THE EBA REPORT ON LIQUIDITY MEASURES UNDER ARTICLE 509(1) AND THE REVIEW OF THE PHASE-IN OF THE LIQUIDITY COVERAGE REQUIREMENT UNDER ARTICLE 461(1) OF THE CRR

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Abbreviations

ABS	Asset backed security
BCBS	Basel Committee on Banking Supervision
CCP	Central counterparty
CIU	Collective investment undertaking
CRR	Capital requirements regulation
DA	Delegated act
DR	Delegated regulation
EBA	European Banking Authority
ECAI	External credit assessment institution
ECB	European Central Bank
EHQCB	Extremely high quality covered bonds
ESCB	European System of Central Banks
ESRB	European Systemic Risk Board
EU	European Union
FX	Foreign exchange
G-SII	Global systemically important institution
HQLA	High quality liquid assets
IPS	Institutional protection scheme
ITS	Implementing technical standards
LCR	Liquidity coverage ratio
LR	Leverage ratio
LTRO	Long-term refinancing operation
NSFR	Net stable funding ratio
O-SII	Other systemically important institution
PSE	Public sector entity
QIS	Quantitative impact study
RCAP	Regulatory Consistency Assessment Programme
SME	Small and medium-sized enterprise
TFIS	Task Force on Impact Studies

Executive Summary

1. In accordance with the mandate of Article 509(1) of the Regulation (EU) No 575/2013 (of the CRR), the EBA produces the LCR impact assessment report on an annual basis. The objective of the report is initially to assess the impact of the LCR regulation on the EU banking sector and the European economy and, in particular since the introduction of the minimum binding ratio requirement in 2015, to evaluate the liquidity risk profile and the performance of the institutions in the EU banking sector in relation to the LCR regulation.

2. This current report is the third publication of the impact assessment reports. Due to the transition to EU-specific liquidity standards under the Commission DR (EU) 2015/61 of 10 October 2014 (the DA)[1], the EBA did not publish the LCR impact assessment report in 2015.

3. The EBA TFIS collected LCR data based on the DA through the QIS monitoring exercise at the June 2015 and the December 2015 reporting dates. For the first time, the EBA LCR impact assessment report relies on data defined according to the provisions of the DA.

4. Furthermore, Article 461(1) of the CRR mandates the EBA to review the phasing-in of the liquidity coverage requirements and, in particular, to assess a deferred introduction of the 100% minimum binding standard until 1 January 2019. Due to overlapping and complementary aspects, the EBA delivers the LCR annual impact assessment report under Article 509(1) and the review of the phasing-in of the LCR under Article 461(1) simultaneously.

5. The analyses presented in this report are based on the data as of 31 December 2015 collected through the QIS monitoring exercise and the EBA ITS on Supervisory Reporting. The QIS LCR data as at the reporting date of 31 December 2015 covers 17 EU Member States and not all EU jurisdictions. Therefore, it should be noted that the conclusions presented in this report are based on a partial representation of the EU Member States.

LCR of the EU banking sector

6. The chapter provides an overview of the LCR and its components for European banks as of 31 December 2015. The remaining shortfall in liquid assets is analysed and the composition of HQLA and net cash outflows is discussed in detail. In addition, this analysis provides an overview of the evolution of the key components of the LCR and its main elements since June 2011, the first reporting date of the QIS monitoring exercise. Furthermore, a comprehensive business model analysis is carried out to investigate the interaction between the LCR and specific business activities. Descriptive statistics are complemented by an analysis of the outliers, a sensitivity analysis, a volatility analysis to identify key drivers behind changes in the LCR and finally by a short analysis to indicate the correlation between the LCR and other regulatory ratios.

[1] Throughout the report the terms Delegated Regulation and Delegated Act are used interchangeably.

7. The average LCR across all banks is 134% and has improved since June 2011. As of December 2015, 90% of the participating banks fulfil the 100% minimum requirement under full implementation. Three banks do not reach the current minimum LCR requirement of 70%. The LCR shortfall decreased for all banks over time and the aggregate gross shortfall at the current reporting date amounts to EUR 10.9 billion at the 100% minimum requirement.

