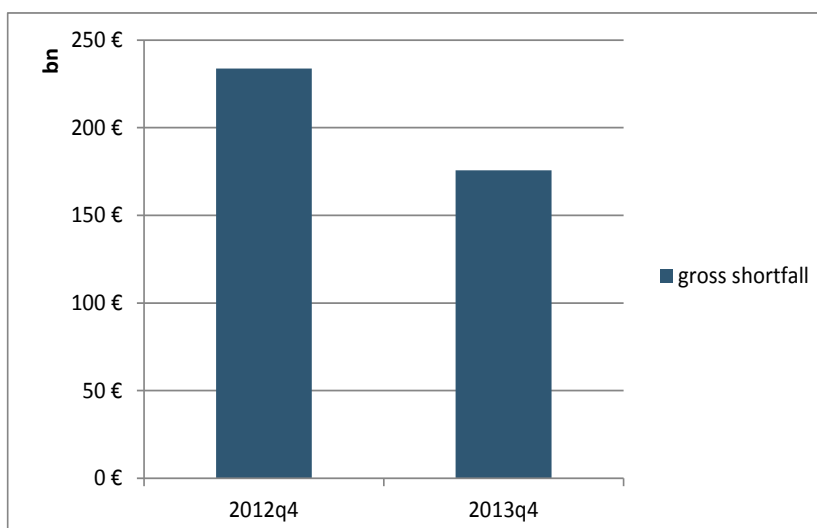
Figure 9: Development of LCR compliance over time



Source: Basel III monitoring exercise, EBA calculation

19. In terms of the gross shortfall, the improvements are more obvious (Figure 10). The shortfall fell from EUR 234 billion by the end of 2012 to EUR 176 billion by the end of 2013. Bearing the virtually unchanged EU overall LCR in mind, this fall in shortfall can be explained by the fact that 16 further banks achieved the 100% threshold in 2013. Liquidity surpluses seem to become better distributed across banks.

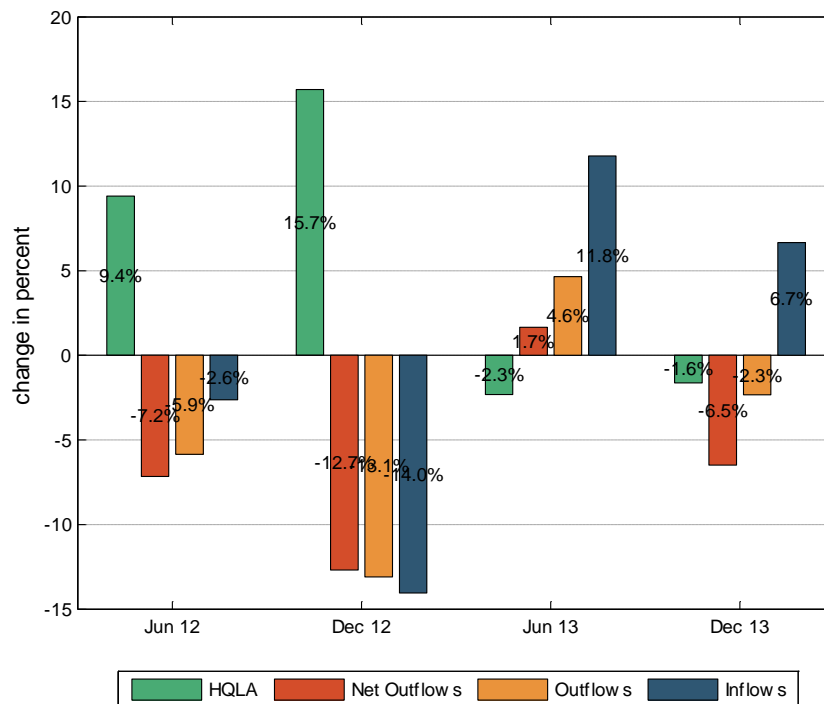
Figure 10: Change in gross liquidity shortfall from 2012Q4 to 2013Q4 (EU aggregated)



Source: Basel III monitoring exercise, EBA calculation

20. Figure 11 shows that at EU aggregate level, HQLA were the key components that significantly increased in June 2012 and December 2012 compared with the previous period. Since June 2013, inflows are the LCR components that vary the most.

Figure 11: Change in the key components of the LCR across periods (EU aggregated)

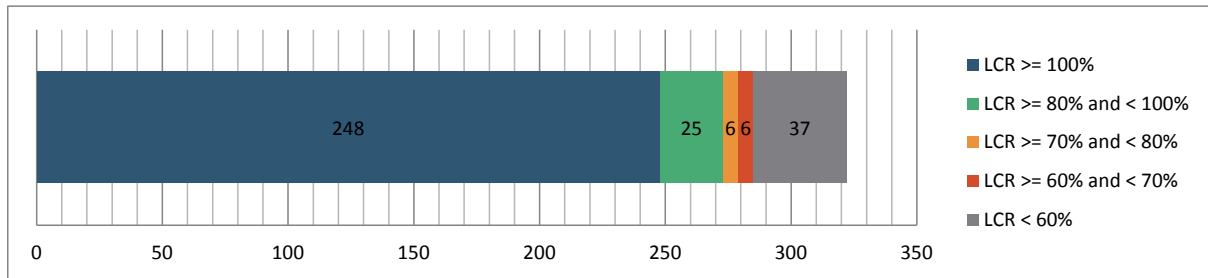


Source: Basel III monitoring exercise, EBA calculation

### 2.3.5 Different phase-in thresholds

21. More than 77% of European banks are achieving the 100% threshold by 2013Q4. Another 11.5% are reaching an LCR of between 60 and 100%. Therefore, considering the phase-in-period pursuant to Article 460(2) of the CRR (during which the required minimum LCR increases from 60% in 2015 to 100% in 2018), more than 88 % of the banks in the sample would fulfil the regulation for 2015 by now (Figure 12)

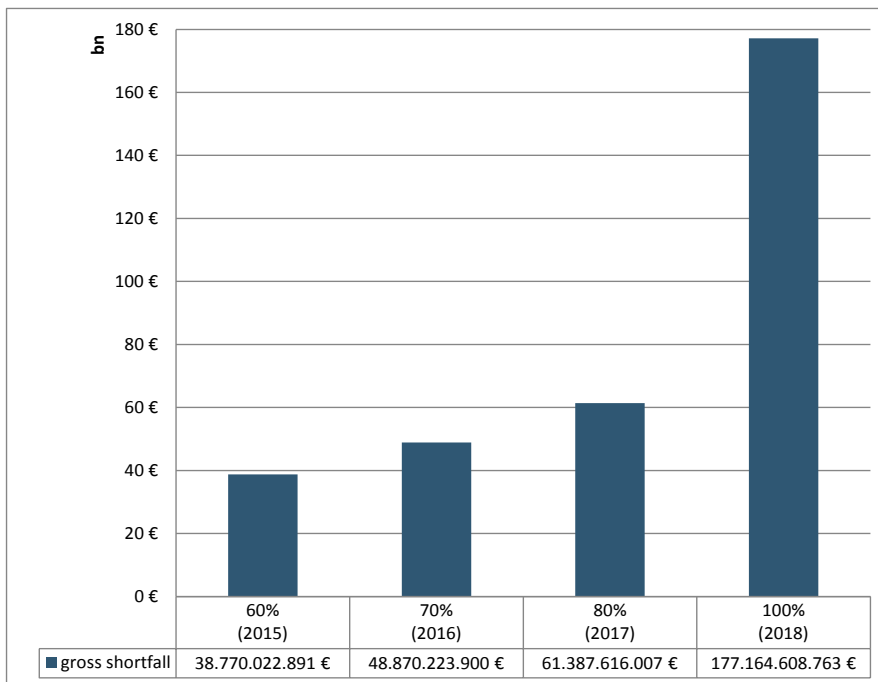
Figure 12: Number of compliant banks according to different minimum ratios as per 2013Q4 (EU aggregated)



Source: Basel III monitoring exercise, EBA calculation

22. Taking the different minimum thresholds during the phase-in-period into account, the gross shortfall for 2015 by now would only amount to EUR 39 billion on an EU aggregate level (Figure 13). Due to the 10% increments the following two years, the gross shortfall would rise by some EUR 10 billion each year till 2017.

Figure 13: LCR gross shortfall at different minimum levels (EU aggregated)



Source: Basel III monitoring exercise, EBA calculation

## 2.4 LCRs across business models

### 2.4.1 Methodology

23. The methodology used to group banks into business model categories is similar to the one used in the previous LCR IA report. As shown in Table 8, there are 13 different business model categories, including 4 universal banking models and 9 specialised banking models.

Table 8: Business model groups, descriptions and abbreviations

Abbreviation	Full Name	Description
Auto & cons.	Auto bank, consumer credit bank	Banks specialised in originating and/or servicing <u>consumer loans</u> to retail clients.
CCPs	CCP, securities trading house, custodian institution	Banks facilitating trading done in derivatives and equities markets by guaranteeing the obligations under the contract agreed between two counterparties and/or by holding securities and other assets for safe keeping and record keeping on behalf of corporate or individual investors.
Co-operatives	Member of the European Association of Co-operative Banks (EACB)	Locally operated banks owned by the depositors and often offering rates more favourable than those of for-profit banks.
Leas. & fact.	Leasing and factoring	Banks engaged in leasing (asset-based financing) and/or factoring (a financing method in which a business owner sells accounts receivable at a discount to a third-party funding source to raise capital) activities.
Local univ..	Other well-diversified (predominantly nationally active banks)	Institution engaged in diversified banking activities (including retail, corporate, investment banking and operating predominantly in their domestic market. .
Mrtg. & build. soc.	Mortgage banks and building societies	Banks specialised in directly originating and/or servicing <u>mortgage loans</u> .
Other specialised	Other specialised credit institutions	Other specialised banks such as promotional banks and ethical banks.
Pass-through	Pass-through financing	Banks facilitating mortgage lending by forming a pool of mortgages and selling the <u>shares</u> in the pool to investors. The <u>cash flow</u> from the <u>collateral</u> pool is 'passed through' to the security <u>holder</u> as monthly payments of <u>principal</u> , <u>interest</u> and <u>prepayments</u> .
Private	Private banks	Banks providing wealth management services to <u>high net worth individuals</u> and families.
Savings	Member of the European Savings Banks Group (ESBG)	Banks focusing on retail banking (payments, savings products, credits and insurance for individuals or small and medium-sized enterprises and which operate through a decentralised distribution network, providing local and regional outreach).
Shar'iah-compliant	Shar'iah-compliant banks	Banks adhering to the concepts of <u>Islamic law</u> (e.g. prohibition of interest).
Trade fin.	Merchant banks (specialised in trade finance)	Banks engaged in financing domestically and in international trade by offering products such as letters of credit, bank guarantees and the collection and discounting of bills.
Univ. cross border	Large cross-border, well-diversified banks	Large cross-border banking group engaged in several activities including retail, corporate, investment banking and insurance.

24. Banks were classified by their NSAs into one these business model groups based on expert judgment.

### 2.4.2 Sample

25. The sample of banks used for the analysis consists of 322 banks. Compared with last year, the sample decreased by 35 banks (10%). This reduction directly affects the number of banks included in each business model category. This number decreased in all categories except for merchants banks (+9 entities), mortgage banks and buildings society (+2 entities) and private banks (+1 entity). In addition, four banks were reclassified in December 2013 in relation to the classification as of December 2012.

26. In December 2013, there is still a large imbalance in the sample, with a high concentration of banks in a few business model categories while some specialised business models remain under-represented:

- Half of the 322 banks included in the QIS sample have been classified as predominantly nationally active banks with well-diversified activities, co-operative banks, or saving and loans associations.
- Other business model categories such as large cross-border groups, CCPs and investment banks, mortgage banks and other specialised credit institutions are also fairly well represented with more than 30 banks included in one of these groups.
- On the other hand, trade finance, auto banks, consumer credit banks and private banks constitute rather small groups with 15, 10 and 11 banks classified in each of these categories respectively.
- For the other types of business model, the representativeness of the sample is very poor. A very small number of banks have been identified as specialising in leasing and factoring activities (one bank) Shari'ah products (one bank), and pass-through financing activities (four banks).

27. In addition, similar to last year, a limited number of business model groups have been reported at country level. On average, within the 13 business model categories identified, less than 4 different types have been included in the QIS sample by the NSAs (Table 9).

Table 9: Number of banks by business model group

	Total
Auto & cons.	11
CCPs	25
Co-operatives	52
Leas. & Fact.	1
Local univ	67
Mrtg. & Build. Soc.	30

Other specialised	22
Pass-through	4
Private	12
Savings	50
Shar'iah compliant	1
Trade fin	15
Univ.cross border	32
<b>Total</b>	<b>322</b>

Source: Basel III monitoring exercise, EBA calculation

28. As a result, due to the lack of representativeness of some business model groups, the peer group analysis remains challenging — particularly for pass-through financing banks, leasing and factoring activities.

NB: For confidentiality purposes, the data on Sharia'h compliant bank are not disclosed.

#### 1.1.4 Distribution of LCRs within business model groups

29. The LCR level is very diverse across the QIS sample. 23% of banks have a LCR below 100% and 30% of them have an LCR above 300%. There are also a large number of upper outliers since around 13% of banks have an LCR above 600%. In addition, the inter-quartile range, which measures the spread between the upper quarter (75th percentiles) and the lower quarter (25th percentiles)<sup>21</sup>, is very large (243 pp on an average).

30. However, even when banks have the same business model, LCRs still remain very varied. The peer group analysis shows a high degree of LCR dispersion within business models with an inter-quartile range that goes from 45 pp (for large cross-border banks) to 1821 pp (for CCPs, securities trading houses, custodian institutions). Compared to the average for the whole QIS sample, some business models (well-diversified, large cross-border banks, co-operative banks, and other well-diversified banks) show a lower degree of LCR distribution. By contrast, there is a high degree of distribution for CCPs, securities trading houses, custodian institutions and merchant banks (Table 10).

Table 10: LCR by business model

	Number	LCR (%)					% points
		Avg.	Min.	Max.	Lower quarter	Higher quarter	Inter-quartile range
Auto & cons.	11	131.9	0.0	25 478.5	37	392	355

<sup>21</sup>The inter-quartile range is a measure of the statistical range of the middle 50% of the data analysed, used as a measure of the spread. It spans 50% of a data set and eliminates the influence of outliers because the highest and the lowest quarter are removed

CCPs	25	178.4	0.0	645 200.0	106	1 928	1 821
Co-operatives	52	107.6	0.7	1 014.3	93	224	131
Leas. & fact.	1	-	-	-	-	-	-
Local univ.	67	112.9	-47.1	1 829.4	99	272	173
Mrtg. & build. soc.	30	125.4	-23.5	4 466.2	74	412	337
Other specialised	22	202.5	0.0	909.1	163	428	264
Pass-through	4	177.4	0.5	629.5	-	-	-
Private	12	193.6	87.3	2 967.0	187	1 335	1 148
Savings	50	147.0	5.9	2 392.8	99	358	259
Trade fin.	15	326.4	171.1	1 487.3	271	633	362
Univ. cross-border	32	110.8	23.8	862.5	104	149	45
<b>Total<sup>22</sup></b>	<b>322</b>	<b>116.7</b>	<b>-47.1</b>	<b>645 200.0</b>	<b>103</b>	<b>346</b>	<b>243</b>

Source: Basel III monitoring exercise, EBA calculation

31. The large distribution of the LCRs within business model groups could be due to inconsistencies in the business model clustering (banks included in a specific business model group do not share enough features) or by the fact that the LCR is not highly correlated to the business models.

### 2.4.3 LCR compliance across business models

#### a. Level of LCRs

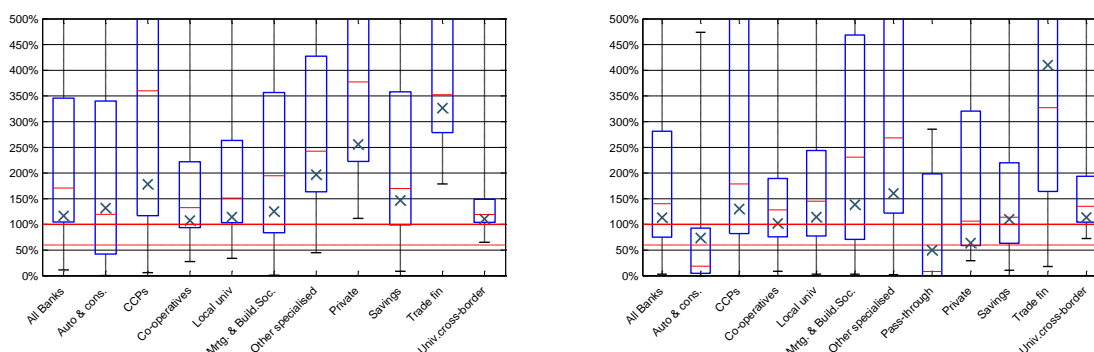
32. Compared with last year, compliance with the LCR has improved significantly in all business model groups (Figure 14):

- In December 2013, the median and the average LCRs are above 100% in every business model group.
- All private banks and merchant banks are meeting the minimum LCR requirements, whereas last year there were non-compliant banks in every business model group.
- In addition, the LCRs have improved significantly for auto and consumer credit banks and private banks, for which the situation with regard to the LCR was very critical in December 2012.

<sup>22</sup>For those types of business model where just one bank, data not included due to confidentiality constraints.



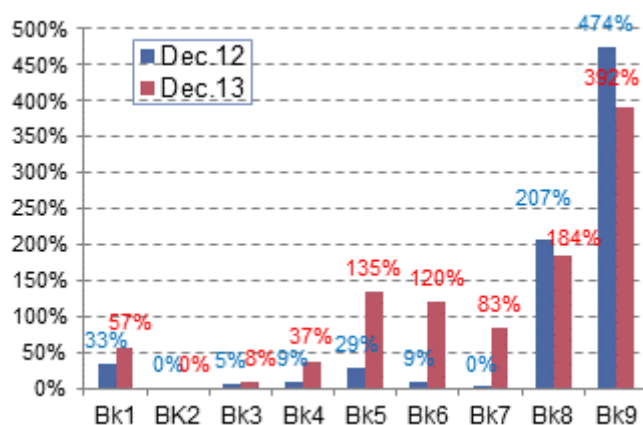
Figure 14: LCRs across business model groups in December 2013 (right-hand side) and December 2012 (left-hand side)<sup>23</sup>



Source: Basel III monitoring exercise, EBA calculation

33. For auto and consumer credit banks, the LCR increased for most of the banks included in the sample, and two banks that were not compliant in December 2012 are now meeting the minimum requirement (Figure 15).

Figure 15: Change in the LCR of auto and consumer credit banks between December 2012 and December 2013



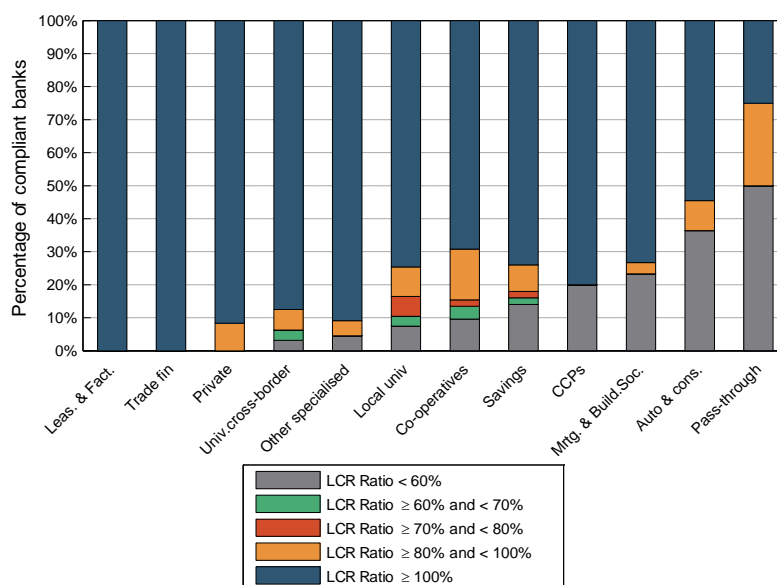
Source: Basel III monitoring exercise, EBA calculation

34. However, despite this general improvement, the proportion of non-compliant banks remains higher for auto and consumer credit banks (45%), pass-through financing banks (75%) and mortgage banks (35%). By contrast, well-diversified, large cross border banks with substantial

<sup>23</sup> The comparison between December 2013 and December 2012 is not based on a consistent sample (357 banks versus 322 banks). This can partly explain the change, particularly for small business models where the number of banks changed significantly between the two periods.

capital market activities, private banks and other specialised credit institutions seem to perform relatively better with less than 15% of banks that are not LCR compliant (Figure 16).

Figure 16: Distribution of LCR compliance across different business models



Source: Basel III monitoring exercise, EBA calculation

## b. Amount of shortfall

35. On the whole, the liquidity shortfall remains highly driven by universal banks (large cross-border banking groups and well-diversified, nationally active banks). Together, they account for 66% of the LCR shortfall while the specialised banking models only account for 8% of the total EU LCR shortfall at a minimum of 100% (Table 11). This is due to the fact that compared to specialised banks, the number of universal banks that participate in the QIS exercise is higher. It is also due to the fact that universal banks tend to be larger in terms of total assets. Therefore, relative to total assets, specialised business models tend to display a higher shortfall. For both mortgage and pass-through financing banks, their gross shortfall accounts for 1.4% of their total assets, while for large cross-border banking groups this share is rather small (0.38% of total assets in December 2013). It is also worth noting that the gross liquidity shortfall of diversified, nationally active banks is quite large (1.9% of total assets) compared to large cross-border banking groups (Figure 17).

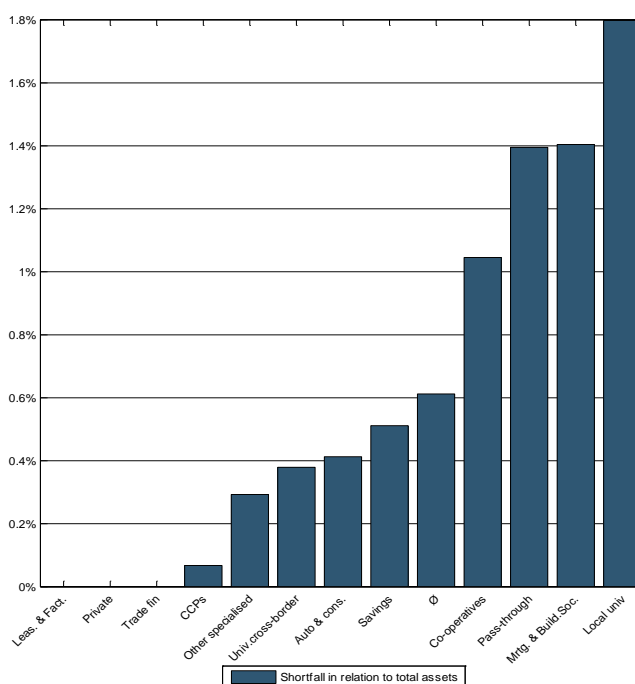
Table 11: LCR and gross shortfall for different minimum ratios pursuant to Article 460(2) of the CRR by business model

	LCR shortfall (in €bn) at a minimum of			
	60% (2015)	70% (2016)	80% (2017)	100% (2018)
Auto & cons.	0.1	0.2	0.2	0.5
CCPs	0.5	0.8	1.0	1.5

Co-operatives	5.3	6.6	7.8	33.7
Leas. & fact.	0.0	0.0	0.0	0.0
Local univ.	9.3	11.4	14.4	54.1
Mrtg. & build. soc.	3.6	4.5	5.3	11.4
Other specialised	0.2	0.2	0.2	1.5
Pass-through	0.3	0.3	0.4	1.0
Private	0.0	0.0	0.0	0.2
Savings	1.1	1.5	3.5	10.8
Trade fin.	0.0	0.0	0.0	0.0
Univ. cross-border	18.4	23.5	28.6	62.6
<b>Total</b>	<b>38.8</b>	<b>48.9</b>	<b>61.4</b>	<b>177.2</b>

Source: Basel III monitoring exercise, EBA calculation

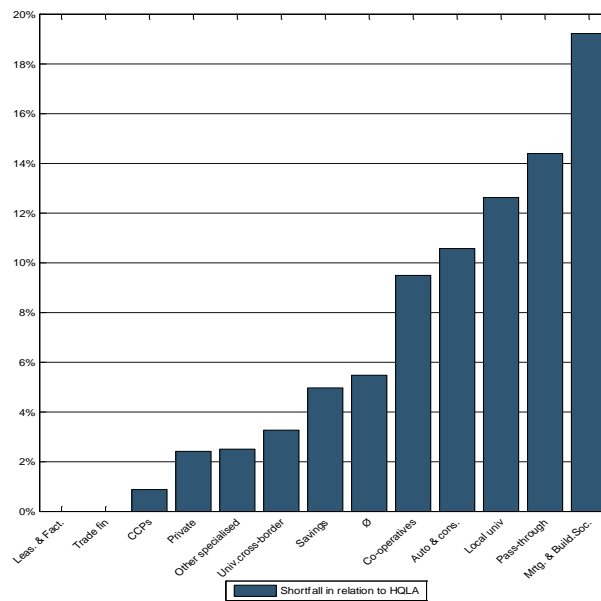
Figure 17: Gross liquidity shortfall in relation to total assets by business model, in %



Source: Basel III monitoring exercise, EBA calculation

36. Relative to the total buffer (HQLA), the relative position of mortgages and pass-through financing appears even more challenging. Their gross liquidity shortfall accounts for nearly 20% of the current liquidity buffer of the mortgage banks and more than 14% of the liquidity buffer of the pass-through financing banks (Figure 18).

Figure 18: Gross liquidity shortfall in relation to HQLA by business model, in %



Source: Basel III monitoring exercise, EBA calculation

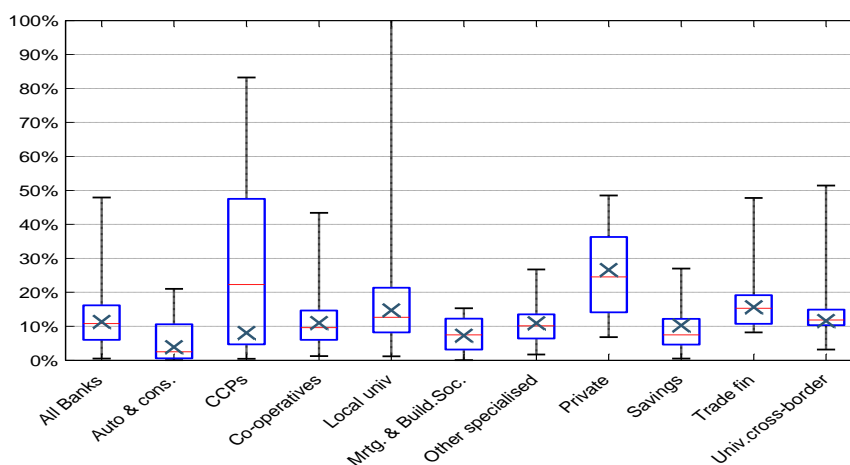
#### 2.4.4 Explanatory variables of the differences across business models

37. To analyse why some types of business models performed better compared to others, a peer group analysis was made based on a set of key indicators.

##### a. HQLA

38. The LCR is highly correlated to the share of HQLA relative to the total balance sheet: institutions that hold a high proportion of HQLA relative to the total balance sheet tend to have a higher LCR. Moreover, the share of HQLA relative to the total balance sheet is also highly correlated to the business model: institutions with the same business model tend to have a similar proportion of HQLA relative to their total assets. Therefore, in most business model groups, the distribution of the share of HQLA relative to total assets tends to be lower within each banking group than within the whole QIS sample as shown by Figure 19.

Figure 19: Distribution of share of HQLA (after cap) per business model category

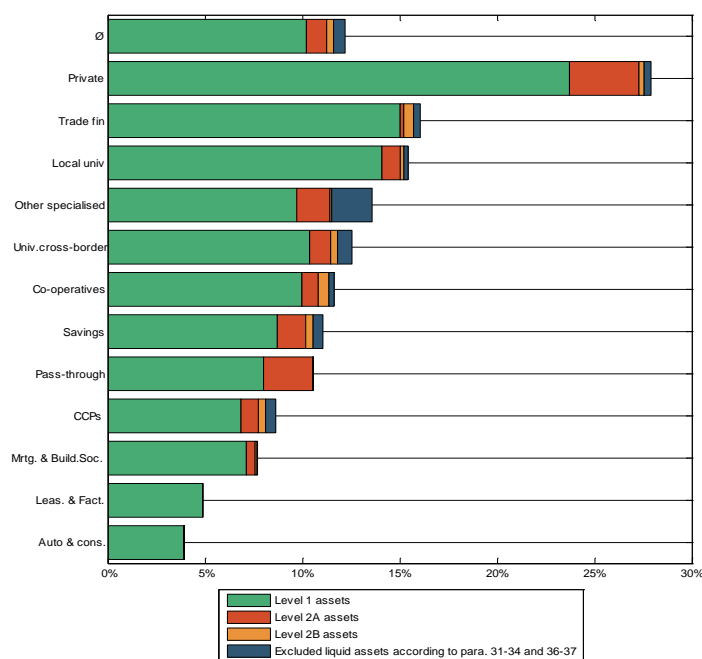


Source: Basel III monitoring exercise, EBA calculation

39. As a result, business models with lower HQLA such as auto and consumer credit banks and mortgage banks and building societies tend to be highly penalised by the implementation of the LCR. These two types of business models hold less than 7% of their balance sheet in the form of HQLA. To reach the minimum LCR requirement, they will have to increase their liquidity buffer by 11% and 19% respectively, *ceteris paribus*. By contrast private bank CCPs, security trading house and custodian institutions and merchant banks tend to hold more HQLA than the average. Private banks benefit from a solid HQLA portfolio, which accounts for more than 25 % of their total assets (Figure 20)<sup>24</sup>.

<sup>24</sup> Potential differences between Figure 21 and Figure 22 are a result of the sample. In the box plots chart those banks that reported negative HQLA exposures due to the cap on Level 2A and 2B have been removed from the analysis.

Figure 20: HQLA (before cap) relative to total assets by business model, in %



Source: Basel III monitoring exercise, EBA calculation

40. As regards the cap on liquid assets, business models that are affected more are universal banking models (large cross-border banking groups, co-operative banks and other well-diversified, but predominantly nationally active banks). In terms of the number of banks affected by the cap on liquid assets, savings banks are the most affected (Table 12).

Table 12: Impact of the cap on liquid assets

	Cap on Level 2A assets		Cap on Level 2B assets		Shortfall of banks where Level 2A or Level 2B cap applies €bn
	# of banks where Level 2A cap applies	Reduction of Level 2A assets due to cap €bn	# of banks where Level 2B cap applies	Reduction of Level 2B assets due to cap €bn	
CCPs	1	0.1	3	0.1	0.1
Co-operatives	6	10.8	4	0.0	7.8
Local univ.	4	12.4	4	0.6	7.8
Mrtg. & build. soc.	5	2.8	1	0.0	1.7
Other specialised	2	2.7	1	0.2	1.2
Pass-through	1	0.6	0	0.0	0.4
Private	2	0.2	1	0.0	0.0
Savings	19	4.9	3	0.2	2.1
Trade fin.	0	0.0	3	0.0	0.0
Univ. cross-border	1	33.9	1	0.0	38.7
<b>Total</b>	<b>41</b>	<b>68.4</b>	<b>21</b>	<b>1.0</b>	<b>59.8</b>

Source: Basel III monitoring exercise, EBA calculation

41. The exclusion due to operational requirements mostly affects large cross-border banking groups. In December 2013, 6% of the liquid assets of these banking groups were excluded because they did not meet the operational requirements (Table 13).

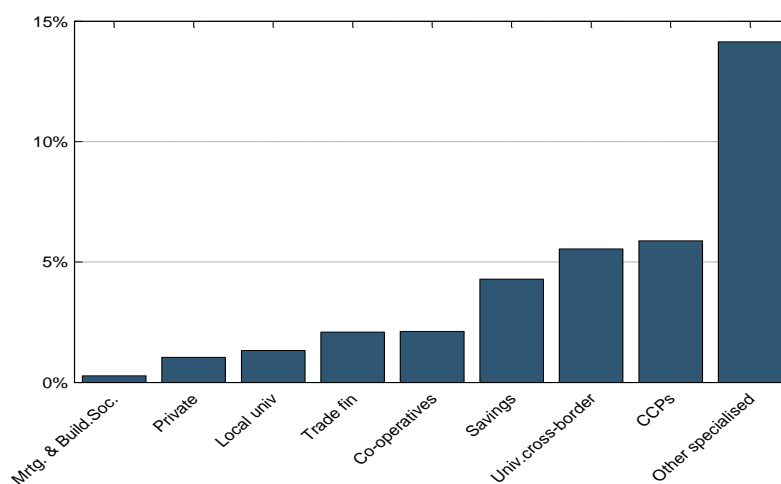
Table 13: Impact of operational requirements by business model (unweighted amount)

	Number	Total liquid assets, in €bn	Excluded legal entity total, in €bn	Excluded legal entity temporary, in €bn	Excluded control and trading total, in €bn	Excluded control and trading, in temporary, in €bn	Total temporary exclusions as % of total exclusions
Auto & cons.	11	4.3	0.0	0.0	0.0	0.0	0.0
CCPs	25	183.1	0.0	0.0	10.8	0.0	0.0
Co-operatives	52	395.4	1.0	0.0	7.4	0.0	0.0
Leas. & fact.	1	0.9	0.0	0.0	0.0	0.0	0.0
Local univ.	67	457.1	4.7	3.8	1.3	0.0	62.6
Mrtg. & build. soc.	30	63.0	0.1	0.1	0.1	0.1	100.0
Other specialised	22	72.9	4.5	0.0	5.9	5.9	56.8
Pass-through	4	7.9	0.0	0.0	0.0	0.0	0.0
Private	12	7.7	0.0	0.0	0.1	0.1	100.0
Savings	50	245.5	0.0	0.0	10.5	1.3	12.4
Trade fin.	15	16.5	0.3	0.0	0.0	0.0	0.0
Univ. cross-border	32	2199.8	48.0	0.0	74.0	6.6	5.4
<b>Total</b>	<b>321</b>	<b>3654.2</b>	<b>58.5</b>	<b>3.9</b>	<b>110.1</b>	<b>13.9</b>	<b>10.5</b>

Source: Basel III monitoring exercise, EBA calculation

42. However, on the whole, relative to total liquid assets, other specialised banking credit institutions are penalised the most by the exclusion of the liquid assets. On average, 14% of the liquidity buffer has been excluded from the calculation of the numerator of the ratio in December 2013 (Figure 21).

Figure 21: Total excluded liquid assets as a percentage of total liquid assets



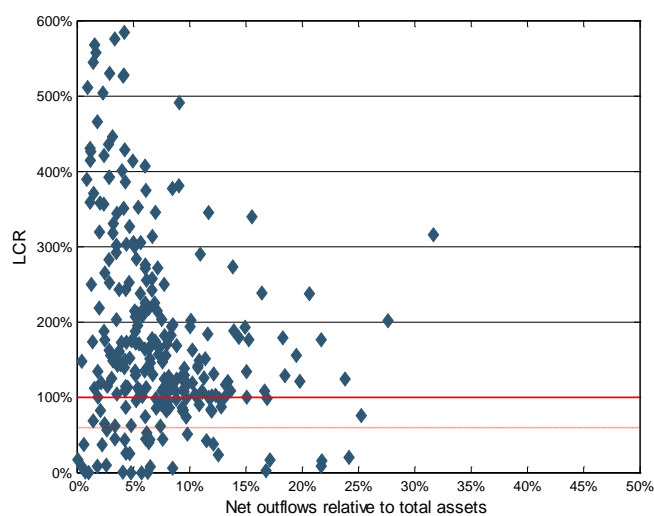
Source: Basel III monitoring exercise, EBA calculation

## b. Composition of outflows and inflows

### NET CASH OUTFLOWS (OR SHORT-TERM LIQUIDITY GAP)

43. The share of net outflows (or short-term liquidity gap) relative to the total balance sheet is also a key driver of the performance of business models: institutions with a high short-term liquidity gap relative to the total balance sheet also tend to have a higher LCR (Figure 22).

Figure 22: Correlation between net cash outflows and the LCR

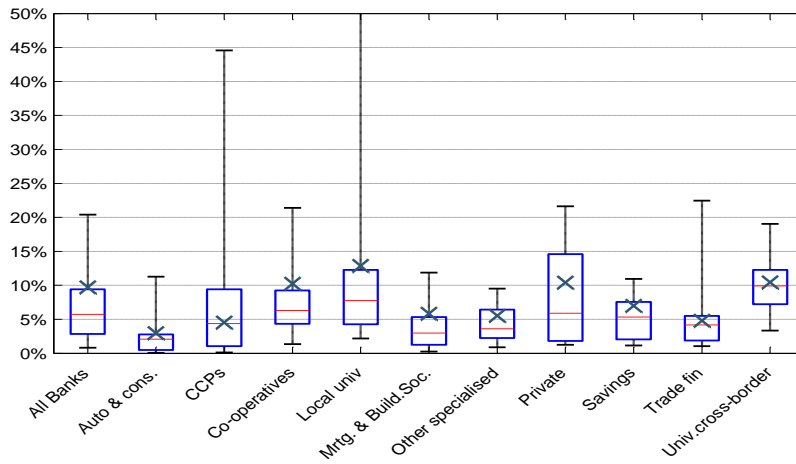


Source: Basel III monitoring exercise, EBA calculation

44. In addition, the short-term liquidity gap relative to the total balance sheet is very similar among banks with similar business models. Except for CCPs, securities trading houses, custodian institutions and private banks, business model groups have an inter-quartile range below the average of the QIS sample as a whole. Figure 23 and Figure 24 also show that large cross-border groups, other well-diversified banks and private banks tend to have a higher liquidity gap. By contrast, auto and consumer credit banks and mortgage banks have a lower liquidity gap. For those last two groups, for which the average LCR is very low, the adjustment triggered by the new liquidity framework will essentially involve holding more HQLA.

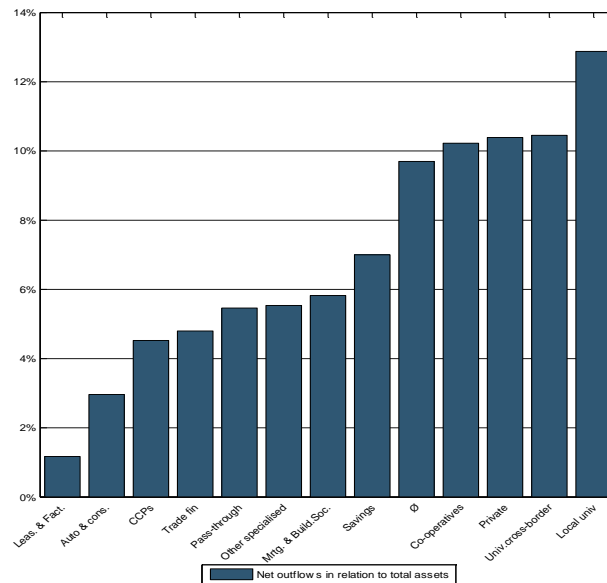


Figure 23: Distribution of the share of net outflows (liquidity gap) per business model category



Source: Basel III monitoring exercise, EBA calculation

Figure 24: Net cash outflow in relation to total assets by business model, in %

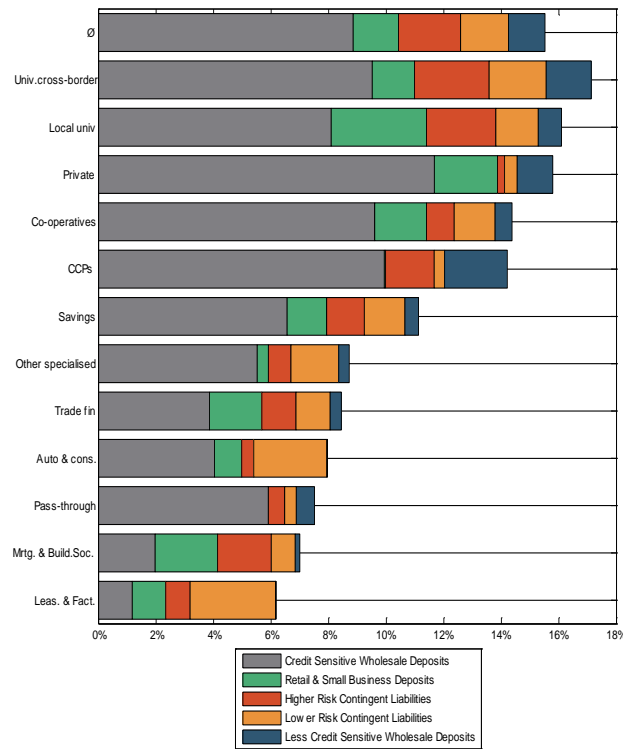


Source: Basel III monitoring exercise, EBA calculation

OUTFLOWS

45. In most business models, the main component of the outflows (post factor) is wholesale funding and all business model groups use a diversified source of funding (Figure 25).

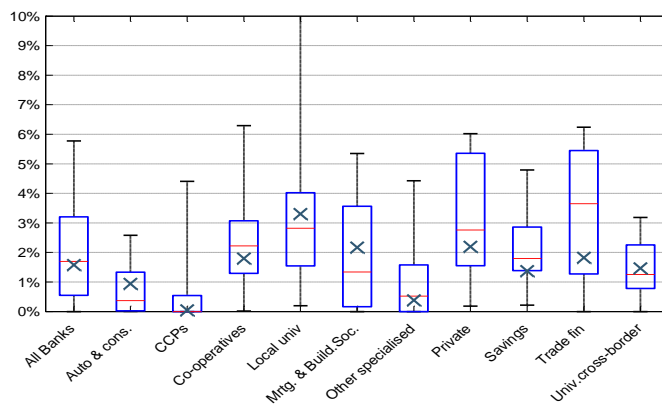
Figure 25: Outflows (post-factor) relative to total assets by business model, in %



Source: Basel III monitoring exercise, EBA calculation

46. The analysis shows that banks with a higher share of customer deposits, such as saving and loan associations, co-operative banks and other well-diversified, predominantly nationally active banks, have a universal, retail-oriented business model. By contrast, specialised business models (CCPs, auto and consumer credit banks, other specialised credit institutions) tend to collect fewer deposits (Figure 26).

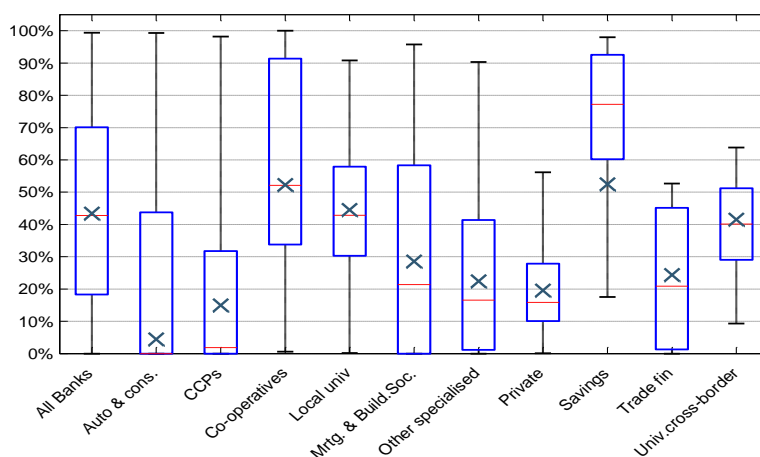
Figure 26: Distribution of the share of retail and small customer deposits per business model category



Source: Basel III monitoring exercise, EBA calculation

47. The average share of stable deposits relative to total retail and small business customer deposits also varies considerably from one business model to the next and, unsurprisingly, retail-oriented business models hold relatively more stable retail deposits. By contrast, CCPs, securities trading, custodian institutions, auto banks, consumer credit banks and other specialised credit institutions hold far fewer stable retail deposits (Figure 27).

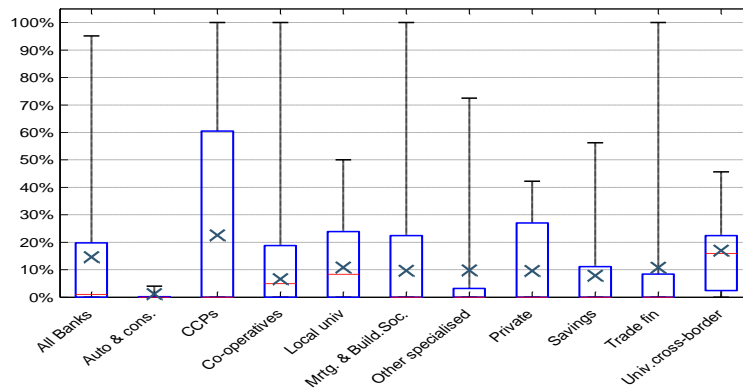
Figure 27: Distribution of the share of stable deposits per business model category



Source: Basel III monitoring exercise, EBA calculation

48. Similar to last year, a very limited number of banks have reported exposures on operational deposits. These exposures are restricted to a few types of business models which have most of the operational deposit exposures (large cross-border banks with substantial market activities, co-operative banks and other well-diversified, predominantly nationally active banks). Moreover, the large spread between the mean and the median (the latter being much lower) reveals that operational deposit exposures are mostly held by larger banks rather than by small banking entities (Figure 28).

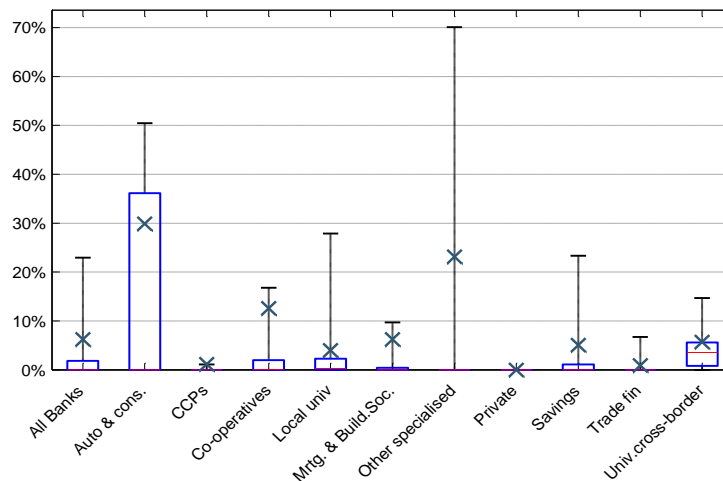
Figure 28: Distribution of the share of operational deposits per business model category



Source: Basel III monitoring exercise, EBA calculation

49. With regard to the amount of debt maturing within 30 days, there are no large differences between business models. The share of debt maturing within 30 days relative to the total balance sheet is very low (close to 0%) in most business models except in (auto and consumer credit banks) and (large cross-border groups with substantial market activities) (Figure 29).