8. The majority of liquidity buffers are comprised of Level 1 assets in the form of cash and central bank reserves and securities. Unlike the previous EBA LCR impact assessment reports, data as of December 2015 show that there is a higher share of liquid assets relative to total assets for smaller banks. This is driven by a few larger banks in this bank category.

9. The increase in the LCR can mainly be attributed to an increase in liquid assets. Since June 2011, banks have almost doubled their liquidity buffers. In contrast to this, net cash outflows have remained relatively stable. Since total assets have remained stable as well, it can be concluded that the asset side of the balance sheet is the main source for banks improving their liquidity profiles. While liquid assets have steadily increased since June 2011, cash outflows and inflows have been more volatile.

10. Business model analysis shows that, on average, banks in all business models reach (or exceed) the 100% minimum requirement. However, there are large dispersions across banks. Some of the savings banks, other specialised banks, CCPs, local universal banks and automotive and consumer credit banks fall below the 100% minimum requirement. Current shortfall is mainly driven by automotive and consumer credit banks and local universal banks. However, it should be noted that there is an imbalance in the representativeness of business models in the QIS sample, and the results should be interpreted carefully.

11. In the analysis of outliers, it is remarkable that the weighted average of the 30 banks with the lowest LCR is 100.3%, i.e. above the minimum requirement under full implementation. The below-average LCR is mainly driven by outflows, which are three times more than the above-average LCR and nearly 27% more than the average LCR for all banks in the sample.

12. The sensitivity analysis reveals that Level 1 assets have the largest positive impact on the numerator of the LCR. Other things being equal, a 1% increase in Level 1 assets increases the average LCR for all banks by 1.18 percentage points. The outcome is expected given the 100% weight allocated to Level 1 assets and the large share of Level 1 assets in the banks' liquidity buffers. On the other hand, non-operational deposits have the greatest negative impact on the LCR. A 1% increase in these exposures, other things being equal, would lead to a reduction of 0.75 percentage point in the LCR. The findings are in line with the analysis presented in the previous EBA LCR impact assessment reports.

13. The section further carries out an analysis of the percentage changes in the LCR, HQLA and net outflows in order to measure variations in liquidity parameters. The analysis also includes a time series analysis of the median change, i.e. it excludes the impact of outliers in semi-annual variation. The findings do not differ from the level time series analysis. Group 2 banks

are subject to higher short-term volatility, as both the negative and positive variations of the parameters are higher in magnitude across Group 2 banks.

14. Finally, the data show a positive correlation between the LCR and the NSFR. Approximately 83% of the LCR compliant banks also comply with the NSFR, while 56% of the LCR non-compliant banks fall below the 100% NSFR level. It can be concluded that there are correlations within the group of compliant banks and within the group of non-compliant banks. The analysis does not show similar patterns between the LCR and the LR. Regardless of compliance status with the LCR, about 95% of banks are compliant with the LR regulation.

Comparison between the EU LCR under the DA and the LCR under the Basel III framework

15. In October 2014, the Commission adopted Delegated Regulation (EU) No 2015/61 to complement Regulation (EU) No 575/2013 with regard to the liquidity coverage requirement for credit institutions. The DA accounts for the specificities of the EU banking sector and differs from the Basel III LCR framework in a number of aspects. This chapter of the report aims to present and measure these differences between the two frameworks. This analysis is not intended to evaluate the consistent implementation of the Basel III framework. This assessment is outside the scope of the current report and will be conducted within the RCAP under the BCBS.

16. The differences between the Basel III LCR framework and the LCR under the DA are primarily related to the scope and parameters of the LCR regulation, as well as to the weights allocated to these parameters in the calculation of the LCR. Regarding HQLA, the first difference stems from the inclusion of EHQCB in Level 1 assets and their different weights/haircuts under the DA in comparison to the Basel III framework. Secondly, the DA covers a larger scope of liquid assets, including bonds issued by credit institutions, high liquidity covered bonds, securitisations, shares and CIUs. In terms of outflows, differences between run-off rates for retail deposits subject to higher outflows and specific treatment for other products and services compose the main differences between the two regulations. For the inflows, the first difference between the two frameworks is the differences in the inflow rates for unsecured transactions. Secondly, in the calculation of net cash outflows, the liquidity inflows of credit institutions are limited to 75% of total outflows. The DA introduces an exemption for the cap on inflows. Specialised credit institutions may be totally exempt when their main activities are leasing or factoring businesses and similarly, specialised credit institutions whose main activities are financing for the acquisition of motor vehicles or consumer credit, may be subject to a cap of 90% of total outflows.

17. Despite these differences, at the aggregate level, the overall LCR as of December 2015 is 133.1% under both frameworks. The above-mentioned differences are visible when a comparative analysis is presented at a more granular level. The LCR under the DA for Group 1 banks is 127.3%. This is lower than the LCR for Group 1 banks under the Basel III framework (129.4%). On the other hand, the LCR for Group 2 banks under the DA amounts to 164.8%, compared to 151.6% under the Basel III framework. The total shortfall under the Basel III

framework amounts to EUR 29.3 billion for the LCR minimum requirement of 100%, whereas the shortfall under the DA is EUR 9.9 billion.

18. The global increase in HQLA before the cap under the DA with respect to the Basel III framework can be attributed to: (i) promotional banks' assets issued by credit institutions (EUR 47.6 billion), (ii) the treatment and weighting of covered bonds (EUR 44.4 billion), and (iii) a larger scope for ABSs and CIUs (EUR 7.6 billion). At the same time, the increase in outflows under the DA with respect to the Basel III framework can be mainly attributed to: (i) differences in the outflow rates for retail and SME funding (EUR 44.3 billion) and (ii) other changes between the two frameworks covering differences in weights on additional outflows and other products and services (especially internal netting of clients' positions, mortgages that have been agreed but not yet drawn down, planned outflows relating to renewal or extension of new retail or wholesale loans, or trade finance off-balance-sheet-related products (EUR 56.0 billion)). Finally, the increase in inflows (before the cap) between the Basel III framework and the DA stems from differences in the scope of assets with an undefined maturity (EUR 62.2 billion), differences in the scope of monies due from trade financing transactions (EUR 39.6 billion) and other changes between both frameworks, covering differences in the rates for other inflows.

19. Among the 30 banks not compliant with the 100% minimum requirement under the Basel III framework, 15 of them (one Group 1 and 14 Group 2 banks) become compliant under the DA. On the other hand, one Group 2 bank that is compliant under the Basel III framework becomes non-compliant under the DA.

20. The comparative analysis of the LCR by business model shows that most banks increase their LCR under the DA. This increase is significant for two business model categories in particular. While, on average, automotive and consumer credit banks and, other specialised banks become compliant under the DA, the LCR is lower under the DA than Basel III framework for cross-border universal banks, although the LCR shortfall disappears.

21. The DA recognises and supports the development of financial instruments in the financing of companies such as covered bonds and ABSs. It also accounts for the specificities of the EU banking sector, incorporating in the regulatory framework the treatment of intra-group transactions in cooperatives or activities by specialised intermediaries such as leasing and factoring, which are important for the financing of corporates and especially SMEs in the real economy. The results of the quantitative analysis show that the DA does not have a significant impact on the global level of the LCR. However, at the micro-level, all components of the LCR could be impacted by the requirements introduced by the DA, and thus, banks could be significantly affected, depending on their size and business model.

22. Indeed, the finding of, on the one hand, small differences between the two frameworks among Group 1 banks and, on the other hand, large differences between the two frameworks among Group 2 banks can be explained by the impact of the DA's provisions from a business model perspective. The share of promotional banks' assets in liquidity buffers is higher among

Group 2 banks and automotive and consumer credit banks that benefit from the EU derogation on the cap on inflows under the DA are also Group 2 banks. More remarkably, while most business model categories benefit from an increase in inflows under the DA, the increase is considerably higher for local savings banks, mortgage banks, security trading houses and building societies, which are almost exclusively Group 2 banks in the QIS sample.