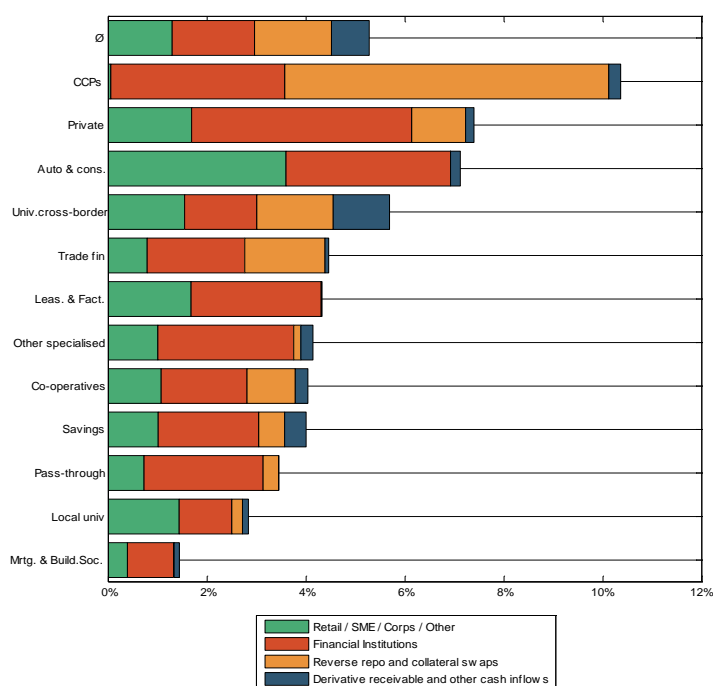
Figure 29: Distribution of the share of debt maturing within 30 days relative to total outflows per business model category



Source: Basel III monitoring exercise, EBA calculation

## INFLOWS

Figure 30: Inflows (post-factor) relative to total assets by business model, in %



Source: Basel III monitoring exercise, EBA calculation

### c. Cap on inflows

50. A 75% cap on inflows is applied to all banks regardless of their business model and regardless of the amount of liquid assets they hold. This means that there could be some cases where a bank does not reach the LCR minimum requirement even when its short-term liquidity gap (before applying the cap) is extremely low. However, this situation is very rare. 80 banks reach the cap on inflows but only 15 of them do not meet the minimum LCR requirement (Table 14)

Table 14: Impact of the cap on inflows

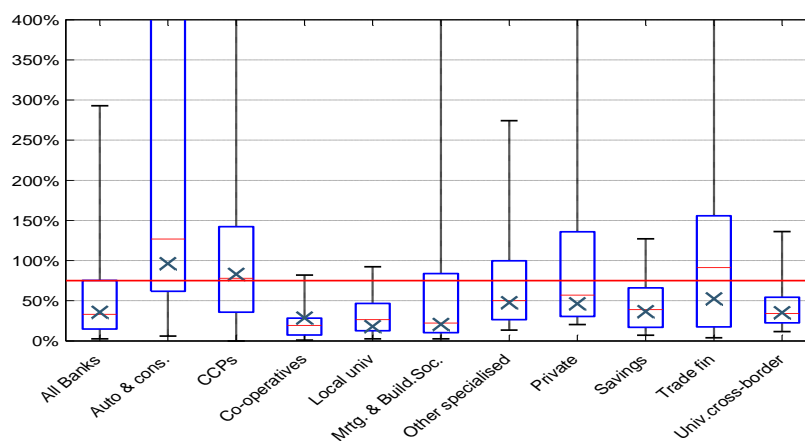
	Number of banks affected by the cap on inflows	Number of banks affected by the cap on inflows with a ratio below 100%
Auto & cons.	8	3
CCPs	14	3
Co-operatives	4	1
Leas. & fact.	1	0
Local univ.	6	2
Mrtg. & build. soc.	8	3
Other specialised	8	1
Pass-through	1	1
Private	4	0

Savings	12	1
Trade fin.	9	0
Univ. cross-border	4	0
<b>Total</b>	<b>79</b>	<b>15</b>

Source: Basel III monitoring exercise, EBA calculation

51. The cap on inflows is a constraint for some banks across all types of business models, but the cap affects specialised banks more. At least 50% of the banks classified as CCPs, securities trading houses, custodian institutions, auto and consumer credit banks and merchant banks reach the cap. By contrast, well-diversified, large cross-border groups, saving and loan associations, co-operative banks and other well-diversified, predominantly nationally active banks are far less affected, with less than 25% of banks reaching the cap.
52. However, the share of inflows (before the cap) relative to the total outflows is very heterogeneous among banks that have the same business model. Indeed, except large cross-border banks, co-operative banks and (other well-diversified, predominantly nationally active banks), the inter-quartile range — which measures the spread between the upper quarter (75th percentiles) and the lower quarter (25th percentiles) — is higher within business model groups than within the QIS sample as a whole (Figure 31).

Figure 31: Inflows before cap relative to total outflows

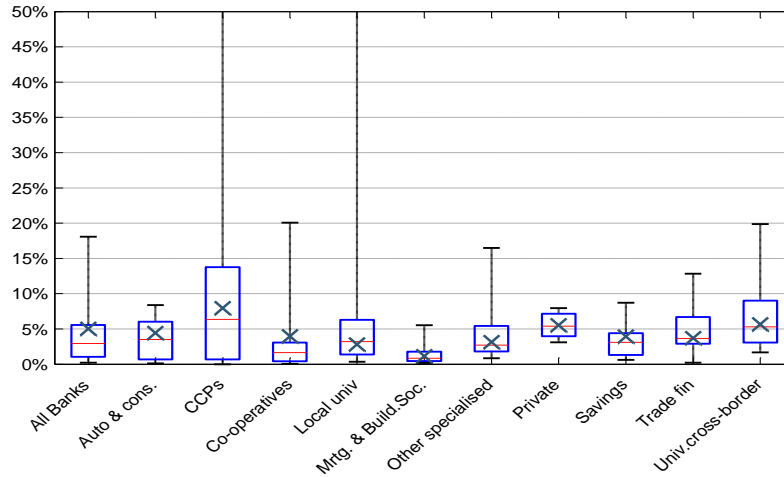


Source: Basel III monitoring exercise, EBA calculation

53. Generally speaking, business models that are affected more by the cap have relatively more inflows within a 30-day period (Figure 32) (close to 10% on average) but their cash outflows within a 30-day period are not atypical (Figure 33) Auto and consumer credit banks are

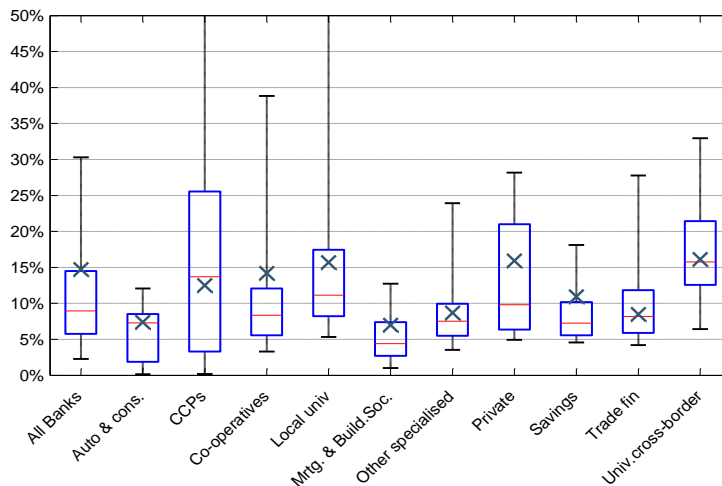
particularly penalised by the cap as they have no HQLA. As a result, the cap on inflows would negatively impact business models that do not involve holding a lot of HQLA and that see businesses predominantly managing their liquidity risks by reducing maturity mismatches between assets and liabilities. In addition, compared to other business model types, CCPs, securities trading houses and custodian institutions are very atypical as they tend to have both more inflows and more outflows relative to their balance sheet.

Figure 32: Distribution of the share of cash inflows within business model categories



Source: Basel III monitoring exercise, EBA calculation

Figure 33: Distribution of the share of cash outflows relative to total assets within business model categories



Source: Basel III monitoring exercise, EBA calculation

## 2.5 Comparison across outliers

54. An analysis across outliers shows the main reasons for below-average and above-average LCRs (Table 15). Below-average LCRs are mainly almost exclusively driven by a lack of HQLA. Banks with the lowest LCRs tend to have about four times less Level 1 assets than the average. Those banks are also highly affected by the cap on liquid assets — 20 times more so than the average. Meanwhile, cash inflows and outflows do not seem to be very relevant in terms of significantly low LCRs as they are close to average for the 30 banks with the lowest LCR in the sample.

55. However, above-average LCRs are driven by both a high share of Level 1 assets and low net cash outflows.

Table 15: Liquid assets, outflows and inflows relative to total assets among LCR outliers

	LCR	as % of total assets						
		Level 1 assets	Level 2A assets	Level 2B assets	Caps on liquid assets	Outflows	Inflows before cap	Cap on Inflows
Wtd. avg. of 30 banks with the lowest LCR	17.2	2.655	4.515	0.022	5.687	13.587	5.801	0.942
Wtd. avg. of 30 banks with the highest LCR	1 161.9	17.435	6.097	3.243	0.011	8.935	15.542	8.910
<b>Wtd. avg. of all banks</b>	<b>116.9</b>	<b>10.185</b>	<b>1.044</b>	<b>0.350</b>	<b>0.245</b>	<b>14.720</b>	<b>5.274</b>	<b>0.252</b>

Source: Basel III monitoring exercise, EBA calculation



## 3. Adjustments made by banks to improve the LCR

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### 3.1 Section summary

#### 3.1.1 Objectives

- The main purpose of this section is to:
  - identify the key components of the LCR that are more likely to affect its level;
  - identify the balance sheet items that are highly correlated to the LCR (i.e. 'drivers of the LCR') and how the changes in these items have affected the change in LCR since 2011Q4; and
  - infer from the previous analysis the strategies of adjustments that the banks have been making to improve their LCR.

#### 3.1.2 Methodology

- Three types of analysis have been performed:
  - a sensitivity analysis that shows to what extent a change of 1% of the key component of the LCR affects the level of the LCR in December 2013;
  - a descriptive data analysis of the change in balance sheet items, differentiating between the LCR compliance/non-compliance status at the beginning of the period;
  - an econometric study based on four types of regressions which use the LCR changes as a dependent variable to identify the strategies used by banks since December 2011 to become LCR compliant.
- The three analyses above use the LCR data collected via the voluntary EBA LCR monitoring exercise in December 2013. In the sensitivity analysis, the sample comprises 322 banks for the point-in-time analysis, while the descriptive data analysis and the econometric analysis use a consistent sample of banks that oscillates between 100 and 114, depending on the number of time points required by the multivariate approach.
- As balance sheet information is essential, the analysis in this section uses semi-annual data. LR reporting information is the main source for balance sheet data but is not reported frequently, i.e. quarterly. This lack of data impedes the use of quarterly data for the LCR. Moreover, as each bank in the sample does not necessarily report all the data required in this section, the sample is reduced markedly compared to other sections, to a number

ranging from 100 to 114 banks.

### 3.1.3 Key findings

#### a. Key components of the LCR

- The component that has the highest positive impact on the LCR is Level 1 assets. An increase of 1% in these exposures would increase the average LCR by more than 1 pp. This impact can be partially attributed to the higher weight (as Level 1 assets receive a weight of 100%), but also to the volume and the composition of liquid assets, as most of the non-weighted HQLA for most EU banks consist of Level 1 assets.
- By contrast, non-operational unsecured wholesale deposits have the highest negative impact on the LCR as a 1% change in these exposures would lead to a reduction in the LCR of almost 0.7 pp.

#### b. Balance sheet drivers of the LCR

- The December 2013 data exhibits strong correlations between some balance sheet items and the LCR:
  - As expected, compliant banks hold more Level 1 sovereign securities than non-compliant banks.
  - Compliant banks hold more deposits, relative to their total liabilities, than non-compliant banks.
  - Banks with lower exposures to non-financial corporates (SMEs included) tend to have a higher LCR.

#### c. Strategies implemented by banks to improve their LCR

- Since December 2011, the main strategies used by banks to improve their LCR are:
  - Swapping non-HQLA with HQLA by increasing central bank deposits (especially for non-compliant banks), buying covered bonds and, to a lesser extent, Level 1 securities;
  - Reducing the exposures to retail and SME counterparties, but this impact might have been mitigated by (1) an economic climate with contracted demand and (2) a competitive environment where banks that are LCR compliant have seized the opportunity to gain market shares, and (3) could have been distorted by external economic factors such as the timing of the financial crisis and the introduction of the LCR negotiation.
  - Swapping unsecured debt and interbank funding with retail deposits (especially for banks that became compliant).

### Noted bank strategies implemented to adjust their LCR since 2011

Balance sheet		Strategy	Degree of evidence of implementation uncovered by the multivariate analysis
Assets	Reallocation of assets	Sell/cut non-eligible assets to place the proceeds at the central bank and/or purchase eligible assets	High
	Maturity shortening	Shorten the average maturity of assets	None
Liabilities	Maturity lengthening	Lengthen funding maturities	None
	Reallocation of liabilities	Swap unsecured debt (-) and interbank funding (-) with retail deposits (+)	Medium
Assets & liabilities	Deleveraging	Sell/cut non-eligible assets to pay down short-term liabilities	Low
	Leveraging	Issue long-term wholesale debt or capital to buy liquid assets	Low

- The econometric method used in the first report to analyse the impact of the LCR identified several variables that were significantly related to the adjustment to the LCR. The interpretation of the results concluded that the following three strategies had been used by banks to drive their LCR:
  - lengthening maturities on the liabilities side of various LCR components (e.g. non-financial deposits, retail and SME customer deposits);
  - reduction of undrawn liquidity lines and/or contingent obligations;
  - reallocation of assets, in favour of eligible assets.
- The current report identifies the same reallocation behaviour on the assets side, but also shows strategies that are not fully convergent with the first report. This might be due to the extension of the database which comprises two additional points and therefore tells a different story about the long-term adjustment. This is also due to the use of different econometric functional forms. Given the extended period of analysis in the current report compared to the first report, it seems reasonable to state that the results of the econometric analysis in this version are less influenced by adjustment epiphenomena.
- The analysis also acknowledges that causes behind the changes in banks' balance sheet may be explained by motives other than banks trying to comply with the LCR requirements.

## 3.2 Key component of LCR changes

### 3.2.1 Sensitivity analysis of the LCR

1. The sensitivity analysis reveals the components of the LCR that have the highest impact on the LCR level assuming a change of 1% in the following items <sup>25</sup>:

- HQLA (Level 1 assets, Level 2A assets, Level 2B assets);
- outflows (retail and SME deposits, operational and non-operational unsecured wholesale funding, unsecured debt issuances, secured funding, other outflows);
- inflows (secured lending, contractual inflows, other inflows).

2. The results are summarised in the table below:

Table 16: Impact on the LCR assuming an increase in the underlying item of 1%, in percentage points

	All banks (322 banks)			Group 1 (48 banks)			Group 2 (274 banks)		
	Δ LCR	Amount, in €billion	Avg. weight.	Δ LCR	Amount, in €billion	Avg. weight.	Δ LCR	Amount, in €billion	Avg. weight.
Level 1 assets	1.049	3 231	100.00%	0.977	2 545	100.00%	1.445	686	100.00%
Level 2A assets	0.107	349	85.00%	0.089	246	85.00%	0.205	103	85.00%
Level 2B assets	0.036	199	49.92%	0.035	170	48.03%	0.042	29	60.78%
Retail and SME deposits	-0.191	7 634	5.93%	-0.157	5 512	6.16%	-0.427	2 122	5.34%
Operational unsecured wholesale deposits	-0.117	1 265	21.88%	-0.104	1,014	22.07%	-0.200	251	21.13%
Non-operational unsecured wholesale deposits	-0.676	2 603	61.98%	-0.626	2 196	61.78%	-0.962	407	63.05%
Unsecured debt issuances	-0.109	260	100.00%	-0.104	225	100.00%	-0.130	35	100.00%
Outflows arising from secured funding transactions	-0.178	2 163	19.59%	-0.185	1 898	21.08%	-0.089	266	8.93%
Other outflows	-0.496	8 271	14.28%	-0.470	7 031	14.46%	-0.618	1 240	13.25%
Inflows arising from secured funding transactions	0.165	2 093	18.70%	0.160	1 881	18.33%	0.176	212	22.01%
Contractual inflows	0.327	1 113	69.50%	0.269	850	68.06%	0.739	263	74.16%
Other inflows	0.147	598	58.26%	0.144	530	58.52%	0.144	68	56.26%

Source: Basel III monitoring exercise, EBA calculation

3. The components that have a greater positive impact on the LCR are Level 1 assets, assuming an increase of 1% in these exposures would increase the average LCR by more than 1 pp. This impact is due to the higher weight (as Level 1 assets receive a weight of 100%), and to the volume and composition of liquid assets, as most unweighted HQLA consist of Level 1 assets for most EU banks (Table 16).

4. By contrast, non-operational unsecured wholesale deposits have the greatest negative impact on the LCR as a 1% increase in these exposures would lead to a reduction of the LCR by almost 0.7 pp. Despite a relatively low average weight, a 1% increase in the other types of outflows would also significantly affect the LCR as this position includes a large amount of various types of items (derivatives, facilities etc.).

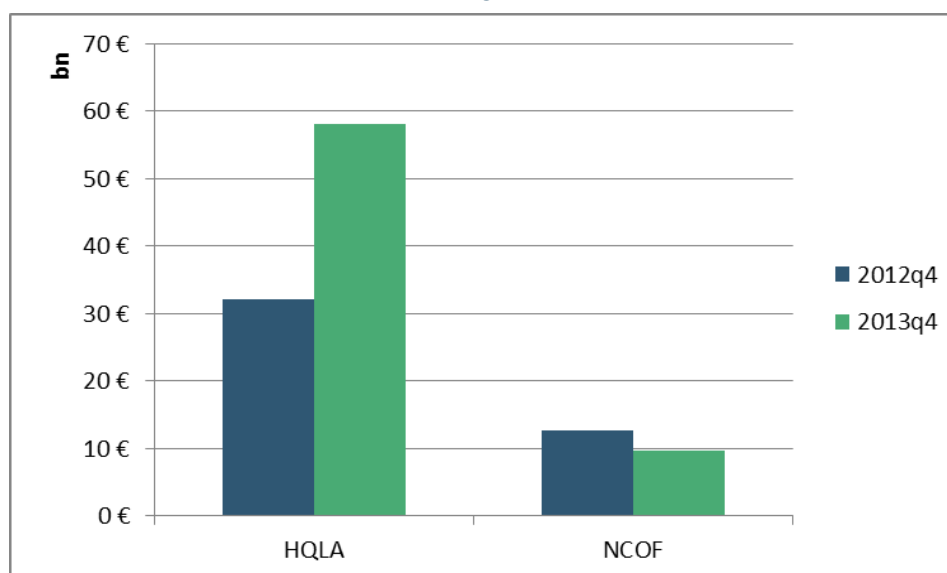
<sup>25</sup> This analysis ignores the cap effects (cap on HQLA as well as the cap on inflows).

5. The sensitivity analysis also shows that unsecured debt issuance maturing within 30 days has no major impact on the LCR if these exposures increase by 1%.
6. As regards business models, the LCR of leasing and factoring banks, CCPs, securities trading houses, custodian institutions and auto banks would be more affected by an increase in the contractual inflows and by the other types of cash outflows.

### 3.2.2 Change in the key components of the LCR

7. The 30 banks in the QIS sample that have improved their LCR the most between 2012Q4 and 2013Q4 LCR have increased their liquid assets (+80%) rather than reduced their outflows (-23%) (Figure 34).

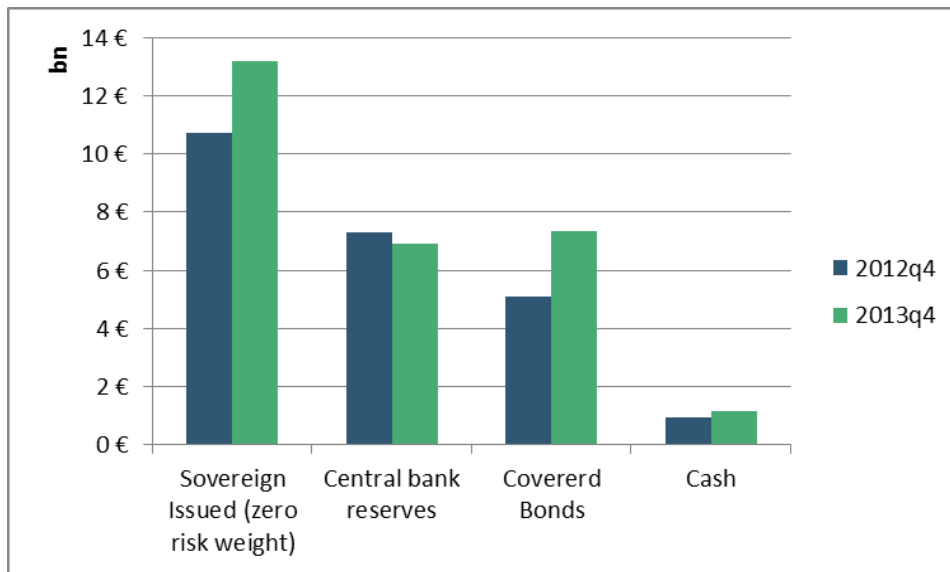
Figure 34: Change in HQLA and NCOF (net cash outflows) for the 30 banks with the most improved LCR



Source: Basel III monitoring exercise, EBA calculation

8. Among the liquid assets, Figure 49 suggests that sovereign bonds and covered bonds have affected the LCR most. Indeed, banks that significantly increased their LCR bought sovereign and covered bonds while their central bank reserves decreased. As a result, compared with December 2012, central bank liquidity has been less of a factor in the improvement of the LCR of EU banks.

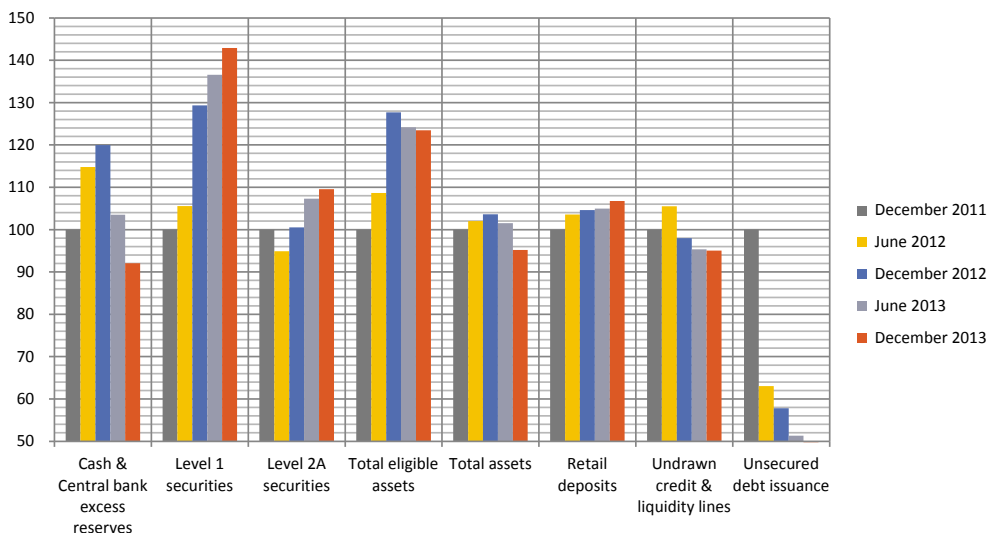
Figure 35: Development of the most relevant HQLA items for the 30 banks with the most improved LCR



Source: Basel III monitoring exercise, EBA calculation

9. Those trends are universally confirmed in the medium term. Figure 36 exhibits a sharp increase of Level 1 assets, mainly due to the implementation of the new calibration of Level 2B assets in June 2013. The stagnation of total eligible assets before applying the relevant factors and the decreasing value of total assets since December 2012, combined with the continued increase in Level 1 assets, indicates that there might have been some degree of asset reallocation during the period.

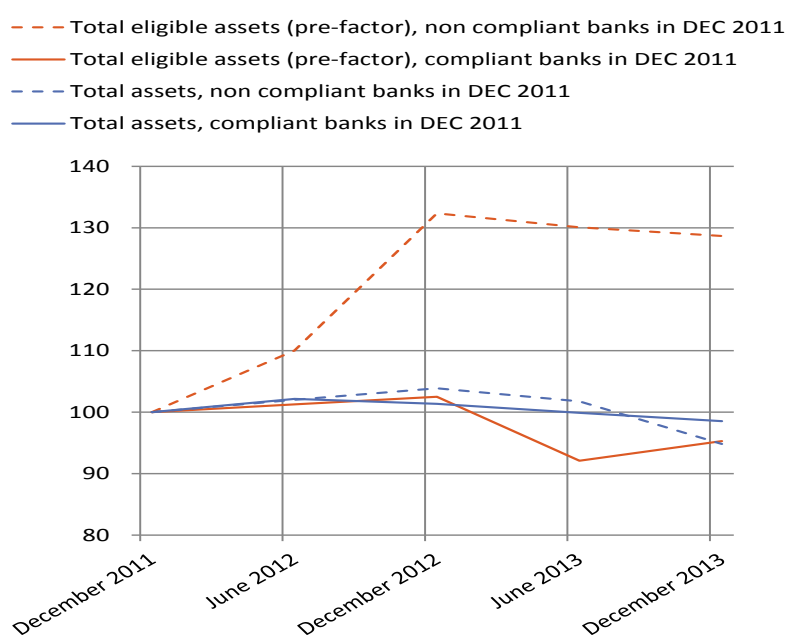
Figure 36: Change in balance sheet items before applying the relevant factors (weights) — base 100 in December 2011



Source: Basel III monitoring exercise, EBA calculation

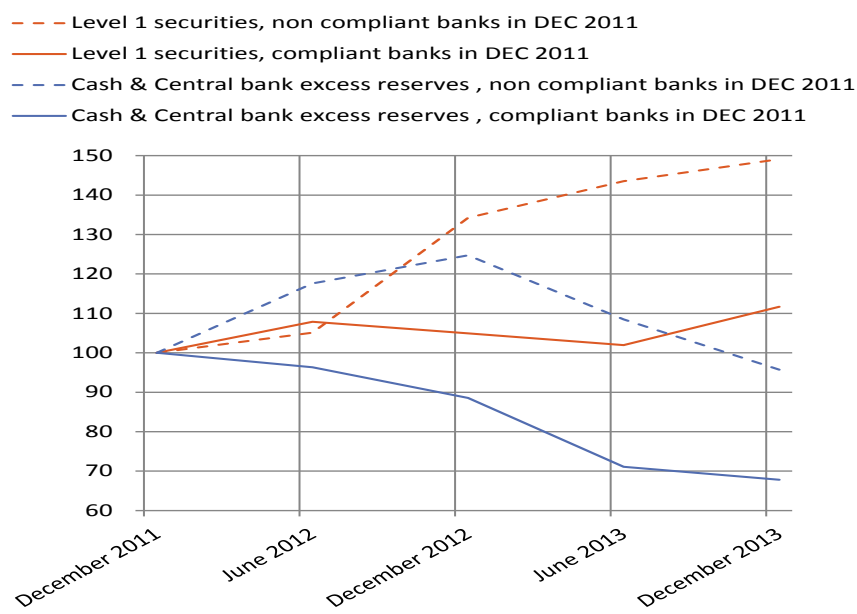
10. The change in assets depends on whether the banks were compliant or non-compliant with the LCR requirements in December 2011 (Figure 37, Figure 38, and Figure 39). While compliant banks exhibit an almost stable level of eligible assets, the non-compliant banks improve their stock of eligible assets significantly. The total assets decreased over the same period. This reallocation could be mainly attributed to the Level 1 assets (base 100 in December 2011, 149 in December 2013 for non-compliant banks at the beginning of the period, 112 for compliant banks). The multivariate analysis of the dynamics of the LCR provided in the section below tests this hypothesis.

Figure 37: Change in total assets and total eligible assets by distinguishing between LCR compliance/non-compliance in December 2011, base 100 in December 2011



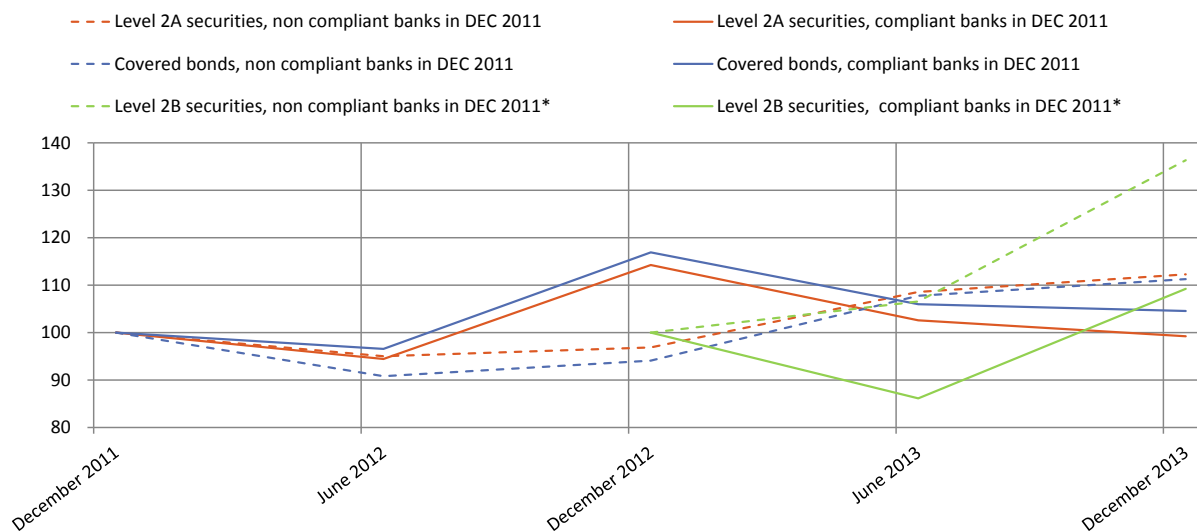
Source: Basel III monitoring exercise, EBA calculation

Figure 38: Change in Level 1 assets by distinguishing between LCR compliance/non-compliance in December 2011, base 100 in December 2011



Source: Basel III monitoring exercise, EBA calculation

Figure 39: Change in Level 2 assets by distinguishing between LCR compliance/non-compliance in December 2011, base 100 in December 2011



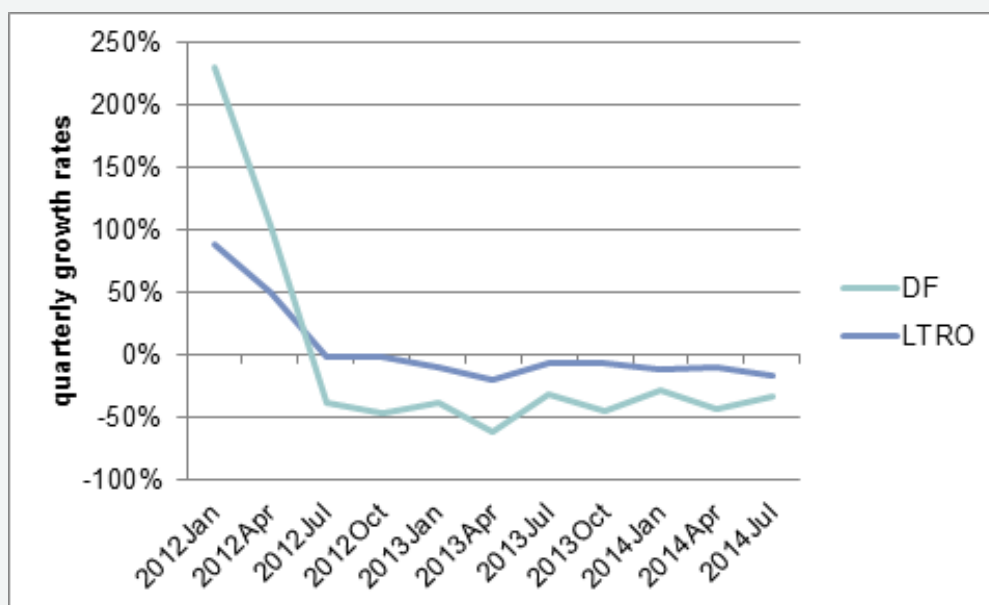
Source: Basel III monitoring exercise, EBA calculation



### Focus 1: Impact of phasing out the vLTROs on the LCR

The banks' adjustments to the LCR might have been constrained by the phasing out of some of the Eurosystem's vLTROs. The two vLTROs conducted in December 2011 and February 2012 can, in principle, be repaid early from one year after allotment onwards.

Change in the outstanding amount of vLTROs



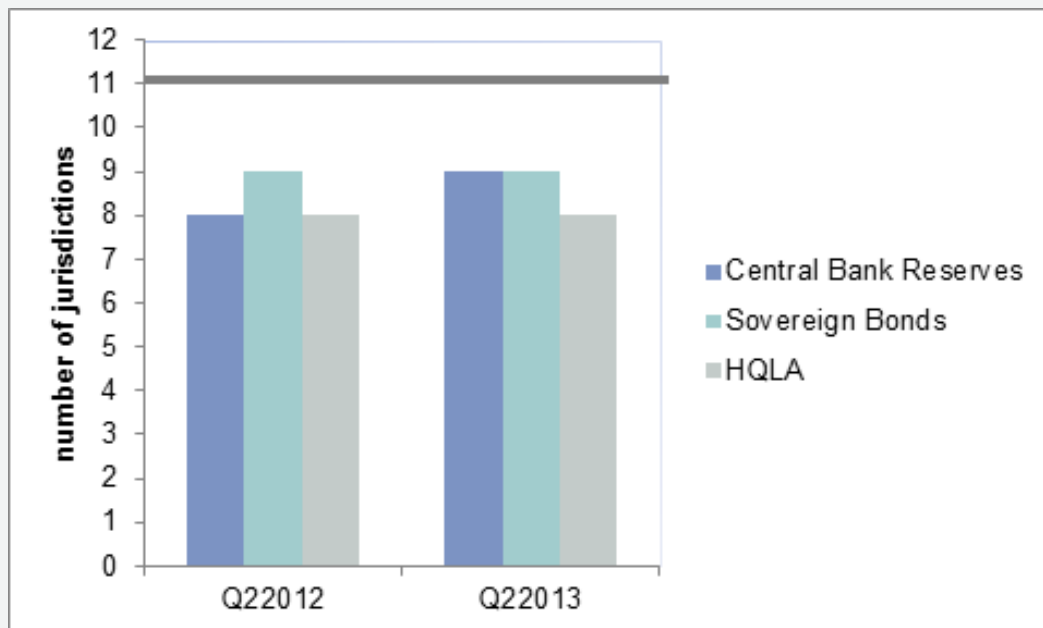
Source: ECB

Since 2013Q1, the outstanding amount of funds from LTROs has shrunk on average by around 12% per quarter. Analysis of publicly available data from the Eurosystem's balance sheet shows a close match between the Eurosystem's outstanding LTROs and credit institutions' recourse to the deposit facility. Since the introduction of 3-year LTROs, the amount outstanding and credit institutions' recourse to the deposit facility have moved into the same direction in all quarters, the correlation coefficient between these two series being close to one. Analysis by the ESB indicates that credit institutions using the vLTROs partly deposited the funds allotted overnight with the Eurosystem. The phasing out of 3-year LTROs and the matching decline in banks' funds at the deposit facility are shown to constrain credit institutions' adjustments and negatively affect their LCR levels.

To analyse the potential effect of the Eurosystem's vLTROs on euro area credit institutions' liquidity positions in more detail, the relationship between the developments of both series over time can be analysed using ISG data. That data set includes several balance sheet items relevant to the HQLA definition of the LCR. Data is available at a half-yearly frequency and can be broken down by country<sup>26</sup>. To facilitate the time series analysis, a consistent sample from 2011Q4 onwards is constructed.

<sup>26</sup>Sample countries include Austria, Belgium, France, Germany, Ireland, Italy, Luxemburg, Malta, the Netherlands, Portugal and Spain.

## Co-movement between the outstanding amount of vLTROs and selected assets



Source: Basel III Monitoring exercise.

The graph above shows the directional co-movement — the number of countries in which the evolution of the LTROs outstanding moves in the same direction as the stocks in selected asset classes — of the Eurosystem’s LTRO and selected assets on credit institutions’ balance sheets. The second vLTROs allotted in the first half of 2012 were eligible for early repayment one year after allotment, e.g. in the first half of 2013. In the period of the Eurosystem’s liquidity provision (2012Q2) by means of vLTROs, credit institutions in 8 out of 11 euro area countries included in the sample increased their stocks of HQLA, in particular by purchasing sovereign bonds and posting funds (e.g. using the deposit facility) at euro area central banks. By contrast, in 2013Q2 when banks exercised the option to repay the funds requested in the second vLTROs early, the credit institutions’ HQLA positions declined in 8 out of 11 countries. As a preliminary result, the directional analysis indicates that funds provided by the Eurosystem via the second vLTROs might partly have been used to increase banks’ LCR, for instance by purchasing sovereign bonds and building up the banks’ reserves at the central banks. At the same time, coinciding with the exercise of the early repayment option, credit institutions in a large majority of the countries included in the sample decreased their stock of HQLA, in particular by selling (or maturing) sovereign bonds and withdrawing funds placed at central banks.

### 3.3 Balance sheet drivers of the LCR

11. For December 2013, the sample exhibits strong correlations between balance sheet items and the LCR, particularly for items eligible as sovereign securities. Unsurprisingly, Level 1 sovereign securities are held by compliant banks in greater proportion on average than non-compliant ones.

Figure 40: Relationship of HQLA sovereign securities as % of total assets to the level of LCR (vertical axis), as of December 2013

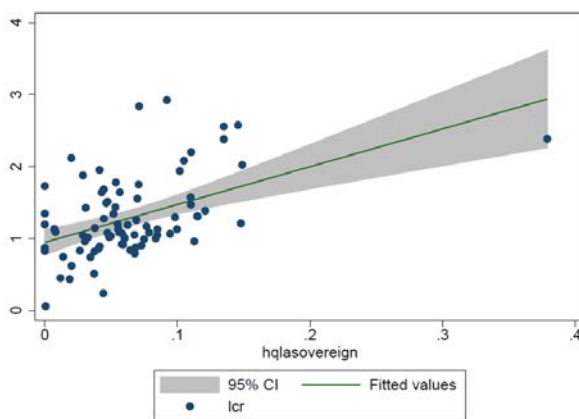
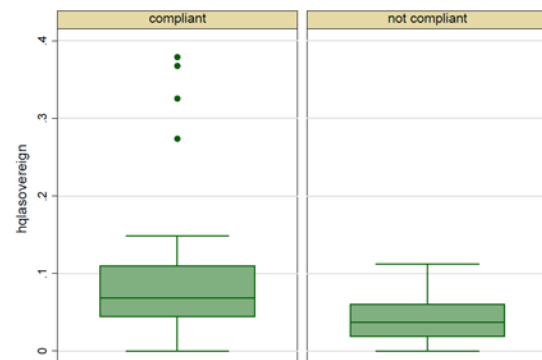


Figure 41: Sovereign Level 1 securities as % of total assets by LCR compliance status, as of December 2013



Source: Basel III monitoring exercise, EBA calculation

12. The proportion of retail deposits on the liabilities side is also different depending on the status of compliance at the December 2013 reporting date, with a slight but noticeable correlation between this proportion and the LCR level. The following figures show the positive link between retail deposits and the degree of compliance with the LCR.

Figure 42: Relationship of retail deposits as % of total assets to the level of LCR (vertical axis), as of December 2013

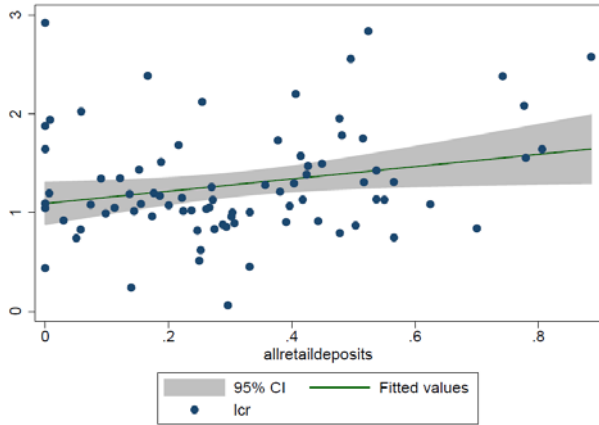
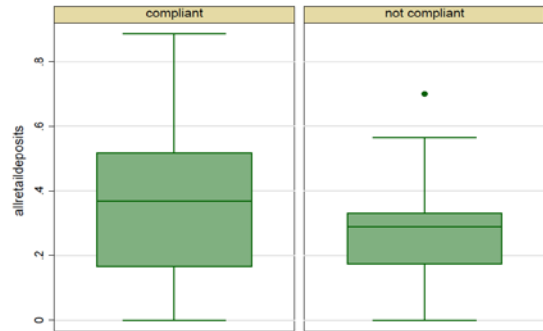


Figure 43: Retail deposits as % of total assets by LCR compliance status, as of December 2013



Source: Basel III monitoring exercise, EBA calculation

13. In terms of lending activity, the lower the level of lending to non-financial corporates (SMEs included), the higher the LCR.

Figure 44: Relationship of loans to non-financial corporates as % of total assets to the level of LCR (vertical axis), as of December 2013

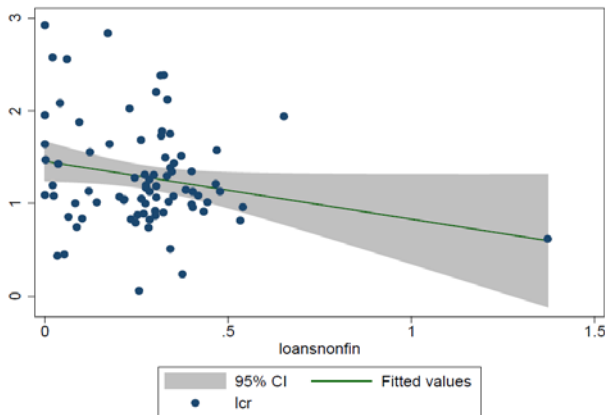
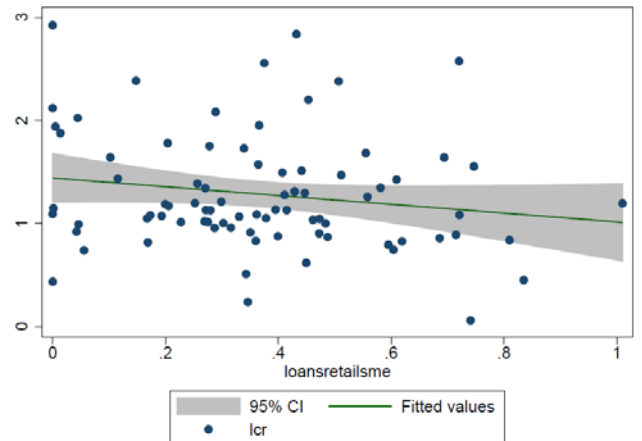


Figure 45: Relationship of loans to SMEs as % of total assets to the level of LCR (vertical axis), as of December 2013



Source: Basel III monitoring exercise, EBA calculation

14. The following two figures confirm the structural difference in lending to non-financial corporates (SMEs included), depending on the LCR compliance status.

Figure 46: Loans to non-financial corporates as % of total assets by LCR compliance status, as of December 2013

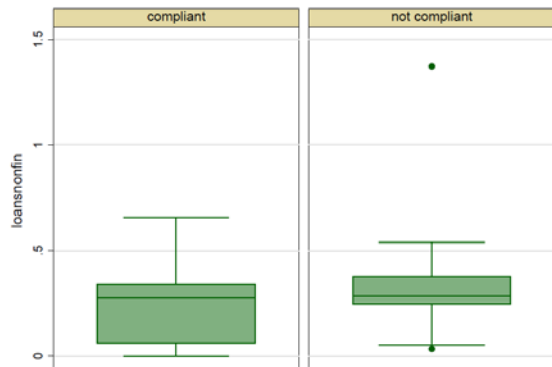
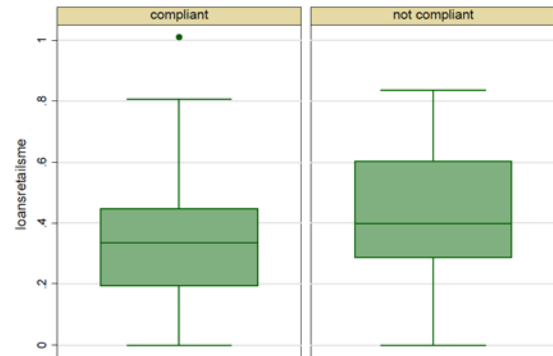


Figure 47: Loans to non-financial corporates as % of total assets by LCR compliance status, as of December 2013



Source: Basel III monitoring exercise, EBA calculation

### 3.4 Banks' adjustment strategies

15. The first report submitted to the Commission at the end of December 2013 listed a series of strategies that banks were likely to adopt to adjust to the LCR requirements. However, the scarcity of data did not facilitate a high degree of conclusiveness on whether banks use these strategies in reality. Given the additional points up to December 2013, the updated analysis contained is expected to provide some new insight.
16. In this subsection, we aim to identify through quantitative tools the balance sheet items that are used by banks to drive the LCR, therefore referred to as 'drivers of the LCR'. We consider it reasonable to state that a balance sheet item is a driver of the LCR if it is found to be significantly correlated to the LCR, meaning that banks use this item as a tool to reach the desired LCR.
17. The first report identified seven adjustment strategies, classified according to their relation to assets and/or liabilities.

Table 17: Adjustment strategies identified in the 2013 report

Balance sheet	Strategy	
Assets	Reallocation	Sell non-liquid assets, buy liquid assets
	Maturity shortening	Shorten the average remaining maturity of assets by selling the long-maturity assets and buying shorter-maturity assets
	Committed lines	Reduce committed lines
Liabilities	Maturity lengthening	Lengthen funding maturities by raising funds from long-maturity sources and reducing reliance on short-maturity sources
	Deposits	Increase retail deposits
Assets & liabilities	Deleveraging	Sell non-liquid assets to pay down short-term liabilities
	Leveraging	Issue long-term wholesale debt to buy liquid assets

#### 3.4.1 Variables

18. The variables that have been used for this analysis are balance sheet variables stemming from the LCR, NSFR and LR reporting templates that have been used by the ISG. They belong to three distinct categories: HQLA, funding and financing. These variables have been designed to proxy the main balance sheet elements, with special attention given to the activities outlined in Article 509 of the CRR<sup>27</sup>. For the sake of conciseness, the whole list of variables tested is reported in the Appendix of Section 3. Only the variables feeding significantly into the analysis are reported in the main text.

<sup>27</sup> Article 509 of the CRR mentions explicitly trade finance and SME lending as activities that require special attention.

### 3.4.2 Modelling

19. The rationale of the multivariate analysis is to highlight the determinants of the changes in the LCR, from a bank strategy perspective. Four distinct econometric approaches serve this purpose, i.e. a cross-section OLS regression, a logit based on the independent dummy variable for compliance and two versions of first-difference-panel regression.
20. For each approach, the whole range of initial variables (Appendix of Section 3) is tested under Stata® using a stepwise procedure (backwards), i.e. a procedure where all the variables are originally included into the model and eliminated one by one according to their level of significance. The least significant, in terms of the t-test, is rejected first. This leads to the regressions reported in Table 18. The independent variables are normalised by total assets, and expressed in percentage points of change across the period.
21. The first approach involves a cross-section OLS regression of the variable  $\partial LCR$ , which is the first difference of the LCR between the December 2013 LCR and the December 2012 LCR. It is meant to capture the drivers of change in the LCR during the year 2013. The sample includes 114 banks.
22. The second approach consists of a logit based on the independent variable  $TransCompLCR$ , a dummy which takes the value 1 for a bank that was not compliant to the level of 100% in December 2012 and became compliant in December 2013, with the value otherwise being 0. Therefore, the significant variables are deemed to lead the dynamics towards compliance during the year 2013 for banks that achieved compliance during the period (nine banks). The sample includes 114 banks.
23. The third approach involves a random effect panel structure that uses the variable  $\Delta LCR$  as a regressor based on five points in time from December 2011 to December 2013 (t=4 as variables are first-differenced). This variable is calculated as  $LCR_t - LCR_{t-1}$ , according to the 2010 calibration of the LCR<sup>28</sup>. This regression structure is meant to exhibit the dynamic relation between the LCR and balance sheet items, taking into account both the individual effect and the time perspective. The sample includes 103 banks across four periods.
24. The fourth approach also involves a random effect panel structure using variable  $\Delta LCR$  as a regressor based on five points in time from December 2011 to December 2013 (t=4 after taking the variable in first difference), and with a systematic interaction with a dummy variable  $LCRcomp_{DEC2011}$  based on compliance with the LCR at the beginning of the period (December 2011). In terms of structure, it converges with the third approach, but complements it by differentiating between banks that were/were not initially compliant. Therefore, it allows the drivers of the LCR for banks that were not compliant to be identified, as well as the drivers

<sup>28</sup> To avoid any 'false positive' adjustment effect, the 2010 calibration serves as a reference, as it is not possible to perform the 2013 calibration backwards due to a lack of data.

for banks that were already compliant at the beginning of the period. The sample includes 100 banks across four periods.