Analysis of currency mismatch in the LCR

23. The analysis of currency mismatch in the LCR investigates whether the liquidity coverage and outflow risks that institutions face in a specific significant (foreign) currency are different from the risk manifesting in the overall liquidity coverage and maturity mismatch between assets and liabilities across all currencies. For this purpose, the analysis presents a set of indicators and makes a comparison between the aggregate values reported in the reporting currency and the values reported in the significant (foreign) currencies.[2]

24. The analysis shows that the liquidity buffers of the institutions in relation to net outflows are higher in the reporting currency than in the significant currencies and that, in aggregate, the surplus in liquidity buffer in the reporting currency offsets the liquidity shortfall in other significant currencies. For USD, in 75% of cases, the ratio of the liquidity buffer to net outflows is higher in aggregate, across all currencies than in the significant currency and, in 46% of cases, the institutions have an overall ratio above 100% in aggregate but below 100% in the significant currency. The trend is somewhat similar but less pronounced for EUR and GBP as the two other significant currencies considered in this analysis.

25. A large part of the liquidity buffers is based on liquid assets denominated in national currency, even if funding is denominated in a significant currency. This pattern is more pronounced for USD-denominated HQLA and funding. The tendency is the opposite for outflows. Short-term funding is more common in USD as the significant currency than in the reporting currency. A similar trend is observed for inflows. Therefore, it is possible to argue that, for these institutions, a lower liquidity buffer and a large volume of outflows can be compensated (to a certain extent) by a large volume of inflows. The analysis does not support such clear evidence for EUR and GBP, as the two other significant currencies considered in the analysis.

26. Furthermore, the data show that the amount of stable funding in the significant currency is limited compared to stable funding in the reporting currency. For 94% of the institutions in the sample, the share of retail deposits with a maturity of within 3 months is higher than that of the sum of retail deposits in all other maturity categories. This inequality increases in favour of the former when significant currencies are considered individually. The pattern is more pronounced in USD-denominated funding than in funding denominated in EUR and GBP.

27. Finally, in the significant (foreign) currency, institutions mostly rely on short-term (within 3 months) wholesale funding; the share of long-term (more than 12 months) funding is lower.

[2] Significant (foreign) currencies include EUR, GBP and USD. See Section 1.3 for a detailed explanation of the methodology.

On the other hand, the share of wholesale funding of within 3 months and the share of wholesale funding of more than 12 months are more balanced in aggregate, across all currencies. This tendency in the maturity composition is more pronounced in financial wholesale funding than in non-financial wholesale funding and the differences in the ratios are more prominent in USD as a significant currency compared to other significant (foreign) currencies.

Activities with central banks under the LCR regulation

28. In the aftermath of the most recent financial crisis central banks intervened in the markets to address the liquidity problem. LTROs, extension of central bank eligible collaterals and full allotment are the major points of intervention by central banks to inject liquidity in EU financial markets. Today, this favourable liquidity policy is still available, and institutions also benefit from their operations with central banks in compliance with the LCR regulation. The objective of the analysis is to present the extent to which institutions benefit from the preferential treatment of central bank related transactions under the DA and, to quantify the magnitude of these transactions in terms of institutions' compliance with the LCR regulation.

29. The LCR DA includes preferential treatment for central bank related exposures and liabilities. Firstly, exposures to central banks such as central bank reserves and assets representing claims on or guaranteed by the central bank may be included in the stock of liquid assets.[3] Secondly, no cash outflows will be assigned to short-term secured funding transactions with the central bank, as it is assumed that, in times of stress, the central bank will further roll-over any secured funding transactions as long as the bank is providing central bank eligible collateral (disregarding the LCR liquidity quality of these assets). Finally, any other central bank exposures (available within 30 calendar days) not already included in the liquidity buffer may –under certain conditions– be counted as cash inflows.

30. The QIS data as of 31 December 2015 show that, on average, central bank exposures are approximately one third of the total weighted liquidity buffer (before application of the cap on liquid assets). Most of these exposures include central bank reserves being considered as Level 1 assets while the share of assets representing claims on the central bank is relatively small. The amount of other liquid assets such as central bank credit facilities as part of alternative liquidity approaches or restricted-use committed liquidity facilities is negligible.

31. Central bank exposures included in the liquidity buffer especially increased between June 2011 and December 2012. This can be partially attributed to the ECB's LTROs, assuming that part of the received liquidity in the form of central bank reserves was not directly re-invested into other (liquid or illiquid) assets. Since December 2012, the amount of central bank exposures has slightly decreased which suggests less liquidity hoarding with the end of the most severe phase of the crisis period. As banks have further invested into other liquid assets since 2013, central bank exposures in the LCR have lost their larger share in liquidity buffers.

[3] The treatment of the amount up to the average reserve requirement of the current maintenance period is subject to an arrangement between the competent authority and the ECB or national central bank.

32. Regarding secured funding transactions with the central bank, 38 out of 171 banks in the sample have reported such transactions. These contribute to 1.1% of all unweighted outflows. This observation is in line with the high market liquidity that currently allows banks to predominantly use the interbank repo markets in order to generate liquidity. For larger banks, most of the transactions with the central bank are backed by Level 1 assets. In these cases, a change of the counterparty from the central bank to financial institutions would not have an impact on the cash outflows because, in this case, the outflow rates would be 0% for both counterparties. On the other hand, some Group 2 banks report larger shares of transactions backed by illiquid assets. These Group 2 banks would report higher cash outflows if they conducted secured funding transactions via interbank repo markets. However, as the total amount of repo transactions relative to total liabilities is small, the overall impact of such a change would be limited as well.

33. The impact of any other central bank exposures not already included as liquid assets is low. Only 32 banks report inflows from monies due from central banks. For these banks, the inflows from monies due from central banks compose approximately 4% of total weighted inflows. At an individual level, (only for two Group 1 banks and two Group 2 banks), the share of inflows from monies due from central banks is above 50% of total weighted inflows.

34. The section presents a set of three scenarios depicting the magnitude of central bank related operations. The objective is to understand the extent to which these operations contribute to institutions' compliance with the LCR requirements and how changes in the baseline would have an impact on the level of the LCR.

35. The first scenario analysis assumes the replacement of all central bank exposures with illiquid assets and shows a change in the level of the LCR under this assumption.[4] Under this extreme scenario, the impact on the LCR is significant and leads to a larger number of non-compliant banks. The second and the third scenarios focus on secured funding transactions with central banks and analyse the impact of (i) a reduction and (ii) an increase in the volume of secured funding transactions with central banks. Since secured funding transactions with central banks have a small share in the total funding structure of banks as of 31 December 2015, the total impact of these scenarios on the LCR is relatively small.

36. Analysis suggests that central bank reserves form a key element of the liquidity buffer and that a (partial) withdrawal of these exposures may have a significant influence on the LCR. The findings suggest a different conclusion for secured funding transactions (outflows) and other monies due from central banks (inflows). The shares of these operations in institutions' assets and liabilities are small, and the impact of a deviation from the baseline on the level of LCR compliance is not significant.

[4] It is recognised that this is an extreme and conservative scenario from a macroeconomic perspective. However, it provides a range of the potential impact of a withdrawal of central bank exposures on the LCR without making any further assumptions on the deduction rate of central bank exposures.

Review of the phase-in of the LCR

37. The transition in the LCR regulation gradually reaches full implementation of the 100% minimum binding requirement, one year before the Basel III LCR standard. With these provisional arrangements, the Commission aimed to take account of the key role of liquidity concerning the stability of banks and its role in supporting wider economic recovery in the EU.

38. The objective of the analysis is to investigate whether the current EU-specific transitional provisions create difficulties for institutions, and whether a deferral in the introduction of the 100% minimum binding standard until 1 January 2019 would facilitate institutions' compliance with the LCR regulation. Based on the QIS data as of December 2015 and the responses to a qualitative questionnaire prepared for the review, the analysis identifies the institutions that would potentially benefit from an extension of the transition period.