Table 18: Regression coefficients<sup>29</sup>

		1 <sup>st</sup> approach	2 <sup>nd</sup> approach	3 <sup>rd</sup> approach	4 <sup>th</sup> approach	
		$\partial LCR$	<i>TransCompLCR</i>	$\Delta LCR$	$\Delta LCR$ given non-compliance in DEC 2011	$\Delta LCR$ given compliance in DEC 2011
HQLA	$\Delta$ Central bank excess reserves		47.26 ***		10.27 **	2.93
	$\Delta$ Covered bonds			42.10 ***	-3.26	78.17 ***
FUNDING	$\Delta$ Fixed-term retail deposits (< 30 days)	10.35 **				
	$\Delta$ Unsecured debt issuance			-22.95 **	-9.91	-45.27 ***
	$\Delta$ Ratio of <i>operational wholesale deposits</i> / <i>wholesale deposits</i>				0.18	1.42 **
FINANCING	$\Delta$ Lending > 1 year, excl. financial corporates, residential mortgages and RW > 35%		22.65 **			
	$\Delta$ Exposure to retail and SME			-4.38 **		
MODEL	Constant	0.25	-3.00 ***	0.11 ***	0.08	
	Observations <sup>30</sup>	114i	114i	412 = 4t x 103i	400 = 4t x 100i	
	Prob > F or Prob > chi2 (logit, panel)	0.00	0.00	0.00	0.00	
	Adj R-squared, pseudo R-squared (logit) or overall R-squared (panel)	0.03	0.27	0.08	0.21	

\*, \*\*, and \*\*\* denote a level of significance greater than 90%, 95% and 99% respectively.

Source: Basel III monitoring exercise, EBA calculation

25. The four approaches are complementary, with each model offering a different perspective on the same data, although it is acknowledged that approaches 3 and 4 provide more information than approaches 1 and 2 — which were mostly conducted for the purposes of comparison with the first report. This is reflected in the subsequent conclusions.

<sup>29</sup> Most of the explanatory variables are in first difference, therefore preceded with the 'Δ' symbol.

<sup>30</sup> i stands for the number of individuals in the sample, t for the number of periods.



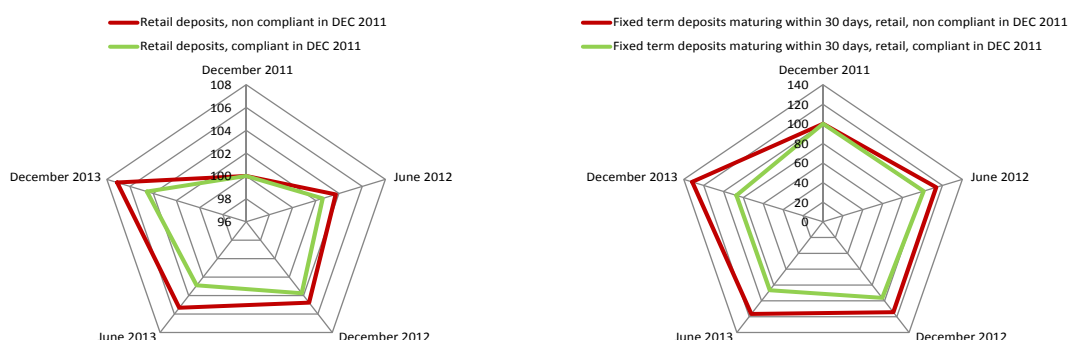
### a. HQLA items

26. The central bank excess reserves<sup>31</sup> are a strong determinant of the LCR between December 2012 and December 2013. Their level of significance is high when other eligible assets do not appear among the determinants, except for covered bonds holdings that exhibit some determining power on the whole period starting December 2011. Therefore, it is clear that central bank excess reserves have played a significant role in the LCR dynamics in 2012 and 2013, particularly for banks that were not compliant at the end of 2011.
27. The change in Level 1 securities shows a significant upward trend throughout the period, to 129 in December 2012 and 143 in December 2013 from the base of 100 in December 2011. This momentum is exacerbated for non-compliant banks in December 2011. However, the dynamics of Level 1 securities do not exhibit a significant correlation with the LCR, which strengthens the assumption that the increase in Level 1 holdings is not necessarily LCR-related but most likely linked to a de-risking strategy, unlike central bank excess reserves that have been proven to drive LCR dynamics.
28. With regard to covered bonds, the positive relation between LCR and covered bonds holds particularly true for banks that were compliant at the beginning of the period. The assumption that covered bonds served as a tool to drive the LCR seems to hold weight, which might be enhanced by the distance to the Level 2 cap that most banks experience. The publication of the DA, which strengthens the role of covered bonds in the liquidity buffer, is not likely to affect the attractiveness of these assets.

### b. Funding variables

29. Retail deposits, (in particular fixed-term retail deposits) show some positive relation to the LCR: banks that managed to increase their volumes of fixed-term retail deposits during 2013 have increased their LCR by doing so. This link is tangible also in the comparison of the change in retail deposits depending on the compliance status in December 2011.

Figure 48: Retail deposits, by LCR compliance in December 2011, base 100 in December 2011

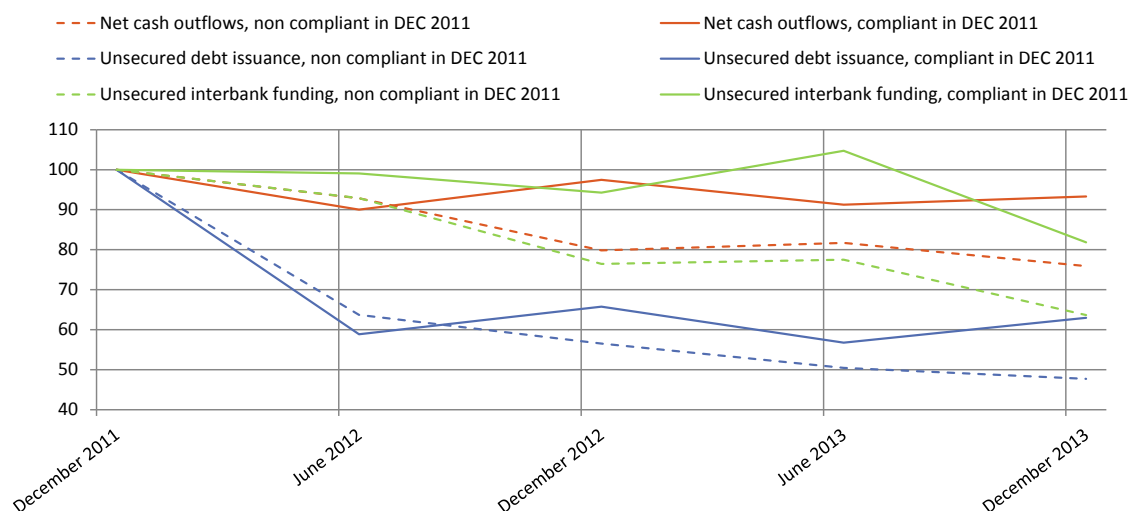


Source: Basel III monitoring exercise, EBA calculation

<sup>31</sup> The central bank excess reserves refer to the portion of central bank reserves that can be drawn in times of stress.

30. Unsecured debt issuances appear to be negatively and significantly correlated with the LCR, which weakens the assumption that banks would adopt a leveraging strategy based on debt issuance to purchase eligible assets. However, non-compliant banks indeed do not exhibit any strong link between the LCR and unsecured debt issuance. In other words, the significant negative correlation between the LCR and unsecured debt issuance for compliant banks in December 2011 indicates that these banks have chosen to use the proceeds for something other than 100%-LCR-weighted assets, which is not the case for non-compliant banks as they do not exhibit any significant negative (nor positive) correlation between unsecured issuances and their LCR.
31. Non-compliant banks in December 2011 do follow a pattern of a decrease in outflows, through a lower level of unsecured debt issuance as well as a reduced reliance on interbank funding. Interbank funding, though, does not materialise as a driver of the LCR in the set of regressions, but the comparison of the change in interbank funding by compliance status in December 2011 presents some explicit evidence showing that non-compliant banks termed out interbank funding more than compliant banks did.
32. The dynamics of paid-in capital have been tested as well, as the issuance of new capital maximises mechanically the positive impact of all other regulatory ratios. The relation between paid-in capital and LCR has not proved significant though. It stands at the fringe of significance for the fourth approach, but with a negative coefficient. If significant, this negative relation would invalidate the hypothesis that banks used that strategy to increase their degree of compliance with the LCR. The analysis has not uncovered any evidence that banks have used this strategy to increase compliance.
33. The ratio of stability, defined as the proportion of retail deposits considered stable (up to 10% of run-off rate, 10% excluded) over the total retail deposits, is not significant in any regressions. Consequently, there is no overall evidence to suggest that banks have used the notion of stability of retail deposits to increase their level of LCR.
34. The ratio of operational wholesale deposits, defined as the proportion of wholesale deposits that fall under the restrictive operational definition over the total of wholesale deposits, appears to have a positive and significant link with the change in LCR, but only for compliant banks at the beginning of the period. This means that banks that were compliant at the beginning of the period used the operational criteria to drive their level of LCR.

Figure 49: Funding items, by compliance in December 2011, base 100 in December 2011



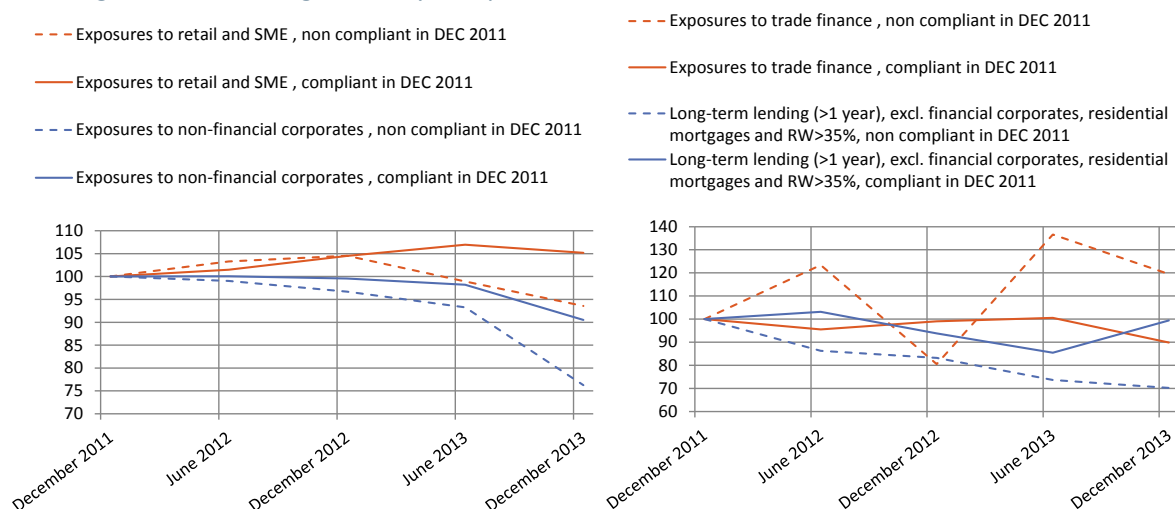
Source: Basel III monitoring exercise, EBA calculation

### c. Financing variables

35. Among the robust conclusions regarding the financing variables, the negative interaction between the LCR and exposure to retail and SME strengthens the theory that a reduction in lending to these segments is related to an increase in the LCR. This statement could be challenged by the fact that the economic environment has created the conditions for a decrease in demand for credit proceeding from these counterparties. However, the decrease in terms of exposure to retail and SME for banks that were not compliant in December 2011 relative to an increase for banks that were compliant shows that the LCR may have impacted banks' strategy towards these counterparties, as well as non-financial corporates.
36. Article 509 of the CRR explicitly mentions trade finance as a point of interest. In no way does this activity seem to have been affected by the introduction of the LCR. Neither the regressions nor the descriptive statistics show any link between the LCR and trade finance exposure.
37. Due to the structure of the LCR, long-term lending (> 1 year)<sup>32</sup> could have been expected to be affected to some extent. While this seems to be confirmed by the comparison of long-term lending (> 1 year) according to the compliance status in December 2011, the link appears to be significantly positive in the regressions above, when it was expected to be negative, meaning that long-term lending (> 1 year) is found to have a positive impact on the transition to compliance in 2013. These two contradictory elements do not allow us to reach any strong conclusions regarding the use of long-term lending (> 1 year) as a strategic tool to drive the LCR.

<sup>32</sup> Long-term lending refers here to lending that has a residual maturity greater than one year.

Figure 50: Financing items, by compliance in December 2011, base 100 in December 2011



Source: Basel III monitoring exercise, EBA calculation

### 3.4.3 Key findings

38. The strategies defined in the introduction of this section are modified slightly to take into account the developments allowed by the multivariate analysis.

Table 19: The adjustment strategies, as uncovered by the multivariate analysis

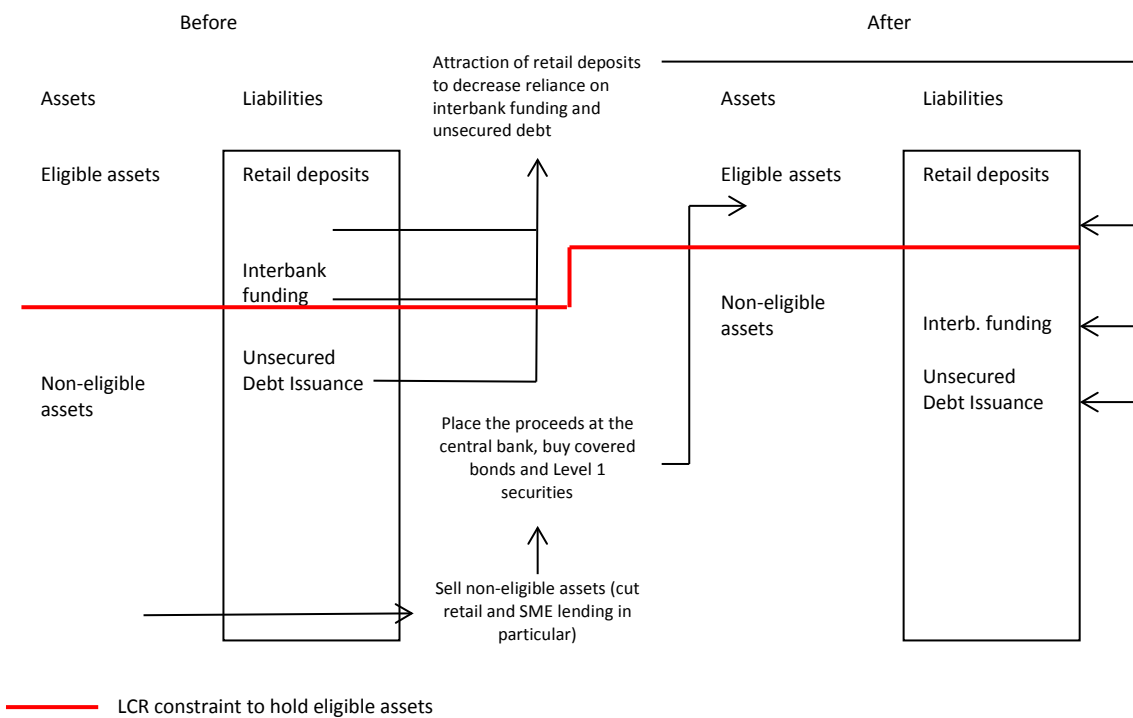
Balance sheet		Strategy	Degree of evidence of implementation uncovered by the multivariate analysis	
Assets	Reallocation of assets	Sell/cut non-eligible assets to place the proceeds at the central bank and/or purchase eligible assets	High	*****
	Maturity shortening	Shorten the average maturity of assets	None	*
Liabilities	Maturity lengthening	Lengthen funding maturities	None	*
	Reallocation of liabilities	Swap unsecured debt (-) and interbank funding (-) with retail deposits (+)	Medium	***
Assets & liabilities	Deleveraging	Sell/cut non-eligible assets to pay down short-term liabilities	Low	**
	Leveraging	Issue long-term wholesale debt or capital to buy liquid assets	Low	**

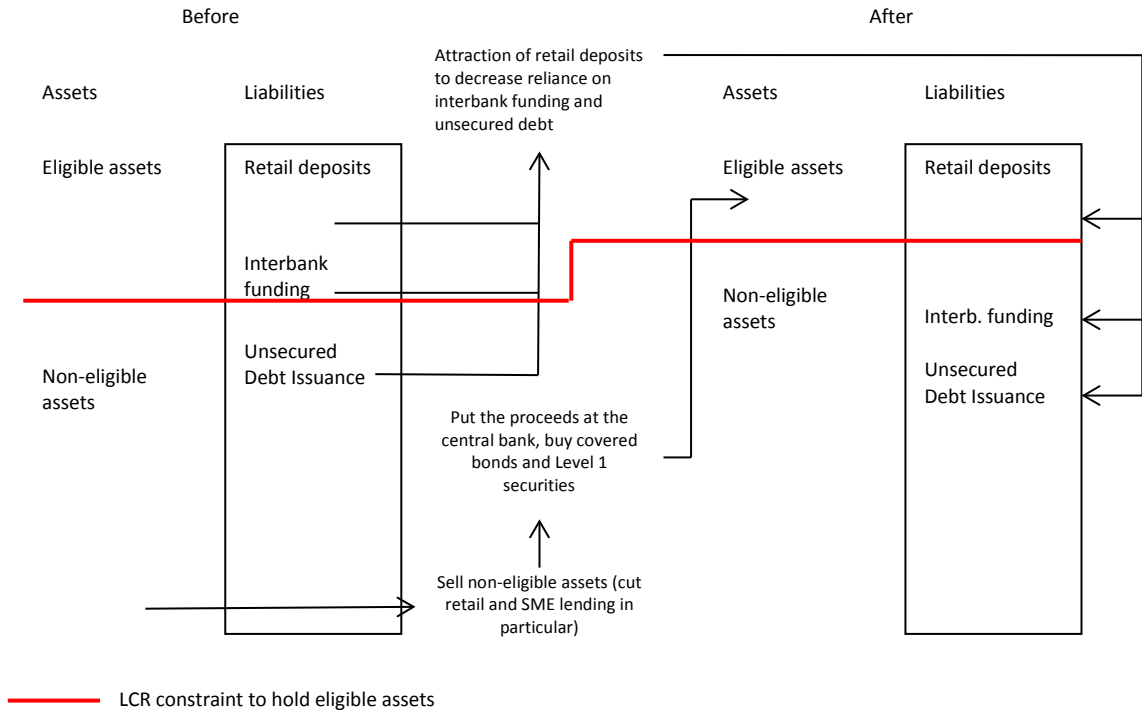
39. The multivariate analysis shows that banks used a variety of means to comply with the LCR requirements, which could be summarised into two distinct strategies of reallocation, on the assets side and on the liabilities side.

- Reallocation of assets:

- i. in favour of eligible assets to comply with the LCR, primarily through central bank deposits, but also through covered bonds and, to a lesser extent, Level 1 securities;
  - ii. at the expense of the financing of retail and SME counterparties.
- Reallocation of liabilities:
  - i. in favour of retail deposits;
  - ii. at the expense of unsecured debt issuances while lowering the reliance on interbank funding.

Figure 51: Balance sheet adjustments under the LCR constraint, as uncovered by the multivariate analysis





## 4. Interactions between the LCR and other regulatory ratios (NSFR, LR and capital ratios)

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### 4.1 Section summary

#### 4.1.1 Objectives

- In the previous LCR IA, the analysis of the interactions between the LCR and the other regulatory ratios focused mainly on capital. The main purpose of this new section is to:
  - Explain how the LCR interacts with the other minimum regulatory ratios (risk-based minimum capital ratios [CRs], LR and NSFR).
  - Examine how compliance with the LCR and with the other regulatory ratios has changed over the last two years.
  - Identify what the impact of adjustments made by non-compliant banks to meet the LCR would be, and the effect of these adjustments on the other regulatory ratios at group, business model and country level.

#### 4.1.2 Methodology

- This section contains two parts:
  - A brief description of the regulatory ratios and their interactions as well as the current state of compliance of all banks participating in the EBA voluntary exercise. The analysis uses descriptive statistics to describe the change in the regulatory ratios over the last two years.
  - A quantitative analysis evaluating how, in each banking group and business model category, the different strategies for balance sheet adjustments to comply with the LCR may affect the other regulatory ratios. This analysis is based on case studies carried out at individual bank level for non-compliant banks and the results are aggregated at group, business model and country level.

#### 4.1.3 Key findings

At aggregate level, there is no particular evidence to suggest that compliant banks have a higher probability of meeting the other regulatory ratio requirements.

- At a more granular level, it appears that there is only a loose pattern in the sample to

indicate that compliance with the LCR and compliance with the capital and leverage ratios could be related. It has also been observed that the shortfall in LCR and the shortfall in NSFR often happen at the same time.

- At aggregate level, the net shortfalls for the NSFR, LR and LCR decreased radically between 2012 and 2013. An excess of HQLA has been observed in 2012H2 and an excess of ASF and T1 in 2013H2. The decrease in the net shortfall for all ratios is due to both the reduction of shortfalls for the new compliant banks and the build-up of even greater excesses by compliant banks (excesses three to five times higher than 2011H2). These two effects are observed in all countries and for all business models. As highlighted earlier, it cannot be identified to which extent these variations are due to changes in the definition or from changes in the balance sheet.
- How the NSFR, CET1 and leverage ratios would change if all 27 non-LCR compliant banks in the sample followed some of the strategies identified in the previous section to meet their minimum LCR requirements was also examined. The analysis was conducted at individual bank level; however, the report shows the impact of the adjustments at bank group, business model or country level (the impact on the aggregated ratio of the category observed, i.e. a weighted average of all the banks included in the category).
- It was found that, for all strategies, the impact is either positive or null (except for the LR when leveraging with debt). However, at group, business model or country level, this positive impact on the other regulatory ratios is generally not large. This is because the shortfall in HQLA of the non-compliant banks is often relatively small compared to the stock of existing CET1, T1 and ASF.
- The EBA LCR IA conducted last year found that other prudential requirements did not constitute a constraint on banks' adjustments in relation to the LCR. The conceptual analysis of the interaction with other prudential requirements included in last year's report found positive complementarities between the prudential requirements in the CRR. The results of this year's interaction analysis are in line with last year findings. They show that, on average, because most firms are already compliant with the LCR, the future adjustment of non-compliant banks to meet the LCR requirements is likely to have only a small positive impact on the average CET1, leverage and NSFR of most business models and countries.

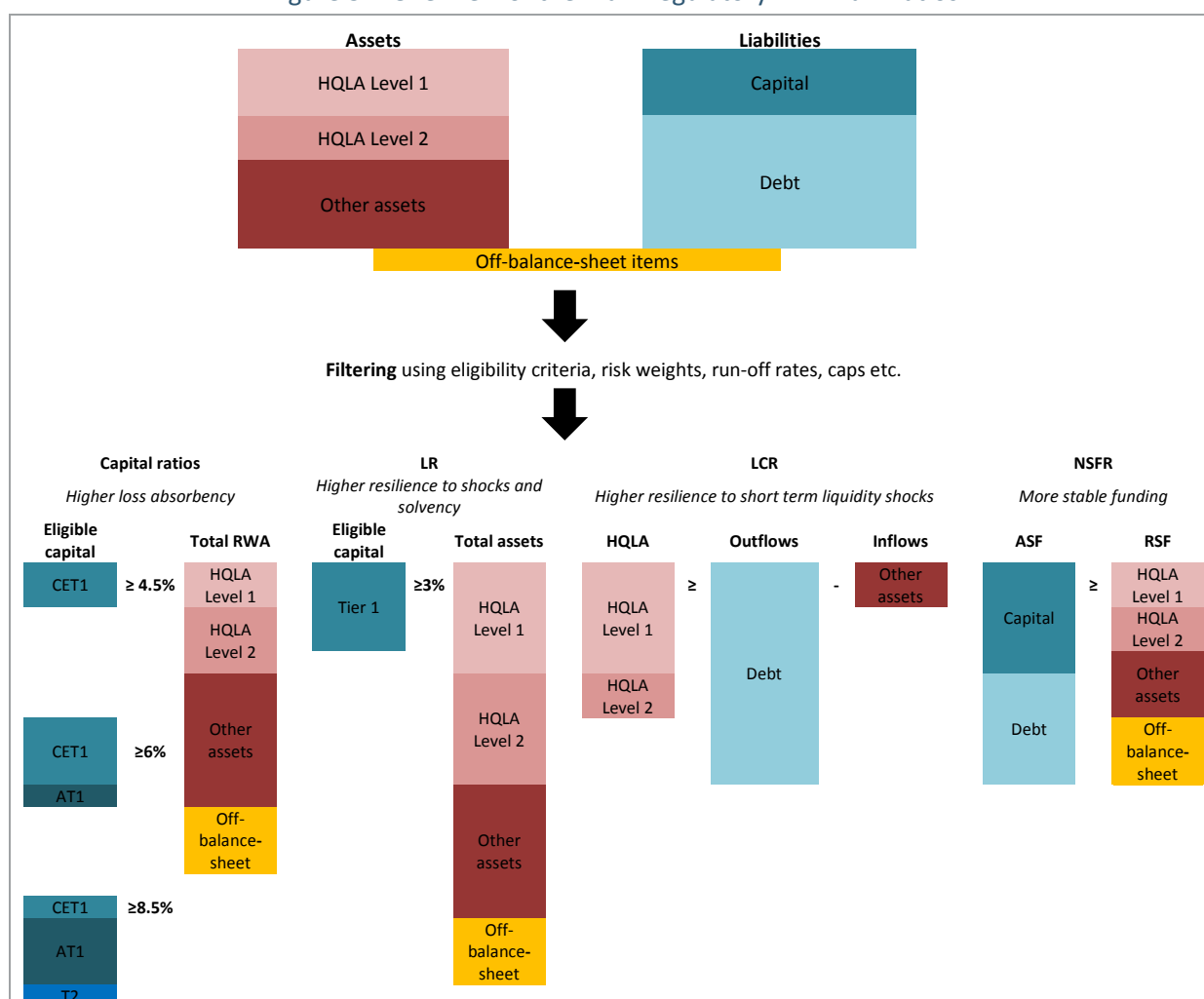


## 4.2 Change in compliance between LCR and the other ratios

### 4.2.1 General remarks

1. All regulatory minimum ratios are based on the same mechanism: they create a constraint on a bank's balance sheet by requiring a bank to hold a minimum proportion of a balance sheet aggregate relative to another one. These constraints have been introduced to reduce banks' incentives to have balance sheet structures that may reduce banks' resilience to shocks and threaten financial stability.
2. Figure 52 provides a short description of the purpose and calculation of each ratio, and shows which part of the balance sheet is targeted.

Figure 52: Overview of the main regulatory minimum ratios



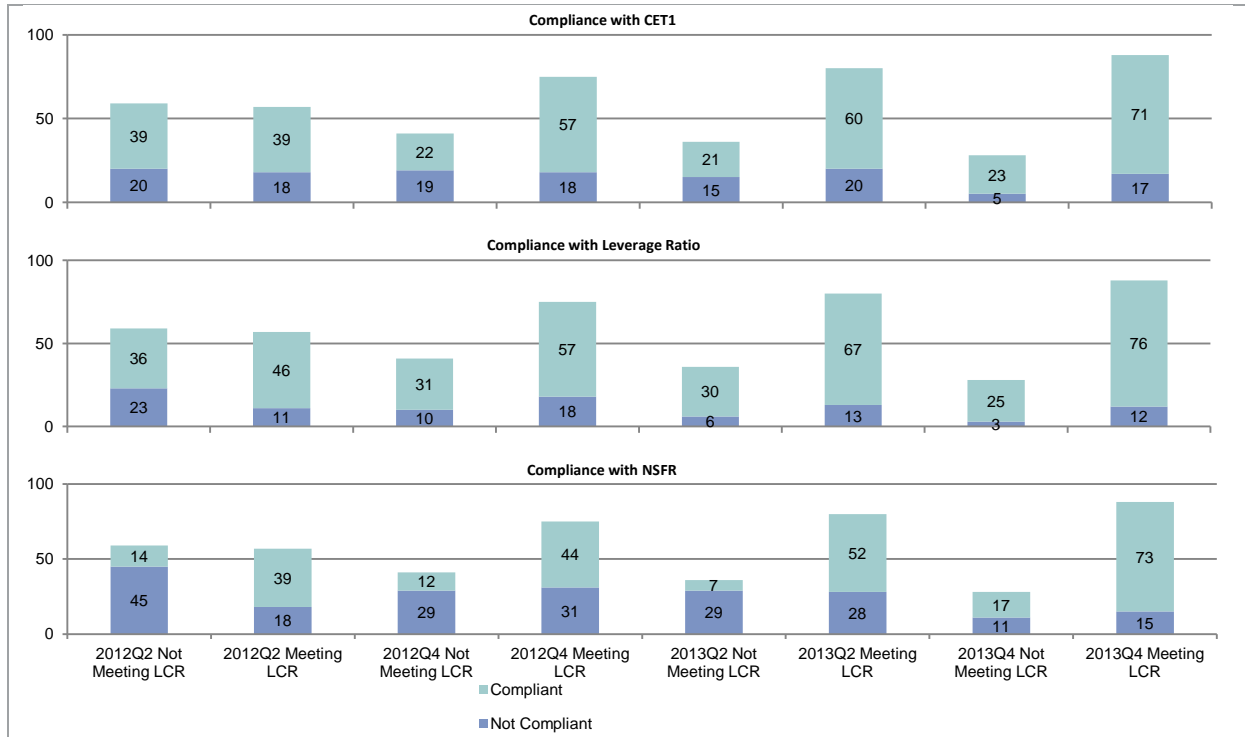
3. The CRs, LR and NSFR are very similar in their definition as they are calculated as eligible equity/liability over assets. The LCR is slightly less straightforward, being defined as liquid assets over 'flows' derived from some of the other assets and liabilities held in the balance sheet.
4. From Figure 52 we can already picture how adjusting the balance sheet to meet the LCR may affect the three other ratios. For instance:

- Increasing the amount of eligible high-quality liquid assets by changing the composition of the balance sheet (without changing its size) will improve the position of the bank with regard to the minimum capital requirements (due to the decrease in RWA, as L1 HQLA have lower RWA than L2 HQLA) and the NSFR ratio (due to the reduction in RSF as Level 1 HQLA have a lower factor than Level 2 HQLA). The LR will not change as the size of the balance sheet and the amount of Tier 1 held will not change.
- Increasing HQLA and funding this through equity will improve the capital position of the banks and the banks' NSFR ratio (the increase in RSF that follows is much lower than the increase in ASF). The position in terms of the LR will improve as well (the *relative* increase in exposure is much lower than the *relative* increase in equity, so the LR therefore decreases).
- Deleveraging by selling loans and reducing necessary wholesale funding (reducing outflows) will improve the CRs (reduction in RWA), the NSFR (reduction in RSF) and the LR (reduction in exposure).

#### 4.2.2 Whole sample

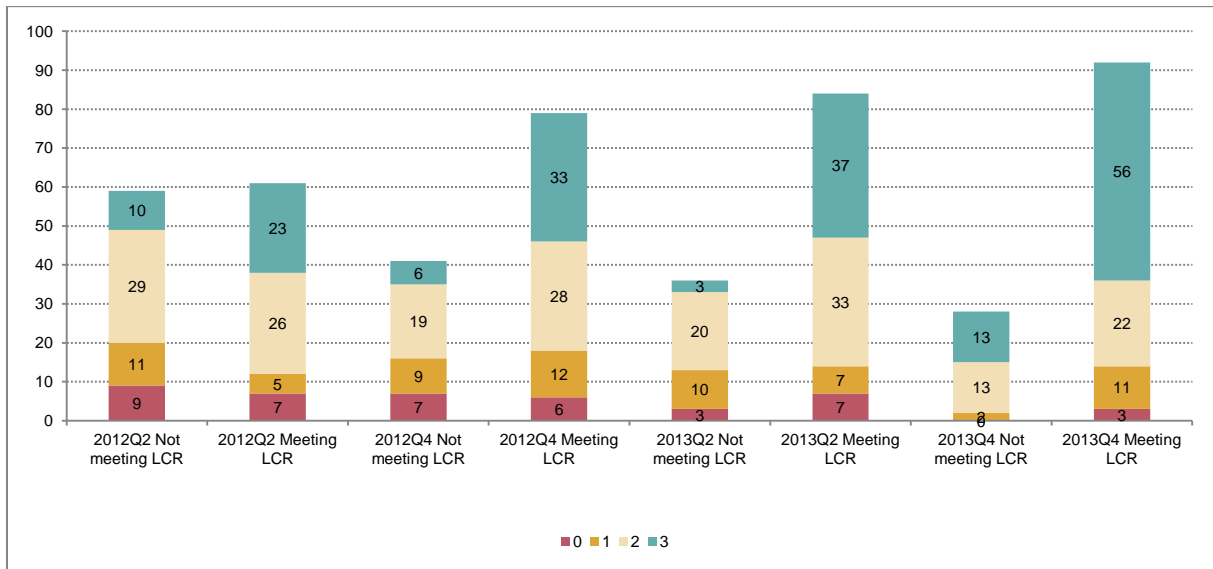
5. In this section, we examine (i) how compliance with the LCR and the other regulatory ratios (as defined at the time of the data collection) changed over time for the banks that reported data for the EBA voluntary exercise, and (ii) whether some business models and countries appear to be further away from (or closer to) achieving compliance with the minimum requirements as defined at the time the data was collected.
6. The results in the sections come from half-yearly reports from a sample of 100 banks, with most of these banks reporting quarterly between 2011Q4 and 2013Q4. One limitation of this analysis is that the definition of the LCR, NSFR and leverage changed over time. Because of this issue, it was not possible to establish in our analysis the extent to which the change in compliance was due to balance sheet adjustments or to changes in the definition. Another limitation in our analysis is due to the fact that the calibration of the ratios used is more similar to the Basel III definition than the European definition for the ratios that are already in place.
7. Figure 53 and Figure 54 show how many other regulatory ratios LCR and non-LCR-compliant banks were meeting in 2012 and 2013. The number of banks meeting the minimum requirements for the LCR increased significantly (only 28 banks were not meeting the LCR in the sample in 2013H2 versus 59 at the beginning of 2012). At sample level, there is no clear pattern between meeting the LCR and being compliant with the other requirements; both banks meeting the LCR and those not meeting the LCR exhibit various state of compliance with the other ratios.

Figure 53: Number of firms complying with regulatory ratios other than the LCR



Source: Basel III monitoring exercise, EBA calculation

Figure 54: Number of banks complying with other regulatory ratios (CET1, LR and NSFR) (0=not compliant with any other ratio, 1=compliant with at least one other ratio etc.)



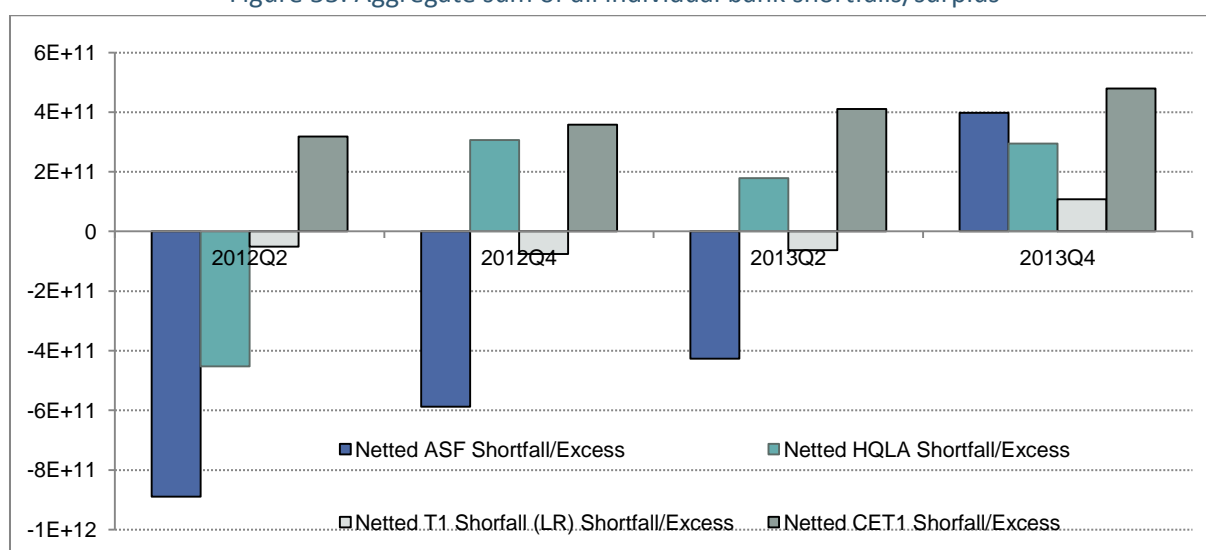
Source: Basel III monitoring exercise, EBA calculation

8. So as to have a better overview of the degree of compliance at sample level, we calculated the shortfall/surplus for each bank with regard to meeting each ratio as follows:

Ratio	Definition of shortfall
CR— CET1	Shortfall in CET1 to cover 4.5% RWA + capital conservation buffer + G-SIFI buffer
CR — T1	Shortfall in T1 to cover 6% RWA + capital conservation buffer + G-SIFI buffer
CR — TC	Shortfall in TC to cover 8% RWA + capital conservation buffer + G-SIFI buffer
Leverage	Shortfall in T1 to cover 3% of eligible exposures
LCR	Shortfall in HQLA to meet a 100% LCR

9. Figure 55 shows the aggregated surplus/shortfall for ratios for the whole sample. For the four ratios examined, the global shortfalls decreased over the last two years. In the sample, the total shortfall of the non-compliant banks could be completely covered by redistributing asset and liquidity across banks.

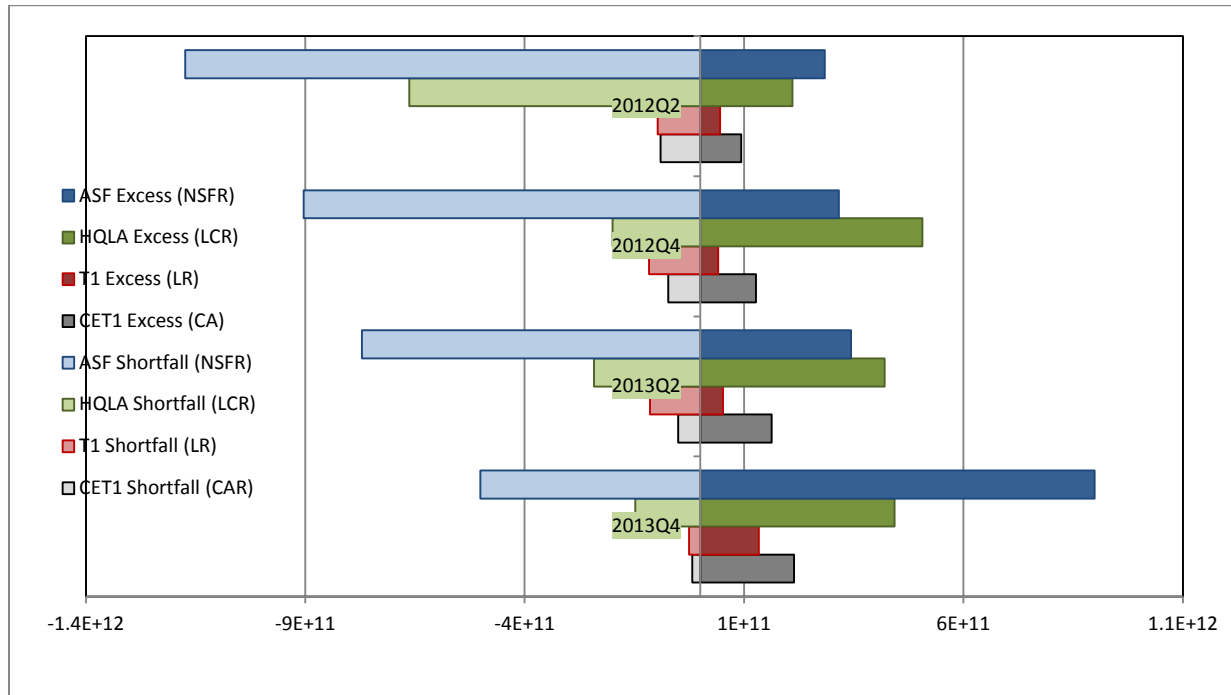
Figure 55: Aggregate sum of all individual bank shortfalls/surplus



Source: Basel III monitoring exercise, EBA calculation

10. Figure 56 below shows the net surplus and net shortfall for each ratio. During that period, non-compliant banks reduced their shortfall and compliant banks continued to build an even larger excess. Similarly, Table 20 shows how much each shortfall and excess has changed since 2011H2 (size of the excess in 2011H2: 100). For each ratio, between 2011H2 and 2013H2, the excess of compliant banks has been multiplied by a factor of between 2 and 5 whereas the shortfall of compliant banks has been divided by a factor of between 2 and 10. The largest shortfall is currently ASF, which is largely expected as the NSFR will not be in place before 2019 and was still being discussed at the BIS in Basel during the period considered.

Figure 56: Aggregate shortfall of all non-compliant banks and aggregate surplus of all compliant banks



Source: Basel III monitoring exercise, EBA calculation

Table 20: Changes in the shortfall and excess for all six ratios (100 = size of the excess of compliant banks in 2011H2)

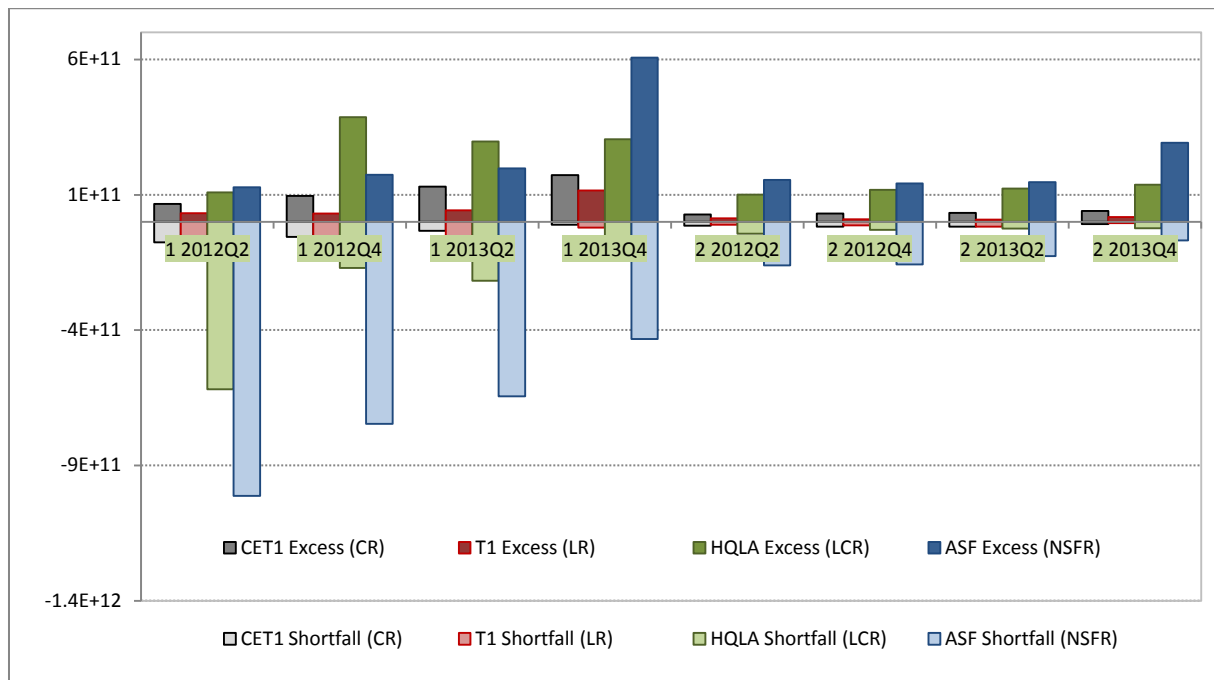
Excess of compliant banks	CET1 (CR)	T1 (LR)	HQLA (LCR)	ASF (NSFR)
2011Q4	100	100	100	100
2012Q2	125	114	175	143
2012Q4	169	102	423	160
2013Q2	218	130	351	174
2013Q4	285	335	370	455
Shortfall of non-compliant banks	CET1 (CR)	T1 (LR)	HQLA (LCR)	ASF (NSFR)
2011Q4	-229	-268	-869	-668
2012Q2	-120	-242	-554	-593
2012Q4	-97	-291	-167	-457
2013Q2	-67	-286	-202	-390
2013Q4	-25	-64	-123	-254

Source: Basel III monitoring exercise, EBA calculation

### 4.2.3 Group

11. Figure 57 shows the distribution of the shortfall and excess between Group 1 and Group 2 banks. For all ratios, most of the shortfall comes from Group 1 banks. Over the last two years, compliant banks have built up an excess that compensates for the shortfall of non-compliant banks.