39. The findings show that 155 out of 171 banks are already compliant with the LCR minimum requirement of 100%. For these banks, an extension of the phase-in period would not have any direct impact in terms of compliance. In addition, under Article 412(5) of the CRR, some national competent authorities have set higher minimum standards until the binding minimum standard is fully introduced at a rate of 100% in accordance with Article 460 of the CRR. Since some banks in these jurisdictions have to comply with 100% minimum requirement at an earlier date than 1 January 2018, a change in the phase-in period would not have any impact on these banks.

40. The majority of banks with LCR levels below 100% that participated in the survey remain below the 100% requirement by preference. In other words, these banks would be able to comply with the regulation of a 100% minimum requirement at the current reporting date but choose to wait for the final deadline of 2018 from a strategic perspective. Some banks failing to meet the 70% requirement do not state any potential benefit from an extension in the phase-in period for their level of compliance. The main impact of a deferral regarding the introduction of the 100% minimum binding standard until 1 January 2019 would be cost related. An extended period may be less costly for institutions, as this would allow more time to improve eligible funding (e.g. increase deposits and optimise the composition of assets). Some institutions also mentioned further benefits of an extended period in terms of the clarification of adverse market scenarios, the interpretation of non-HQLA secured borrowing, and timely finalisation of reporting templates.

41. The analysis further investigates whether an extension of the phase-in period would be beneficial for institutions experiencing volatility in the LCR. More than 85% of institutions have internal measures in place to monitor and manage volatility in the LCR and the institutions that do not have such measures are the ones with LCR levels above 120%.

42. To conclude, the analysis did not find any significant evidence to recommend deviating from the current transitional framework and to support a deferred introduction of the 100% minimum binding standard until 1 January 2019.

1. General remarks

1.1 Mandate and rationale

1.1.1 Article 509 and Article 461 of the CRR

1. **Article 509(1)** of the CRR mandates the EBA to monitor and evaluate the report made in accordance with Article 415(1) across currencies and across different business models. The report referred to under this article shall take due account of markets and international regulatory developments, as well as of the interactions between the liquidity coverage requirement and other prudential requirements under this regulation (such as the risk-based capital ratios as set out in Article 92 and the LR).

2. In addition, Article 509(2) requires the EBA to assess a set of policy aspects in the LCR regulation such as the determination of the cap on inflows, potential derogations on the basis of business models, calibration of rates for inflows and outflows, determination of thresholds for different levels of the liquidity buffer, and the definition of operational relationships.

3. The European Parliament and the Council shall be given the opportunity to state their views on the report referred to in Article 509(1).

4. **Article 461(1)** of the CRR mandates the EBA to report to the Commission on whether the phase-in of the liquidity coverage requirement as specified in Article 460(2) should be amended. Such an analysis shall take due account of market and international regulatory developments as well as EU specificities.

5. The EBA shall, in its report, assess in particular a deferred introduction of the 100% minimum binding standard until 1 January 2019. The report shall take into account the annual reports referred to in Article 509(1), relevant market data and the recommendations of all competent authorities.

6. **Article 461(2)** states that when necessary to address market and other developments, the Commission shall be empowered to adopt a delegated act in accordance with Article 462 to alter the phase-in specified in Article 460 and defer until 2019 the introduction of a 100% binding minimum standard for the liquidity coverage requirement set out in Article 421(1) and to apply in 2018 a 90% binding minimum standard for the liquidity coverage requirement.

7. For the purposes of assessing the necessity of deferral the Commission shall take into account the report and assessment referred to in Article 461(1).

8. A delegated act adopted in accordance with this Article shall not apply before 1 January 2018 and shall enter into force by 30 June 2017.

1.1.2 Consultation process

9. In accordance with Article 509(1), before its submission to the European Commission and publication, the report on liquidity measures presented under Chapters 1 to 5 of the current document was subject to a consultation process including ESRB, non-financial end-users, the banking industry, competent authorities and ESCB central banks.

10. In addition, in accordance with Article 461(1), before its submission to the European Commission and publication, the review of the phasing-in of the liquidity coverage requirement presented under Chapter 6 of the report was subject to a consultation process with the ESRB and takes into account the recommendations of all competent authorities.

1.1.3 Objectives and scope of the report

11. The first EBA LCR impact assessment report was based on December 2012 data and published on 20 December 2013. The second EBA LCR impact assessment report was based on December 2013 data and published on 23 December 2014. Due to the timing of the LCR DA and the lack of available liquidity data under the definition of the DA, the EBA did not produce the LCR impact assessment report in 2015.

12. The main objective of the third LCR impact assessment report is to: (i) update LCR-related statistics with the most recent available data, (ii) incorporate in the analysis the specificities introduced under the DA and (iii) extend (where possible) the scope of the analysis. The EBA TFIS collected LCR data based on the DA through the QIS monitoring exercise at the June 2015 and the December 2015 reporting dates. This is the first time the LCR impact assessment report relies on data defined according to the DA.

13. As a result, the third LCR impact assessment report covers the following areas:

- **LCR of the EU banking sector** presents statistics on the key elements of the LCR regulation, such as the LCR of the EU banking sector, the LCR shortfall, the composition of the liquid assets, and the composition of inflows and outflows. The statistics assess institutions' compliance with the LCR regulation in December 2015 and the analyses are performed at group level (Group 1 and Group 2 banks) and according to business models. Further statistics provide an update of the analysis of outliers, the drivers of the LCR, and the interaction between the LCR and other regulatory ratios. However, a limited section is dedicated to these analyses, as further detailed investigation in these topics is not expected to have new findings other than the conclusions drawn from previous reports.

- **A comparative analysis between the EU LCR under the DA and the LCR under the Basel III framework** aims to quantify the differences in LCR-related statistics given the derogations applied under the DA. For the first time the current report relies on a sample of institutions that submit both EU-specific LCR data and data under the Basel III framework.

- **Analysis of currency mismatch in the LCR** was not covered in the previous LCR impact assessment reports. This is due to the lack of available templates and data to carry out this analysis. The current report uses the data on liquidity coverage from the EBA ITS on Supervisory Reporting to carry out this analysis.

- The chapter on **activities with central banks under the LCR regulation** aims to measure the impact of EU-specific derogations for central bank related transactions. Interaction between the LCR regulation and the monetary policy was discussed theoretically in the first LCR impact assessment report, but was omitted from the previous one. The analysis presented in the current report is based on December 2015 QIS EU-specific LCR data only and does not attempt to make use of other central bank data and merge them with the former.

- **Review of the phase-in period of the LCR** investigates the level of compliance with the LCR regulation in the EU banking sector, and whether an extension of the transitional period would be beneficial for institutions in terms of their compliance with the 100% minimum requirement under full implementation. The review is based on the QIS dataset as well as a qualitative questionnaire targeted institutions participating in the LCR section of the QIS monitoring exercise as of December 2015.

14. The third LCR impact assessment report does not include the global impact of the LCR regulation on the global economy and on the orderly functioning of financial markets. It also does not include the impact of the LCR regulation on the economy and the stability of the supply of bank lending. Regarding these topics, an additional analysis is not expected to reveal findings different from what have been presented in previous reports. In addition, the analyses were deemed to be particularly important during the calibration of the LCR regulation and they may have limited added value and relevance during the phase-in period.

1.2 Participation

15. Table 1 shows, by jurisdiction, the number of banks that participated in the monitoring exercise. As of 31 December 2015, a total of 194 banks in 17 jurisdictions submitted EU-specific LCR data for the monitoring exercise, of which 38 banks are Group 1 banks and 156 are Group 2 banks. The table below gives the definition of the grouping convention used throughout the report.