Figure 57: Aggregate shortfall of all non-compliant banks and aggregate surplus of all compliant banks by group of banks

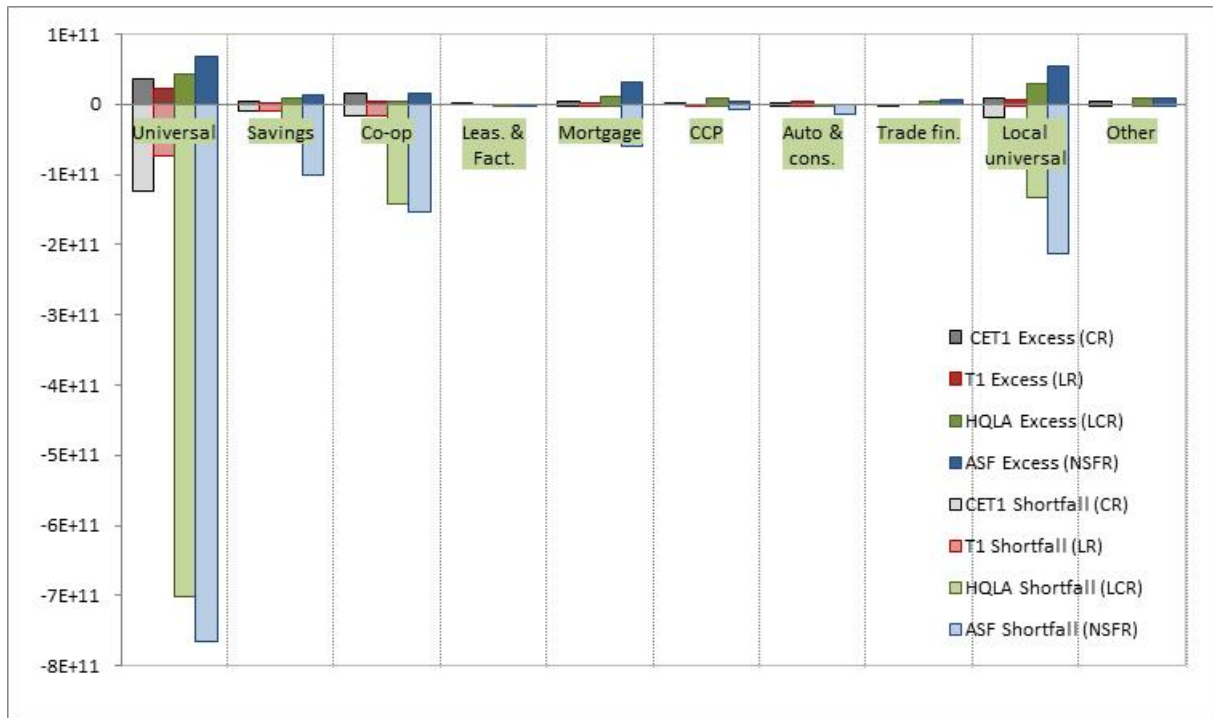


Source: Basel III monitoring exercise, EBA calculation

#### 4.2.4 Business model

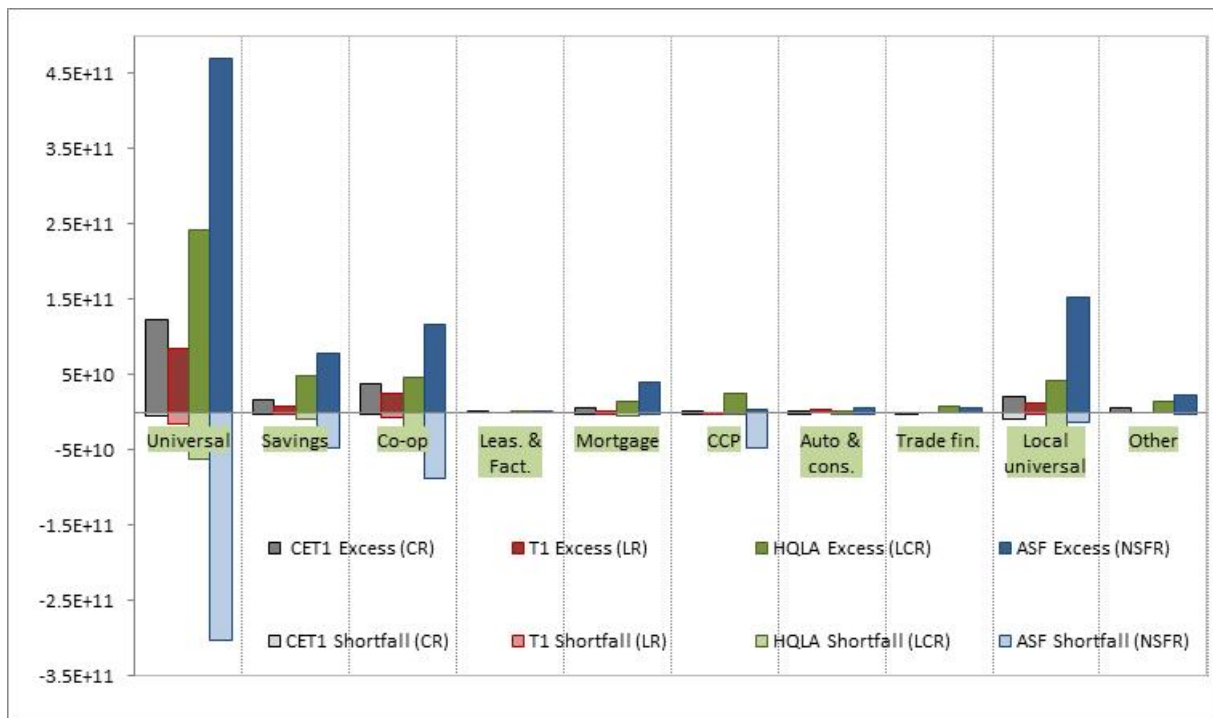
12. Figure 58 shows the breakdown of the shortfall by business model in 2011H2 and 2013H2. In 2011H2, most of the shortfall for the LCR and NSF was concentrated in banks in business model 1 (universal banks) and 12 (other well-diversified banks). The largest share of the shortfall for the capital and leverage ratios was concentrated in business model 1. In 2012H2, most of the shortfall in LCR and NSFR for non-compliant banks remains concentrated in business model 1. Compliant banks in the business model 1 segment held an excess of HQLA and ASF in 2013 which largely offset the shortfall of non-compliant banks. This was the case for all segments except business model 7 (CCP, security trading house), where the shortfall of non-compliant banks for the NSFR was much larger than the excess of compliant banks. However, banks in business model 7 only exhibit an excess in HQLA for the LCR.

Figure 58: Aggregate shortfall of all non-compliant banks and aggregate surplus of all compliant banks by business model in 2011Q4



Source: Basel III monitoring exercise, EBA calculation

Figure 59: Aggregate shortfall of all non-compliant banks and aggregate surplus of all compliant banks by business model in 2013Q4



Source: Basel III monitoring exercise, EBA calculation

#### 4.2.5 Conclusion of the analysis on the simultaneous changes in the regulatory ratios

- At the aggregate level, we did not find any particular evidence indicating that LCR-compliant banks are more likely to meet other regulatory requirements. However, when we examine the net shortfalls and excesses for each ratio at different granularities, we generally observe simultaneous shortfalls for the LCR and NSFR. In rare cases, an excess with the LCR is accompanied with a shortfall for the NSFR. Even at a more granular level, we do not find any clear pattern in the sample regarding compliance with the LCR and compliance with the capital and leverage ratios.
- Between 2012 and 2013, at aggregate level, the net shortfalls for the NSFR, LR and LCR decreased dramatically. An excess in HQLA was observed in 2012Q4 and an excess in ASF and T1 in 2013Q4. The net excesses for all ratios is due to both a reduction in the shortfalls for the new compliant banks (reduction by a factor of 3 to 10 during the period considered) and the build-up of an even greater excess by compliant banks (buffer 3 to 5 times higher than in 2011Q4). These two effects are observed in all countries and for all business models. As highlighted earlier, we cannot identify the extent to which these variations are due to a change in definition and to changes in the balance sheet.
- In 2013Q4, for the three levels of granularity examined, the net shortfalls for capital and leverage have decreased considerably. Some large shortfalls for LCR and NSFR remains in a few countries and for a few business models. In most cases, the excess of compliant banks exceeds the shortfall of non-compliant banks, indicating that, in theory, in most cases there is no shortage at aggregate level, and reallocation between banks would make compliance possible for all banks.



## 4.3 Adjustments to meet the LCR and impact on other regulatory ratios

13. In this section, we examine how the adjustments to meet the LCR may affect the other regulatory ratios.

14. Methodology: we examined five strategies that could be used by non-compliant banks to reduce their LCR shortfall and calculated how the adjustments made affect the three other ratios (CET1 ratio, LR and NSFR). We assumed that compliant banks would not make any adjustments. We performed this calculation at individual bank level, but only show the aggregated results at the group and business model level in the following tables. Each time, we aggregated the components of all banks in a specific group (for instance, all HQLA and net outflows of all banks in Group 1) and calculated a composite ratio (in our case it would be the LCR of a composite bank composed of all banks in Group 1). For this exercise, we used the data collected in 2013Q4. The strategies examined were:

1. swapping non-HQLA for Level 1 HQLA;
2. buying Level 1 HQLA with equity;
3. buying Level 1 HQLA with long-term debt;
4. swapping wholesale debt with retail deposits to reduce outflows;
5. deleveraging: selling/reducing loans and paying down some liabilities to reduce outflows.

### 4.3.1 State of compliance by group, business model and country

15. Table 21 shows at sample level and group level the aggregated amount of the regulatory ratios. Table 22 shows the ratios that would be obtained as a result. This number corresponds to a weighted average of the LCR of all the banks that belong to each group. As observed in the previous section, when we look at the aggregate level in the sample, there is no shortfall for any of the regulatory ratios, indicating that compliance for all banks could be achieved in theory by exchanging some assets and liabilities between all banks.

Table 21: Components of the regulatory ratios aggregated by group (in €billion)

	Bank number	Non-compliant banks	HQLA	Net Outflows	RWA	CET1	ASF	RSF	T1 LR	EXP (LR)
All banks	120	27	2 688	2 424	8 741	872	14 060	13 639	981	26 196
Group 1	39	11	2 369	2 211	7 498	752	11 545	11 336	840	22 732
Group 2	76	16	318	212	1 242	119	2 515	2 303	141	3 464
No data	5									

Source: Basel III monitoring exercise, EBA calculation

Table 22: Regulatory ratios of the total sample and of the groups

	Number of banks	Non-compliant banks	LCR	CR	NSFR	LR
All banks	120	27	111%	9.98%	103.1%	3.74%
Group 1	39	11	107%	10.03%	101.8%	3.70%
Group 2	76	16	150%	9.58%	109.2%	4.07%

Source: Basel III monitoring exercise, EBA calculation

16. Table 23 and Table 24 show the components and values of the ratio at business model level. Most of the HQLA and total assets are held by universal banks. At the aggregate business levels, there is no shortfall for the LCR. As there are no non-compliant banks in the sample for the leasing and factoring, trade finance, and other specialised credit institution sectors, these business models will not be covered in the analysis.

Table 23: Components of the regulatory ratios aggregated by business model (in €billion)

	Number of banks	Non-compliant	HQLA	Net outflows	CET1	RWA	ASF	RSF	T1 LR	EXP (LR)
All banks	120	27	2 689	2 424	872	8 741	14 061	13 640	982	26 196
Univ. cross-border	25	3	1 889	1 710	585	5 780	8 552	8 385	657	17 794
Savings	15	6	154	116	51	535	1 041	1 009	60	1 572
Co-operatives	22	8	316	306	125	1 212	2 201	2 180	138	3 534
Leas. & fact.	1	0	.93	.22	2.19	12.95	12.83	12.48	2.25	19.20
Mrtg & build. soc.	9	2	45	35	13	106	391	352	15	481
CCPs	4	1	4.7	2.6	1.0	8.5	8.2	16.6	1.3	98.0
Auto & cons.	3	1	1.4	1.3	5.3	45	44.6	41.7	5.4	68.5
Trade fin.	1	0	12	4	3	53	62	56	3	70
Local univ.	25	6	245	242	78	941	1 658	1 520	90	2 418
Other	10	0	21	7	8	48	91	67	9	141

Source: Basel III monitoring exercise, EBA calculation

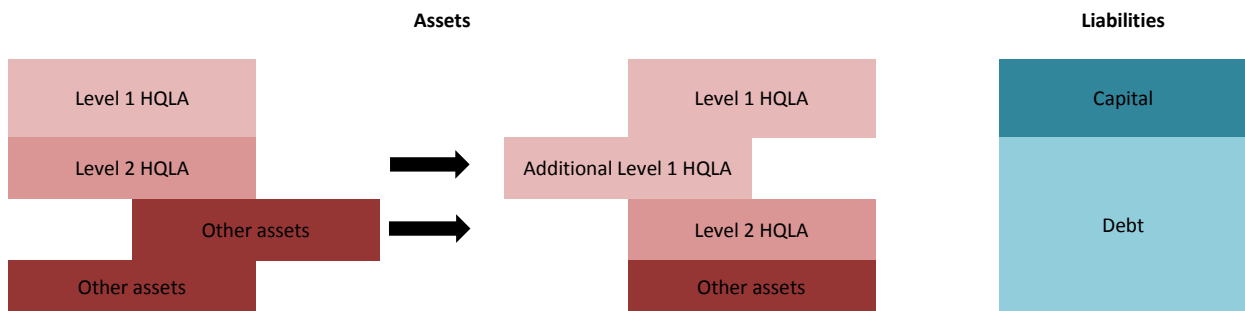
Table 24: Regulatory ratios of the business models

	Number of banks	Non-compliant banks	LCR	CR	NSFR	LR
All banks	120	27	111%	10.0%	103%	4%
Univ. cross-border	25	3	110%	10%	102%	4%
Savings	15	6	133%	10%	103%	4%
Co-operatives	22	8	103%	10%	101%	4%
Leas. & fact.	1	0	415%	17%	103%	12%
Mrtg & build. soc.	9	2	129%	12%	111%	3%
CCPs	4	1	180%	11%	49%	1%
Auto & cons.	3	1	111%	12%	107%	8%
Trade fin.	1	0	300%	5%	111%	4%
Local univ.	25	6	101%	8%	109%	4%
Other	10	0	298%	17%	134%	6%

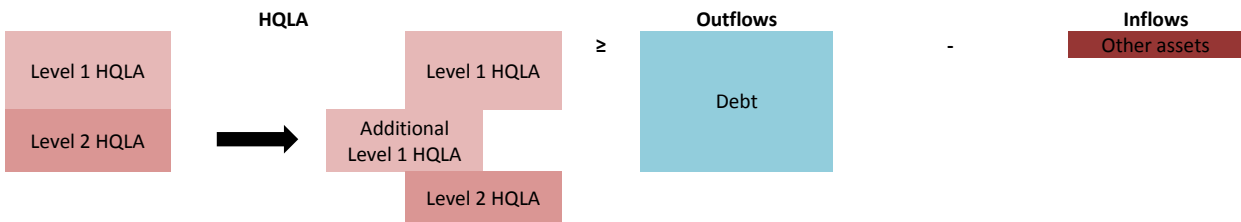
Source: Basel III monitoring exercise, EBA calculation

### 4.3.2 Strategy 1 — Reallocation of assets — substituting non-HQLA with Level 1 HQLA

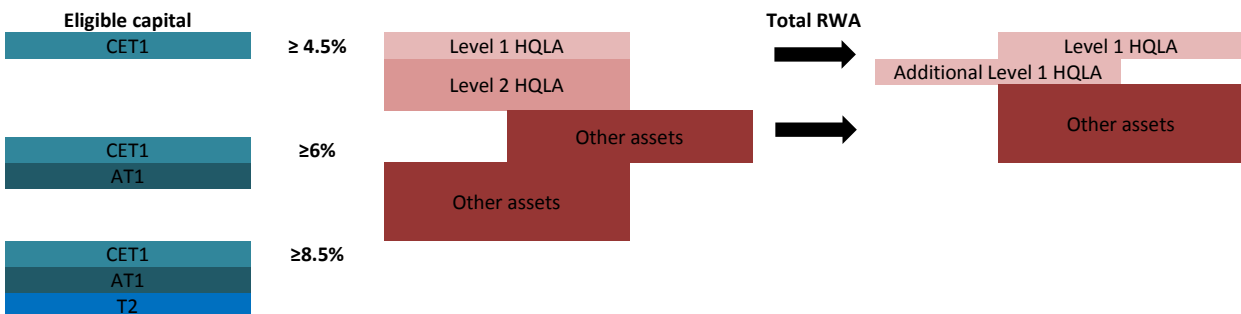
17. We examined the extent to which non-compliant banks may become compliant with the LCR by swapping non-HQLA with Level 1 assets. We assume that each non-compliant bank swaps non-HQLA with Level 1 HQLA until the bank becomes compliant with the minimum LCR.



1. The amount of Level 1 HQLA increases, facilitating compliance with the LCR ratio.

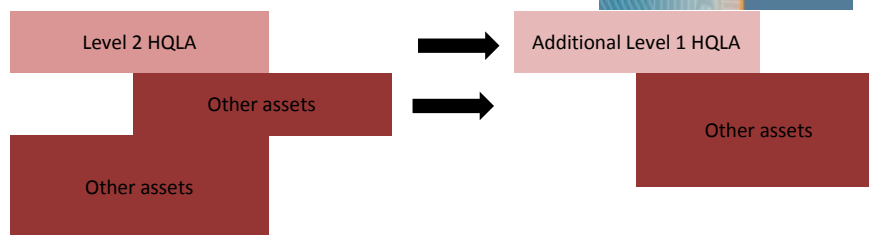


18. On the capital side, because Level 1 HQLA attract a lower risk weight than non-HQLA (some sovereigns even attract a risk weight of 0), the total amount of RWA decreases, lowering the capital ratio constraint. In our calculation, we assumed that for each bank, the assets that were swapped attracted the average risk weight of the assets included in the balance sheet. We assumed that the new Level 1 HQLA attracted a 0% risk weight.

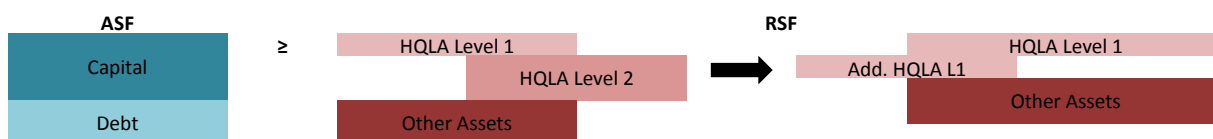


19. Because the same amount of assets is swapped in euro, this value on the balance sheet does not change and the LR is unaffected.





20. Similar to the CET1 ratio, as Level 1 HQLA attract a lower weight of required funding (5% RSF factor for Level 1 and between 65% and 85% for other assets with a maturity of more than 12 months, for instance), the total RSF is lower, enabling the NSFR requirement to be met. In our calculations, we assumed that the other assets swapped attracted a 75% RSF factor.



21. Table 26 and Table 34 show how the adjustments to the balance sheet affect the values of the regulatory ratios. The ratios presented in this table are calculated as if the sample, group, business model or country were a bank, and therefore show a weighted average of the segment examined. The detailed changes in the components of the ratio are shown in Appendix of section 4. Most of the HQLA adjustments are performed by Group 1 banks (EUR 124 billion), as non-compliant banks in this group have the biggest shortfall. For both groups of banks, the adjustments in RWA and RSF resulting from the substitution are relatively similar and small in proportion (between 0.5% and 0.8% of the RWA and the RSF), which explains the very small impact of the changes on the average CET1 and NSFR at business model and country level.

Table 25: Changes in ratios after swapping non-HQLA with HQLA, by group

	Number of Banks	Non-compliant banks		LCR			CET1			LR			NSFR		
		Before	After	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
All banks	115	27	0	111%	117%	6%	9.98%	10.0%	0.05%	3.7%	3.7%	-	103.08%	103.8%	0.79%
Group 1	39	11	0	107%	113%	6%	10.0%	10.1%	0.05%	3.7%	3.7%	-	102%	103%	0.79%
Group 2	76	16	0	150%	161%	11%	9.6%	9.7%	0.06%	4.1%	4.1%	-	109%	110%	0.77%

Source: Basel III monitoring exercise, EBA calculation

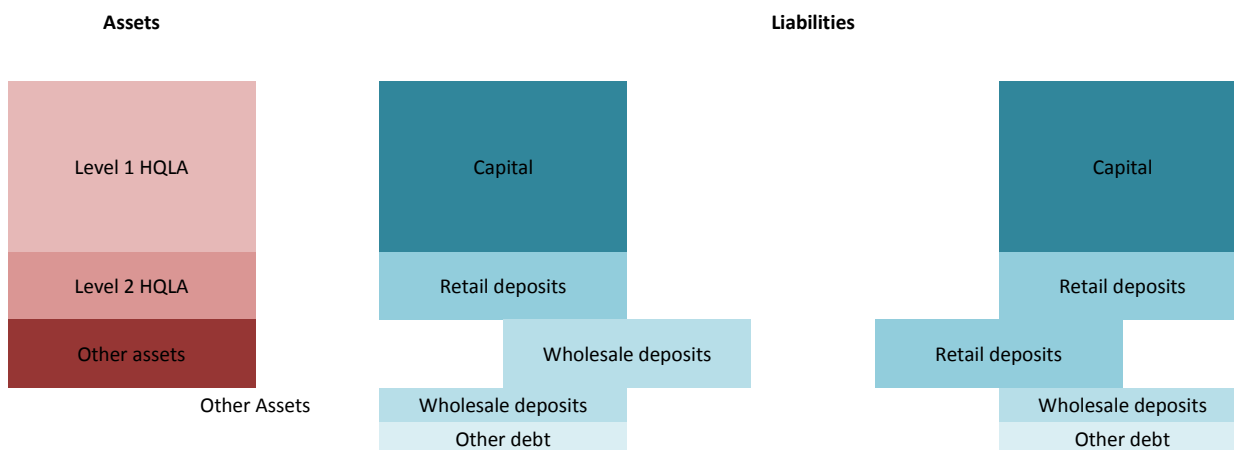
Table 26: Changes in ratios after swapping non-HQLA for HQLA, by business model

	Number of banks	Non-compliant banks		LCR			CET1			LR			NSFR		
		Before	After	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
Univ. cross-border	25	3	0	110%	114%	3.6%	10.1%	10.2%	0.0%	3.7%	3.7%	-	102%	103%	0.5%
Savings	15	6	0	133%	142%	8.6%	9.6%	9.6%	0.1%	3.8%	3.8%	-	103%	104%	0.7%
Co-operatives	22	8	0	103%	114%	10.2%	10.3%	10.4%	0.1%	3.9%	3.9%	-	101%	102%	1.0%
Mrtg & build. soc.	9	2	0	129%	144%	14.6%	12.3%	12.5%	0.1%	3.1%	3.1%	-	111%	112%	1.1%
CCPs	4	1	0	180%	221%	40.9%	11.4%	11.5%	0.1%	1.3%	1.3%	-	49%	52%	2.3%
Auto & cons.	3	1	0	111%	118%	7.0%	11.8%	11.9%	0.02%	7.9%	7.9%	-	107%	107%	0.2%
Local univ.	25	6	0	101%	117%	15.6%	8.3%	8.4%	0.1%	<b>3.7%</b>	<b>3.7%</b>	-	109%	111%	1.9%

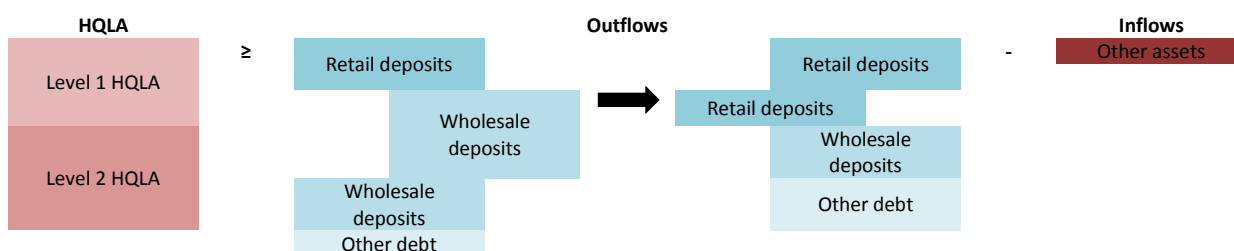
Source: Basel III monitoring exercise, EBA calculation

### 4.3.3 Strategy 2 – Reallocation of liabilities – swapping wholesale funding for retail deposits

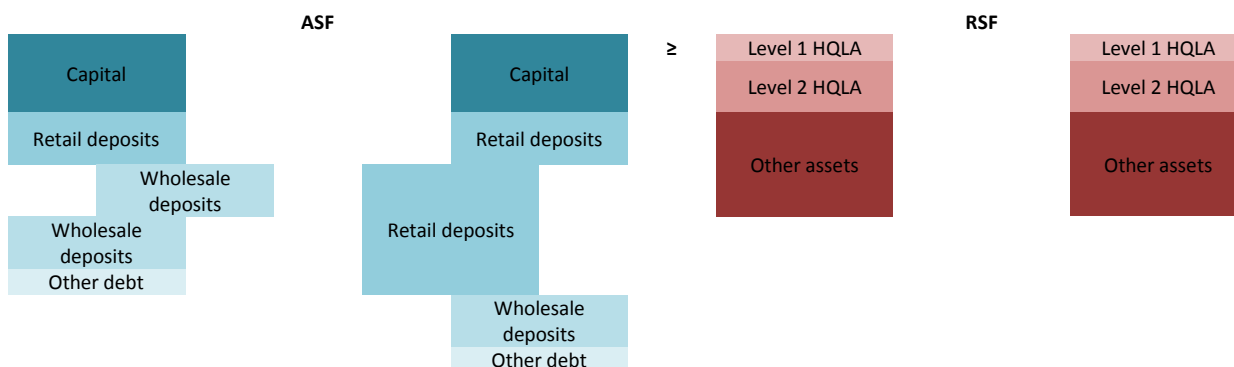
22. For this strategy, we examined the extent to which non-compliant banks may become compliant with the LCR by replacing wholesale funding with new retail deposits. We assume that each non-compliant bank changes its funding structure until the bank becomes compliant with the minimum LCR.



23. Wholesale deposits attract a lower run-off rate than retail deposits, which therefore reduces the amount of outflows.



24. Similarly, retail deposits attract a higher ASF factor than wholesale deposits, so the NSFR therefore improves.



25. Because this adjustment only affects liabilities, there is no impact on the leverage and capital ratios.

26. Table 27 and Table 28 show the impact of the adjustments on the regulatory ratios. Apart from CCP models (increase in the NSFR of 4.5%), the impact of the adjustment to liabilities on the average NSFR is relatively small for all granularities.

Table 27: Changes in ratios after swapping wholesale funding with retail deposits, by group

	Number of banks	Non-compliant banks		LCR			CET1			LR			NSFR		
		Before	After	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
All banks	115	27	0	111%	113%	3%	9.98%	9.98%	-	3.7%	3.7%	-	103.08%	103.84%	0.76%
Group 1	39	11	0	107%	109%	2%	10.0%	10.0%	-	3.7%	3.7%	-	102%	103%	0.77%
Group 2	76	16	0	150%	156%	6%	9.6%	9.6%	-	4.1%	4.1%	-	109%	110%	0.70%

Source: Basel III monitoring exercise, EBA calculation

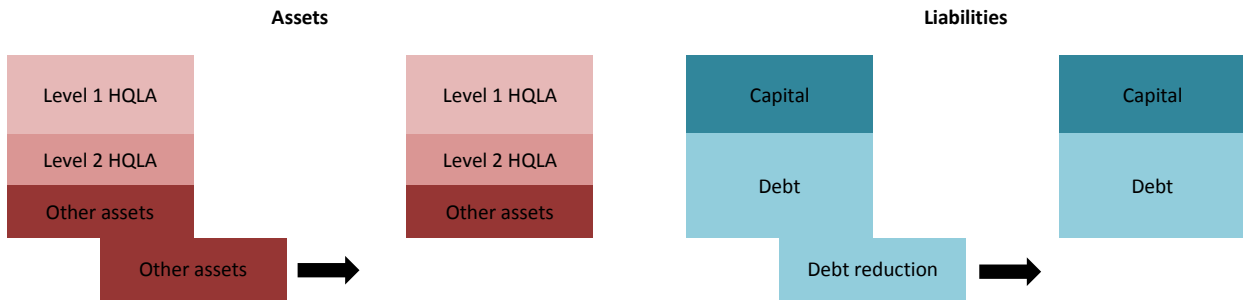
Table 28: Changes in ratios after swapping wholesale funding with retail deposits, by business model

	Number of banks	Non-compliant banks		LCR			CET1			LR			NSFR		
		Before	After	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
Univ. cross-border	25	3	0	110%	112%	1.5%	10.13%	10.13%	-	3.7%	3.7%	-	102%	103%	0.5%
Savings	15	6	0	133%	137%	4.3%	9.58%	9.58%	-	3.8%	3.8%	-	103%	104%	0.7%
Co-operatives	22	8	0	103%	107%	4.0%	10.33%	10.33%	-	3.9%	3.9%	-	101%	102%	1.0%
Mrtg & build. soc.	9	2	0	129%	136%	7.4%	12.34%	12.34%	-	3.1%	3.1%	-	111%	112%	1.0%
CCPs	4	1	0	180%	212%	32.1%	11.35%	11.35%	-	1.3%	1.3%	-	49%	54%	4.5%
Auto & cons.	3	1	0	111%	114%	3.0%	11.83%	11.83%	-	7.9%	7.9%	-	107%	107%	0.2%
Local univ.	25	6	0	101%	108%	6.2%	8.28%	8.28%	-	3.7%	3.7%	-	109%	111%	1.7%

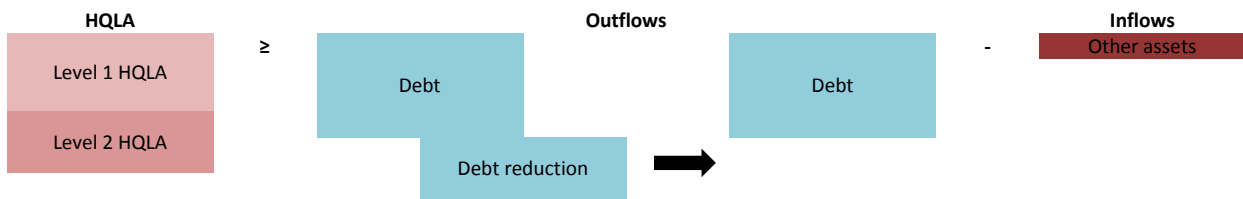
Source: Basel III monitoring exercise, EBA calculation

#### 4.3.4 Strategy 3 — Deleveraging — selling loans and reducing outflows

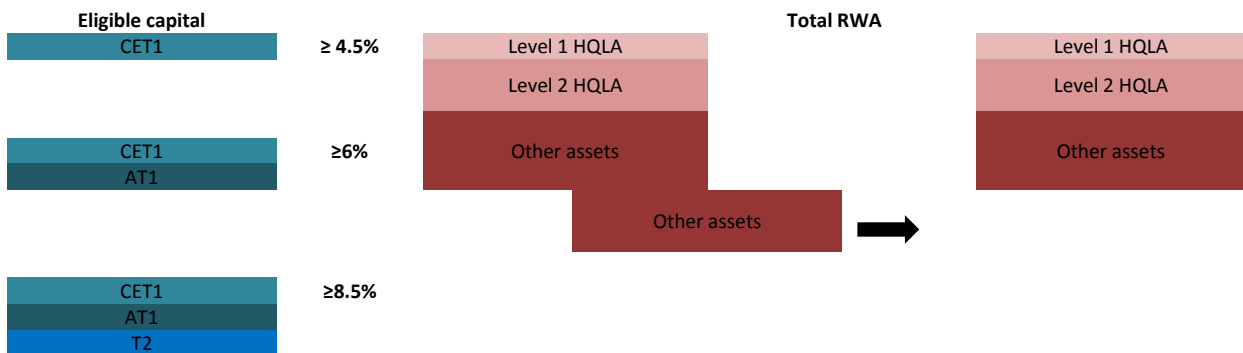
27. In this strategy, banks reduce the size and composition of their balance sheet by selling loans that are not eligible as HQLA and reducing the debt funding for these loans to reduce outflows.



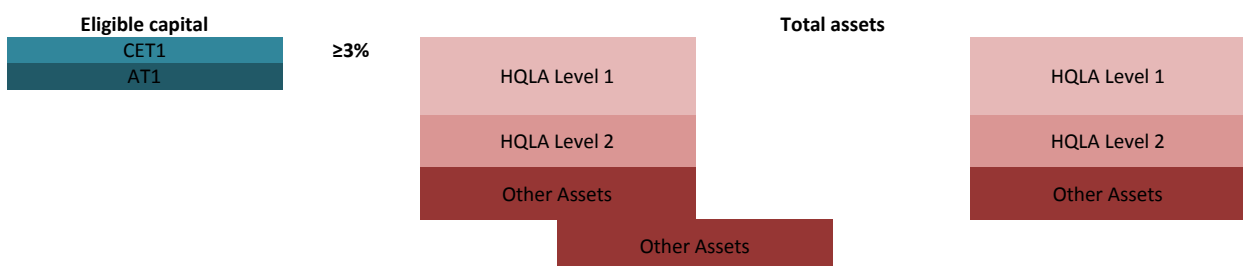
28. The reduction of the bank's debt reduces the amount of outflows and improves the LCR.



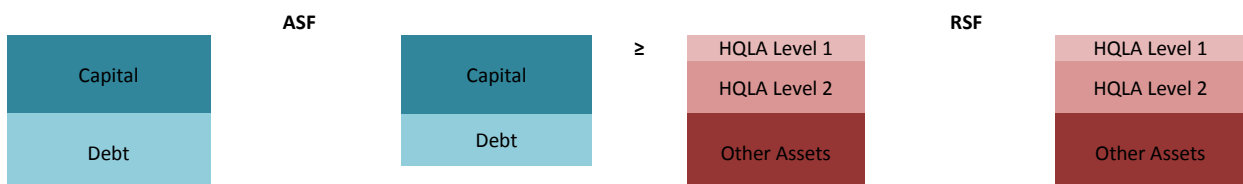
29. The sale of the non-HQLA reduces the amount of RWA and improves the CET1 ratio.



30. The sale of the non-HQLA reduces the amount of total assets and improves the LR.



31. Selling non-HQLA will reduce the amount of RSF. Depending on the type of funding that is decreased, the ASF may be reduced as well. In our calculation, we assume that non-compliant firms reduce the funding that attracts a 0% factor, and therefore that the amount of ASF does not vary.





32. Table 29 and Table 30, show that even if this strategy affects all regulatory ratios, the impact of the adjustment is small in most countries and in terms of business models' average regulatory ratios.

Table 29: Changes in ratios after deleveraging, by group

	Number of Banks	Non-Compliant banks		LCR			CET1			LR			NSFR		
		Before	After	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
All banks	115	27	0	111%	118%	7%	9.981%	10.034%	0.054%	3.7%	3.8%	0.021%	103.082%	103.643%	0.561%
Group 1	39	11	0	107%	114%	6%	10.0%	10.1%	0.053%	3.7%	3.7%	0.020%	102%	102%	0.562%
Group 2	76	16	0	150%	168%	18%	9.6%	9.7%	0.059%	4.1%	4.1%	0.027%	109%	110%	0.551%

Source: Basel III monitoring exercise, EBA calculation

Table 30: Changes in ratios after deleveraging, by business model

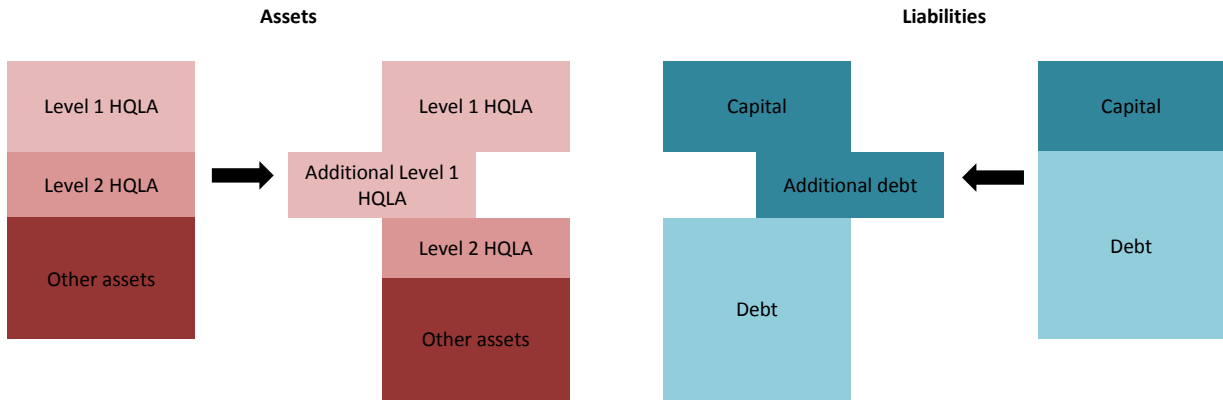
	Number of Banks	Non-Compliant banks		LCR			CET1			LR			NSFR		
		Before	After	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
Univ. cross-border	25	3	0	110%	115%	4.2%	10.13%	10.16%	0.03%	3.69%	3.71%	0.013%	102%	102%	0.38%
Savings	15	6	0	133%	145%	12.4%	9.58%	9.63%	0.06%	3.83%	3.86%	0.024%	103%	104%	0.51%
Co-operatives	22	8	0	103%	115%	11.7%	10.33%	10.41%	0.09%	3.91%	3.95%	0.035%	101%	102%	0.73%
Mrtg & Build. Soc.	9	2	0	129%	151%	22.1%	12.34%	12.48%	0.14%	3.12%	3.15%	0.033%	111%	112%	0.81%
CCPs	4	1	0	180%	304%	124.6%	11.35%	11.46%	0.11%	1.35%	1.36%	0.015%	49%	51%	1.65%
Auto & cons.	3	1	0	111%	119%	8.4%	11.83%	11.85%	0.02%	7.92%	7.93%	0.010%	107%	107%	0.12%
Local univ.	25	6	0	101%	120%	18.8%	8.28%	8.41%	0.13%	3.73%	3.79%	0.059%	109%	110%	1.38%

Source: Basel III monitoring exercise, EBA calculation

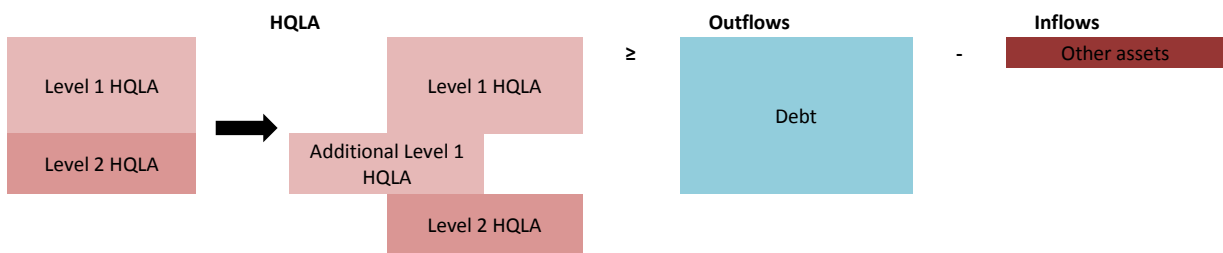
#### 4.3.5 Strategy 4 – Buying Level 1 HQLA financed by debt

33. We examined how non-compliant banks may become compliant with the LCR by buying additional Level 1 HQLA and financing them with wholesale debt with a maturity of more than 12 months, and how this adjustment affects other regulatory ratios. We assume in this scenario that all non-compliant banks buy enough Level 1 HQLA to meet 100% LCR.

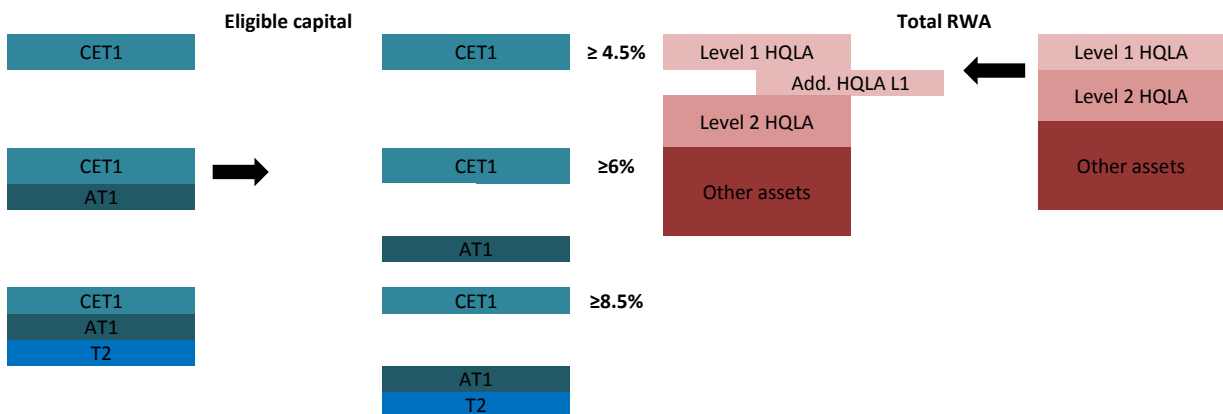




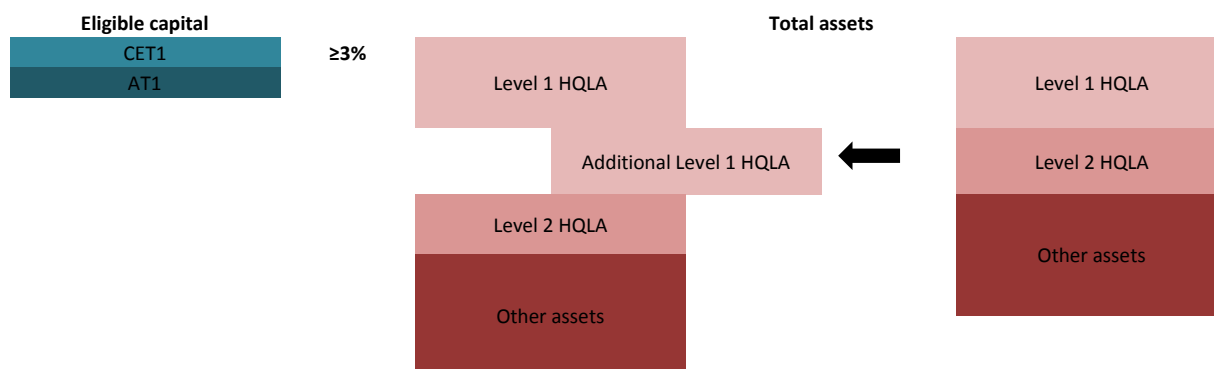
The increase in Level 1 HQLA will help banks to meet their LCR requirements. Because the maturity of the debt is longer than 3 months, this will not increase the amount of outflows in return.



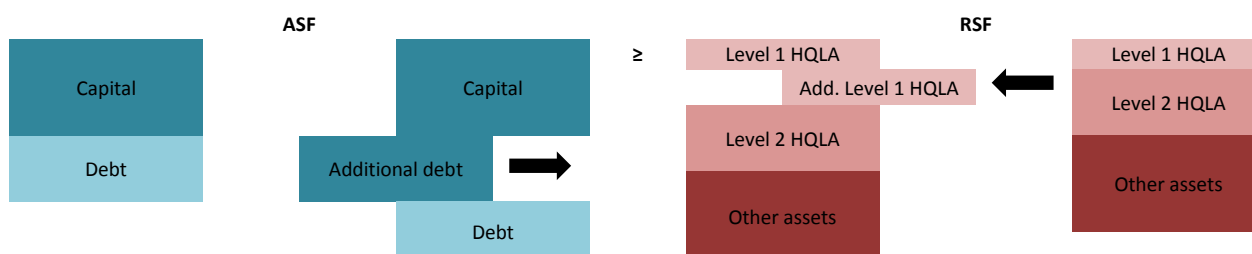
34. Similar to the previous scenario, the total RWA increase, but as Level 1 HQLA generally do not attract a very high risk weight, the increase is small (or equal to 0 for certain sovereign, which is what we assume in this exercise — contrary to what is shown in the example below). As there is no change in the CET1, the capital ratio may worsen slightly (if the new Level 1 HQLA attract a small risk weight) or stay the same (if the new HQLA attract a risk weight of 0, which is what we assume in our exercise).



35. The amount of exposure increases by the amount of Level 1 HQLA added. As the amount of Tier 1 remains the same, compliance with the LR worsens.



36. There is no discount for long-term debt in the NSFR, meaning that the available funding increases by the same amount as the increase in debt. Level 1 HQLA only attract a small funding factor (5%), so the increase in required funding is much lower than the increase in ASF that occurs. The compliance of the banks with the NSFR improves.



37. Table 31 shows that if non-compliant banks were buying HQLA financed by debt so as to be compliant with the LCR, this would have only a marginal impact on the average leverage ratio at business model or country level and a very small positive impact on the average NSFR.

Table 31: Changes in ratios after buying HQLA financed by debt, by group

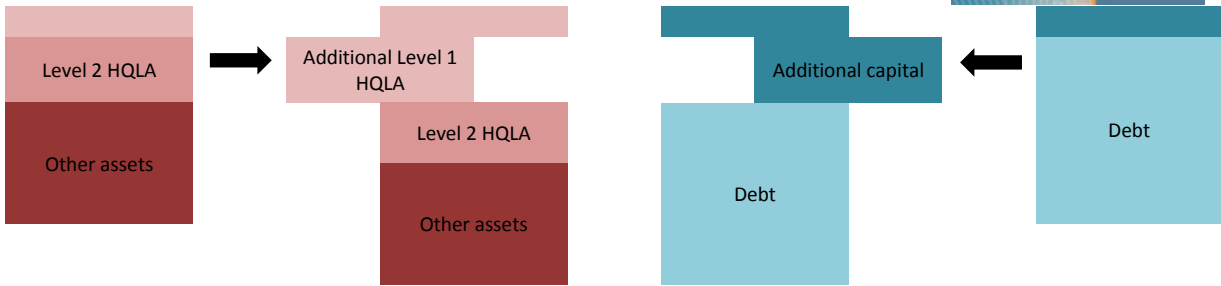
	Number of banks	Non-compliant banks		LCR			CET1			LR			NSFR		
		Before	After	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
All banks	115	27	0	110.90%	116.99%	6.09%	9.98%	9.98%	-	3.75%	3.73%	-0.02%	101.80%	102.90%	1.00%
Group 1	39	11	0	107.20%	112.80%	5.60%	10.00%	10.00%	-	3.70%	3.70%	-0.02%	109.20%	110.10%	0.90%
Group 2	76	16	0	149.90%	160.80%	10.90%	9.60%	9.60%	-	4.10%	4.00%	-0.03%	103.08%	104.11%	1.03%

Source: Basel III monitoring exercise, EBA calculation

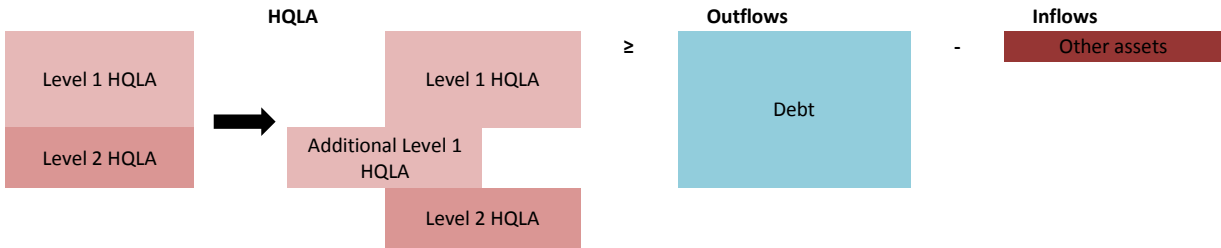
### 4.3.6 Strategy 5 – Buying Level 1 HQLA financed by equity

38. We examined how non-compliant banks may become compliant with the LCR by buying additional Level 1 HQLA and financing them with equity, and how this adjustment affects other regulatory ratios. We assume in this scenario that all non-compliant banks buy enough Level 1 HQLA to meet 100% LCR.

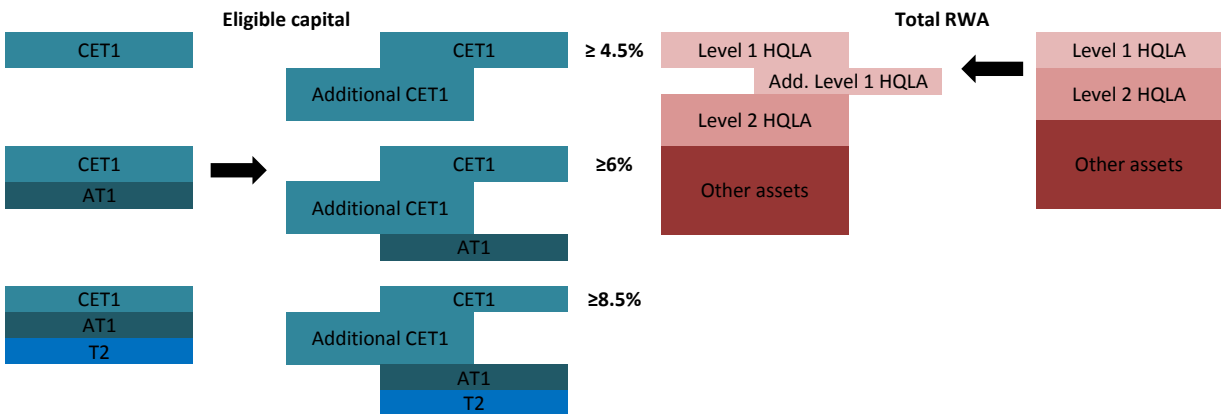




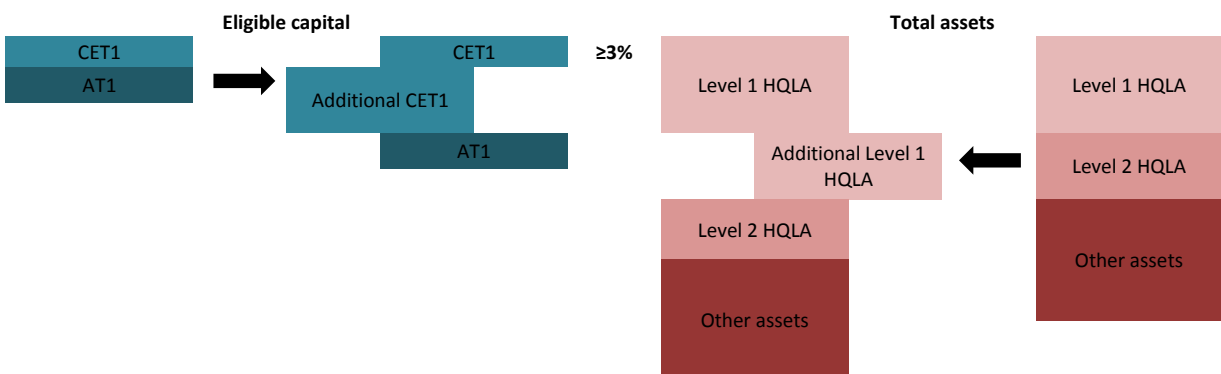
39. The increase in Level 1 HQLA will help banks to meet their LCR requirements.



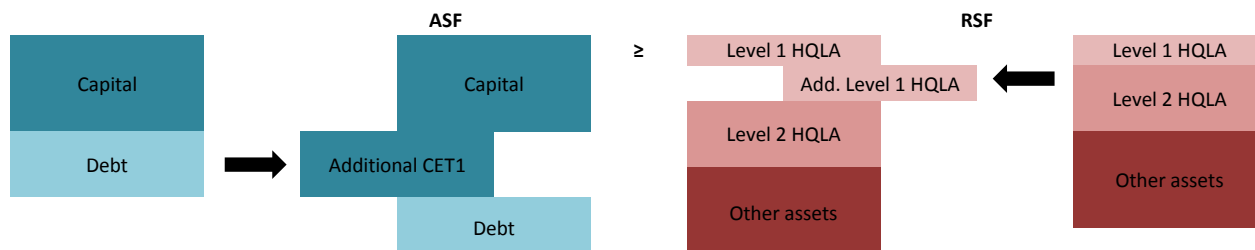
40. Similar to the previous scenario, the total RWA increase, but as Level 1 HQLA generally do not attract a very high risk weight, the increase is small (or equal to 0 for certain sovereign, which is what we assume in this exercise). As these new assets are financed by CET1, the eligible capital increases and as a result the capital position of the bank improves.



41. For the leverage ratio, even if the same amount is added to both assets and capital, the relative increase on the assets side of the balance sheet is much lower than the increase on the capital side (there is much less equity than assets on the balance sheet). Because of this, compliance with the LR improves slightly.



42. There is no discount for equity in the NSFR, meaning that the available funding increases by the same amount as the increase in equity. Level 1 HQLA only attract a small funding factor (5%), so the increase in required funding is much lower than the increase in ASF that occurs. The compliance of the banks with the NSFR improves.



43. Table 32 and Table 33 shows that if non-compliant banks in the sample buy HQLA financed by equity, this would only have a small positive impact on the average regulatory ratios at business model and country level.

Table 32: Changes in ratios after buying HQLA financed by equity, by group

	Number of banks	Non-compliant banks		LCR			CET1			LR			NSFR		
		Before	After	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
All banks	115	27	0	110.90%	116.99%	6.09%	9.98%	11.67%	1.69%	3.75%	4.29%	0.54%	103.08%	104.11%	1.03%
Group 1	39	11	0	107.2%	112.8%	5.6%	10.0%	11.7%	1.7%	3.7%	4.2%	0.5%	101.8%	102.9%	1.0%
Group 2	76	16	0	149.9%	160.8%	10.9%	9.6%	11.5%	1.9%	4.1%	4.7%	0.6%	109.2%	110.1%	0.9%

Source: Basel III monitoring exercise, EBA calculation

Table 33: Changes in ratios after buying HQLA financed by equity, by business model

	Number of banks	Non-compliant banks		LCR			CET1			LR			NSFR		
		Before	After	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
Univ. cross-border	25	3	0	110%	114%	3.6%	10.10%	11.20%	1.1%	3.70%	4.00%	0.3%	102%	103%	0.7%
Savings	15	6	0	133%	142%	8.6%	9.60%	11.40%	1.9%	3.80%	4.40%	0.6%	103%	104%	0.9%
Co-operatives	22	8	0	103%	114%	10.2%	10.30%	12.90%	2.6%	3.90%	4.80%	0.9%	101%	102%	1.4%
Mrtg & build. soc.	9	2	0	129%	144%	14.6%	12.30%	17.10%	4.8%	3.10%	4.10%	1.0%	111%	112%	1.4%
CCPs	4	1	0	180%	221%	40.9%	11.40%	24.10%	12.7%	1.30%	2.40%	1.1%	49%	56%	6.3%
Auto & cons.	3	1	0	111%	118%	7.0%	11.80%	12.00%	0.2%	7.90%	8.00%	0.1%	107%	107%	0.2%
Local univ.	25	6	0	101%	117%	15.6%	8.30%	12.30%	4.0%	3.70%	5.20%	1.5%	109%	111%	2.4%

Source: Basel III monitoring exercise, EBA calculation

### 4.3.7 Summary of the results

44. Table 34 shows a summary of the impact of the five strategies involving adjustments to the balance sheet on the average CET1, LR and NSFR. For the most part, the impact is either positive but small or null (except for the LR when leveraging with debt, which has a small negative impact on the LR). Table 35 and Table 36 show the range of changes in the average regulatory ratios at business model and country level.

Table 34: Summary of the main findings

Balance sheet		Strategy	Capital ratio	Impact <sup>(1)</sup>	
				LR	NSFR
Assets	S1 - Reallocation of assets	Sell non-eligible assets to place the proceeds at the central bank and/or purchase eligible assets	(+) Low	None	(+) Low
Liabilities	S2 - Reallocation of liabilities	Reduce wholesale deposits and replace with retail deposits	None	None	(+) Low
Assets & liabilities	Deleveraging	Sell/cut non-eligible assets to pay down short-term liabilities	(+) Low	(+) Low	(+) Low
	Leveraging	Issue long-term wholesale debt to buy liquid assets	None	(-) Low	(+) Low
		Issue equity debt to buy liquid assets	(+) Medium/large	(+) Small	(+) Low

(1) (+): Improvement (-): Deterioration

Source: Basel III monitoring exercise, EBA calculation

Table 35: Results of the business model analysis

Balance sheet		Strategy	Capital ratio	LR	NSFR
Assets	Reallocation of assets	Sell non-eligible assets to place the proceeds at the central bank and/or purchase eligible assets	[0.1%-0.02%]	0%	[0.5%-2.3%]
Liabilities	Reallocation of liabilities	Reduce wholesale deposits and replace with retail deposits	0%	0%	[0.2%-4.5%]
Assets & liabilities	Deleveraging	Sell/cut non-eligible assets to pay down short-term liabilities	[0.02%-0.14%]	[0.013%-0.059%]	[0.12%-1.65%]
	Leveraging	Issue long-term wholesale debt to buy liquid assets	0%	[(-0.6)-(-0.01)]	[0.7%-6.3%]
		Issue equity debt to buy liquid assets	[1.1%-12.3%]	[0.3%-1.5%]	[0.7%-6.3%]

Source: Basel III monitoring exercise, EBA calculation

Table 36: Results of the country analysis

Balance sheet		Strategy	Capital ratio	LR	NSFR
Assets	Reallocation of assets	Sell non-eligible assets to place the proceeds at the central bank and/or purchase eligible assets	[0.001%-1.175%]	0%	[0.01%-1.2%] (Outlier 7.6%)
Liabilities	Reallocation of liabilities	Reduce wholesale deposits and replace with retail	0%	0%	[0.01%-1.03%] (Outlier 7.89%)

Balance sheet	Strategy	Capital ratio	LR	NSFR	
deposits					
Assets & liabilities	Deleveraging	Sell/cut non-eligible assets to pay down short-term liabilities	[0.001%-1.17%]	[0.01%-0.32%]	[0.005%-0.85%] Outlier 5.34%
	Leveraging	Issue long-term wholesale debt to buy liquid assets	0%	[-0.0001% - -0.27%]	[0.0001-1.41] Outlier 10.71
		Issue equity debt to buy liquid assets	[0.01%-2%] Outlier 29%	[0.01%-0.66%] Outlier 10.7%	[0.0001-1.41] Outlier 10.71

*Source: Basel III monitoring exercise, EBA calculation*

#### 4.3.8 Conclusion

- We examined how the NSFR, CET1 and LRs would change if all 27 non-LCR-compliant banks in the sample followed some of the strategies identified in the previous section to meet their minimum LCR requirements. The analysis was conducted at individual bank level, but in this report we are only showing the impact of the adjustment either at group, business model or country level (the impact on the aggregated ratio of the category observed, i.e. a weighted average of all the banks included in the category). We are not including any analysis of the impact of the adjustment on the regulatory ratios of individual banks.
- We found that, for all strategies, the impact is either positive or negligible (except for the LR when leveraging with debt). However, at group, business model or country level, this positive impact on the other regulatory ratios is generally not very large. This is because the shortfall in the HQLA of non-compliant banks is often relatively small compared to the stock of existing CET1, T1 and ASF.

## 5. Impact of the LCR on lending supply

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### 5.1 Section summary

#### 5.1.1 Objectives

- The purpose of this section is to identify whether the implementation of the LCR has an impact on credit supply and demand in certain sectors of the economy and in particular on SME lending.
- The macroeconomic impact examined in the 2013 report focused on how the implementation of the LCR could affect credit demand due to a potential increase in the cost of lending, including a qualitative analysis of the supply side. This chapter performs a quantitative analysis of the supply side, looking for a link between LCR shortfall and credit supply.

#### 5.1.2 Methodology

- On the demand side, we look at how the shortfall by country has progressed between 2011Q4 and 2013Q4. The analysis uses the results from the 2013 LCR IA report to estimate the impact on GDP.
- The supply side analysis used a time-series, cross-country regression approach for a panel of European countries with semi-annual data between 2011 and 2014 to study how the LCR shortfall and other macroeconomic factors at beginning of the period affect the credit conditions over the period (derived from the ECB BLS). The data for the beginning of the period is from 2011Q4 to 2013Q4 and the credit conditions data is from 2012Q2 to 2014Q2.

#### 5.1.3 Key findings

- Adjustments by individual banks to comply with LCR requirements could lead to temporary supply constraints by those banks. However, the econometric analysis of bank lending trends suggests that these constraints are small or that any excess demand has been picked up by other banks in the industry.
- The country level analysis of the December 2013 ECB BLS shows that there is no evidence that a higher LCR shortfall in a country leads to greater supply constraints or supply/demand gaps in that country.
- At macro level, there was no consistent spill-over effect from a high LCR shortfall that would imply tighter credit conditions.

- The results do not support the idea that any impact from a LCR shortfall or net shortfall creates credit constraints when other macroeconomic factors (unemployment rate, long-term interest rates and GDP growth) are taken into account. The analysis indicates that unemployment is the most useful macroeconomic risk factor when estimating credit supply constraints;
- Additional tests seem to confirm these results, i.e. unemployment and long-term real rates are the factors that explain credit constraints, while an initial LCR shortfall does not perform well at aggregate level.
- The negative impact on corporate and SME lending for non-compliant banks, found in Section 3.4, is consistent with the negligible credit supply impact at aggregate level. Some banks face constraints while they adjust even in the absence of these macroeconomic drivers, which could prompt competitors to provide additional lending. The data from 2012 to 2014 used in this section appears to suggest that these effects play an important role.



## 5.2 Background

1. The mandate of Article 509(1) of the CRR requires that the EBA evaluates and monitors the LCR implementation. In particular, it is required to assess whether the LCR *'is likely to have a material detrimental impact on the business and risk profile of institutions established in the Union or on the stability and orderly functioning of financial markets or on the economy and the stability of the supply of bank lending, with a particular focus on lending to SMEs and on trade financing [...]'*. In accordance with this mandate, this report builds up on the macroeconomic IA for liquidity measures published by the EBA in 2013.

### 5.2.1 Effects on bank credit supply

2. Using a range of statistical and econometric approaches, the 2013 report found that, overall, the CRR specification of the liquidity requirement is not likely to have a material detrimental impact on the stability and orderly functioning of financial markets. In addition, the report did not find any significant negative impact on the economy or on the supply of bank lending. To study the impact of the LCR on lending to SMEs, the 2013 EBA report performed a multivariate analysis using individual bank data over the period 2011Q2 to 2012Q2. According to the study, banks in the sample did not restrict lending to non-financial corporates, retail or SME customers and did not cut back on trade finance. There were two preferred actions taken by banks to adjust to a binding LCR requirement: first, increasing HQLA (particularly drawable central bank reserves and sovereign debt); and second, lengthening and staggering the maturity of deposits from non-financial corporates and retail and SME customers. A peer analysis also showed that banks with larger SME and trade finance exposures do not necessarily have a lower LCR compared to banks with lower SME and trade finance exposures. According to the EBA report, the only type of exposure that seems to significantly influence the performance of the LCR is sovereign exposure, which correlates closely to HQLA.

### 5.2.2 Effects on the EU economy

3. The 2013 report studied the economic impact in terms of GDP by country and on the EU as a whole. The macroeconomic study used the cost of adjusting to the LCR for each of the strategies above and compared the costs with a scenario in which the LCR requirement is not in place. The overall impact is driven by the pass-through of banks' private costs, increasing the cost of credit to the real economy. One of the main conclusions drawn in the 2013 report (based on data from the end of 2012) was that the cost in terms of GDP was found to be negligible in the long term.
4. The impact for the EU as a whole is 4 bps of a percentage (i.e. four one hundredths of a per cent) on overall EU GDP growth, while the results by country range between 0 and 35 bps. The impact in Table 47 is driven mainly by the size of the shortfall in each country because we assume that the cost of the adjustment strategies is similar for all countries and that banks follow the same strategies to close a shortfall. In fact, some banks in some countries may follow different strategies and the costs of those strategies will vary depending on specific conditions in local

markets. The cost may be lower if banks can follow a cheaper adjustment strategy<sup>33</sup> and will vary for each country by a greater extent than shown in Table 50.

5. The limited size of the impact is partly explained by the fact that EU banks have an average LCR of 115%. The gross liquidity shortfall under a 100% LCR is low in relation to the total assets of the banks in the sample (0.8%). In relation to the size of EU HQLA markets, the shortfalls are also very low (1% to 2%). The limited impact on the real economy is also explained by the relatively low adjustment costs banks can achieve when they implement the wide range of strategies available to close a LCR shortfall.

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<sup>33</sup> The cost in terms of GDP for the EU for the least costly LCR adjustment strategy corresponded to a 3 bps lower GDP growth in the long run. Individual results by country varied as well depending on the assumed weight on each adjustment strategy.

### 5.3 LCR trends across the EU

6. The following sections try to identify trends in LCR compliance across European jurisdictions using banking sector and macroeconomic data between 2011 and 2014. The 2013 report included an assessment of the macroeconomic impact but, due to data limitations, the analysis was limited to one point of time only.
7. Over the period, banking regulations including liquidity management have changed in several European jurisdictions. Individual banks and the banking industry have been aware of the LCR since the BCBS announced the introduction in December 2010. From the second half of 2011, the LCR has been monitored in Europe through a broad sample of banks. During that time, European banks have become aware of an implementation date starting in 2015 and more recently of the full implementation date by around 2019. EU banks have been preparing for that adjustment but we do not know how quickly they will progress to 100%. Market pressures may come into play, forcing banks to become compliant earlier, but there may also be short-term frictions that prevent them from achieving 100% too quickly. In some countries, existing liquidity regimes have ensured that banks are mostly compliant with the Basel version of the LCR (e.g. the UK ILG regime or in the Netherlands).
8. Progress over the last 3 years suggests that the adjustment to a higher LCR has continued without major impediments for most banks. The steady adjustment by banks as they move towards a higher LCR provides information that we can use to assess the consequences of the adjustment. As we observe this trend, we want to examine whether it had any unintended consequences, such as reducing the overall credit supply to the economy. One of the questions we would like to answer is if any particular economic sectors have suffered from credit supply constraints as the banks try to cut back on outflows, or if the cost of certain bank's financial products or to certain customers is becoming too high. We approach assessing these recent trends by implementing an econometric analysis using data from the ECB BLS in the next section.

## 5.4 Bank funding costs and its implications for credit conditions

9. In this section, we model the relationship between the credit conditions with respect to non-financial corporations and SMEs and the weighted difference between those banks reporting that credit standards have been tightened and those reporting that they have been eased (diffusion index). We use fixed effects regression for a panel of European countries with half-yearly data between 2012 and 2014 to study how the LCR shortfall at the beginning of each quarter and other macroeconomic factors over the period affect the credit conditions. We expect that if adjusting to LCR is difficult for banks and creates credit constraints in the economy then those countries with a larger shortfall at the beginning of the period may experience a greater tightening of the credit conditions in some lending sectors. We include country fixed effects to account for possible country differences that apply throughout the period (e.g. a tightening of credit in some countries between 2012 and 2014). We also use time-period differences to ensure that macroeconomic changes over time are taken into account. For that purpose, we choose from a number of macroeconomic factors including unemployment, long-term government yields, GDP growth and inflation. The LCR shortfall (in billions of euro) is weighted against total Eurozone assets (or the total domestic area assets for non-Eurozone countries).
10. The quarterly credit constraints data comes from the ECB BLS<sup>34</sup>, which collects data from Austria, Germany, Spain, Italy, Luxembourg, the Netherlands, Portugal, Belgium, Ireland and France<sup>35</sup> since 2002 (as well as Cyprus, Estonia, Malta and Slovenia for the period since they joined the Eurozone). The BLS data on banks' credit standards as applied to the approval of loans or credit lines is qualitative and subjective in nature and measures the assessment by bank managers of how credit conditions have changed over the past 3 months<sup>36</sup>. The survey also compiles an assessment by bank managers of which factors are contributing to the change in credit conditions. This assessment provides a further comparison with respect to the regressions above. To increase the sample size, we expand the bank lending survey database using the corresponding surveys from the UK and France (diffusion indices). We present results for both the ECB BLS sample only and the expanded survey sample. Macroeconomic data are taken from Eurostat and UK ONS, the shortfall by country is from QIS and the banking sector total assets are taken from the ECG data warehouse. Table 37 presents a summary of the main results.

<sup>34</sup> <http://www.ecb.int/stats/money/surveys/lend/html/index.en.html>

<sup>35</sup> France does not offer diffusion indices. Therefore, we expanded the sample with data provided by the Bank of France and present this in separate tables. That analysis also incorporates UK bank data.

<sup>36</sup> With predefined (qualitative) responses on the credit standard change range from 'tightened considerably', 'tightened somewhat', 'remained basically unchanged', 'eased somewhat' to 'eased considerably'.

Table 37: Supply constraints and supply demand gap in the last 3 months with respect to the LCR shortfall and macroeconomic risk factors at the beginning of the period (2012H1-2014H1).

	Tight supply				Supply demand gap			
	All corporations	SMEs	Mortgages	Unsecured HH credit	All corporations	SMEs	Mortgages	Unsecured HH credit
LCR shortfall	-1.58	-0.45	-1.08	0.56	-0.90	-0.36	-3.40	0.44
Long-term interest rate	4.40	7.08	5.11	10.6**	12.77*	13.6*	7.07	18.7**
Unemployment	-7.78**	-7.93*	-6.52**	-6.41**	-6.91	-6.81	-12.6**	-12.5**
R-sq: within	0.414	0.36	0.45	0.62	0.40	0.34	0.45	0.62
Observations	39	39	39	39	39	39	39	39

Note(s): EBA calculations (from ECB BLS, Eurostat, QIS exercise 2011 to 2014). \* Denotes 5% significance; \* Denotes 1% significance.

### 5.4.1 Impact on lending to non-financial corporations

See tables including detailed results in the Appendix of Section 5

11. Table 79, Table 80, and Table 81 present the regression results for credit conditions for businesses. The estimated parameter for the LCR shortfall is negative but not significant for the estimated models. A significant negative parameter for the LCR shortfall would indicate that a greater shortfall in a country results in a greater tightening of the credit conditions. Table 79 includes time effects to account for broad macroeconomic factors. The results show that these macroeconomic factors are the main drivers of credit tightening over the periods. In particular, 2012H1 shows a stronger effect in size (although not very significant) with a much greater tightening of credit to both non-financial corporations and SMEs. Because this period in the sample is also the one with greatest shortfall and net shortfalls across the countries, a simple correlation analysis between shortfall and credit constraint will show a positive correlation but it would be spurious and simply driven by the lack of macroeconomic controls in a simple correlation analysis. This highlights the need to introduce these controls to measure the effect more appropriately.

12. After introducing macroeconomic risks such as GDP growth unemployment or real long-term interest rates, the parameter associated with country shortfall or net shortfall losses remains non-significant and changes the sign from negative to positive values. Table 80 and Table 81 show the regression results when we include unemployment and real long-term interest rates as explanatory variables. The shortfall at the beginning of the period becomes insignificant while both higher unemployment and long-term interest rates are significant factors in terms of increasing credit supply constraints. The model is much more informative with the macroeconomic risks as a measure by the R-square. This suggests that the simple model with time effects may be excluding macroeconomic factors that are specific to each country and that are picked up by a simple correlation with the LCR shortfall or net shortfall.

## 5.4.2 Impact on lending to households

See tables including detailed results in the Appendix of Section 5

13. We also study the relationship between credit constraints for the household sector and the size of the LCR shortfall and net shortfall by country. Similar to non-financial corporations and SMEs, the LCR shortfall (and to a lesser extent net shortfall) is negatively correlated (although insignificant) with credit constraints for households in a panel estimation with fixed and time effects. However, for the same reason discussed above, this model is likely to have missing variables, in particular macroeconomic time factors. We test this hypothesis in Table 82 and Table 83, where again the impact of both the LCR shortfall at the beginning of the period and the net shortfall become insignificant. This indicates that macroeconomic risks are the main determinant of any overall supply constraint, suggesting that even when a country has a larger LCR shortfall, if the macroeconomic risk conditions are right there should be no overall supply credit constraints.

## 5.4.3 Impact on lending using the expanded sample

See tables including detailed results in the Appendix of Section 5

14. To perform a further check, we have increased the sample using data from the separate bank lending surveys of the UK and France. We run the same regressions for credit constraints on non-financial corporations and the LCR shortfall and macroeconomic risks, including in this case the growth rate of GDP. The models for the impact on non-financial corporations in the expanded sample are similar to those for the restricted sample as shown in Table 84 to Table 87. Once more, the results do not support the idea that any impact from the LCR shortfall or net shortfall creates credit constraints when other macroeconomic factors are taken into account. When using GDP growth instead of unemployment and long-term interest rates, the impact of the LCR is also insignificant, but the overall adjustment of the model is significant. This suggests that unemployment is a more useful macroeconomic risk factor when estimating credit supply constraints<sup>37</sup>. Finally, we test the sensitivity of the results using different econometric techniques with additional panel data random effects regressions. This leads to a similar conclusion, with unemployment and long-term real rates being the factors explaining credit constraints while initial LCR shortfall does not perform well at aggregate level.

In conclusion, and considering the evidence so far, we do not think that there is a consistent effect of a large LCR shortfall leading to tighter credit conditions, but the two are correlated across the sample.

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<sup>37</sup> A Bank of England study by de-Ramon and Straughan (2014) finds a similar effect in a structural vector error correction model of UK data between 1989 and 2012.

## 6. Comparison of the EU LCR (as specified in the DA) and the BCBS LCR

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### 6.1 Section summary

#### 6.1.1 Objective

- In October 2014, the Commission adopted a DA in accordance with Article 460 and Article 462 of Regulation No 575/2013 (CRR) to define in detail the general requirement specified in Article 412(1) of the CRR. In this section, the main differences between the LCR of the DA<sup>38</sup> and the LCR as defined in the Basel III framework<sup>39</sup> are identified and quantified.
- This section contains two major elements:
- Qualitative analysis highlighting the main differences between the DA and the Basel III framework (Section 6.2).
- Quantitative analysis evaluating the impact of the differences between the two frameworks while, at the same time, identifying the countries and business models that may benefit or may not benefit from the EU-specific derogations as defined in the DA (Section 6.3).
- The section attempts to quantify the impact of the revised definition of the LCR pursuant to the DA, using information from the QIS templates including the EU-specific 'LCR EU only' worksheet for data as of 31 December 2013. As not all the information required is available or some elements are not fully covered within the QIS templates (due to a different definition under Basel III compared with the DA), the results of this part can only be viewed as an approximation.

#### 6.1.2 Sample of participating banks

- This section includes an analysis of data submitted by 48 Group 1 banks from 13 countries and 274 Group 2 banks from 20 countries. The data has also been analysed by business model to estimate the impact of the DA on the LCR of certain business model categories.

#### 6.1.3 Main findings

- Findings from the qualitative analysis

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<sup>38</sup> Commission delegated regulation (EU) No XXX/201X, 10 October 2014.

<sup>39</sup> 'Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools', January 2013.

- The application of the DA may lead to an increase in HQLA compared to Basel III due to 1) a modification to requirements for instruments already captured as HQLA under Basel III, 2) an increase in the number of instruments that are not already captured under Basel III and 3) a modification to the composition of the liquidity buffer by adding a new cap on HQLA related to the new class of Level 1 assets, including highly-rated covered bonds.
- With regard to outflows, an important difference to Basel III is the application of higher outflow rates for certain less stable retail deposits based on a simplified set of criteria including depositor residence, depositor currency and distribution channel. One other issue, among others, that is different to Basel III is that the DA specifies the treatment of cash flows within a group or an institutional protection scheme which may — under certain conditions — receive a lower outflow rate under the DA.
- With regard to inflows, the DA proposes the identical treatment of symmetrical flows, i.e. the same treatment of inflows/outflows of the same nature, for operational deposits placed at other entities, a preferential treatment for inflows within a group or an institutional protection scheme and a 100% inflow rate for other inflows<sup>40</sup>. In addition to that, the DA provides that certain business models (leasing and factoring and auto loan and consumer credit banks) or inflow categories are fully or partially exempted from the cap on inflows or are subject to a higher cap of 90%. All these derogations may lead to an increase in total weighted inflows.
- Table 38 summarises the main differences between the DA and Basel III, as well as their estimated impact on the LCR of EU banks.

Table 38: Assumptions for the calculation of a theoretical LCR under the DA using QIS data ('LCR' and 'LCR EU only' worksheets)<sup>41</sup>

Section	Item	Legal references <sup>42</sup>	Expected impact on the LCR	Derogation included in quantitative analysis <sup>43</sup>
HQLA	<b>Modifying the requirements for instruments already captured as HQLA</b>			
	<b>Level 1 assets:</b> Preferential treatment for assets representing claims on or guaranteed by the central government, the central bank, regional governments, local authorities or public sector entities (PSEs) of a Member State	Article 10(1)(b), Article 10(1)(c)	↑	No
	<b>Level 1B assets:</b> Strengthening the liquidity of highly-rated covered bonds	Article 10(1)(f)	↑	Yes
	<b>Increasing the range of instruments that generally qualify as L1/L2A assets to include:</b>			
	<b>Level 1 assets:</b> Promotional banks' assets as Level 1 assets	Article 10(1)(e)	↑	Yes

<sup>40</sup> Under Basel III, these deposits receive an inflow rate of 0% (paragraph 156).

<sup>41</sup> Differences in operational requirements are not shown as they have not been included in the quantitative analysis.

<sup>42</sup> All legal references refer to the Commission delegated regulation (EU) No XXX/201X.

<sup>43</sup> The derogations were not considered if no data and/or proxies were available to quantify their impact.



	<b>Level 1 assets:</b> Investments in CIUs as Level 1 assets	Article 15(1), Article 15(2)(a)-(b)	↑	Yes
	<b>Level 2A assets:</b> Covered bonds of credit quality step 2 as Level 2A assets	Article 11(1)(c), Article 11(1)(d)	↑	Yes
	<b>Level 2A assets:</b> Investments in CIUs as Level 2 assets	Article 15(1), Article 15(2)(d)	↑	Yes
	<b>Increasing the range of instruments that generally qualify as L2B assets to include<sup>44</sup>:</b>			
	<b>Level 2B assets:</b> Covered bonds without any external rating as Level 2B assets	Article 12(e)	↑	Yes
	<b>Level 2B assets</b> Securitisations (auto, consumer, SME)	Article 13	↑	Yes
	<b>Level 2B assets</b> Restricted-use committed liquidity facilities	Article 14	↑	Yes
	<b>Level 1/L2A/2B assets:</b> Sight deposits that the credit institution maintains with the central institution	Article 16(1)	↑	No
	<b>Level 2B assets:</b> Liquidity funding from the central credit institution or from other institution within the same network or protection scheme (to the extent that it is not collateralised by HQLA of a specified level or category).	Article 16(2)	↑	Yes
	<b>Cap on HQLA</b>			
	<b>Cap on HQLA:</b> Sensitivity of credit institutions to the new cap on HQLA	Article 17	⇒	Yes
<b>Outflows</b>	Higher outflow rates for less stable retail deposits	Article 25(2)	↓	No
	100% outflow for the central institution on deposits that are considered as HQLA by the institution providing the deposits	Article 27(3)	⇒	No
	Outflows arising from secured lending transactions (including collateral swaps)	Article 28(3), Article 28(4)	↑	No
	Lower outflow rate for undrawn credit or liquidity facilities	Article 29	↑	Yes
	10% outflow for collateral in assets referred to in Article 10(1)(f) that is posted by the credit institution for contracts listed in Annex II of Regulation (EU) No 575/2013	Article 30(1)	↑	No
	Outflow for assets borrowed on an unsecured basis and maturing within 30 calendar days	Article 30(11)	⇒	No
	Outflow for liquidity funding from the central institution of a scheme or network referred to in Article 16 provided to a member credit institution if the member credit institution treat this funding as HQLA	Article 31(7)	⇒	No
	Lower outflow rate for credit and liquidity facilities that are provided to credit institutions solely for directly or indirectly funding promotional loans	Article 31(9)	↑	No
<b>Inflows</b>	Monies due from non-financial customers shall be reduced by 50% of their value or by the contractual commitments to those customers to extend funding	Article 32(3)(a)	⇒	No
	Credit institutions that have received a commitment in order for them to disburse a promotional loan to a final recipient, or that have received a similar commitment from a multilateral development bank or a PSE, may take an inflow into account up to the amount of the outflow they apply to the corresponding commitment to extend those promotional loans	Article 32(3)(a)	↑	No

<sup>44</sup> Although data is not available in the QIS template, it is assumed that Level 2B assets are added until either the cap on HQLA is binding or the amount of additional Level 2B assets equals the weighted amount of 'other central bank eligible assets'.

Inflows arising from secured lending transactions (including collateral swaps)	Article 32(3)(e), Article 32(3)(f)	⇩	No
Identical treatment of symmetrical flows, i.e. inflows/outflows of the same nature, inflow rate for monies due being classified as operational deposits	Article 32(3)(d)	⇧	Yes
Assets with an undefined contractual end date	Article 32(3)(i)	⇨	No
Exemptions from the cap on inflows	Article 33	⇧	Yes
Higher inflow rate for undrawn credit and liquidity facilities	Article 34	⇧	Yes
Other inflows	Article 32(2)	⇧	Yes

### Findings from the quantitative analysis

- QIS data has been used to estimate a theoretical LCR under the DA. As not all required information is available within the QIS templates or some elements are not fully covered within the QIS templates since there is a different definition under Basel III compared to the DA, the results of this part can only be viewed as an approximation.
- A number of assumptions are made to estimate the LCR of the DA (see Appendix 6 – Table 108). One of these assumptions relates to the inclusion of additional assets in the Level 2B buffer. As no data on these Level 2B assets is available in the BCBS QIS templates, the impact is estimated by assuming that credit institutions add Level 2B assets to their existing stock of HQLA until the cap on HQLA is binding and the allowed level of the 'other central bank eligible assets' is reached for all banks. This assumption represents the 'liberal approach' for the estimation of the amount of HQLA under the DA, which provides the 'highest' LCR. Similarly, the lowest boundary of the impact of the DA is estimated ('conservative approach') by excluding the Level 2B assets from estimations. Under these assumptions, the range of the global impact of the DA on the LCR is estimated between +4.3 pp taking a 'conservative approach' and +13.9 pp taking a 'liberal approach'.
- With the 'liberal approach' the weighted average estimated LCR is 130.6%, which corresponds to an estimated maximum increase of 13.9 pp compared to Basel III (Table 39). The estimated shortfall in HQLA amounts to EUR 98.4 billion under the DA, which corresponds to a decrease of almost EUR 80 billion compared to the Basel III framework.
- As intended, the DA has the greatest impact on the weighted average LCR for specialised credit institutions such as factoring and leasing, auto loan and consumer credit banks and other specialised credit institutions<sup>45</sup>. These banks typically do not fall into the category of internationally active banks (captured within the scope of the Basel III framework). Furthermore, large, internationally active banks show only a moderate increase in the LCR.

Table 39: Impact of the DA on the LCR of EU banks, in per cent

<sup>45</sup> Which do not typically fall into the category of (large) internationally active banks falling within the scope of the Basel III framework.

	Number	LCR		Shortfall in HQLA with regard to a minimum ratio of 100%, in EUR billion	
		Basel III	EU (DA)	Basel III	EU (DA)
All banks	322	116.7	130.6	177.2	98.4
Group 1 banks	48	108.7	121.5	127.3	56.8
Group 2 banks	274	160.9	181.1	49.9	41.6

Source: Basel III monitoring exercise, EBA calculation

- A total of 17 of the 74 banks that report a ratio below 100% under Basel III are compliant with the DA. It is estimated that only one bank compliant under Basel III will fail to comply under the DA framework. Overall, the total change in the LCR can be explained mainly by the modified definition of liquid assets, whereas the impact of derogations related to outflows and inflows on the LCR is of less relevance (Table 40). While the DA leads to higher outflows compared to Basel III, EU-specific derogations with regard to HQLA and inflows lead to an increase in the LCR.

Table 40: Breakdown of the main drivers behind the change in the LCR, in percentage points

	Number	Change in the LCR under the DA compared to Basel III	Of which can be attributed to:		
			HQLA	Outflows	Inflows
All banks	322	13.9	13.7	-1.0	1.2
Group 1 banks	48	12.8	12.7	-0.9	1.0
Group 2 banks	274	20.2	19.3	-2.2	3.1

Source: Basel III monitoring exercise, EBA calculation

- Table 41 shows the estimated main drivers behind the change in banks' LCRs. In absolute terms, the increase in the range of instruments that may be included as HQLA plays the most important role when trying to quantify the impact of the DA. More importantly, the main driver behind the change in the estimated LCR is the inclusion of the Level 2B assets. However, as no data on Level 2B assets are available in the QIS, the impact is estimated by assuming that credit institutions add Level 2B assets to their stock of HQLA until the caps on HQLA are binding for all banks. This liberal assumption gives the higher estimates of the amount of HQLA under the DA. If the Level 2B assets are excluded from the calculation, the increase in the LCR would only be 4.3 pp.

Table 41: Main drivers behind the change in the LCR due to application of the DA, in EUR billion

Section	Item	All banks	Group 1	Group 2
<b>Number of banks</b>		<b>322</b>	<b>48</b>	<b>274</b>

<b>HQLA</b>	<b>HQLA UNDER BASEL III</b>	<b>3 231.0</b>	<b>2 545.0</b>	<b>685.9</b>
	Modifying the requirements for instruments captured as HQLA	+ 20.7	+ 14.1	+ 6.5
	Increasing the range of instruments that qualify as HQLA (L1/L2A)	+ 70.1	+ 40.3	+ 29.8
	Increasing the range of instruments that qualify as HQLA (L2B)	+ 271.8	+ 234.8	+ 37.0
	Modification of the composition of the liquidity buffer	+ 15.8	+ 7.5	+ 8.3
	<b>HQLA UNDER THE DA</b>	<b>3 609.3</b>	<b>2 841.7</b>	<b>767.6</b>
<b>Outflows</b>	<b>OUTFLOWS UNDER BASEL III</b>	<b>4 207.6</b>	<b>3 562.4</b>	<b>645.2</b>
	Higher outflow rate for certain less stable retail deposits	+ 24.9	+ 18.9	+ 5.9
	Lower outflow rate for undrawn credit or liquidity facilities	- 0.5	- 0.4	- 0.1
	<b>OUTFLOWS UNDER THE DA</b>	<b>4 232.0</b>	<b>3 580.9</b>	<b>651.1</b>
<b>Inflows</b>	<b>INFLOWS BEFORE CAP UNDER BASEL III</b>	<b>1 513.5</b>	<b>1 233.6</b>	<b>279.8</b>
	Symmetrical inflow rate for operational deposits	+ 7.0	+ 5.5	+ 1.5
	Higher inflow rate for undrawn credit and liquidity facilities	+ 1.3	+ 0.9	+ 0.4
	100% inflow rate for other inflows	+ 43.5	+ 14.9	+ 28.7
	<b>INFLOWS BEFORE CAP UNDER THE DA</b>	<b>1 565.3</b>	<b>1 254.9</b>	<b>310.4</b>
	Cap on inflows under Basel III	- 73.9	- 13.1	- 60.9
	Cap on inflows under the DA	- 96.8	- 13.5	- 83.3
	<b>INFLOWS AFTER CAP UNDER BASEL III</b>	<b>1 439.5</b>	<b>1 220.6</b>	<b>218.9</b>
	<b>INFLOWS AFTER CAP UNDER THE DA</b>	<b>1 468.5</b>	<b>1 241.4</b>	<b>227.1</b>
<b>LCR</b>	Basel III (in per cent)	<b>116.7</b>	<b>108.7</b>	<b>160.9</b>
	DA (in per cent)	<b>130.6</b>	<b>121.5</b>	<b>181.1</b>
	<b>Δ LCR due to application of DA (in percentage points)</b>	<b>+ 13.9</b>	<b>+ 12.8</b>	<b>+ 20.2</b>

*Source: Basel III monitoring exercise, EBA calculation*

- As a general conclusion, it can be said that the application of the DA will not necessarily lead to an increase in the LCR across all banks and business models. The EU-specific derogations mainly affect the specialised business models or capture some specifications of the European financial markets.
- It should also be re-iterated and highlighted that many assumptions had to be made to estimate the EU-specific LCR using QIS data, which was initially intended for the calculation of the Basel III LCR. For instance, the (subjective) assumption that a certain percentage<sup>46</sup> of all less stable retail deposits are subject to a higher outflow rate plays an important role as small changes in the percentage applied may change the results completely and may lead to different conclusions. Moreover, the assumption that involves including Level 2B up to the maximum level allowed by the DA could lead, if everything else is kept the same, to a strong positive impact on the calculation of the EU-specific LCR. Therefore, the actual quantitative results must be interpreted with care.

<sup>46</sup> In this analysis, it is assumed that 20% of all less stable retail deposits are subject to a higher outflow rate.

## 6.2 Qualitative analysis

1. In the following section, the main differences between the LCR as specified in the DA and the Basel III LCR are highlighted from a qualitative perspective. Unless marked otherwise, legal references always refer to the DA.

### 6.2.1 General and operational requirements for HQLA

2. A list of general and operational requirements for HQLA is provided in the Basel III framework (Paragraph 24-44 Basel III) as well as in the DA (Article 6-8) to reflect the impact of operational restrictions on the availability of HQLA that can prevent timely monetisation during a stress period. Generally, the DA refers to the same criteria and provides similar requirements as defined in the Basel III framework but contains some specifications which, when applied, may lead to a different amount of eligible HQLA under the DA (Table 42).

Table 42: Differences in operational requirements between Basel III and the DA

Requirement	Legal reference		Differences
	DA	Basel III	
General structure and encumbrance	Article 7(2)	Paragraph 29 and 31	Encumbrance: under Basel III, assets that qualify for the stock of HQLA that have been pre-positioned or deposited with, or pledged to, the central bank or a PSE but have not been used for general liquidity may be included in the stock. The DA does not require the counterparties to be central banks or PSEs but also includes assets placed by a credit institution with the central institution in a cooperative network or institutional protection scheme (Article 7(2)(a)).
Issuer (credit institution itself)	Article 7(3)	Paragraph 52(b), 54(a)	In Article 7(3), the DA clearly states derogations from the exclusion of assets issued by the credit institution itself or any of its affiliated entities (PSE that is not a credit institution, subsidiary or another subsidiary of its parent undertaking or by a securitisation special purpose entity with which the credit institution has close links).
Issuer (financial institution)	Article 7(4)	Paragraph 50(c), 52(b), 54(b), 54(c)	The DA proposes a more detailed definition of issuers whose assets may generally not be classified as HQLA (unless issuer is a PSE referred to in point (c) of Article 10(1) and in points (a) and (b) of Article 11(1) or the asset is a covered bond referred to in point (f) of Article 10(1) and points (c) and (d) of Article 11(1) or the asset belongs to the category described in point (e) of Article 10(1)).
Valuation	Article 7(5), 7(7)	Paragraph 24(i)	Under the DA, restricted-use committed liquidity facilities referred to in points (b) and (d) of Article 10(1) and in point (b) of Article 11(1) as well as deposits and other funding in cooperative networks and institutional protection schemes referred to in Article 16 are excluded from this requirement (Article 7(7)(c)-(d)). Under Basel III, these assets do not qualify as HQLA.
Exchangeability	Article 7(6), 7(7)	Paragraph 24(ii)	
Diversification	Article 8(1)	Paragraph 44	Unlike Basel III, assets representing claims on or guaranteed by multilateral development banks and international organisations referred to in Article 10(1)(g) as well as restricted-use committed liquidity facilities referred to in point (d) of Article 12 are excluded from the diversification requirement (Article 8(1)(a)(iii) and Article 8(1)(c)). <sup>47</sup>
Operational and legal restrictions	Article 8(2)	Paragraph 32, 35 and 42	Pursuant to Article 8(2), assets in a third country, where there are restrictions on their free transferability, shall be deemed readily accessible only insofar as banks use those assets to meet liquidity outflows in that third country. Under Basel III, HQLA is limited to net cash outflows (paragraph 42 Basel III).
Controllability	Article 8(3)	Paragraph 33	-
Accessibility	Article 8(2) and Article 8(4)	Paragraph 30-31	HQLA as specified in Article 10 excluding extremely high-quality covered bonds, restricted-use committed liquidity facilities referred to in subparagraph (d) of Article 12(1) and deposits and other liquidity funding in cooperative networks and institutional protection schemes referred to in Article 16 are excluded from the requirements specified in Article 8(4).
Hedging the market risk	Article 8(5)	Paragraph 34	Basel III provides that banks should take into account (in the market

<sup>47</sup> Restricted-use committed liquidity facilities referred to in subparagraph (d) of Article 12(1) are not classified as HQLA under Basel III and may only be used as alternative liquid assets in jurisdictions with insufficient HQLA.

			value) the cash outflow that would arise if the hedge were to be closed out early, indicating that the value after taking into account this paragraph may never be larger than the market value. In the DA, the banks should take into account the net liquidity outflows and inflows, so that the value after taking into account the early close-out may even be larger than the market value if the hedge has a positive market value (Article 8(5)(b)).
<b>Currency denomination</b>	Article 8(6)	Paragraph 42	-
<b>Central-bank eligibility</b>	-	Paragraph 26-27	Basel III states that HQLA should ideally be eligible at central banks for intraday liquidity needs and overnight liquidity facilities although this criterion does not in itself constitute the basis for the categorisation of an asset as HQLA. There is no comparable statement in the DA.

3. As it is not possible to quantify these differences appropriately, they will not be included in the quantitative analysis. However, they may have an influence on the total amount of HQLA on an individual basis in reality.

### 6.2.2 Composition of HQLA

4. Similar to Basel III (paragraph 45-48 Basel III), the DA differentiates between assets of extremely high liquidity (Level 1 assets) and assets of high liquidity and credit quality (Level 2 assets), with Level 2 assets divided into Level 2A and Level 2B assets:

- (i) Level 1 assets (Article 10, Article 15(2)(a)-(c), Article 16(1)(a))
- (ii) Level 2A assets (Article 11, Article 15(2)(d), Article 16)
- (iii) Level 2B assets (Article 12-14, Article 15(2)(e)-(h), Article 16)

5. However, the DA contains a slightly different definition of HQLA compared to Basel III by

- (i) modifying the requirements for instruments already captured as HQLA under Basel III and strengthening the liquidity of highly-rated covered bonds, which can be assigned as Level 1 assets;
- (ii) increasing the range of instruments that are not already captured in Basel III; and
- (iii) modifying the composition of the liquidity buffer by adding a new cap on liquid assets.

#### a. Modifying the requirements for instruments already captured as HQLA

6. This part mainly concerns assets that have generally already been included in the stock of liquid assets under Basel III but with a slightly different definition or different requirements.

7. As specified in Article 10(1)(b) and Article 10(1)(c), the DA includes a preferential treatment for assets representing claims on or guaranteed by the central government, the central bank, regional governments, local authorities or PSEs of a Member State to avoid discriminating between various Member State sovereigns because of the likely damage that an exclusion of some of these bonds would create in the European market. As a consequence, the following (Level 1) assets (risk weight greater than 0%) generally not fully included under Basel III will be considered in the DA without any limit and may lead to an increase in the stock of Level 1 assets:

- (i) Level 1 assets: marketable securities representing claims on or guaranteed by sovereigns and central banks issued in domestic/foreign currency where the sovereign or the central bank belongs to a Member State (Article 10(1)(b)(i), Article 10(1)(c)(i)).
  - (ii) Level 1 assets: marketable securities representing claims on or guaranteed by regional governments and local authorities issued in domestic/foreign currency where the regional government or the local authority belongs to a Member State and the asset is treated as an exposure to the central government pursuant to Article 115(4) of Regulation (EU) No 575/2013 (Article 10(1)(c)(iii)).
  - (iii) Level 1 assets: marketable securities representing claims on or guaranteed by public sector entities in domestic/foreign currency where the PSE belongs to a Member State and the asset is treated as an exposure to the central government, the regional government or the local authority pursuant to paragraphs 4 and 5 of Article 116 of Regulation (EU) No 575/2013 (Article 10(1)(c)(v)).
8. Under Basel III, assets with a risk weight of more than 0% have generally only been included to the extent that these assets cover net liquidity outflows in this country and currency (paragraph 50(d) Basel III). Within the DA, all instruments as specified in Article 10(1)(b)(i), 10(1)(c)(iii)-(v) can be considered without any limit if all assets are treated as exposures to the central government (Article 10(1)(c)(iv) and Article 10(1)(c)(v)). As a consequence, an increase in liquid assets under the DA compared to Basel III could be expected. However, taking into account the future CRR requirements, some countries may have already classified any assets issued by EEA countries as Level 1 assets.
  9. Owing to an excellent liquidity performance, highly-rated covered bonds may be included in the stock of Level 1 assets (hereinafter referred to as 'Level 1B assets') if the specific conditions listed in Article 10(1)(f) (haircuts, operational requirements etc.) have been met. Some of these instruments may have already been included as Level 2A assets under Basel III (paragraph 52(b) Basel III), meaning that the overall impact of these instruments on HQLA may be negligible for many banks.
- b. Increasing the range of instruments that are not already captured**
10. The DA increases the range of instruments that may qualify as HQLA to reflect some specifications of European financial markets and to take into account the superior or comparable liquidity and credit performance of certain financial instruments. In general, an increase in the stock of HQLA can be expected, which may vary across countries and business model segments depending on the structure of the relevant national financial markets.
  11. Promotional banks' assets issued by credit institutions fulfilling at least one of the criteria listed in Article 10(1)(e) may be classified as Level 1 assets under the DA and may lead to an increase in HQLA compared to Basel III (where these assets have generally not been included in the stock of liquid assets).
  12. Covered bonds of credit quality step 2 meeting the requirements listed in Article 11(1)(c) and Article 11(1)(d) may be recognised as Level 2A assets subject to a haircut of 15%. Covered bonds

without any external rating but meeting the requirements as specified in Article 12(1)(e) may be included as Level 2B assets.

13. Under the DA, a bank's restricted-use committed liquidity facilities with the ECB, the central bank of a Member State, or a third country, may be classified as Level 2B assets, if the requirements specified in Article 14 are met.
14. Under Basel III, only highly-rated (non-structured) residential mortgage-backed securities (RMBS) have been classified as Level 2B assets (paragraph 54(a) Basel III). Under the DA, banks may also use auto loan asset-backed securities (ABS), small and medium enterprises (SME) ABS and consumer ABS if the conditions in Article 13 have been met. Taking into account the higher haircuts of 25% and 35% and the fact that Level 2B assets may only comprise 15% of the total HQLA, the overall impact may be limited for most banks.
15. In general, shares or units in CIUs have not been included in the stock of HQLA under Basel III. Under the DA, they may be classified as liquid assets of the same level as the liquid assets underlying the relevant undertaking up to an absolute amount of EUR 500 million for each credit institution on an individual basis if the requirements specified in Article 15(2) have been met.
16. Where a credit institution belongs to an institutional protection scheme of the type referred to in Article 113(7) of Regulation (EU) No 575/2013, to a network that would be eligible for the waiver provided for in Article 10 of that regulation or to a cooperative network in a Member State, the sight deposits that the credit institution maintains with the central institution shall be treated as HQLA in accordance with at least one of the provisions listed in Article 16(1). In addition, credit institutions may include liquidity funding they received from the central institution or from other institutions within a network or an institutional protection scheme as Level 2B assets (Article 16(2)).

### c. Impact of the new cap on liquid assets

17. Similar to Basel III (paragraph 46-47 Basel III), the DA provides that a minimum of 60% of the liquidity buffer must be comprised of Level 1 assets and a maximum of 15% of the liquidity buffer may be held in Level 2B assets (Article 17(1)(a) and Article 17(1)(c)).
18. The DA provides an additional cap to take into account highly-rated covered bonds classified as Level 1B assets as specified in Article 10(1)(f). Pursuant to Article 17(1)(b), a minimum of 30% of the liquidity buffer must be comprised of Level 1 assets, excluding extremely high-quality covered bonds classified as Level 1B assets referred to in Article 10(1)(f).
19. The new cap on liquid assets will play a major role for those banks that report significant amounts of highly-rated covered bonds qualifying for treatment as Level 1B assets. As these assets have (at least partially) been classified as Level 2A assets under Basel III, it could be expected that those banks affected by the 40% cap on Level 2A assets under Basel III will now be affected by the 70% cap on Level 1B, Level 2 and Level 2B assets.
20. A key element of the cap formula is the calculation of adjusted amounts of HQLA after taking into account the unwinding of short-term securities financing transactions and collateral swap transactions maturing within 30 calendar days that involve a change of HQLA (paragraph 45-



48 Basel III, ANNEX I DA). The DA takes into account the unwinding of transactions where the credit institution and the counterparty exchange HQLA on at least one leg of the transaction whereas Basel III refers to transactions where HQLA are exchanged on both legs.

21. As there is no breakdown of secured transactions involving a change of covered bonds and other Level 2 assets qualifying as Level 2A assets in the QIS template, it is not possible to calculate the exact adjusted amounts of Level 1B and Level 2A assets. Therefore, many assumptions have to be made to estimate the extent to which banks may be affected by the new 70% cap on liquid assets under the DA.

### 6.2.3 Composition of net liquidity outflows

#### a. Outflows

22. Basel III differentiates between stable deposits with a run-off rate of 5% or 3% (paragraph 73-78 Basel III), less stable retail deposits with a run-off rate of 10% and other deposits with a higher run-off rate up to 100% (paragraph 79-83 Basel III). Within the QIS, most of the deposits have been included in the first two categories, whereas deposits with a higher run-off rate have been defined by national authorities. By contrast, the DA is supplemented by a fixed category of less stable deposits which have a run-off rate of between 10% and 20% (Article 25(2)):
- (i) pursuant to Article 25(3)(a), an outflow rate of between 10% and 15% shall be applied if Article 25(2)(a) (total deposit balance > EUR 500 000) or at least two of the requirements listed in Article 25(2)(b)-(e)<sup>48</sup> have been met;
  - (ii) pursuant to Article 25(3)(b), an outflow rate of between 15% and 20% shall be applied if Article 25(2)(a) (total deposit balance > EUR 500 000) and at least one other criterion listed in Article 25(2)(b)-(e) or more than three of the requirements listed in Article 25(2)(b)-(e) have been met;
  - (iii) pursuant to Article 25(3)(b), an outflow rate of between 15% and 20% shall be applied if the credit institution is not able to assess retail deposits in accordance with Article 25(2).
23. If an inflow is directly linked to the relevant outflow or the inflow is required pursuant to a legal, regulatory or contractual commitment, credit institutions may calculate the liquidity outflow net of an interdependent inflow (Article 26).
24. Under Basel III, deposits provided by members of the institutional networks of cooperative (or otherwise named) banks receive an outflow rate of 25% (paragraph 105). Under the DA, some of these deposits (if placed at the central credit institution and considered as liquid assets in accordance with Article 16 DA) receive an outflow rate of 100% for the central institution on the amount of these liquid assets after a haircut (Article 27(3)).

<sup>48</sup> Including: internet-only account; higher interest rate depending on market index or other market variables; fixed-term deposits expiring within 30 calendar days, institution established in Union: depositor is resident in third country; institution established in third country: depositor is non-resident in this country; deposit is denominated in a currency other than the domestic currency of the third country.

25. Although the calculation of outflows arising from secured lending and capital market-driven transactions follows the same approach under the DA compared to Basel III, the DA provides a slightly revised calculation of outflows to reflect the specific requirements of the DA (Article 28(3)).<sup>49</sup> In this regard, the DA provides different outflows for liabilities resulting from secured lending and capital market-driven transactions maturing within 30 calendar days as defined in Article 192(2) and (3) of Regulation No 575/2013 if they are collateralised by assets that are treated differently to under Basel III. In addition, the DA states that transactions backed by non-HQLA where the lender is a central government or a PSE of another Member State or a third country in which the credit institution has been authorised or has established a branch shall receive an outflow rate of 25% (Article 28(3)(d)(ii)). Under Basel III, this derogation is limited to the domestic central government and domestic PSEs. Table 43 gives an overview of the outflow rates applied for secured lending transactions backed by different types of collateral:

Table 43: Outflow rates applied to secured lending and capital market-driven transactions under Basel III and the DA (assuming that covered bonds referred to in Article 10(1)(f) are treated as Level 2A assets under Basel III)

Secured lending and capital market-driven transaction backed by	Basel III (paragraph 114-115)	DA (Article 28(3))
Level 1 assets in accordance with Article 10 (excluding extremely high-quality covered bonds referred to in Article 10(1)(f) or the lender is a central bank	0%	0%
Level 1 assets (extremely high-quality covered bonds referred to in Article 10(1)(f))	15%	7%
Level 2A assets		15%
Level 2B assets referred to in points (i) or (ii) of Article 13(2)(g)	25%	25%
Level 2B assets referred to in point (iv) of Article 13(2)(g)	100% (25%) <sup>50</sup>	25%
Non-HQLA and the lender is the domestic central government, a domestic PSE or a MDB	25%	25%
Non-HQLA and the lender is the central government or a PSE of another Member State or of a third country where the credit institution has been authorised or has established a branch (Article 28(3)(d)(ii))	100%	25%
Level 2B assets referred to in points (iii) or (v) of Article 13(2)(g)	100% (25%)	35%
Level 2B assets in accordance with Article 12(1)(b)	50%	50%
Level 2B assets in accordance with Article 12(1)(c)	50%	50%
Other non-HQLA	100%	100%

26. Collateral swaps that mature within the next 30 days shall lead to an outflow for the excess liquidity value of the assets borrowed (in accordance with Article 9) compared to the liquidity value of the assets lent (in accordance with Article 9) unless the counterparty is a central bank in which case a 0% outflow rate shall be applied (Article 28(4)). Compared to Basel III (paragraph 113-115 Basel III), the DA provides for a different treatment of collateral swaps by:

- (i) providing a preferential treatment for collateral swaps where the counterparty is a central bank (0% outflow, Article 28(4));

<sup>49</sup> If the lender is not the central bank.

<sup>50</sup> If the counterparty is a domestic sovereign, PSE or multilateral development bank that is not backed by Level 1 or 2A assets.

- (ii) calculating the outflows or inflows as the difference of the liquidity values of the assets borrowed and lent (whichever is higher), whereas under Basel III fixed outflow rates are applied to the market value of the asset borrowed (for outflows) and the market value of the asset lent (for inflows) (Article 28(4));
  - (iii) modifying the calculation to reflect the treatment of transactions backed by HQLA that are treated differently to under Basel III.
27. If the conditions of Article 29 have been met, competent authorities may grant permission to apply a lower outflow rate on a case-by-case basis for undrawn credit or liquidity facilities. For some banks this may lead to a small decrease of weighted outflows, although one can argue that these facilities (mostly) represent only a small part of the total outflows.
28. Collateral in assets referred to in Article 10(1)(f) that is posted by the credit institution for contracts listed in Annex II of Regulation (EU) No 575/2013 and credit derivatives shall be subject to an additional outflow of 10% (Article 30(1)). Under Basel III, these transactions receive an outflow of 20% (paragraph 119 Basel III).
29. The DA specifies the treatment of assets borrowed on an unsecured basis and maturing within 30 calendar days which shall be assumed to run off in full, leading to a 100% outflow of HQLA unless the credit institution owns the securities and they do not form part of the credit institution's liquidity buffer (Article 30(11)). Under Basel III, the treatment of these items is not clearly specified in the framework.
30. The DA specifies the treatment of liquidity funding from the central institution of a scheme or network referred to in Article 16 provided to a member credit institution if the member credit institution treats this funding as HQLA in accordance with Article 16(2) (Article 31(7)).
31. Credit institutions that have been set up and are sponsored by the central or regional government of at least one Member State may apply lower outflow rates of 5-10% to credit and liquidity facilities that are provided to credit institutions solely for directly or indirectly funding promotional loans (Article 31(9)).
- b. Inflows**
32. Under Basel III, monies due from non-financial customers receive a fixed inflow rate of 50% (paragraph 153-154 Basel III). If the total of all contractual obligations to extend funds to these customers exceeds 50% of the monies due, the difference should be reported as a 100% outflow (paragraph 133 Basel III). Under the DA, this treatment is only reflected in the calculation of inflows: monies due from non-financial customers shall be reduced by 50% of their value or by the contractual commitments to those customers to extend funding (Article 32(3)(a)).
33. Credit institutions that have received a commitment referred to in Article 31(9) in order for them to disburse a promotional loan to a final recipient, or that have received a similar commitment from a multilateral development bank or a PSE, may take an inflow into account up to the amount of the outflow they apply to the corresponding commitment to extend those promotional loans (Article 32(3)(a)).

34. Inflows arising from secured lending and capital market-driven transactions are treated in accordance with the relevant outflows as specified in Article 28(3) (Article 32(3)(b)). Collateral swaps that mature within the next 30 days shall lead to an outflow for the excess liquidity value of the assets borrowed (in accordance with Article 9) compared to the liquidity value of the assets lent (in accordance with Article 9) (Article 32(3)(e)).
35. Monies due from customers fulfilling the criteria as listed in Article 27 (i.e. being classified as operational deposits) shall receive a symmetrical inflow rate (Article 32(3)(d)). Under Basel III, operational deposits provided to financial customers receive an inflow rate of 0%.
36. Assets with an undefined contractual end date shall be taken into account with a 20% inflow provided that the contract allows the institution to withdraw and request payment within 30 days (Article 32(3)(i)).
37. Under Basel III, net cash outflows are defined as 'the total expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar days'. In this regard, 'total expected cash inflows are calculated by multiplying the outstanding balances of various categories of contractual receivables by the rates at which they are expected to flow in under the scenario up to an aggregate cap of 75% of total expected cash outflows' (paragraph 69 Basel III). While inflows are also generally limited to 75% of total cash outflows under the DA (Article 20(b)(iii)), the DA allows some inflows to be exempted in full (Article 20(b)(i)) and other inflows to be capped at a rate of 90% of total outflows (Article 20(b)(ii)).
38. As specified in Article 33(2), the following inflows may be fully or partially exempted from the cap (subject to the prior approval of the competent authority):
- (i) inflows where the provider is a parent or a subsidiary of the credit institution or another subsidiary of the same parent or linked to the credit institution by a relationship within the meaning of Article 12(1) of Directive 83/349/EEC (Article 33(2)(a));
  - (ii) inflows from deposits placed with other credit institutions within a group of entities qualifying for the treatment specified in Article 113(6) or (7) of Regulation (EU) No 575/2013 (Article 33(2)(b));
  - (iii) inflows referred to in Article 26, including inflows from loans related to mortgage lending, or promotional loans referred to in Article 31(9) or from a multilateral development bank or a PSE that the credit institution has passed through (Article 33(2)(c));
  - (iv) specialised credit institutions may be exempted from the cap on inflows if their activities are leasing and factoring business (Article 33(3)).
39. Specialised credit institutions (excluding those that are treated in accordance with Article 33(3)) may be subject to a cap of 90% if activities are limited to auto loan or automotive financing or consumer credit business as defined in the Consumer Credit Directive 2008/48/EC (Article 33(4)).

40. Inflows may only be exempted from the cap or may be subject to a higher cap of 90% if the conditions specified in Article 33(5) have been met:
- (i) the business activities exhibit a low liquidity risk profile (Article 33(5)(a));
  - (ii) at an individual level, the ratio of leasing and factoring, auto loan or automotive financing and consumer credit business exceeds 80% of the total balance sheet (Article 33(5)(b));
  - (iii) the derogations are disclosed in annual reports (Article 33(5)(c)).
41. The DA also proposes that competent authorities allow the application of a higher inflow rate for undrawn credit and liquidity facilities (Article 34). Under Basel III, undrawn credit and liquidity facilities are not reported as inflows.
42. Other inflows not captured anywhere in Article 32, Article 33 or Article 34 shall receive a fixed inflow rate of 100% (Article 32(2)). Under Basel III, the inflow rate for other inflows shall be defined by the NCA (paragraph 160 Basel III).

#### **6.2.4 Transitional provisions**

43. The DA provides several transitional provisions that are not included under Basel III.
44. Assets issued by credit institutions which benefit from a guarantee from the central government of a Member State shall qualify as Level 1 assets only where the guarantee was granted or committed to for a maximum amount prior to 30 June 2014 and the guarantee is a direct, explicit, irrevocable and unconditional guarantee and covers the failure to pay principle and interest when due (Article 35(1)). These assets shall be treated as assets representing claims on or guaranteed by the central or regional governments, local authorities or PSEs referred to in Article 10(1)(c) (Article 35(4)).
45. Senior bonds issued by Ireland, Spain and Slovenia whose impaired assets are sponsored by management agencies may be classified as Level 1 assets until the 31 December 2023 (Article 36).
46. Securitisations issued before 1 October 2015, where the underlying exposures are residential loans as referred to in point (g)(i) of Article 13(2), shall qualify as Level 2B assets if they meet all the requirements specified in Article 13 other than the loan-to-value or loan-to-income requirements specified in that point (g)(i) of Article 13 (Article 37(1)). Securitisations issued after 1 October 2015, where the underlying exposures are residential loans as referred to in point (g)(i) of Article 13(2) that do not meet the average loan-to-value or the loan-to-income requirements specified in that point, shall qualify as Level 2B assets until 1 October 2015, provided that the underlying exposures include residential loans that were not subject to a national law regulating loan-to-income limits at the time they were granted and that these residential loans were granted at any time prior to 1 October 2015 (Article 37(2)).
47. Unlike Basel III (paragraph 10), the DA proposes the full implementation of the LCR with a binding minimum standard of 100% in 2018 (Article 37).

## 6.3 Quantitative analysis

48. In the previous section, the main differences between Basel III and the DA have been highlighted from a qualitative perspective. This section aims to quantify the difference by using QIS data as of 31 December 2013. Since not all required information is available within the QIS templates or some elements are not fully covered within the QIS templates because there is a different definition under Basel III, not all differences can be taken into account. As a consequence, the results can only be viewed as an approximation.

### 6.3.1 HQLA

49. Table 44 illustrates the extent to which EU-specific derogations have been taken into account.

Table 44: Items included in the quantitative analysis of HQLA

Item	Legal reference (DA)	Available in QIS template?	Included in the quantitative analysis?
<b>Level 1 assets:</b> Preferential treatment for assets representing claims on or guaranteed by the central government, the central bank, regional governments, local authorities or PSEs of a Member State	Article 10(1)(b), Article 10(1)(c)	No breakdown of exposures to central governments, central banks, regional governments, local authorities or PSEs into exposures to Member States and third countries	No
<b>Level 1 assets:</b> Investments in CIUs as Level 1 assets	Article 15(2)(a)-(c)	Yes (although not necessarily based on the same definition, data is used from 'LCR EU only' worksheet)	Yes (page 136)
<b>Level 1 assets:</b> Promotional banks' assets as Level 1 assets	Article 10(1)(e)	Yes (although not necessarily based on the same definition, data is used from 'LCR EU only' worksheet)	Yes (page 136)
<b>Level 1B assets:</b> Strengthening the liquidity of highly-rated covered bonds	Article 10(1)(f)	Covered bonds included as Level 2A assets are interpreted as assets that qualify for the treatment specified in Article 10(1)(f)	Yes (page 135)
<b>Level 2A assets:</b> Covered bonds of credit quality step 2 as Level 2A assets	Article 11(1)(c), Article 11(1)(d)	Yes (although not necessarily based on the same definition, data is used from 'LCR EU only' worksheet)	Yes (page 136)
<b>Level 2A assets:</b> Investments in CIUs as Level 2 assets	Article 15(2)(d)	Yes (although not necessarily based on the same definition, data is used from 'LCR EU only' worksheet)	Yes (page 136)
<b>Level 2B assets:</b> Covered bonds without any external rating as Level 2B assets	Article 12(e)	No	Yes (page 137); although no QIS data is available, the impact is estimated by assuming that credit institutions add Level 2B assets until the caps on HQLA are binding.
<b>Level 2B assets:</b> Securitisations (auto, consumer, SME)	Article 13	No	
<b>Level 2B assets:</b> Restricted-use committed liquidity facilities	Article 14	No	
<b>Level 1/2A/2B assets:</b> Sight deposits that the credit institution maintains with the central institution and liquidity funding from the central credit institution or from another institution within the same network or protection scheme	Article 16(1)	No	
<b>Level 2B assets:</b> Liquidity funding from the central credit institution or from another institution within the same network or protection scheme	Article 16(2)	No	
<b>Cap on HQLA:</b> Sensitivity of credit institutions to the new cap on HQLA	Article 17	Information on covered bonds referred to in Article 10(1)(e) used as collateral in secured lending transactions is missing (information is generally required to calculate the adjusted amounts of HQLA).	Yes (page 138); strong assumptions have been made to estimate the impact: all covered bonds classified as Level 2A assets under Basel III are assumed to be owned outright or borrowed in secured transactions with a maturity of more than 30 days.

### a. Strengthening the liquidity of top-rated covered bonds

50. Highly-rated covered bonds in accordance with Article 10(1)(f) may be included in the stock of HQLA as Level 1B assets, although some of these instruments may have already been included under Basel III as Level 2A assets. As can be seen in Table 45, the overall share of these instruments relative to the total (unweighted) HQLA is limited, at approximately 8%. With regard to the business model analysis, the volume of highly-rated covered bonds is particularly marked for savings banks and cooperative banks.

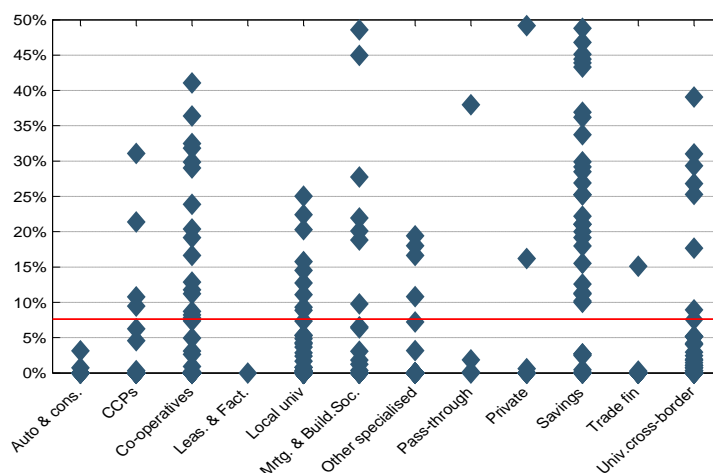
Table 45: Estimating the differences between the Basel III LCR and EU LCR: Impact of covered bonds

	Number	Total HQLA (unweighted)	Level 1 assets (unweighted)	Covered bonds (L2A) (unweighted)	Of which are:	
					Owned outright	Borrowed
All banks	322	3 452.6	2 904.1	263.6	235.4	22.8
Group 1 banks	48	2 704.0	2 288.0	184.9	159.2	17.3
Group 2 banks	274	748.5	616.1	78.8	76.2	5.6

Source: Basel III monitoring exercise, EBA calculation

51. Without taking into account the cap on HQLA, the reclassification of these instruments as Level 1B assets may lead to an overall increase of EUR 21.1 billion<sup>51</sup> under the DA compared to Basel III. The major part of these instruments is owned outright, meaning that only a small amount of the assets is borrowed in secured lending transactions and may be subject to the cap on HQLA.

Figure 60: Covered bonds (L2A) (unweighted) as % of total HQLA (unweighted), by business model<sup>52</sup>



Source: Basel III monitoring exercise, EBA calculation

<sup>51</sup> Haircut pursuant to Basel III (paragraph 52): 85%; haircut pursuant to the DA (Article 10(2)): 93% ⇒ Diff: 8% \* EUR 263.6 billion = EUR 21.1 billion.

<sup>52</sup> In all figures, the line shows the weighted average of all banks.

## b. Increasing the range of instruments that generally qualify as HQLA (L1/L2A)

52. The DA proposes in Articles 10, 11 and 15 to increase the range of instruments that may qualify as HQLA (Level 1/2A assets) by adding promotional banks' assets, covered bonds that are assigned a credit assessment of credit quality step 2 (which generally equals a rating of A- to A+) and investments in CIUs. Table 60 shows that the impact of this new class of liquid assets is limited to an increase in EUR 76.5 billion of unweighted HQLA. This increase is caused equally by promotional banks' assets and covered bonds, whereas the impact of investments in CIUs is negligible.

Table 46: Estimating the differences between the Basel III LCR and EU LCR: Increasing the range of instruments that generally qualify as HQLA, in EUR billion

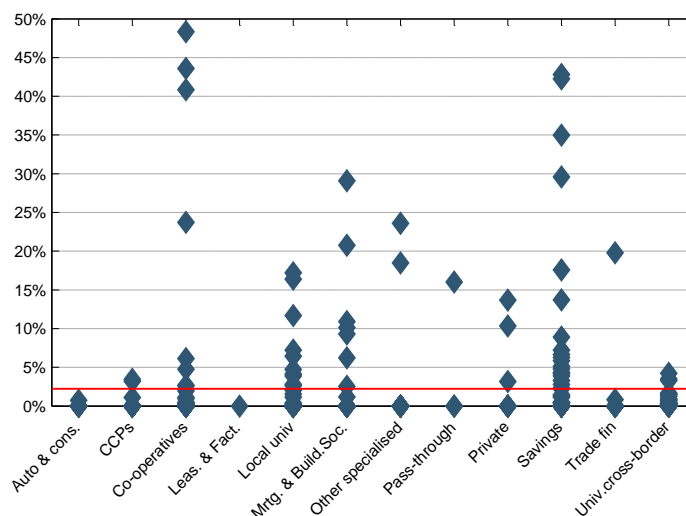
	Number	Total HQLA (unweighted)	Total amount of new class of HQLA	Of which are:		
				Promotional banks' assets	Covered bonds	CIUs
All banks	322	3 452.6	76.5	33.8	38.7	4.0
Group 1 banks	48	2 704.0	44.1	18.6	23.9	1.7
Group 2 banks	274	748.5	32.3	15.2	14.8	2.3

Source: Basel III monitoring exercise, EBA calculation

53. With regard to the business model analysis, the increase in the range of instruments that may be included in the stock of HQLA is relevant for other specialised credit institutions (share of assets relative to total unweighted HQLA: 19.5%) and for cooperative banks (6.0%). At an individual bank level, it can be seen that some smaller savings banks and some cooperative banks are significantly affected by the increase in the range of instruments, leading to an increase in HQLA of up to 50% (Figure 73).



Figure 61: Change in HQLA (unweighted) due to the increase in the range of instruments that qualify as liquid assets as a percentage of the total HQLA (unweighted), by business model



Source: Basel III monitoring exercise, EBA calculation

### c. Increasing the range of instruments that generally qualify as HQLA (L2B)

54. As the QIS template provides no information about additional Level 2B assets that may qualify as HQLA under the DA, the impact needs to be estimated by using the lower of the following two amounts:

- (i) amount of potential Level 2B assets that may be added until the caps on HQLA are binding;
- (ii) weighted amount (weight of 75%) of 'other central-bank eligible assets' as reported in the 'LCR EU only' worksheet.

55. It should be clear that this methodology overestimates the impact of Level 2B assets as it is assumed that all other central-bank eligible assets generally qualify as Level 2B assets. However, this approach allows for an appropriate calculation of the maximum amount that could be added to the stock of HQLA.

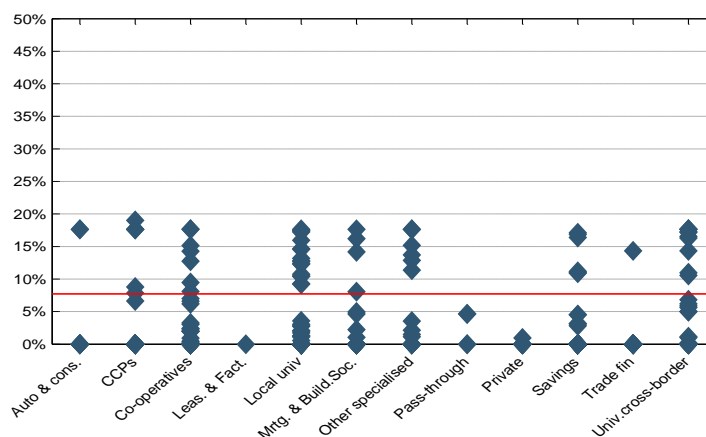
56. As can be seen in Table 61, additional Level 2B assets may play a major role for trade financing institutions (10.8%) and universal cross-border banks (8.8%).

Table 47: Estimating the impact of additional Level 2B assets, in EUR billion

	Number	Total HQLA (weighted, Basel III)	Other central-bank eligible assets (post-75%-weight)	Total additional Level 2B assets (that could be added to the stock of HQLA)
All banks	322	3 231.0	604.4	255.0
Group 1 banks	48	2 545.0	433.2	222.3
Group 2 banks	274	685.9	171.2	32.8

Source: Basel III monitoring exercise, EBA calculation

Figure 62: Change in HQLA (weighted) due to the increase in the range of Level 2B assets that qualify as liquid assets as a percentage of the total HQLA (weighted), by business model



Source: Basel III monitoring exercise, EBA calculation

#### d. Sensitivity of banks to the new cap on liquid assets

57. The DA provides a new cap on Level 1B assets, requiring that a minimum of 30% of the liquidity buffer must be comprised of Level 1 assets, excluding the extremely high-quality covered bonds referred to in Article 10(1)(f). In the following analysis, highly-rated covered bonds from Section a are treated as Level 1B assets to evaluate the sensitivity of banks to the new cap on HQLA as defined in Article 17(1)(b) of the DA. As no information is available on certain instruments that are borrowed in secured transactions with a maturity of less than 30 days and that are therefore subject to the calculation of the adjusted amount of liquid assets, it is assumed that all relevant items are owned outright or are borrowed in secured transactions with a maturity of more than 30 days.

58. Under Basel III, 59 banks have been affected by the cap on liquid assets (either the cap on Level 2B assets or the cap on Level 2 assets). Under the DA, only 34 banks will be affected by the cap with an overall capped amount of EUR 53.6 billion, which is roughly EUR 15 billion below the relevant amount under Basel III (Table 48).

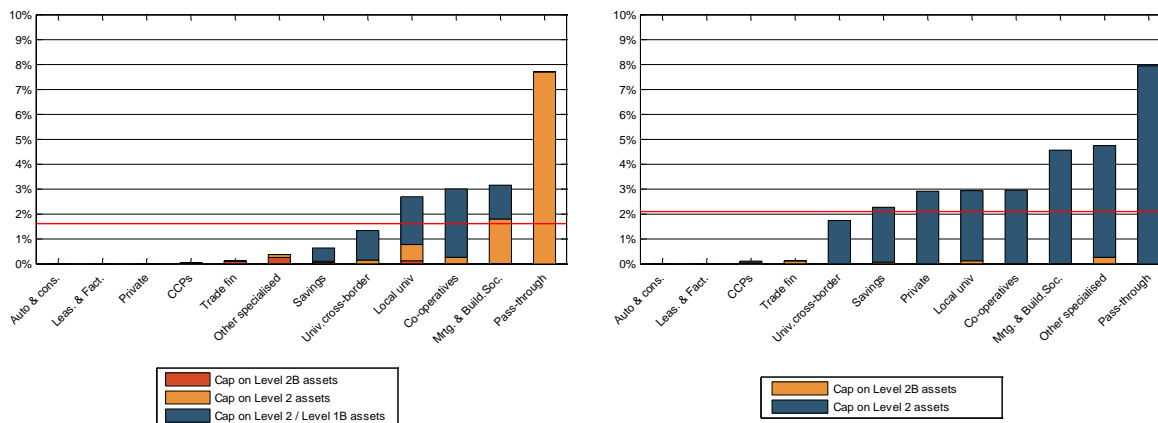
Table 48: Sensitivity of banks to the new cap on HQLA

	Number	DA			Basel III		
		Total HQLA <sup>53</sup> (before cap, €bn)	Number of banks affected by the cap	Total capped amount (€bn)	Total HQLA (before cap, €bn)	Number of banks affected by the cap	Total capped amount (€bn)
All banks	322	3 321.1	34	53.6	3 300.4	59	69.5
Group 1 banks	48	2 593.0	1	26.2	2 578.9	1	33.9
Group 2 banks	274	728.1	33	27.4	721.5	58	35.6

Source: Basel III monitoring exercise, EBA calculation

59. In total, the capped amount of HQLA relative to the total weighted HQLA before the cap is lower under the DA (Figure 75 and Figure 76). This can be explained by an increase in the total weighted HQLA before the cap due to a different weight for highly-rated covered bonds, as these instruments now receive a higher weight of 93% and a different cap methodology with a lower sensitivity to the cap on liquid assets. The different methodology results in an advantage under the DA, which is maximised when all Level 2A assets consist of highly-rated covered bonds.

Figure 63: Cap on liquid assets relative to the total HQLA (before cap) across different business models pursuant to the DA (left) and Basel III (right)



Source: Basel III monitoring exercise, EBA calculation

#### e. Overall impact of the modified definition of the HQLA (DA)

60. This section aims to assess the combined overall impact of all elements discussed in the previous sections compared with the total amount of HQLA under Basel III.

<sup>53</sup> Weighted amount.

61. Table 49 illustrates the change in HQLA as a result of the DA compared to Basel III. In total, HQLA will increase by EUR 378.4 billion (about 11.7%), which is caused to a greater extent by the increase in the range of Level 2B assets that can be included in the stock of liquid assets. Only a small amount can be attributed to the reclassification of highly-rated covered bonds and the different cap methodology.

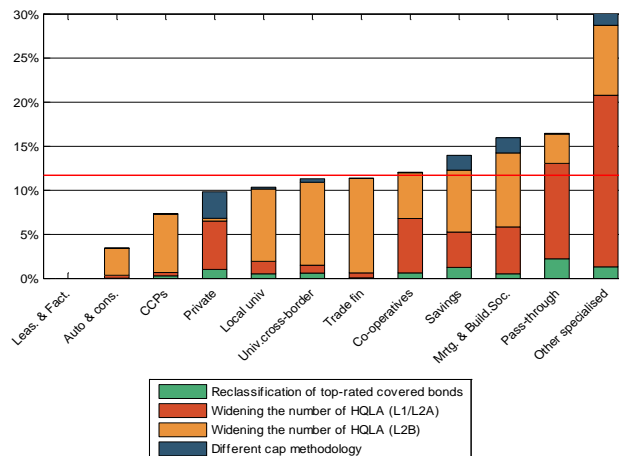
Table 49: Overall impact of the DA on HQLA, in EUR billion

	Number	Total HQLA (after cap)		$\Delta$ HQLA	which can be attributed to:			
		Basel III	DA		Reclassification of top-rated covered bonds	Increase in the range of HQLA (L1/L2A)	Increase in the range of HQLA (L2B)	Different cap methodology
All banks	322	3 231.0	3 609.3	378.4	20.7	70.1	271.8	15.8
Group 1 banks	48	2 545.0	2 841.7	296.6	14.1	40.3	234.8	7.5
Group 2 banks	274	685.9	767.6	81.7	6.5	29.8	37.0	8.3

Source: Basel III monitoring exercise, EBA calculation

62. With regard to different business models, other specialised credit institutions report an increase in HQLA by more than 33%.

Figure 64: Overall change in HQLA (DA) compared to Basel III across business models



Source: Basel III monitoring exercise, EBA calculation

63. Table 50 illustrates the change in HQLA for the 30 banks that show the largest increase in HQLA compared to Basel III. In general, the following observations should be highlighted:

- (i) on average, these 30 banks report a ratio below 100% and are able to increase their HQLA by more than 66%;

- (ii) 21 out of the 30 banks with the largest increase in liquid assets belong to the savings banks or cooperative banks sector;
- (iii) 14 out of the 30 banks with the largest increase in liquid assets report a LCR below 100%; 8 banks report a ratio below 60%;
- (iv) although the increase in the range of Level 2B assets that may be included in the stock of HQLA is the most important driver behind the overall increase in HQLA, it plays only a minor role for the 30 banks with the largest increase in HQLA.

Table 50: Overall impact of the DA on HQLA for banks with the largest increase in HQLA, in per cent

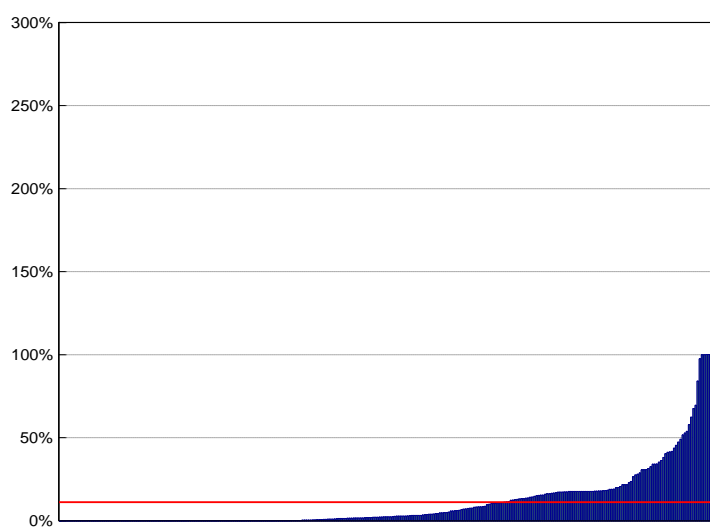
	Sector	LCR	Δ HQLA	which can be attributed to:			
				Reclassification of highly-rated covered bonds	Increase in the range of HQLA (L1/L2A)	Increase in the range of HQLA (L2B)	Different cap methodology
Bank 1	Savings	8.7	3 689.027	624.076	1 076.708	0.000	1 988.243
Bank 2	Co-operatives	62.0	461.883	0.779	467.259	0.000	-6.156
Bank 3	Other specialised	81.9	184.368	8.456	126.064	0.000	49.848
Bank 4	Savings	143.5	126.909	9.692	59.965	25.750	31.503
Bank 5	Savings	5.9	100.000	106.790	0.000	0.000	-6.790
Bank 6	Savings	61.8	100.000	10.928	0.000	0.000	89.072
Bank 7	Savings	44.3	100.000	9.596	0.000	0.000	90.404
Bank 8	Savings	44.8	100.000	18.248	44.514	0.000	37.238
Bank 9	Savings	112.0	100.000	11.342	0.000	0.000	88.658
Bank 10	Mrtg. & build. soc.	176.2	97.568	15.914	0.000	0.000	81.654
Bank 11	Univ. cross-border	23.8	84.122	20.868	1.393	0.000	61.861
Bank 12	Mrtg. & build. soc.	10.1	69.429	1.657	88.663	0.000	-20.892
Bank 13	Savings	243.4	67.554	3.126	64.428	0.000	0.000
Bank 14	Local univ.	145.6	62.289	6.882	4.359	1.769	49.279
Bank 15	Co-operatives	195.3	57.820	2.728	55.092	0.000	0.000
Bank 16	Co-operatives	74.5	53.850	7.142	0.000	0.000	46.708
Bank 17	Co-operatives	119.9	52.835	1.369	44.861	6.605	0.000
Bank 18	Savings	165.7	51.672	5.449	5.582	22.751	17.890
Bank 19	Trade fin.	633.3	49.009	0.000	41.657	0.000	7.351
Bank 20	Savings	695.9	47.294	2.157	45.137	0.000	0.000
Bank 21	Co-operatives	85.6	45.336	1.057	44.279	0.000	0.000
Bank 22	Other specialised	187.7	43.637	1.482	20.610	21.546	0.000
Bank 23	Co-operatives	69.0	41.667	0.000	413.737	0.000	-372.070
Bank 24	Co-operatives	164.2	41.403	2.929	23.199	13.329	1.945
Bank 25	Co-operatives	766.9	41.225	6.707	1.408	0.000	33.110
Bank 26	Local univ.	124.3	40.365	6.658	0.000	0.000	33.707
Bank 27	Savings	38.0	38.061	2.505	35.555	0.000	0.000
Bank 28	Co-operatives	15.8	36.268	0.000	36.268	0.000	-0.000
Bank 29	Savings	214.7	35.212	3.839	30.579	0.000	0.793

Bank 30	Mrtg. & build. soc.	627.0	34.096	0.246	29.218	4.632	0.000
<b>Ø of all 30 banks</b>		<b>83.6</b>	<b>66.214</b>	<b>5.659</b>	<b>34.806</b>	<b>8.586</b>	<b>17.164</b>
<b>Ø of all banks</b>		<b>116.7</b>	<b>11.711</b>	<b>0.639</b>	<b>2.171</b>	<b>8.411</b>	<b>0.489</b>

Source: Basel III monitoring exercise, EBA calculation

64. Figure 65 shows that the impact of the DA on the overall amount of HQLA is generally limited but may have a significant influence on individual banks.

Figure 65: Change in HQLA (EU DA) compared to Basel III for individual banks



Source: Basel III monitoring exercise, EBA calculation

### 6.3.2 Outflows

65. Table 51 illustrates the extent to which EU-specific derogations have been taken into account.

Table 51: Items included in the quantitative analysis of outflows

Item	Legal reference (DA)	Available in QIS template?	Included in the quantitative analysis?
Higher outflow rates for less stable retail deposits	Article 25(2)	Yes (there is no breakdown of less stable retail deposits into stable deposits and deposits which may qualify as deposits referred to in Article 25(2), therefore it is assumed that 20% of all less stable retail deposits are subject to this treatment)	Yes (page 143)
100% outflow for the central institution on deposits that are considered as HQLA by the institution providing the deposits	Article 27(3)	No	No
Outflows arising from secured lending transactions (including collateral swaps)	Article 28(3)	No (no information on transactions backed by assets referred to in Article 10(1)(f) available)	No
Lower outflow rate for undrawn credit or liquidity facilities	Article 29	Yes (only available for intragroup facilities; not available for facilities within an institutional protection scheme)	Yes (page 145)
10% outflow for collateral in assets referred to in Article 10(1)(f) that is posted by the credit institution for contracts listed in Annex II of Regulation (EU) No 575/2013	Article 30(1)	No	No
Outflow for assets borrowed on an unsecured basis and maturing within 30 calendar days	Article 30(11)	No	No
Outflow for liquidity funding from the central institution of a scheme or network referred to in Article 16 provided to a member credit institution if the member credit institution treats this funding as HQLA	Article 31(7)	No	No
Lower outflow rate for credit and liquidity facilities that are provided to credit institutions solely for directly or indirectly funding promotional loans	Article 31(9)	No	No

#### a. Impact of less stable retail deposits with a higher outflow rate

66. Under the DA, certain less stable retail deposits may be subject to a higher inflow rate of between 10% and 20% if the conditions as listed in Article 25(3)(a) or Article 25(3)(b) have been met. Article 3(8) states that the term 'retail deposits' refer to liabilities to a natural person or to an SME, where the SME would qualify for the retail exposure class under the standardised or IRB approaches for credit risk. In this regard, it is assumed that 20% of all less stable deposits provided by retail customers as well as those customers that are classified as SME under Basel III receive an outflow rate of 15% and 20%.

67. As can be seen in Table 52, less stable retail deposits amount to roughly 1.2% of the total weighted outflows. Assuming an outflow rate of 15% will increase total outflows by only EUR 25 billion (0.6% of total weighted outflows). Using an outflow rate of 20% will lead to an increase of EUR 50 billion (or 1.2% of total weighted outflows). The percentage of less stable

retail deposits that are subject to higher outflow rates may be different across banks and countries, so the results should be interpreted with care.

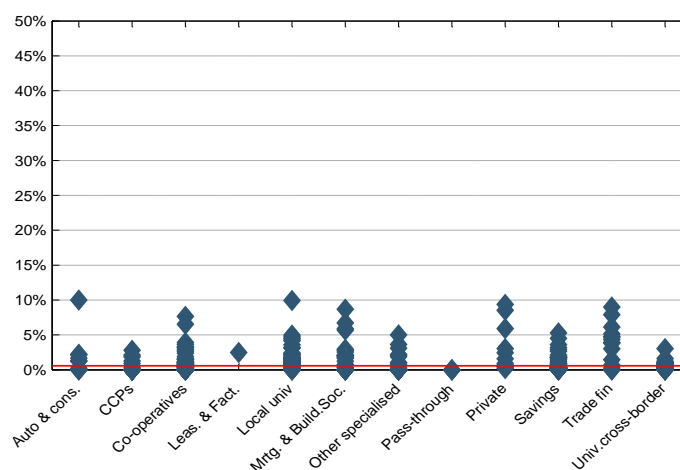
Table 52: Impact of higher outflow rates for 20% of less stable retail deposits (weighted)

	Number	Total outflows (weighted)	Less stable retail deposits assuming an outflow rate of:		
			10%	15%	20%
All banks	322	4 207.6	49.7	74.6	99.5
Group 1 banks	48	3 562.4	37.9	56.8	75.7
Group 2 banks	274	645.2	11.9	17.8	23.7

Source: Basel III monitoring exercise, EBA calculation

68. At business model level, mortgage banks and building societies are highly affected by the derogation and report an increase in outflows by almost 4%. By contrast, savings banks and cooperative banks are unexpectedly less affected at an aggregate level.

Figure 66: Change in total outflows for 15% outflow rate across business models <sup>54</sup>

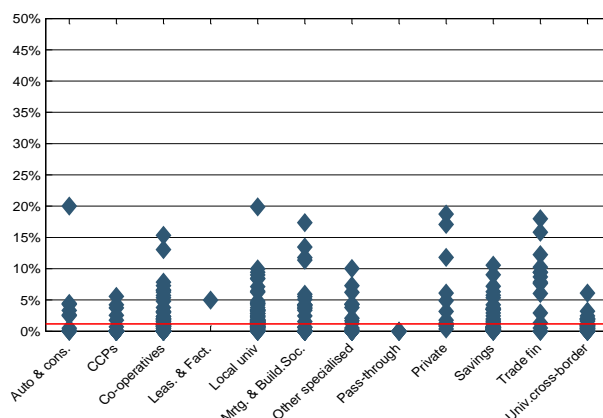


Source: Basel III monitoring exercise, EBA calculation

<sup>54</sup> Maximum increase in total weighted outflows limited to 10%:  $[(0.2 * 0.15 * X) + (0.8 * 0.1 * X)] / (1 * 0.1 * X) - 1 = 10\%$ .



Figure 67: Change in total outflows for 20% outflow rate across business models



Source: Basel III monitoring exercise, EBA calculation

#### b. Impact of intra-group undrawn credit and liquidity facilities

69. In the following, it is assumed that a lower outflow rate is applied to undrawn credit or liquidity facilities when the conditions as specified in Article 29 have been met. Due to data availability constraints, only credit and liquidity facilities provided to domestic intragroup entities are taken into account. In this context, the following outflow rates are applied:

Table 53: Weights for undrawn credit and liquidity facilities provided to domestic intragroup entities

	Basis	Case 1	Case 2	Case 3
Credit and liquidity facilities to banks subject to prudential supervision	40%	35%	30%	25%
Credit facilities provided to other FIs	40%	35%	30%	25%
Liquidity facilities provided to other FIs	100%	85%	70%	55%
Credit and liquidity facilities to other legal entities	100%	85%	70%	55%

Source: Basel III monitoring exercise, EBA calculation

70. The total impact can be seen in Table 54. The share of undrawn credit or liquidity facilities provided to domestic intragroup entities relative to total outflows is extremely small, so the overall change in outflows due to lower outflow rates is negligible. The small numbers can be explained by the following reasons:

- (i) Article 29 refers to credit and liquidity facilities provided to domestic intragroup entities as well as members of the same institutional protection scheme. While the first part is captured within the QIS template, no information is available with regard to outflows within an institutional protection scheme.

- (ii) Around 160 banks in the sample are taken from the Basel III monitoring exercise. In this exercise, these banks have to report on a consolidated level, meaning that they will not have to report any intragroup cash flows.

Table 54: Impact of a preferential treatment for undrawn credit and liquidity facilities provided to domestic intragroup entities, in EUR billion

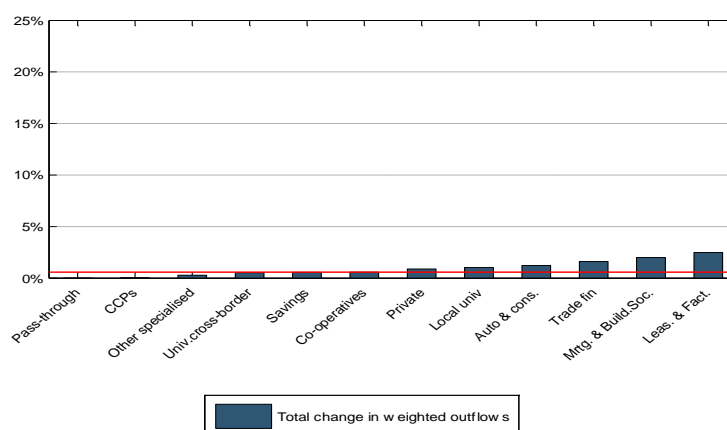
	Number	Total outflows (weighted)	Applied scenario			
			Basis	Case 1	Case 2	Case 3
All banks	322	4 207.6	1.9	1.6	1.4	1.2
Group 1 banks	48	3 562.4	1.5	1.3	1.1	0.9
Group 2 banks	274	645.2	0.4	0.4	0.3	0.3

Source: Basel III monitoring exercise, EBA calculation

### c. Overall impact of the DA on total outflows

Most of the change in outflows can be attributed to higher outflow rates for less stable retail deposits. Figure 68 shows the change in outflows across countries and business models.

Figure 68: Overall change in weighted outflows (DA) compared to Basel III across business models<sup>55</sup>



Source: Basel III monitoring exercise, EBA calculation

71. Table 55 illustrates the change in total weighted outflows for individual banks. Banks that are more focused on retail customers and therefore report higher amounts of (less stable) retail deposits normally show higher ratios due to the lower outflow rates compared with interbank and wholesale funding. This is why the 30 banks that show the largest increase of total weighted outflows are all compliant with regard to a minimum ratio of 100%.

<sup>55</sup> Assuming the second scenario case for lower outflow rates for undrawn committed credit and liquidity facilities provided by intragroup entities and 15% outflow rate for 20% of less stable retail deposits.

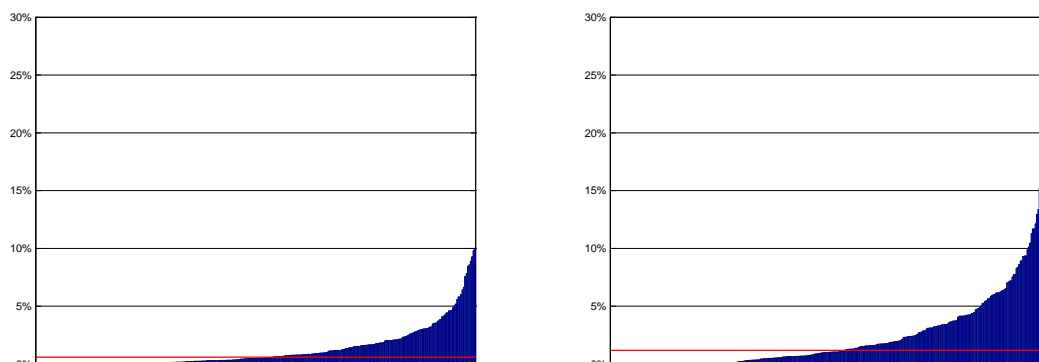
Table 55: Overall change in total weighted outflows (DA) compared to Basel III for banks with the largest increase in total weighted outflows, in per cent<sup>56</sup>

	Business model	LCR (Basel III)	Change in total weighted outflows, assuming an outflow rate for less stable retail deposits of...	
			15%	20%
Bank 1	Auto & cons.	25 478.5	10.000	20.000
Bank 2	Local univ.	1 829.4	9.943	19.886
Bank 3	Private	2 967.0	9.371	18.741
Bank 4	Trade fin.	1 459.6	8.993	17.986
Bank 5	Mrtg. & build. soc.	782.5	8.679	17.357
Bank 6	Private	1 540.3	8.542	17.084
Bank 7	Trade fin.	545.0	7.914	15.828
Bank 8	Co-operatives	238.0	7.667	15.335
Bank 9	Mrtg. & build. soc.	172.0	6.734	13.468
Bank 10	Co-operatives	954.8	6.526	13.052
Bank 11	Trade fin.	504.3	6.118	12.235
Bank 12	Private	1 559.3	5.899	11.799
Bank 13	Mrtg. & build. soc.	168.9	5.892	11.784
Bank 14	Mrtg. & build. soc.	182.5	5.688	11.376
Bank 15	Savings	436.2	5.279	10.558
Bank 16	Trade fin.	1 487.3	5.117	10.233
Bank 17	Local univ.	142.0	4.989	9.979
Bank 18	Local univ.	878.7	4.725	9.450
Bank 19	Trade fin.	345.8	4.722	9.444
Bank 20	Trade fin.	171.1	4.697	9.394
Bank 21	Savings	257.6	4.510	9.019
Bank 22	Local univ.	386.1	4.504	9.008
Bank 23	Trade fin.	633.3	4.345	8.690
Bank 24	Local univ.	584.7	4.234	8.468
Bank 25	Local univ.	172.9	4.193	8.386
Bank 26	Co-operatives	530.4	3.921	7.841
Bank 27	Trade fin.	936.8	3.919	7.837
Bank 28	Trade fin.	352.5	3.810	7.619
Bank 29	Co-operatives	225.3	3.643	7.287
Bank 30	Other specialised	161.4	3.639	7.277
<b>Sum/wtd. avg. of all 30 banks</b>		<b>333.4</b>	<b>4.973</b>	<b>9.946</b>
<b>Sum/wtd. avg. of all banks</b>		<b>116.7</b>	<b>0.579</b>	<b>1.170</b>

Source: Basel III monitoring exercise, EBA calculation

<sup>56</sup> Assuming the second scenario case for lower outflow rates for undrawn committed credit and liquidity facilities provided by intragroup entities.

Figure 69: Change in total weighted outflows (EU DA) compared to Basel III for individual banks with an outflow rate for less stable retail deposits of 15% (left) and 20% (right)<sup>57</sup>



Source: Basel III monitoring exercise, EBA calculation

### 6.3.3 Inflows

72. Table 56 illustrates the extent to which EU-specific derogations have been taken into account.

Table 56: Items included in the quantitative analysis of inflows

Item	Legal reference (DA)	Available in QIS template?	Included in the quantitative analysis?
Monies due from non-financial customers shall be reduced by 50% of their value or by the contractual commitments to those customers to extend funding	Article 32(3)(a)	Yes (however, final calculation still under discussion as it is not clear how an excess of contractual commitments should be treated)	No
Credit institutions that have received a commitment in order for them to disburse a promotional loan to a final recipient, or that have received a similar commitment from a multilateral development bank or a PSE, may take an inflow into account up to the amount of the outflow they apply to the corresponding commitment to extend those promotional loans	Article 32(3)(a)	No	No
Inflows arising from secured lending transactions (including collateral swaps)	Article 32(3)(e)	No (no information on transactions backed by assets referred to in Article 10(1)(f) available)	No
Symmetrical inflow rate for monies due being classified as operational deposits	Article 32(3)(d)	Yes	Yes (page 149)
Assets with an undefined contractual end date	Article 32(3)(i)	No	No
Exemptions from the cap on inflows	Article 33	No (no information on certain cashflows)	Yes (page 152; certain business models are exempted from the cap on inflows; certain business models are subject to a higher cap of 90%)
Higher inflow rate for undrawn credit and liquidity facilities	Article 34	Yes (only available for intragroup facilities; not available for facilities within an institutional protection scheme)	Yes (page 150)

<sup>57</sup> Assuming the second scenario case for lower outflow rates for undrawn committed credit and liquidity facilities provided by intragroup entities.

Other inflows	Article 32(2)	Yes	Yes (page 151)
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### a. Symmetrical inflow rate for operational deposits

73. In the following section, an inflow rate of 25% is applied for operational deposits to take account of the symmetrical treatment of these deposits. Table 57 shows the impact of a symmetrical treatment of operational deposits placed at financial institutions. Overall, total weighted inflows will only increase by 0.5%. This low number can also be explained by the strict definition of operational deposits for clearing, custody and cash management.

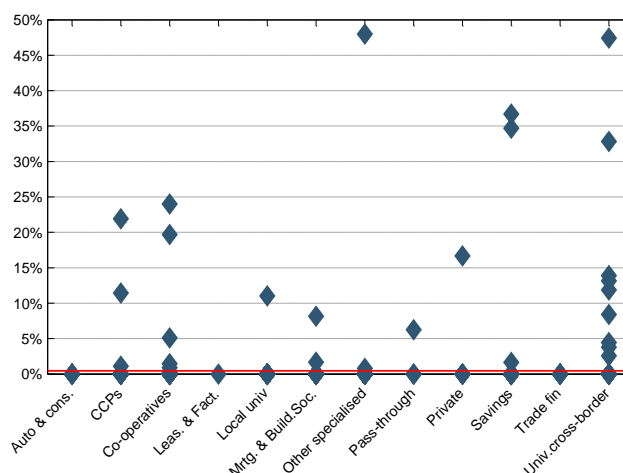
Table 57: Symmetrical treatment of operational deposits placed at financial institutions

	Number	Total inflows (weighted), in €bn	Change in total weighted inflows in case of symmetrical treatment (25%) of operational deposits	
			Absolute change, in €bn	Relative change, in per cent
All banks	322	1 513.5	7.0	0.5
Group 1 banks	48	1 233.6	5.5	0.4
Group 2 banks	274	279.8	1.5	0.6

Source: Basel III monitoring exercise, EBA calculation

74. At an individual bank level, one can see that the symmetrical treatment is only of greater importance for a small number of banks where total weighted inflows may increase by up to 50% (Figure 70). These banks belong to different sectors and are normally smaller banks that do not report larger amounts.

Figure 70: Change of total inflows due to symmetrical treatment of operational deposits across different business models<sup>58</sup>



Source: Basel III monitoring exercise, EBA calculation

#### b. Inflows within a group or an institutional protection scheme

75. To evaluate the impact of a higher inflow rate for undrawn credit and liquidity facilities provided by intra-group entities as defined in Article 34, the scenarios specified in Table 58 are applied. Again, no data is available relating to undrawn credit and liquidity facilities provided by members of the same institutional protection scheme so the overall impact of this derogation may be underestimated.

Table 58: Weights for undrawn credit and liquidity facilities provided to domestic intragroup entities

	Basis	Case 1	Case 2	Case 3
Credit and liquidity facilities provided to banks subject to prudential supervision	0%	25%	30%	35%
Credit facilities provided to other FIs	0%	25%	30%	35%
Liquidity facilities provided to other FIs	0%	55%	70%	85%
Credit and liquidity facilities provided to other legal entities	0%	55%	70%	85%

Source: Basel III monitoring exercise, EBA calculation

76. Similar to outflows related to undrawn credit and liquidity facilities to intra-group entities, the inflow position is also limited to banks not reporting on a consolidated basis. Applying the least conservative approach (Case 3) only leads to an increase of total weighted inflows of EUR 1.5 billion.

<sup>58</sup> Assuming an inflow rate of 25% for operational deposits placed at financial institutions.

Table 59: Impact of preferential treatment for undrawn credit and liquidity facilities provided by domestic intragroup entities, in EUR billion

	Number	Total inflows (weighted, before cap)	Applied scenario			
			Basis	Case 1	Case 2	Case 3
All banks	322	1 513.5	-	1.0	1.3	1.5
Group 1 banks	48	1 233.6	-	0.7	0.9	1.0
Group 2 banks	274	279.8	-	0.3	0.4	0.5

Source: Basel III monitoring exercise, EBA calculation

### c. Other inflows

77. In the following section, a 100% inflow rate is applied for other inflows in accordance with Article 32(3)(a). Although most countries applied an inflow rate of 0% in the QIS, the overall increase in outflows due to the application of the DA is limited and amounts to EUR 43.5 billion, which represents less than 3% of inflows (before cap) under Basel III (Table 60).

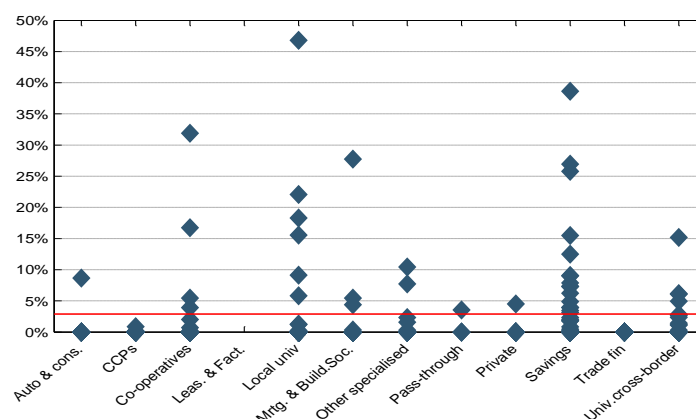
Table 60: 100% inflow rate for other inflows, in EUR billion

	Number	Total inflows before cap (weighted)	Increase in outflows due to 100% inflow rate for other inflows
All banks	322	1 513.5	43.5
Group 1 banks	48	1 233.6	14.9
Group 2 banks	274	279.8	28.7

Source: Basel III monitoring exercise, EBA calculation

78. With regard to the different business models, savings banks and other well-diversified banks report higher inflows due to this EU-specific derogation.

Figure 71: Change in total inflows due to a 100% inflow rate for other inflows



Source: Basel III monitoring exercise, EBA calculation

#### d. Calculation of the cap on inflows

79. Pursuant to Article 33, inflows are generally limited to 75% of total weighted outflows. By contrast, several items may be fully or partially exempted from the cap on inflows. To evaluate the impact of this derogation, the following modifications have been made to the calculation of inflows after cap within the QIS reporting template:

- (i) banks belonging to the 'Leasing and Factoring' sector will be exempted from the cap;
- (ii) banks belonging to the 'Auto bank and consumer credit bank' sector will be subject to a cap on inflows of 90%.

80. Due to the degree of complexity, it is not possible to exempt inflows from intra-group entities. However, the overall impact of these cash flows may be limited and will not change the outcome of this analysis dramatically.

81. As can be seen in Table 75, 12 banks are affected by the full (1 bank) or partial (11 banks) exemption from the cap on inflows with an overall amount of EUR 0.7 billion which can now be included as inflows. Compared to the overall amount of total weighted inflows of EUR 1 439.5 billion under Basel III, the impact of this derogation is extremely small at a total level. However, at business model level, the total weighted inflows increase significantly for the two business models that are affected by the derogation. In this context, banks belonging to the 'Auto bank and consumer credit bank' sector are able to increase the total weighted inflows after cap significantly (11.7%).

Table 61: Impact of exemptions from the calculation of the cap on inflows

	Number	Total inflows (after cap) under Basel III, in €bn	Change in total inflows due to the full or partial exemptions from the cap on inflows

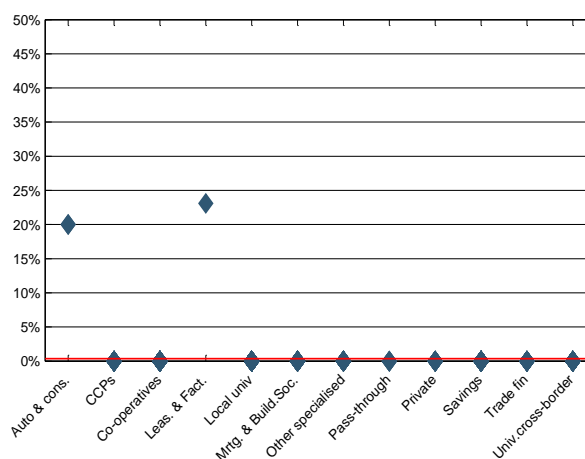


			Absolute change, in €bn	Relative change, in per cent
All banks	322	1 439.5	0.7	0.1
Of which: Leas. & fact.	1	0.7	0.2	23.1
Of which: Auto & cons.	11	4.9	0.6	11.7
Group 1 banks	48	1 220.6	0.0	0.0
Group 2 banks	274	218.9	0.7	0.3

Source: Basel III monitoring exercise, EBA calculation

82. All banks that are heavily affected by the cap on inflows and that are subject to the cap on inflows of 90% are able to increase their total weighted inflows by exactly 20%.<sup>59</sup> Due to the fact that not all banks in this sector have been affected by the cap on inflows, the weighted average increase of inflows only amounts to 11.7%.

Figure 72: Change in total inflows due to the full or partial exemptions from the cap on inflows across different business models



Source: Basel III monitoring exercise, EBA calculation

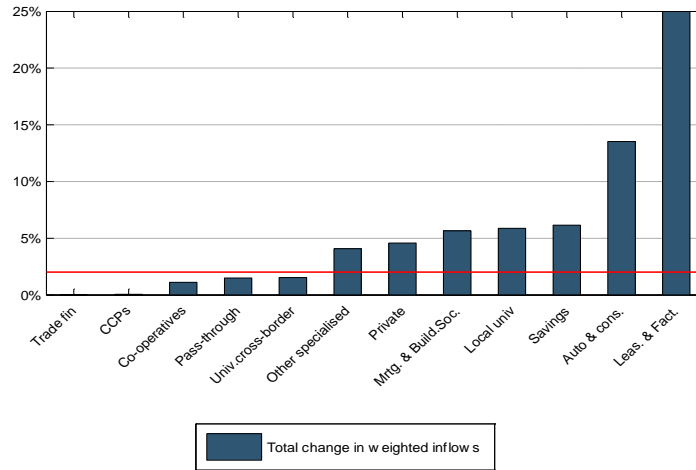
#### e. Overall impact of the DA on total inflows

83. As could be seen in the previous sections, the overall impact of derogations within the DA on the total weighted inflows is relatively small and mainly affects banks that belong to sectors affected by the exemptions from the cap on inflows. The impact of a symmetrical inflow rate for operational deposits placed at other financial credit institutions, the higher inflow rates for

<sup>59</sup> Total weighted inflows of banks that are subject to the cap on inflows: 0.75 \* outflows. The new cap on inflows will lead to an absolute change in outflows of 0.15 \* outflows (0.9 \* outflows – 0.75 \* outflows). In relation to previous inflows, this leads to 20% (0.15 \* outflows / 0.75 \* outflows = 0.2 = 20%).

undrawn credit and liquidity facilities provided by other credit institutions and the application of a 100% inflow rate for other inflows are generally negligible (Figure 73).

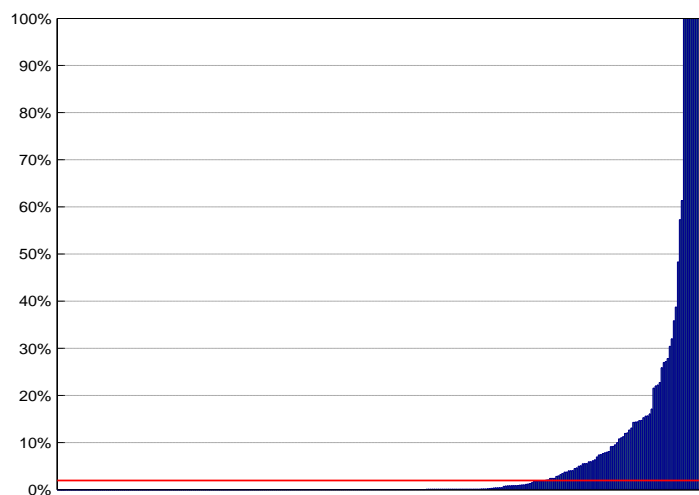
Figure 73: Overall change in total weighted inflows (DA) compared to Basel III across different business models



Source: Basel III monitoring exercise, EBA calculation

84. Many banks are not affected by the derogations of the DA with regard to the calculation of total weighted inflows (Figure 74). Two banks that do not report any inflows under Basel III benefit from the symmetrical treatment of operational deposits provided to other financial institutions under the DA and are able to report positive inflows.

Figure 74: Change in total weighted inflows (EU DA) compared to Basel III



Source: Basel III monitoring exercise, EBA calculation

85. When analysing individual bank data, one can see that the share of total inflows (Basel III) of banks that report the largest increase of inflows under the DA is relatively small (0.8%), indicating that the derogations are only relevant for smaller banks with specialised business activities (Table 62). Seven of the 30 banks with the largest increase in total weighted inflows report a ratio below 100% (five of these banks even report a ratio below 60%). The overall increase in inflows of all banks amounts to 2.0%.

Table 62: Overall change in total weighted inflows (DA) compared to Basel III<sup>60</sup>, in per cent

	Business model	LCR (Basel III)	Total inflows after cap under Basel III, in €bn	Change in inflows
Bank 1	CCPs	645 200.0	0.000	Infinitive <sup>61</sup>
Bank 2	CCPs	27 831.9	0.000	Infinitive <sup>62</sup>
Bank 3	Trade fin.	171.1	0.000	1 741.151
Bank 4	Co-operatives	283.8	0.002	1 570.759
Bank 5	Other specialised	335.7	0.047	1 181.044
Bank 6	Trade fin.	345.8	0.000	875.035
Bank 7	Co-operatives	74.5	0.013	765.394
Bank 8	Co-operatives	173.3	0.008	546.677
Bank 9	Local univ.	86.2	0.597	491.501
Bank 10	Savings	39.9	0.046	293.504
Bank 11	Savings	8.1	0.001	211.873
Bank 12	Other specialised	161.4	0.000	116.279
Bank 13	Leas. & fact.	414.8	0.672	100.778
Bank 14	Other specialised	114.8	0.022	100.000
Bank 15	Local univ.	105.1	0.718	61.268
Bank 16	Mrtg. & build. soc.	356.8	0.409	57.209
Bank 17	Local univ.	145.6	0.134	48.210
Bank 18	Savings	252.2	0.168	38.636
Bank 19	Local univ.	217.9	0.954	35.762
Bank 20	Co-operatives	15.8	0.003	31.886
Bank 21	Private	1 559.3	0.010	30.312
Bank 22	Mrtg. & build. soc.	-23.5	0.671	27.742
Bank 23	Univ. cross-border	178.0	0.683	27.069
Bank 24	Savings	112.9	4.610	26.928
Bank 25	Savings	165.7	0.358	25.769
Bank 26	Private	176.5	0.067	22.655
Bank 27	Local univ.	176.7	0.214	22.071
Bank 28	Co-operatives	107.8	0.034	21.923
Bank 29	Mrtg. & build. soc.	10.1	0.420	21.426
Bank 30	Auto & cons.	392.3	0.000	20.000

<sup>60</sup> Banks that are subject to a full or partial exemption from the cap are marked in blue.

<sup>61</sup> Bank 1 and Bank 2 only report operational deposits provided to other financial institutions. As these deposits receive an inflow rate of 0%, no inflows have been reported under Basel III. When applying a symmetrical inflow rate, these banks will report an inflow > 0, meaning that no relative change can be calculated.

<sup>62</sup> See footnote above.

<b>Sum/wtd. avg. of all 30 banks</b>		<b>140.6</b>	<b>10.859</b>	<b>69.148</b>
<b>Sum/wtd. avg. of all banks</b>		<b>116.7</b>	<b>1 439.514</b>	<b>2.025</b>

*Source: Basel III monitoring exercise, EBA calculation*

### 6.3.4 Overall maximum impact of the DA on the LCR of EU banks

#### a. General remarks

86. In the previous sections, the impact of the derogations as defined in the DA on HQLA, outflows and inflows has been analysed separately. In the following section, all elements are combined to evaluate a theoretical LCR, including all elements as discussed in the previous sections. With regard to outflows and inflows, the following scenarios are applied:

- (i) higher outflow rates for 20% of all less stable retail deposits of 15%;
- (ii) case 2 scenario for undrawn credit and liquidity facilities provided to/by other financial institutions (relevant for the calculation of outflows and inflows).

#### b. Impact of the DA on the LCR of EU banks compared to Basel III

87. Using all EU-specific derogations as discussed in the previous sections, the application of the DA may lead to a maximum increase in the weighted LCR of roughly 13.9 pp compared to Basel III (Table 63). This increase is caused in particular by an increase in HQLA of 11.7%, whereas net outflows only decrease by 0.2%.

Table 63: Impact of the DA on the LCR of EU banks, in per cent

	Number	LCR		Change in LCR components due to the DA compared to Basel III	
		Basel III	EU (DA)	HQLA	Net outflows
All banks	322	116.7	130.6	11.7	-0.2
Group 1 banks	48	108.7	121.5	11.7	-0.1
Group 2 banks	274	160.9	181.1	11.9	-0.6

*Source: Basel III monitoring exercise, EBA calculation*

88. The impact is estimated by assuming that credit institutions add Level 2B to their stock of HQLA until the cap is binding and the allowed level of other central bank-eligible assets is attained for all banks. This assumption represents the 'liberal approach' for the estimation of the amount of HQLA under the DA, which could potentially overestimate the impact. Should the additional Level 2B assets be excluded from the estimation, the increase in the LCR would only be 4.3 pp.

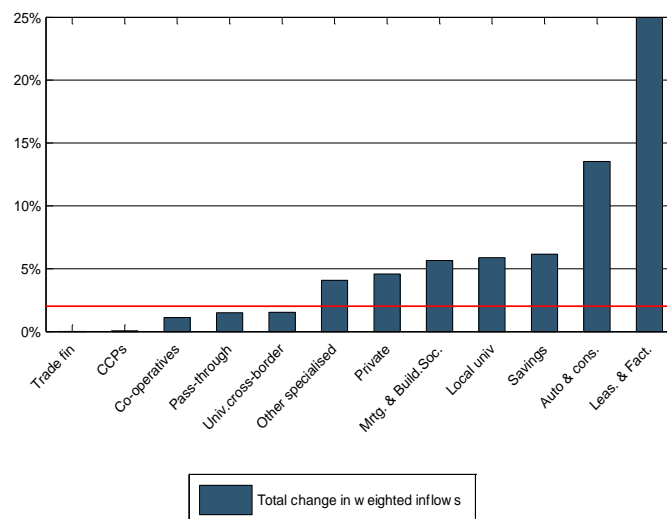
Table 64: Impact of the DA on the LCR on both a 'conservative' and 'liberal' basis for the estimation of the amount of HQLA.

		<b>Conservative approach</b> <i>(based on the exclusion of Level 2B assets from the calculation)</i>	<b>Liberal approach</b> <i>(based on the inclusion of Level 2B assets in the calculation)</i>
<b>Δ HQLA (in EUR million)</b>		+3 337.8	+3 609.3
<b>Δ Outflows (in EUR million)</b>		+4 232.0	+4 232.0
<b>Δ Inflows (in EUR million)</b>		+1 468.5	+1 468.5
LCR	<b>LCR (in percentage terms)</b>	121	130.6
	<b>Δ LCR (in percentage points)</b>	+4.3	+13.9

Source: Basel III monitoring exercise, EBA calculation

89. At business model level, the impact is of greater relevance for the leasing and factoring business, which can be explained by the full exemption of inflows from the cap. The same holds true for auto loan and consumer credit banks, which are subject to the 90% cap. These banks do not typically fall into the category of internationally active banks falling within the scope of Basel III.

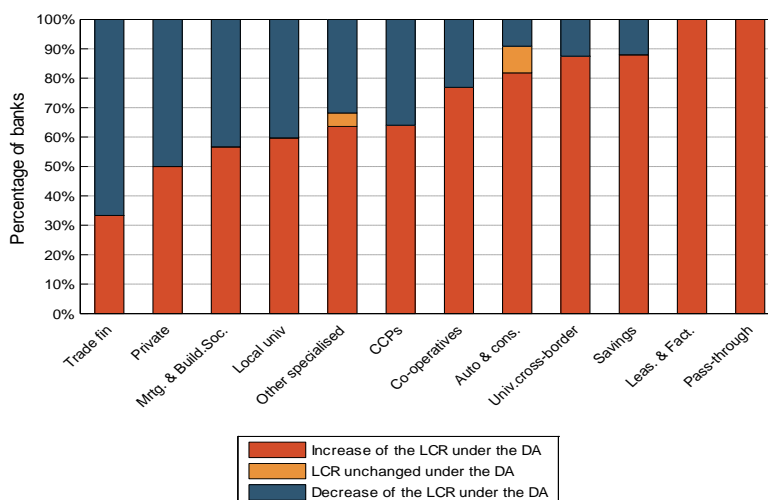
Figure 75: Overall change in LCR (DA) compared to Basel III across business models, in percentage points



Source: Basel III monitoring exercise, EBA calculation

90. For 11 business model categories, more than 50% of all banks report a higher LCR under the DA.

Figure 76: Change in the LCR due to the DA across business models



Source: Basel III monitoring exercise, EBA calculation

91. The application of the DA will not lead to a significantly different distribution of the LCR. Countries with a large number of non-compliant banks are still reporting non-compliant banks under the DA. With regard to a minimum ratio of 100%, 74 banks report a ratio below 100% under Basel III (Table 65). Under the DA, 17 of these banks will become compliant. Taking into account a minimum ratio of 60%, 37 banks are non-compliant under Basel III and 7 of these banks are able to report a ratio above 60% under the DA. From 248 banks reporting a ratio above 100% under Basel III, only 1 bank becomes non-compliant under the DA.<sup>63</sup>

Table 65: Impact of the DA on the compliance status (target level: 100%) of EU banks (all banks)

	Number	Non-compliant under Basel III		Compliant under Basel III	
		Number of banks	Of which <u>achieve</u> compliance under the DA	Number of banks	Of which <u>lose</u> compliance under the DA
All banks	322	74	17	248	1
Group 1 banks	48	12	5	36	0
Group 2 banks	274	62	12	212	1

Source: Basel III monitoring exercise, EBA calculation

Table 66: Impact of the DA on the compliance status (target level: 60%) of EU banks (all banks)

	Number	Non-compliant under Basel III		Compliant under Basel III	
		Number of banks	Of which <u>achieve</u> compliance	Number of banks	Of which <u>lose</u> compliance under the DA

<sup>63</sup> For this bank, applying the DA leads to a decrease in the LCR from 100.2% to 99.9%.

			under the DA		
All banks	322	37	7	285	0
Group 1 banks	48	1	0	47	0
Group 2 banks	274	36	7	238	0

Source: Basel III monitoring exercise, EBA calculation

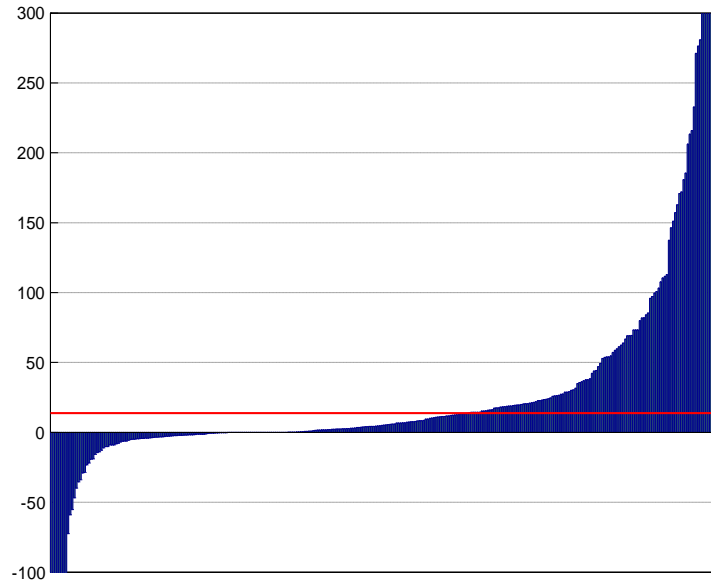
Table 67: Overall change in the LCR pursuant to the DA compared to Basel III for 30 banks with the largest increase in the LCR, in per cent

	Business model	LCR		Change in the LCR, in pp	Change in...	
		Basel III	DA		HQLA	Net outflows
Bank 1	CCPs	645 200.000	2 580 800.000	1 935 600.000	0.000	-75.000
Bank 2	CCPs	27 831.934	111 327.738	83 495.803	0.000	-75.000
Bank 3	Auto & cons.	25 478.471	57 905.617	32 427.145	0.000	-56.000
Bank 4	Auto & cons.	15 145.351	37 375.788	22 230.437	0.000	-59.478
Bank 5	Mrtg. & build. soc.	4 466.218	5 734.024	1 267.805	30.715	1.814
Bank 6	Private	1 559.322	2 500.000	940.678	0.000	-37.627
Bank 7	Leas. & fact.	414.799	1 020.808	606.009	0.000	-59.366
Bank 8	Auto & cons.	392.253	968.559	576.306	0.000	-59.501
Bank 9	Savings	854.740	1 219.531	364.791	10.323	-22.678
Bank 10	Savings	695.890	1 022.176	326.285	47.294	0.277
Bank 11	Other specialised	335.675	653.089	317.413	0.000	-48.602
Bank 12	Savings	8.660	321.331	312.671	3 689.027	2.115
Bank 13	Co-operatives	766.892	1 069.045	302.153	41.225	1.309
Bank 14	Co-operatives	62.004	342.912	280.908	461.883	1.597
Bank 15	Trade fin.	171.148	447.546	276.399	0.000	-61.759
Bank 16	Trade fin.	633.307	904.385	271.078	49.009	4.345
Bank 17	Other specialised	161.374	394.140	232.766	17.647	-51.831
Bank 18	Local univ.	86.151	302.050	215.898	2.022	-70.901
Bank 19	Mrtg. & build. soc.	626.992	840.357	213.365	34.096	0.049
Bank 20	Savings	252.185	458.372	206.187	17.235	-35.500
Bank 21	Trade fin.	345.770	531.157	185.387	0.000	-34.903
Bank 22	Savings	143.517	324.298	180.781	126.909	0.418
Bank 23	Auto & cons.	119.569	298.695	179.126	0.000	-59.970
Bank 24	Mrtg. & build. soc.	176.219	348.152	171.933	97.568	0.000
Bank 25	Pass-through	629.469	800.432	170.963	23.590	-2.807
Bank 26	Savings	243.357	406.281	162.924	67.554	0.362
Bank 27	Auto & cons.	82.658	242.524	159.866	17.647	-59.903
Bank 28	CCPs	5 716.177	5 873.341	157.164	2.749	0.000
Bank 29	Other specialised	81.931	232.985	151.055	184.368	0.000
Bank 30	CCPs	633.650	780.001	146.351	26.391	2.676
<b>Wtd. avg. of 30 banks</b>		<b>179.799</b>	<b>372.987</b>	<b>193.187</b>	<b>64.958</b>	<b>-20.481</b>
<b>Wtd. avg. of all</b>		<b>116.722</b>	<b>130.610</b>	<b>13.888</b>	<b>11.711</b>	<b>-0.167</b>

<b>banks</b>						
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Source: Basel III monitoring exercise, EBA calculation

Figure 77: Change in the LCR (in percentage points) due to the DA across individual banks



Source: Basel III monitoring exercise, EBA calculation

92. Figure 78 illustrates the method applied to break down the change in the LCR into the single components of the ratio so as to identify the main drivers behind this change.

Figure 78: Calculation methodology for the breakdown of the LCR drivers

$$LCR = \frac{HQLA}{Out - In}$$

The DA will lead to a change in the individual LCR components and will therefore also change the LCR:

$$LCR + \Delta LCR = \frac{HQLA + \Delta HQLA}{Out + \Delta Out - In - \Delta In}$$

$$\Delta LCR = \frac{HQLA + \Delta HQLA}{Out + \Delta Out - In - \Delta In} - \frac{HQLA}{Out - In}$$

The impact of the changes in HQLA, outflows and inflows equals:

$$\Delta LCR = \frac{\Delta HQLA}{Out + \Delta Out - In - \Delta In} - \left( \frac{\Delta Out}{Out + \Delta Out - In - \Delta In} \right) \cdot LCR + \left( \frac{\Delta In}{Out + \Delta Out - In - \Delta In} \right) \cdot LCR$$

The impact of HQLA, outflows and inflows can then be isolated:

$$\begin{aligned} \Delta LCR(HQLA) &= \frac{\Delta HQLA}{Out + \Delta Out - In - \Delta In} & \Delta LCR(Outflows) &= - \left( \frac{\Delta Out}{Out + \Delta Out - In - \Delta In} \right) \cdot LCR \\ \Delta LCR(Inflows) &= \left( \frac{\Delta In}{Out + \Delta Out - In - \Delta In} \right) \cdot LCR \end{aligned}$$

The negative sign for the calculation of the outflow effect means that an increase in the total weighted



outflows due to the application of the DA will lead to a decrease in banks' LCR compared to Basel III. By contrast, an increase in HQLA and inflows will lead to an increase in banks' LCR (positive sign).

Example:

Basel III → HQLA: 18; outflows: 30; inflows after cap: 9 → LCR: 86%

EU → HQLA: 23; outflows: 33; inflows after cap: 11 → LCR: 105% (Δ 19 pp)

Applying the formula leads to: Δ LCR (HQLA): 23 pp, Δ LCR (outflows): -12 pp, Δ LCR (inflows): 8 pp; the sum equals the difference in the LCR.

Overall, the total change in the LCR can mainly be explained by the modified definition of liquid assets, while the impact of derogations related to outflows and inflows on the LCR is of less relevance (Table 82). While the DA leads to higher outflows compared to Basel III, EU-specific derogations relating to HQLA and inflows lead to an increase in the LCR.

Table 68: Breakdown of the main drivers behind the change in the LCR, in percentage points

	Number	Change in the LCR under the DA compared to Basel III	Of which can be attributed to:		
			HQLA	Outflows	Inflows
All banks	322	13.9	13.7	-1.0	1.2
Group 1 banks	48	12.8	12.7	-0.9	1.0
Group 2 banks	274	20.2	19.3	-2.2	3.1

Source: Basel III monitoring exercise, EBA calculation

### c. Impact of the DA on the liquidity shortfall of banks

93. Banks reporting a higher LCR under the DA compared to Basel III may also report a lower liquidity shortfall. The application of the DA leads to a decrease in the liquidity shortfall of roughly EUR 12 billion with regard to a minimum threshold of 60%. Assuming a minimum ratio of 100% after full implementation of Basel III, the difference is even larger at almost EUR 80 billion (Table 83).

Table 69: Impact of the DA on the shortfall in liquid assets, in EUR billion

	Number	Shortfall in liquid assets with regard to a minimum ratio of 60%		Shortfall in liquid assets with regard to a minimum ratio of 100%	
		Basel III	EU (DA)	Basel III	EU (DA)
All banks	322	38.8	26.9	177.2	98.4
Group 1 banks	48	18.4	8.2	127.3	56.8
Group 2 banks	274	20.4	18.6	49.9	41.6

94. Unsurprisingly, large internationally active banks report the largest decrease in the absolute shortfall (-EUR 33.9 billion). In relative terms, specialised credit institutions (-80%) and savings banks (-49%) show the largest decrease in the liquidity shortfall.

### 6.3.5 Conclusion

95. In this section, the impact of the revised definition of the LCR pursuant to the DA compared to the LCR under Basel III has been quantified. The following findings should be highlighted:

- (i) The DA proposes a revised definition of liquid assets, including a modification to requirements for instruments already captured as HQLA, an increase of the range of instruments as captured as HQLA to include instrument not already captured and a modification to the composition of the liquidity buffer by adding a new cap on liquid assets. Estimating the impact of the DA leads to an overall weighted average increase in HQLA of 11.7%, which is mainly driven by the increase in the range of Level 2B assets that can be included in the stock of HQLA. As it has been assumed that Level 2B assets are added until either the cap on HQLA is binding or the value equals the total weighted amount of other central bank-eligible assets, the overall impact on HQLA under the DA may be overestimated. Overall, the modified definition of liquid assets may have a significant influence on individual banks.
- (ii) With regard to the calculation of outflows and inflows, many derogations as defined in the DA cannot be quantified as relevant data is not available within QIS templates. Applying the DA increases cash outflows by 0.579% (1.170%), assuming a higher outflow rate for a certain percentage of less stable retail deposits of 15% (20%).
- (iii) On average, inflows will increase by 2.0%. Due to full or partial exemptions from the cap, leasing and factoring companies (full exemption) and auto loan and consumer credit banks (subject to a cap of 90%) report significantly higher inflows under the DA.
- (iv) Under the DA, the weighted average LCR is 130.6%, which corresponds to an increase of 13.9 pp compared to Basel III. As intended, the DA has an impact on specialised credit institutions such as factoring and leasing, auto loan and consumer credit banks and other specialised credit institutions, which show the largest increase in the weighted average LCR. Large, internationally active banks show only a moderate increase in the LCR.
- (v) The shortfall in HQLA amounts to EUR 98.4 billion under the DA which corresponds to a decrease of almost EUR 80 billion compared to Basel III.
- (vi) Within our analysis, 17 of the 74 banks that report a ratio of below 100% under Basel III are able to achieve compliance under the DA. Only one bank that is compliant under Basel III loses its compliance status under the DA. Although most banks are affected in a positive way by the DA, the increase in banks' weighted average LCR is also driven by large banks, and a noteworthy number of banks (as well as whole countries and business model segments) even show a decrease in the LCR under the DA compared to Basel III.

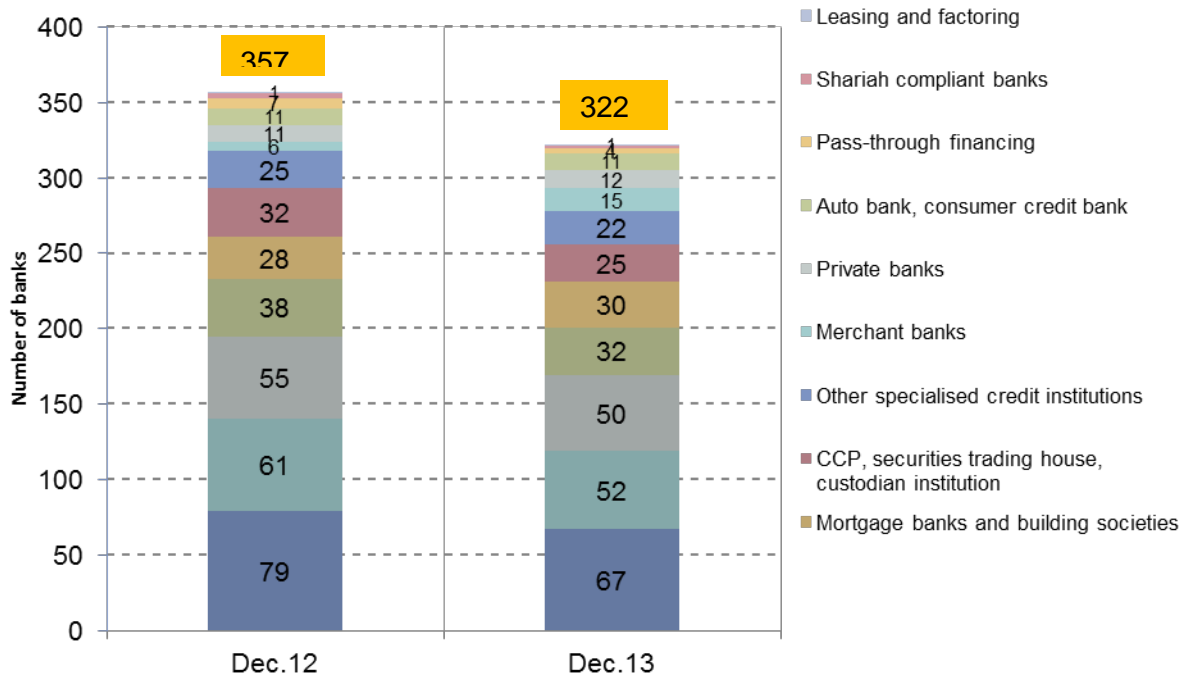
- (vii) Taking into account the moderate increase in the weighted average LCR and the fact that only 17 of the 74 non-compliant banks under Basel III achieve compliance under the DA, it can be said that the DA does not provide a completely different picture of the liquidity structure of banks compared to that under Basel III, and it is important to note that applying the DA will not necessarily lead to an increase in the LCR. Within our analysis, EU-specific derogations mainly affect specialised business models or capture some specifications of the European financial markets.

96. The analysis carried out shows that applying the DA may have a significant impact on individual banks and certain business model segments but may only have a small impact on the total weighted average LCR. However, it should be highlighted again that many assumptions had to be made to estimate an EU-specific LCR using QIS data based on Basel III. In this context, the (subjective) assumption that 20% of all less stable retail deposits are subject to a higher outflow rate plays an important role as small changes to the applied percentage may change the results completely and may lead to different conclusions.

# DATA APPENDIX

## 7.1 Appendix of section 2

Figure 79 Overview: Composition of the EBA QIS sample



Source: Basel III monitoring exercise, EBA calculation

## 7.2 Appendix of section 3

- **The first approach** is a cross-section OLS regression of the variable  $\partial LCR$  which is the first difference of the LCR between December 2013 LCR and December 2012 LCR.

$$\partial LCR = \beta_0 + \sum_j \beta_j \Delta X_{ij} + \varepsilon_i$$

with

$$\partial LCR = LCR_{DEC2013} - LCR_{DEC2012}$$

40. **The second approach** consists into a logit based on the independent variable *TransCompLCR*, a dummy which takes value 1 for a bank that was not compliant to the level of 100% in DEC 2012 and became compliant in DEC 2013, 0 otherwise. The reason for a choice of a logit structure is threefold:

- The logit structure was used in last year report, so an update can allow for comparison;
- It is more easily converted into probabilities, thus easier to backtest;
- Logit structure is based on logistic distribution, which has a thicker tail than normal distribution so that it can encompass more accurately the distribution within the sample.

$$TransCompLCR = \beta_0 + \sum_i \beta_i \Delta X_{ij} + \varepsilon_i$$

- **The third approach** is a panel structure that uses the variable  $\Delta LCR$  as a regressor based on 5 points in time from December 2011 to December 2013 (t=4 as variables are first-differenced).

This variable is calculated as  $LCR_t - LCR_{t-1}$ , according to the 2010 calibration of the LCR<sup>64</sup>.

$$\Delta LCR = \beta_0 + \sum_j \beta_j \Delta X_{ijt} + \varepsilon_{it}$$

Random effects have been preferred to fixed effects as the individual error term is deemed not correlated with the balance sheet variables taken in difference. Moreover, following Taylor<sup>65</sup> and

<sup>64</sup> In order to avoid any “false positive” adjustment effect, the 2010 calibration serves as reference, as it is not possible to proceed the 2013 calibration backward due to a lack of data.

<sup>65</sup> W. E. Taylor, “Small Sample Considerations in Estimation from Panel Data”, Journal of Econometrics, vol. 13, 1980, pp. 203–223.

under the condition that the assumptions for random estimation holds, random effects are proven to be more efficient than fixed effects when population is large and the number of periods is low (the case here). This theoretical preference for the random effect structure has not been invalidated by the Hausman test.

- The fourth approach** is also a panel structure using variable  $\Delta LCR$  as a regressor based on 5 points in time from December 2011 to December 2013 ( $t=[1;4]$  after taking the variable in first difference), and with a systematic interaction with a dummy variable  $LCRcomp_{DEC2011}$  based on compliance to the LCR at the beginning of the period (December 2011). The preference for random effects applies under the same rationale as in the third approach.

$$\Delta LCR = \beta_0 + \beta_j \cdot LCRcomp_{DEC2011} \cdot \sum_j \Delta X_{ijt} + \varepsilon_{it}$$

Figure 80 List of variables used in the multivariate analysis

All the variables below are normalized by total assets, except variables with light red background. The variable for “Total assets” is as reported in the leverage ratio template, but corrected in 2013 by the total assets of the “LCR EU Only” template due to a change in definition of the leverage ratio total assets.

	Indicator Name	QIS tab	Indicators can be used to calculate...
Paid-in capital	DefCapB3.CET1.PaidInCapital	DefCapB3	
Level 2A assets gross	L2_gross	LCR	
Level 2A assets net	L2_net	LCR	
HQLA excluded	HQLA_Excluded_All	LCR	
HQLA excluded due to operational restrictions	HQLA_Excluded_Operational	LCR	
Stable Retail and SME deposits	Stable_RetailSME_Dep	LCR	Ratio of stability of retail deposits
All retail and SME deposits	All_RetailSME_Dep	LCR	
Operational Wholesale deposits	WholeSale_Operational	LCR	Ratio of operational wholesale deposits
All wholesale deposits	WholeSale_All	LCR	
Retail deposits run-off	Retail_Outflows	LCR	
Unsecured wholesale funding run-off	WholesaleFunding_Outflows	LCR	
Secured wholesale funding run-off	SecuredFunding_Outflows	LCR	
Additional requirements run-off	AddRequirements_Outflows	LCR	
Collateral swaps – Outflows	CollSwaps_Outflows	LCR	
Collateral swaps - Inflows	CollSwaps_Inflows	LCR	
central bank excess reserves	HQLA_CBReserves	LCR	
sovereign bonds level 1	HQLA_Sovereign	LCR	

covered bonds	HQLA_Covered	LCR	
non-operational deposits of non-financial corporates	NonOp_NonFinDeposits	LCR	
fixed term deposits maturing within 30 days, retail	FixedTermDep	LCR	
stable deposits, retail and SME	StableRetailDeposits	NSFR	
other contractual obligations to extend funds	OtherContractual	LCR	
exposures to non-financial corporates	LoansNonFin	LR	
exposures to retail and SME	LoansRetail	LR	
exposures to trade finance	TradeFinance	LR	
total assets	TotalAssets	LR	
HQLA	HQLA	LCR	
NetOut	NetOut	LCR	
retail deposits	AllRetailDeposits	LCR	
Unsecured debt issuance	UnsecuredDebt	LCR	
Unsecured interbank funding	Interbank	LCR	
Long-term lending (>1 year), excl. financial corporates, residential mortgages and RW>35%	NSFR_LongTerm	NSFR	
Undrawn credit & liquidity lines	Facilities	LCR	
HQLA (2010 calibration)	HQLA_Revised	LCR	
NetOut (2010 calibration)	NetOut_Revised	LCR	
Total assets (as defined in the LCR)	LCR_TotalAssets	LCR EU Only	

## 7.3 Appendix of section 4

### Interaction Analysis – Changes in the component of the ratios

#### Strategy 1 - Swapping Non HQLAs for HQLAs

Table 70 Absolute and relative change in the components of the ratios after Swapping Non HQLAs for HQLAs, by group

Changes	HQLAs		Net Outflows		CET1		RWAs		T1 (LR)		Exposure		ASF		RSF	
	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%
All banks	148	5.5%	-	-	-	-	-47	-0,54%	-	-	-	-	-	-	-103	-0.76%
Group 1	124	5.2%	-	-	-	-	-39	-0,52%	-	-	-	-	-	-	-87	-0.77%
Group 2	23	7.2%	-	-	-	-	-8	-0,61%	-	-	-	-	-	-	-16	-0.70%

Source: Basel III monitoring exercise, EBA calculation

Table 71 Absolute and relative change in the components of the ratios after Swapping Non HQLAs for HQLAs, by business model

Changes	HQLAs		Net Outflows		CET1		RWAs		T1 (LR)		Exposure		ASF		RSF	
	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%
Univ. cross-border	62.4	3.30%	-	-	-	-	-17.6	-0,30%	-	-	-	-	-	-	-43.7	-0.52%
Savings	9.9	6.4%	-	-	-	-	-3.1	-0,58%	-	-	-	-	-	-	-7.0	-0.69%
Co-operatives	31.1	9.8%	-	-	-	-	-9.9	-0,82%	-	-	-	-	-	-	-21.8	-1.00%
Mrtg & Build. Soc.	5.1	11.4%	-	-	-	-	-1.2	-1,10%	-	-	-	-	-	-	-3.6	-1.01%
CCPs	1.1	22.8%	-	-	-	-	-1	-0,95%	-	-	-	-	-	-	-8	-4.52%
Auto & cons.	.1	6.3%	-	-	-	-	-1	-0,15%	-	-	-	-	-	-	-1	-0.15%
Local univ.	37.9	15.4%	-	-	-	-	-14.9	-1,59%	-	-	-	-	-	-	-26.5	-1.74%

Source: Basel III monitoring exercise, EBA calculation

#### Strategy 2 - Swapping wholesale funding with retail deposits

Table 72 Absolute and relative change in the components of the ratios after swapping wholesale funding with retail deposits, by group

Changes	HQLAs		Net Outflows		CET1		RWAs		T1 (LR)		Exposure		ASF		RSF	
	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%
All banks			-54.6	-2.3%									103.3	0.73%		
Group 1			-46.1	-2.1%									16.2	0.64%		
Group 2			-8.6	-4.0%									87.1	0.75%		

Source: Basel III monitoring exercise, EBA calculation



Table 73 Absolute and relative change in the components of the ratios after swapping wholesale funding with retail deposits, by business model

Changes	HQLAs		Net Outflows		CET1		RWAs		T1 (LR)		Exposure		ASF		RSF	
	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%
Univ. cross-border	-	-	-23.1	-1.35%	-	-	-	-	-	-	-	-	43.7	0.51%	-	-
Savings	-	-	-3.7	-3.17%	-	-	-	-	-	-	-	-	7.0	0.67%	-	-
Co-operatives	-	-	-11.5	-3.76%	-	-	-	-	-	-	-	-	21.8	0.99%	-	-
Mrtg & Build. Soc.	-	-	-1.9	-5.36%	-	-	-	-	-	-	-	-	3.6	0.91%	-	-
CCPs	-	-	-0.4	15.31%	-	-	-	-	-	-	-	-	0.8	9.18%	-	-
Auto & cons.	-	-	0.0	-2.54%	-	-	-	-	-	-	-	-	0.1	0.14%	-	-
Local univ.	-	-	-14.0	-5.79%	-	-	-	-	-	-	-	-	26.5	1.60%	-	-

Source: Basel III monitoring exercise, EBA calculation

### Strategy 3 - Deleveraging

Table 74 Absolute and relative change in the components of the ratios after deleveraging, by group

Changes	HQLAs		Net Outflows		CET1		RWAs		T1 (LR)		Exposure		ASF		RSF	
	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%
All banks	-	-	-147.6	-6.1%	-	-	-46.8	-0.54%	-	-	-147.6	-0.56%	-	-	-73.8	-0.54%
Group 1	-	-	-124.4	-5.6%	-	-	-39.2	-0.52%	-	-	-124.4	-0.55%	-	-	-62.2	-0.55%
Group 2	-	-	-23.1	-10.9%	-	-	-7.6	-0.61%	-	-	-23.1	-0.67%	-	-	-11.6	-0.50%

### Strategy 4 - Buying HQLAs financed by debt

Table 75 Absolute and relative change in the components of the ratios after buying HQLAs financed by debt, by group

Changes	HQLAs		Net Outflows		CET1		RWAs		T1 (LR)		Exposure		ASF		RSF	
	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%
All banks	147.6	5.50%	-	-	-	-	-	-	-	-	147.6	0.56%	147.6	1.00%	7.4	0.10%
Group 1	124.5	5.30%	-	-	-	-	-	-	-	124.5	0.55%	124.5	1.10%	6.2	0.10%	
Group 2	23.1	7.30%	-	-	-	-	-	-	-	23.1	0.67%	23.1	0.90%	1.2	0.10%	

Source: Basel III monitoring exercise, EBA calculation

Table 76 Absolute and relative change in the components of the ratios after buying HQLAs financed by debt, by business model

Changes	HQLAs		Net Outflows		CET1		RWAs		T1 (LR)		Exposure		ASF		RSF	
	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%
Univ. cross-border	62.4	3.30%	-	-	-	-	-	-	-	-	62.4	0.35%	62.4	0.73%	3.12	0.04%

Savings	9.9	6.45%	-	-	-	-	-	-	-	-	9.9	0.63%	9.9	0.95%	0.50	0.05%
Co-operatives	31.1	9.85%	-	-	-	-	-	-	-	-	31.1	0.88%	31.1	1.41%	1.56	0.07%
Mrtg & Build. Soc.	5.1	11.27%	-	-	-	-	-	-	-	-	5.1	1.05%	5.1	1.30%	0.254	0.07%
CCPs	1.1	22.87%	-	-	-	-	-	-	-	-	1.1	1.10%	1.1	13.11%	0.054	0.33%
Auto & cons.	0.1	6.43%	-	-	-	-	-	-	-	-	0.1	0.13%	0.09	0.20%	0.005	0.01%
Local univ.	37.9	15.46%	-	-	-	-	-	-	-	-	37.9	1.57%	37.9	2.28%	1.89	0.12%

Source: Basel III monitoring exercise, EBA calculation

### Strategy 5 - Buying HQLAs financed by equity

Table 77 Absolute and relative change in the components of the ratios after buying HQLAs financed by equity, by group

Changes	HQLAs		Net Outflows		CET1		RWAs		T1 (LR)		Exposure		ASF		RSF	
	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%
All banks	147.6	5.5%	-	-	147.9	17.0%	-	-	147.6	15.0%	147.6	0.6%	147.6	1.1%	7.4	0.1%
Group 1	124.5	5.3%	-	-	124.5	16.5%	-	-	124.5	14.8%	124.5	0.5%	124.5	1.1%	6.2	0.1%
Group 2	23.1	7.3%	-	-	23.1	19.4%	-	-	23.1	16.4%	23.1	0.7%	23.1	0.9%	1.2	0.1%

Source: Basel III monitoring exercise, EBA calculation

Table 78 Absolute and relative change in the components of the ratios after buying HQLAs financed by equity, by business model

Changes	HQLAs		Net Outflows		CET1		RWAs		T1 (LR)		Exposure		ASF		RSF	
	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%	€bn	%
Univ. cross-border	62.416	3.30%	-	-	62.416	10.67%	-	-	62.416	9.5%	62.416	0.35%	62.416	0.73%	3.121	0.04%
Savings	9.939	6.45%	-	-	9.939	19.49%	-	-	9.939	16.6%	9.939	0.63%	9.939	0.95%	0.497	0.05%
Co-operatives	31.121	9.85%	-	-	31.121	24.90%	-	-	31.121	22.6%	31.121	0.88%	31.121	1.41%	1.556	0.07%
Mrtg & Build. Soc.	5.073	11.27%	-	-	5.073	39.02%	-	-	5.073	33.8%	5.073	1.05%	5.073	1.30%	0.254	0.07%
CCPs	1.075	22.87%	-	-	1.075	107.50%	-	-	1.075	82.7%	1.075	1.10%	1.075	13.11%	0.054	0.33%
Auto & cons.	0.09	6.43%	-	-	0.09	1.70%	-	-	0.09	1.7%	0.09	0.13%	0.09	0.20%	0.005	0.01%
Local univ.	37.882	15.46%	-	-	37.882	48.57%	-	-	37.882	42.1%	37.882	1.57%	37.882	2.28%	1.894	0.12%

Source: Basel III monitoring exercise, EBA calculation

## 7.4 Appendix of section 5

Table 79 Supply constraints and supply-demand gap in the last 3 months with respect to beginning of the period LCR shortfall 2012H1-2014H1

Linear model	All corporations		SMEs	
	Tight supply	Tight supply	Tight supply	Tight supply
LCR shortfall	-1.548 (0.67)		-1.892 (0.75)	
LCR net shortfall		-1.373 (0.81)		-1.270 (0.67)
2012H1	15.189 (1.20)	12.613 (0.91)	11.616 (0.84)	11.333 (0.74)
2012H2	2.176 (0.25)	0.375 (0.04)	4.033 (0.42)	3.392 (0.32)
2013H1	5.707 (0.81)	6.451 (0.93)	9.336 (1.21)	10.186 (1.32)
2013H2	3.484 (0.48)	3.251 (0.45)	6.701 (0.84)	6.863 (0.86)
Constant	0.601 (0.12)	4.631 (0.69)	-3.613 (0.66)	0.234 (0.03)
sigma_u	8.736	10.016	7.278	8.183
sigma_e	13.955	13.904	15.346	15.374
Rho	0.282	0.342	0.184	0.221
Number obs	40	40	40	40
groups	8	8	8	8
R-sq: within	0.311	0.316	0.221	0.218
between	0.020	0.192	0.166	0.479
overall	0.208	0.146	0.133	0.095
F(1,31)	2.44	2.50	1.53	1.51
Prob > F	0.060	0.055	0.213	0.221
corr(u_i, Xb)	-0.093	-0.245	-0.229	-0.329
F(7, 31)	1.780	1.710	0.790	0.650
Prob > F	0.132	0.149	0.600	0.715

Source: Basel III monitoring exercise, EBA calculation

Table 80 Supply constraints and supply-demand gap in the last 3 months with respect to beginning of the period LCR shortfall and macroeconomic risk factors 2012H1-2014H1

Linear model	All corporations		SMEs	
	Tight supply	Supply demand gap	Tight supply	Supply demand gap
LCR shortfall	-1.582 (1.07)	-0.896 (0.45)	-0.449 (0.28)	-0.359 (0.16)
Long-term interest rate	4.401 (0.97)	12.773* (2.08)	7.079 (1.44)	13.596* (2.01)
Unemployment	-7.778** (2.74)	-6.913 (1.79)	-7.928* (2.57)	-6.810 (1.61)
Constant	84.64 (2.45)	67.67 (1.44)	79.69 (2.12)	60.55 (1.18)
sigma_u	50.086	32.640	46.830	33.355
sigma_e	12.505	16.973	13.592	18.643
Rho	0.941	0.787	0.922	0.762
Number obs	39	39	39	39
groups	8	8	8	8
R-sq: within	0.414	0.393	0.359	0.335
between	0.057	0.206	0.182	0.106
overall	0.052	0.163	0.067	0.110
F(3,28)	6.61	6.05	5.23	4.70
Prob > F	0.002	0.003	0.005	0.009
corr(u_i, Xb)	-0.970	-0.889	-0.977	-0.858
All u_i=0				
F(7, 28) =	3.20	3.40	2.30	4.00
Prob >F	0.0112	0.0089	0.0539	0.0034

Source: Basel III monitoring exercise, EBA calculation

Table 81 Supply constraints and supply-demand gap in the last 3 months with respect to beginning of the period LCR net shortfall and macroeconomic risk factors 2012H1-2014H1

Linear model	All corporations		SMEs	
	Tight supply	Supply demand gap	Tight supply	Supply demand gap
LCR net shortfall	-0.280 (0.28)	0.700 (0.52)	0.724 (0.67)	1.335 (0.91)
Long-term interest rate	6.917 (1.57)	16.562** (2.83)	10.003* (2.14)	18.016** (2.84)
Unemployment	-7.960* (2.43)	-8.420* (1.93)	-9.293* (2.67)	-9.139* (1.93)
Constant	83.97* (2.26)	77.65 (1.57)	89.18* (2.26)	77.27 (1.44)
sigma_u	47.983	38.645	52.953	43.441
sigma_e	12.743	16.953	13.503	18.381
Rho	0.934	0.839	0.939	0.848
Number obs	39	39	39	39
groups	8	8	8	8
R-sq: within	0.392	0.395	0.368	0.354
between	0.070	0.243	0.205	0.145
overall	0.057	0.163	0.067	0.114
F(3,28)	6.02	6.09	5.43	5.10
Prob	0.003	0.003	0.005	0.006
corr(u_i, Xb)	-0.969	-0.922	-0.981	-0.918
All u_i=0				
F(7, 28) =	3.10	3.40	2.50	4.30
Prob >F	0.0132	0.0085	0.0381	0.0023

Source: Basel III monitoring exercise, EBA calculation

Table 82 Supply constraints and supply-demand gap on credit to households in the last 3 months with respect to beginning of the period LCR shortfall and macroeconomic risk factors 2012H1-2014H1.

	Mortgages		Unsecure credit	
	Tight supply	Supply demand gap	Tight supply	Supply demand gap
LCR shortfall	-1.080 (0.91)	-3.400 (1.42)	0.558 (0.62)	0.442 (0.26)
Long-term interest rate	5.111 (1.40)	7.071 (0.96)	10.643** (3.85)	18.735** (3.52)
Unemployment	-6.524** (2.85)	-12.624** (2.74)	-6.413** (3.70)	-12.518** (3.75)
Constant	67.51 (2.43)	139.62 (2.49)	53.79 (2.55)	113.76 (2.80)
sigma_u	41.714	90.245	33.496	69.821
sigma_e	10.071	20.287	7.635	14.681
Rho	0.945	0.952	0.951	0.958
Number obs	39	39	39	39
groups	8	8	8	8
R-sq: within	0.452	0.454	0.619	0.618
between	0.001	0.011	0.059	0.004
overall	0.012	0.000	0.076	0.034
F(3,28)	7.69	7.77	15.16	15.09
Prob > F	0.001	0.001	0.000	0.000
corr(u_i, Xb)	-0.973	-0.938	-0.956	-0.948
All u_i=0				
F(7, 28) =	2.78	8.20	6.19	7.04
Prob >F	0.0252	0.0000	0.0002	0.0001

Source: Basel III monitoring exercise, EBA calculation

Table 83 Supply constraints and supply-demand gap on credit to households in the last 3 months with respect to beginning of the period LCR net shortfall and macroeconomic risk factors 2012H1-2014H1.

Linear model	All corporations		SMEs	
	Tight supply	Supply demand gap	Tight supply	Supply demand gap
LCR net shortfall	0.454 (0.56)	-1.113 (0.67)	1.125* (1.96)	1.023 (0.89)
Long-term interest rate	8.604* (2.45)	11.073 (1.54)	12.579** (5.05)	20.631** (4.12)
Unemployment	-7.704** (2.94)	-12.180** (2.27)	-8.027** (4.32)	-14.011** (3.75)
Constant	74.83 (2.52)	132.01 (2.17)	66.41 (3.16)	125.34 (2.96)
sigma_u	45.552	81.562	42.569	77.956
sigma_e	10.163	20.842	7.209	14.497
Rho	0.953	0.939	0.972	0.967
Number obs	39	39	39	39
groups	8	8	8	8
R-sq: within	0.442	0.424	0.660	0.628
between	0.003	0.005	0.065	0.005
overall	0.015	0.002	0.065	0.031
Overall Adj. (d.f.=1)	7.38	6.88	18.14	15.72
Prob	0.001	0.001	0.000	0.000
corr(u_i, Xb)	-0.978	-0.925	-0.971	-0.958
All u_i=0				
F(7, 28) =	2.74	6.90	7.43	7.38
Prob >F	0.0267	0.0001	0.0000	0.0000

Source: Basel III monitoring exercise, EBA calculation

Table 84 Supply constraints to non-financial corporations in the last 3 months with respect to beginning of the period LCR shortfall and macroeconomic risk factors: expanded country sample and period 2012H1-2014H1.

	OLS		Fixed effects		Random effects	
	Tight supply	Tight supply	Tight supply	Tight supply	Tight supply	Tight supply
LCR shortfall	0.112 (0.59)		0.396 (1.51)		0.157 (0.73)	
LCR net shortfall		0.008 (0.05)		0.402 (0.99)		0.034 (0.17)
Long-term interest rate	-1.229** (2.86)	-1.222** (2.83)	-8.117** (3.17)	-7.663** (2.93)	-1.642** (2.80)	1.587** (2.73)
Unemployment	4.175** (3.02)	4.230** (3.01)	8.049* (2.55)	7.630* (2.36)	5.547** (3.12)	5.420** (3.04)
Constant	13.330 (3.17)	12.625 (2.91)	83.173 (2.76)	80.575 (2.62)	15.316 (2.56)	14.456 (2.35)
sigma_u			41.950	39.637	6.618	6.587
sigma_e			11.650	11.856	11.650	11.856
Rho			0.928	0.918	0.244	0.236
Number obs	49	49	49	49	49	49
groups	10	10	10	10	10	10
R-sq: within			0.372	0.349	0.301	0.263
between			0.080	0.079	0.267	0.259
overall	0.14	0.13	0.062	0.061	0.193	0.187
Overall Adj. (d.f.=3)	3.59	3.45	7.10	6.44	11.10	10.45
Prob	0.02	0.02	0.001	0.001	0.011	0.015
corr(u_i, Xb)			-0.967	-0.964	0	0
All u_i=0						
F(7, 28) =			3.04	2.85		
Prob >F			0.0083	0.0121		

Source: Basel III monitoring exercise, EBA calculation



Table 85 Supply-demand gap to non-financial corporations in the last 3 months with respect to beginning of the period LCR shortfall and macroeconomic risk factors: expanded country sample and period 2012H1-2014H1.

	OLS		Fixed effects		Random effects		OLS
	Supply demand gap	Supply demand gap	Supply demand gap	Supply demand gap	Supply demand gap	Supply demand gap	Supply demand gap
LCR shortfall	0.203 (0.75)		0.068 (0.18)		0.046 (0.15)		
LCR net shortfall		0.191 (0.93)			-0.329 (0.58)		0.050 (0.18)
Long-term interest rate	-1.866** (3.02)	-1.841** (2.99)	-7.699* (2.11)		-7.907* (2.17)	2.460** (3.00)	-2.499** (3.01)
Unemployment	5.858** (2.95)	5.667** (2.83)	13.726** (3.06)		12.558** (2.78)	8.245** (3.31)	8.358** (3.31)
Constant	28.192 (4.68)	28.972 (4.69)	76.445 (1.78)		77.672 (1.81)	29.216 (3.49)	29.636 (3.35)
sigma_u			33.036		36.257	9.429	9.851
sigma_e			16.594		16.525	16.594	16.525
Rho			0.799		0.828	0.244	0.262
Number obs	49	49	49		49	49	49
groups	10	10	10		10	10	10
R-sq: within			0.345		0.351	0.332	0.328
between			0.170		0.112	0.218	0.225
overall	0.15	0.15	0.131		0.099	0.193	0.195
Overall Adj. (d.f.=3)	3.76	3.88	6.33		6.48	12.31	12.49
Prob	0.02	0.02	0.002		0.001	0.006	0.006
corr(u_i, Xb)			-0.899		-0.910	0	0
All u_i=0							
F(7, 28) =			3.14		3.16		
Prob >F			0.0068		0.0066		

Source: Basel III monitoring exercise, EBA calculation

Table 86 Supply constraints to non-financial corporations in the last 3 months with respect to beginning of the period LCR shortfall and GDP growth: expanded country sample and period 2012H1-2014H1.

	OLS		Fixed effects		Random effects	
	Tight supply	Tight supply	Tight supply	Tight supply	Tight supply	Tight supply
LCR shortfall	0.105 (0.52)		0.065 (0.21)		0.100 (0.47)	
LCR net shortfall		0.043 (0.29)		0.089 (0.19)		0.048 (0.27)
GDP growth	-1.981 (1.48)	-2.024 (1.51)	-1.093 (0.51)	-1.083 (0.50)	-1.844 (1.27)	-1.866 (1.28)
Constant	7.858 (3.38)	7.705 (3.11)	7.722 (3.01)	8.186 (1.77)	7.847 (2.91)	7.755 (2.65)
sigma_u			7.246	7.317	4.609	4.700
sigma_e			14.394	14.396	14.394	14.396
Rho			0.202	0.205	0.093	0.096
Number obs	50	50	50	50	50	50
groups	10	10	10	10	10	10
R-sq: within			0.008	0.007	0.008	0.007
between			0.206	0.145	0.207	0.193
overall	0.01	0.01	0.054	0.042	0.054	0.050
Overall Adj. (d.f.=2)	1.34	1.24	0.15	0.14	1.96	1.79
Prob	0.27	0.30	0.864	0.868	0.376	0.409
corr(u_i, Xb)			0.216	0.115	0	0
All u_i=0						
F(7, 28) =			1.21	1.23		
Prob >F			0.319	0.3073		

Source: Basel III monitoring exercise, EBA calculation

Table 87 Supply-demand gap to non-financial corporations in the last 3 months with respect to beginning of the period LCR shortfall and GDP growth: expanded country sample and period 2012H1-2014H1.

	OLS		Fixed effects	Random effects		OLS
	Supply demand gap	Supply demand gap	Supply demand gap	Supply demand gap	Supply demand gap	Supply demand gap
LCR shortfall	0.167 (0.58)		-0.402 (0.98)		0.017 (0.05)	
LCR net shortfall		0.211 (0.99)		-0.825 (1.33)		0.122 (0.46)
GDP growth	-3.125 (1.63)	-3.066 (1.61)	-2.591 (0.89)	-2.622 (0.91)	-3.116 (1.47)	-3.037 (1.42)
Constant	18.534 (5.58)	19.569 (5.56)	15.648 (4.50)	10.344 (1.67)	17.763 (4.30)	18.771 (4.14)
sigma_u			13.434	19.337	8.180	8.456
sigma_e			19.507	19.309	19.507	19.309
Rho			0.322	0.501	0.150	0.161
Number obs	50	50	50	50	50	50
groups	10	10	10	10	10	10
R-sq: within			0.046	0.065	0.020	0.011
between			0.004	0.088	0.150	0.232
overall	0.03	0.04	0.009	0.006	0.060	0.075
Overall Adj. (d.f.=2)	1.63	1.98	0.91	1.32	2.18	2.36
Prob	0.21	0.15	0.411	0.279	0.337	0.308
corr(u_i, Xb)			-0.276	-0.730	0	0
All u_i=0						
F(7, 28) =			1.83	1.87		
Prob >F			0.0951	0.0874		

Source: Basel III monitoring exercise, EBA calculation

## 7.5 Appendix of section 6

Table 88 Assumptions for the calculation of a theoretical LCR under the DA using QIS data  
(worksheets “LCR” and “LCR EU only”)

Section	Item	Legal reference	Assumption for the calculation
HQLA	<b>Modifying the requirements for instruments already captured as HQLA</b>		
	<b>Level 1 assets:</b> Preferential treatment for assets representing claims on or guaranteed by the central government, the central bank, regional governments, local authorities or PSEs of a Member State	Article 10(1)(b), Article 10(1)(c)	Not included.
	<b>Level 1B assets:</b> Strengthening the liquidity quality of high-rated covered bonds	Article 10(1)(f)	All covered bonds included as L2A assets under Basel III (cell D31 in worksheet “LCR”) are treated as assets according to Article 10(1)(f) DA.
	<b>Widening the number of instruments that generally qualify as L1/L2A assets with:</b>		
	<b>Level 1 assets:</b> Promotional banks’ assets as Level 1 assets	Article 10(1)(e)	All items reported in worksheet “LCR EU Only” (cells C10 and D10: owned outright <u>and</u> borrowed in secured transactions) are treated as assets according to Article 10(1)(e).
	<b>Level 1 assets:</b> Investments in CIUs as Level 1 assets	Article 15(a)-(b)	All items reported in worksheet “LCR EU Only” (cells C17 and D17: owned outright <u>and</u> borrowed in secured transactions) are treated as L1 assets in accordance with Article 15(a)-(b).
	<b>Level 2A assets:</b> Covered bonds of credit quality step 2 as Level 2A assets	Article 11(1)(c), Article 11(1)(d)	All items reported in worksheet “LCR EU Only” (cells C6 and D6: owned outright <u>and</u> borrowed in secured transactions) are treated as assets according to Article 11(1)(c).
	<b>Level 2A assets:</b> Investments in CIUs as Level 2 assets	Article 15(d)	All items reported in worksheet “LCR EU Only” (cells C18 and D18: owned outright <u>and</u> borrowed in secured transactions) are treated as L1 assets in accordance with Article 15(d).
	<b>Widening the number of instruments that generally qualify as L2B assets with:</b>		
	<b>Level 2B assets:</b> Covered bonds without any external rating as Level 2B assets	Article 12(e)	Although no QIS data is available, the impact is estimated by assuming that credit institutions add Level 2B assets until the caps on HQLA are binding.
	<b>Level 2B assets</b> Securitisations (Auto, Consumer, SME)	Article 13	
	<b>Level 2B assets</b> Restricted-use committed liquidity facilities	Article 14	
	<b>Level 1/L2A/2B assets</b> Sight deposits that the credit institution maintains with the central institution	Article 16(1)	

	<b>Level 2B assets</b> Liquidity funding from the central credit institution or from other institution within the same network or protection scheme	Article 16(2)	
	<b>Cap on HQLA</b>		
	<b>Cap on HQLA:</b> Sensitivity of credit institutions to the new cap on HQLA	Article 17	All covered bonds classified as Level 2A assets under Basel III are assumed to be owned outright or borrowed in secured transactions with a maturity of more than 30 days.
<b>Outflows</b>	Higher outflow rates for less stable retail deposits	Article 25(2)	20% of all less stable deposits provided from retail and SME customers is subject to a higher outflow rate.
	100% outflow for the central institution on deposits which are considered as HQLA by the institution which provide the deposits	Article 27(3)	Not included.
	Outflows arising from secured lending transactions (including collateral swaps)	Article 28(3), Article 28(4)	Not included.
	Lower outflow rate for undrawn credit or liquidity facilities	Article 29	Cells C42-C45 from the worksheet 'LCR EU Only' receive a lower outflow rate compared with the weights applied to cells D235-D238 in the worksheet 'LCR'.
	10% outflow for Collateral in assets referred to in Article 10(1)(f) which is posted by the credit institution for contracts listed in Annex II of Regulation (EU) No 575/2013	Article 30(1)	Not included.
	Outflow for assets borrowed on an unsecured basis and maturing within 30 calendar days	Article 30(11)	Not included.
	Outflow for liquidity funding from the central institution of a scheme or network referred to in Article 16 provided to a member credit institution if the member credit institution treat this funding as HQLA	Article 31(7)	Not included.
	Lower outflow rate for credit and liquidity facilities that are provided to credit institutions for the sole purpose of directly or indirectly funding promotional loans	Article 31(9)	Not included.
<b>Inflows</b>	Monies due from non-financial customers shall be reduced by 50% of their value or by the contractual commitments to those customers to extend funding	Article 32(3)(a)	Not included.
	Credit institutions that have received a commitment in order for them to disburse a promotional loan to a final recipient, or have received a similar commitment from a multilateral development bank or a PSE, may take an inflow into account up to the amount of the outflow they apply to the corresponding commitment to extend those promotional loans	Article 32(3)(a)	Not included.
	Inflows arising from secured lending transactions (including collateral swaps)	Article 32(3)(e), Article 32(3)(f)	Not included.

	Symmetrical inflow rate for monies due being classified as operational deposits	Article 32(3)(d)	Operational deposits provided to financial institutions (Cell D306 in worksheet 'LCR') receive an inflow rate of 25%.
	Assets with an undefined contractual end date	Article 32(3)(i)	Not included.
	Exemptions from the cap on inflows	Article 33	Leasing and factoring banks are exempted from the cap on inflows; auto and consumer banks are subject to a higher cap of 90%
	Higher inflow rate for undrawn credit and liquidity facilities	Article 34	Cells C55-C58 from worksheet 'LCR EU Only' are included in the calculation of inflows.
	Other inflows	Article 32(2)	Other inflows (Cell D317 in worksheet 'LCR') receive an inflow rate of 100%.

Table 89 Estimating the differences between Basel III LCR and EU LCR: Impact of covered bonds by business model

	Number	Total HQLA (Unweighted)	Level 1 assets (Unweighted)	Covered Bonds (L2A) (Unweighted)	Of which are:	
					Owned outright	Borrowed
Auto & cons.	11	4.3	4.3	0.0	0.0	0.0
CCPs	25	172.3	139.7	7.5	2.8	3.5
Co-operatives	52	387.1	321.3	28.1	27.7	0.3
Leas. & Fact.	1	0.9	0.9	0.0	0.0	0.0
Local univ	67	450.4	408.7	29.1	25.3	3.0
Mrtg. & Build.Soc.	30	62.9	57.4	3.9	3.9	0.0
Other specialised	22	62.6	52.0	9.6	9.6	0.0
Pass-through	4	7.9	5.8	1.9	1.7	0.3
Private	12	7.6	6.5	0.9	0.9	0.0
Savings	50	234.4	183.0	28.9	31.0	3.0
Trade fin	15	16.1	15.0	0.2	0.2	0.0
Univ.cross-border	32	2046.0	1709.4	153.5	132.5	12.8
<b>Total</b>	<b>321</b>	<b>3,452.6</b>	<b>2,904.1</b>	<b>263.6</b>	<b>235.4</b>	<b>22.8</b>

Source: Basel III monitoring exercise, EBA calculation

Table 90 Estimating the differences between Basel III LCR and EU LCR: Widening the number of instruments that generally qualify as HQLA by business model

	Number	Total HQLA (Unweighted)	Total amount of new class of HQLA	Of which are:		
				Promotional banks' assets	Covered bonds	CIUs
Auto & cons.	11	4.3	0.0	0.0	0.0	0.0
CCPs	25	172.3	0.7	0.0	0.3	0.4
Co-operatives	52	387.1	23.4	13.5	7.9	2.0
Leas. & Fact.	1	0.9	0.0	0.0	0.0	0.0
Local univ	67	450.4	6.8	1.9	4.6	0.2
Mrtg. & Build.Soc.	30	62.9	3.5	1.3	2.1	0.1
Other specialised	22	62.6	12.2	6.0	6.2	0.0
Pass-through	4	7.9	0.8	0.4	0.4	0.0
Private	12	7.6	0.4	0.4	0.0	0.0
Savings	50	234.4	9.1	6.5	1.7	0.9
Trade fin	15	16.1	0.1	0.0	0.1	0.0
Univ.cross-border	32	2046.0	19.4	3.8	15.2	0.4
<b>Total</b>	<b>321</b>	<b>3,452.6</b>	<b>76.5</b>	<b>33.8</b>	<b>38.7</b>	<b>4.0</b>

Source: Basel III monitoring exercise, EBA calculation



Table 91 Estimating the impact of additional Level 2B assets, in €bn by business model

	Number	Total HQLA (Weighted, Basel III)	Other central-bank eligible assets (post-75%-weight)	Total additional Level 2B assets (which could be added to the stock of HQLA)
Auto & cons.	11	4.3	0.4	0.1
CCPs	25	165.3	19.8	10.8
Co-operatives	52	355.3	33.2	17.3
Leas. & Fact.	1	0.9	0.0	0.0
Local univ	67	428.7	165.2	34.8
Mrtg. & Build.Soc.	30	59.1	25.0	4.9
Other specialised	22	58.0	6.3	4.0
Pass-through	4	7.0	0.2	0.2
Private	12	7.2	0.0	0.0
Savings	50	216.8	30.0	13.2
Trade fin	15	15.7	2.6	1.7
Univ.cross-border	32	1,912.7	321.8	167.9
<b>Total</b>	<b>322</b>	<b>3,231.0</b>	<b>604.4</b>	<b>255.0</b>

Source: Basel III monitoring exercise, EBA calculation

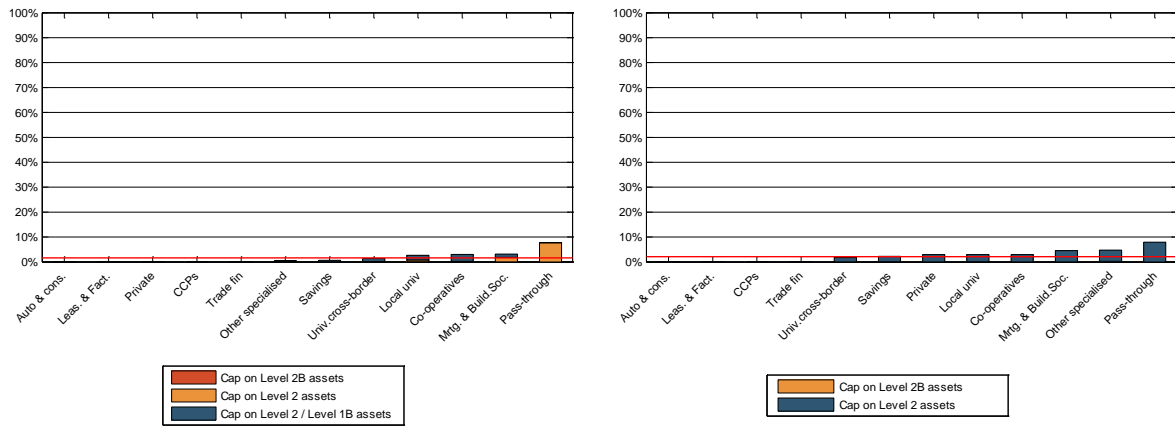
Table 92 Sensitivity of banks to the new cap on HQLA by business model

	Number	DA			Basel III		
		Total HQLA <sup>66</sup> (before cap, €bn)	Number of banks affected by the cap	Total capped amount (€bn)	Total HQLA (before cap, €bn)	Number of banks affected by the cap	Total capped amount (€bn)
Auto & cons.	11	4.3	0	0.0	4.3	0	0.0
CCPs	25	165.9	3	0.1	165.5	4	0.2
Co-operatives	52	368.4	4	11.1	366.2	9	10.8
Leas. & Fact.	1	0.9	0	0.0	0.9	0	0.0
Local univ	67	443.9	4	12.0	441.6	6	13.0
Mrtg. & Build.Soc.	30	62.2	4	2.0	61.9	6	2.8
Other specialised	22	61.6	2	0.2	60.9	3	2.9
Pass-through	4	7.7	1	0.6	7.6	1	0.6
Private	12	7.5	1	0.0	7.4	3	0.2
Savings	50	224.6	10	1.4	221.8	22	5.1
Trade fin	15	15.7	3	0.0	15.7	3	0.0
Univ.cross-border	32	1,958.2	2	26.2	1,946.6	2	33.9
<b>Total</b>	<b>321</b>	<b>3,321.1</b>	<b>34</b>	<b>53.6</b>	<b>3,300.4</b>	<b>59</b>	<b>69.5</b>

Source: Basel III monitoring exercise, EBA calculation

<sup>66</sup> Weighted amount.

Figure 81 Cap on liquid assets relative to total HQLA before cap across business models under DA (left) and Basel III (right)



Source: Basel III monitoring exercise, EBA calculation

Table 93 Overall impact of the DA on HQLA, in €bn by business model

	Number	Total HQLA (after cap)		Δ HQLA	which can be attributed to:			
		Basel III	DA		Reclassification of top-rated covered bonds	Widening of the number of HQLA (L1/L2A)	Widening of the number of HQLA (L2B)	Different cap methodology
Auto & cons.	11	4.3	4.5	0.1	0.0	0.0	0.1	-0.0
CCPs	25	165.3	177.4	12.2	0.5	0.6	10.9	0.1
Co-operatives	52	355.3	397.9	42.5	2.2	22.0	18.6	-0.3
Leas. & Fact.	1	0.9	0.9	0.0	0.0	0.0	0.0	0.0
Local univ	67	428.7	473.0	44.4	2.3	6.0	35.2	0.9
Mrtg. & Build.Soc.	30	59.1	68.5	9.4	0.3	3.1	5.0	1.0
Other specialised	22	58.0	77.3	19.3	0.8	11.3	4.6	2.7
Pass-through	4	7.0	8.1	1.1	0.2	0.8	0.2	0.0
Private	12	7.2	7.9	0.7	0.1	0.4	0.0	0.2
Savings	50	216.8	247.1	30.3	2.7	8.7	15.2	3.7
Trade fin	15	15.7	17.5	1.8	0.0	0.1	1.7	0.0
Univ.cross- border	32	1,912.7	2,129.2	216.4	11.6	17.1	180.2	7.5
<b>Total</b>	<b>321</b>	<b>3,231.0</b>	<b>3,609.3</b>	<b>378.4</b>	<b>20.7</b>	<b>70.1</b>	<b>271.8</b>	<b>15.8</b>

Source: Basel III monitoring exercise, EBA calculation

Table 94 Impact of higher outflow rates for 20% of less stable retail deposits (weighted) by business model

	Number	Total outflows (weighted)	Less stable retail deposits assuming an outflow rate of:		
			10%	15%	20%
Auto & cons.	11	8.2	0.2	0.3	0.4
CCPs	25	255.5	0.1	0.2	0.3
Co-operatives	52	458.1	5.4	8.1	10.8
Leas. & Fact.	1	0.9	0.0	0.1	0.1
Local univ	67	474.3	10.3	15.4	20.5
Mrtg. & Build.Soc.	30	56.5	2.3	3.4	4.5
Other specialised	22	44.3	0.3	0.4	0.6
Pass-through	4	5.4	0.0	0.0	0.0
Private	12	5.6	0.1	0.2	0.2
Savings	50	230.6	2.6	3.9	5.2
Trade fin	15	8.5	0.3	0.4	0.6
Univ.cross-border	32	2,659.8	28.2	42.2	56.3
<b>Total</b>	<b>321</b>	<b>4,207.6</b>	<b>49.7</b>	<b>74.6</b>	<b>99.5</b>

Source: Basel III monitoring exercise, EBA calculation

Table 95 Impact of a preferential treatment for undrawn credit and liquidity facilities provided to domestic intragroup entities, in €bn by business model

	Number	Total outflows (weighted)	Applied scenario			
			Basis	Case 1	Case 2	Case 3
Auto & cons.	11	8.2	0.0	0.0	0.0	0.0
CCPs	25	255.5	0.0	0.0	0.0	0.0
Co-operatives	52	458.1	0.1	0.1	0.1	0.1
Leas. & Fact.	1	0.9	0.0	0.0	0.0	0.0
Local univ	67	474.3	0.9	0.8	0.6	0.5
Mrtg. & Build.Soc.	30	56.5	0.0	0.0	0.0	0.0
Other specialised	22	44.3	0.1	0.1	0.0	0.0
Pass-through	4	5.4	0.0	0.0	0.0	0.0
Private	12	5.6	0.0	0.0	0.0	0.0
Savings	50	230.6	0.0	0.0	0.0	0.0
Trade fin	15	8.5	0.0	0.0	0.0	0.0
Univ.cross-border	32	2,659.8	0.8	0.7	0.6	0.5
<b>Total</b>	<b>321</b>	<b>4,207.6</b>	<b>1.9</b>	<b>1.6</b>	<b>1.4</b>	<b>1.2</b>

Source: Basel III monitoring exercise, EBA calculation

Table 96 Symmetrical treatment of operational deposits placed at financial institutions by business model

	Number	Total inflows (weighted), in €bn	Change in total weighted inflows in case of a symmetrical treatment (25%) of operational deposits	
			Absolute change, in €bn	Relative change, in per cent
Auto & cons.	11	7.9	0.1	0.8
CCPs	25	211.9	0.4	0.2
Co-operatives	52	130.2	0.3	0.3
Leas. & Fact.	1	0.8	0.0	0.0
Local univ	67	97.8	1.0	1.0
Mrtg. & Build.Soc.	30	11.6	0.0	0.2
Other specialised	22	20.6	0.0	0.1
Pass-through	4	2.5	0.0	0.0
Private	12	2.4	0.1	4.1
Savings	50	84.3	0.3	0.3
Trade fin	15	4.5	0.1	1.5
Univ.cross-border	32	939.0	4.7	0.5
<b>Total</b>	<b>321</b>	<b>1,513.5</b>	<b>7.0</b>	<b>0.5</b>

Source: Basel III monitoring exercise, EBA calculation

Table 97 Impact of a preferential treatment for undrawn credit and liquidity facilities provided from domestic intragroup entities, in €bn by business model

	Number	Total inflows (weighted, before cap)	Applied scenario			
			Basis	Case 1	Case 2	Case 3
Auto & cons.	11	7.9	0.0	0.1	0.1	0.1
CCPs	25	211.9	0.0	0.0	0.0	0.0
Co-operatives	52	130.2	0.0	0.1	0.1	0.1
Leas. & Fact.	1	0.8	0.0	0.0	0.0	0.0
Local univ	67	97.8	0.0	0.6	0.8	1.0
Mrtg. & Build.Soc.	30	11.6	0.0	0.1	0.1	0.1
Other specialised	22	20.6	0.0	0.0	0.0	0.0
Pass-through	4	2.5	0.0	0.0	0.0	0.0
Private	12	2.4	0.0	0.0	0.0	0.0
Savings	50	84.3	0.0	0.0	0.0	0.0
Trade fin	15	4.5	0.0	0.0	0.0	0.0
Univ.cross-border	32	939.0	0.0	0.1	0.2	0.2
<b>Total</b>	<b>321</b>	<b>1,513.5</b>	<b>0.0</b>	<b>1.0</b>	<b>1.3</b>	<b>1.5</b>

Source: Basel III monitoring exercise, EBA calculation



Table 98 100% inflow rate for other inflows, in €bn by business model

	Number	Total inflows under Basel III (weighted, before cap)	Increase in outflows due to 100% inflow rate for other inflows
Auto & cons.	11	7.9	0.3
CCPs	25	211.9	0.1
Co-operatives	52	130.2	1.0
Leas. & Fact.	1	0.8	0.5
Local univ	67	97.8	25.6
Mrtg. & Build.Soc.	30	11.6	0.4
Other specialised	22	20.6	0.7
Pass-through	4	2.5	0.0
Private	12	2.4	0.0
Savings	50	84.3	4.9
Trade fin	15	4.5	0.0
Univ.cross-border	32	939.0	9.9
<b>Total</b>	<b>321</b>	<b>1,513.5</b>	<b>43.5</b>

*Source: Basel III monitoring exercise, EBA calculation*

Table 99 Impact of exemptions from the calculation of the cap on inflows by business model

	Number	Total inflows (after cap) under Basel III, in €bn	Change in total inflows due to the full or partial exemptions from the cap on inflows	
			Absolute change, in €bn	Relative change, in per cent
Auto & cons.	11	4.9	0.6	11.7
CCPs	25	162.8	0.0	0.0
Co-operatives	52	128.0	0.0	0.0
Leas. & Fact.	1	0.7	0.2	23.1
Local univ	67	94.7	0.0	0.0
Mrtg. & Build.Soc.	30	9.3	0.0	0.0
Other specialised	22	15.7	0.0	0.0
Pass-through	4	1.4	0.0	0.0
Private	12	1.9	0.0	0.0
Savings	50	83.1	0.0	0.0
Trade fin	15	3.7	0.0	0.0
Univ.cross-border	32	933.3	0.0	0.0
<b>Total</b>	<b>321</b>	<b>1,439.5</b>	<b>0.7</b>	<b>0.1</b>

Source: Basel III monitoring exercise, EBA calculation

Table 100 Impact of the DA on the LCR of EU banks, in per cent by business model

	Number	LCR		Change of LCR components due to the DA compared with Basel III	
		Basel III	EU (DA)	HQLA	Net outflows
Auto & cons.	11	131.9	165.1	3.4	-17.4
CCPs	25	178.4	191.6	7.4	-0.0
Co-operatives	52	107.6	120.1	12.0	0.4
Leas. & Fact.	1	414.8	1020.8	0.0	-59.4
Local univ	67	112.9	124.9	10.4	-0.2
Mrtg. & Build.Soc.	30	125.4	143.6	16.0	1.2
Other specialised	22	202.5	275.1	33.3	-1.9
Pass-through	4	177.4	207.7	16.5	-0.5
Private	12	193.6	215.3	9.8	-1.2
Savings	50	147.0	172.0	14.0	-2.6
Trade fin	15	326.4	355.2	11.4	2.3
Univ.cross-border	32	110.8	123.4	11.3	-0.0
<b>Total</b>	<b>321</b>	<b>116.7</b>	<b>130.6</b>	<b>11.7</b>	<b>-0.2</b>

Source: Basel III monitoring exercise, EBA calculation

Table 101 Impact of the DA on the compliance status (target level: 100%) of EU banks by business model

	Number	Non-compliant under Basel III		Compliant under Basel III	
		Number of banks	Of which <u>achieve</u> compliance under the DA	Number of banks	Of which <u>loose</u> compliance under the DA
Auto & cons.	11	5	1	6	0
CCPs	25	5	0	20	0
Co-operatives	52	16	5	36	0
Leas. & Fact.	1	0	0	1	0
Local univ	67	17	2	50	0
Mrtg. & Build.Soc.	30	8	0	22	1
Other specialised	22	2	1	20	0
Pass-through	4	3	0	1	0
Private	12	1	0	11	0
Savings	50	13	6	37	0
Trade fin	15	0	0	15	0
Univ.cross-border	32	4	2	28	0
<b>Total</b>	<b>321</b>	<b>74</b>	<b>17</b>	<b>247</b>	<b>1</b>

Source: Basel III monitoring exercise, EBA calculation

Table 102 Impact of the DA on the compliance status (target level: 60%) of EU banks by business model

	Number	Non-compliant under Basel III		Compliant under Basel III	
		Number of banks	Of which <u>achieve</u> compliance under the DA	Number of banks	Of which <u>lose</u> compliance under the DA
Auto & cons.	11	4	2	7	0
CCPs	25	5	0	20	0
Co-operatives	52	5	0	47	0
Leas. & Fact.	1	0	0	1	0
Local univ	67	5	1	62	0
Mrtg. & Build.Soc.	30	7	0	23	0
Other specialised	22	1	0	21	0
Pass-through	4	2	0	2	0
Private	12	0	0	12	0
Savings	50	7	4	43	0
Trade fin	15	0	0	15	0
Univ.cross-border	32	1	0	31	0
<b>Total</b>	<b>321</b>	<b>37</b>	<b>7</b>	<b>284</b>	<b>0</b>

Source: Basel III monitoring exercise, EBA calculation

Table 103 Decomposition of the main drivers behind the change in the LCR, in percentage points by business model

	Number	Change in the LCR under the DA compared with Basel III	Of which can be attributed to:		
			HQLA	Outflows	Inflows
Auto & cons.	11	33.2	5.5	-4.8	32.5
CCPs	25	13.2	13.1	-0.1	0.2
Co-operatives	52	12.4	12.8	-0.9	0.5
Leas. & Fact.	1	606.0	0.0	-101.4	707.4
Local univ	67	12.0	11.7	-1.5	1.7
Mrtg. & Build.Soc.	30	18.3	19.8	-3.0	1.5
Other specialised	22	72.6	68.7	-0.9	4.7
Pass-through	4	30.3	29.4	0.0	1.0
Private	12	21.7	19.3	-2.7	5.1
Savings	50	25.0	21.1	-1.3	5.2
Trade fin	15	28.8	36.3	-9.2	1.7
Univ.cross-border	32	12.6	12.5	-0.9	0.9
<b>Total</b>	<b>321</b>	<b>13.9</b>	<b>13.7</b>	<b>-1.0</b>	<b>1.2</b>

Source: Basel III monitoring exercise, EBA calculation

Table 104 Impact of the DA on the shortfall in liquid assets, in €bn by business model

	Number	Shortfall in liquid assets with regard to a minimum ratio of 60%		Shortfall in liquid assets with regard to a minimum ratio of 100%	
		Basel III	EU (DA)	Basel III	EU (DA)
Auto & cons.	11	0.1	0.1	0.5	0.3
CCPs	25	0.5	0.5	1.5	1.4
Co-operatives	52	5.3	5.2	33.7	21.2
Leas. & Fact.	1	0.0	0.0	0.0	0.0
Local univ	67	9.3	8.8	54.1	31.9
Mrtg. & Build.Soc.	30	3.6	3.0	11.4	7.9
Other specialised	22	0.2	0.2	1.5	0.3
Pass-through	4	0.3	0.3	1.0	1.0
Private	12	0.0	0.0	0.2	0.2
Savings	50	1.1	0.7	10.8	5.5
Trade fin	15	0.0	0.0	0.0	0.0
Univ.cross-border	32	18.4	8.2	62.6	28.7
<b>Total</b>	<b>321</b>	<b>38.8</b>	<b>26.9</b>	<b>177.2</b>	<b>98.4</b>

Source: Basel III monitoring exercise, EBA calculation