	Tier 1 capital amount (as of reporting date)
Small Group 2 banks	< EUR 1.5 billion
Medium Group 2 banks	≥ EUR 1.5 billion, < EUR 3 billion
Large Group 2 banks	≥ EUR 3 billion
Group 1 banks	≥ EUR 3 billion and internationally active

Table 1: Number of banks that submitted data for the LCR in the monitoring exercise

	All banks		Group 1		Group 2	
	Total	of which subsidiaries	Total	of which subsidiaries	Total	of which subsidiaries
Austria	7	1	3	1	4	—
Belgium	14	5	4	2	10	3
Denmark	3	—	1	—	2	—
France	7	—	5	—	2	—
Germany	90	10	8	—	82	10
Hungary	3	—	1	—	2	—
Ireland	12	4	3	—	9	4
Italy	15	—	2	—	13	—
Latvia	2	—	—	—	2	—
Lithuania	2	2	—	—	2	2
Luxembourg	1	—	—	—	1	—
Malta	4	1	—	—	4	1
Netherlands	8	—	3	—	5	—
Poland	5	—	—	—	5	—
Portugal	5	—	2	—	3	—
Spain	10	—	2	—	8	—
Sweden	6	—	4	—	2	—
Total	**194**	**23**	**38**	**3**	**156**	**20**

Source: EBA QIS data (December 2015)

16. For the purposes of more granular analyses, Group 1 and Group 2 are further separated into sub-groups. G-SIIs have been analysed separately under Group 1. To analyse the driving forces behind aggregate Group 2 results in more detail, this report has classified Group 2 banks into three subsamples: large Group 2 banks that have Tier 1 capital in excess of EUR 3 billion, medium-sized banks with Tier 1 capital below or equal to EUR 3 billion and above EUR 1.5 billion, and small banks having Tier 1 capital below or equal to EUR 1.5 billion. Furthermore, in this analysis O-SIIs are separately identified for the first time.[5] Table 2 provides a breakdown of the sample by all groups considered in the report.

17. The sample is less representative in terms of business models (Table 3). The number of cross-border universal banks, local savings banks and local universal banks outweigh the number of

[5] This is based on the EBA's reference on O-SIIs as of April 2016: http://www.eba.europa.eu/-/eba-discloses-first-list-of-o-siis-in-the--1.

banks presented under other business model categories. Table 4 presents the distribution of business models categories across jurisdictions.

Table 2: Number of banks that submitted data for the LCR in the monitoring exercise

	All banks	of which subsidiaries
All banks	**194**	**23**
Group 1	**38**	**3**
- G-SIIs	9	—
Group 2	**156**	**20**
- Large	28	4
- Medium	28	2
- Small	100	14
- O-SIIs	65	6

Source: EBA QIS data (December 2015)

Table 3: Number of banks that submitted data for the monitoring exercise by business model

	Group 1	Group 2	All banks
Automotive and consumer credit banks	—	8	8
Building societies	—	5	5
CCPs	—	2	2
Cross-border universal banks	28	4	32
Custody banks	—	4	4
Local savings banks	—	56	56
Local universal banks	7	47	54
Merchant banks	—	1	1
Mortgage banks	—	8	8
Other specialised banks	3	7	10
Private banks	—	2	2
Public development banks	—	11	11
Security trading houses	—	1	1
Total	**38**	**156**	**194**

Source: EBA QIS data (December 2015)

Table 4: Number of banks that submitted data for the LCR by business model and country

	AT	BE	DE	DK	ES	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	SE
Automotive and consumer credit banks	—	1	5	—	—	—	—	2	—	—	—	—	—	—	—	—	—
Building societies	1	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CCPs	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cross-border universal banks	3	3	3	1	2	4	1	2	3	—	—	2	—	2	—	2	4
Custody banks	—	2	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—
Local savings banks	—	7	44	—	1	—	—	—	2	—	—	—	—	2	—	—	—
Local universal banks	3	1	10	1	7	2	2	2	9	2	1	—	4	2	5	3	—
Merchant banks	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Mortgage banks	—	—	6	1	—	—	—	—	—	—	—	—	—	—	—	—	1
Other specialised banks	—	—	6	—	—	—	—	3	1	—	—	—	—	—	—	—	—
Private banks	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Public development banks	—	—	7	—	—	1	—	—	—	—	—	—	—	2	—	—	1
Security trading houses	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Source: EBA QIS data (December 2015)

18. Table 5 indicates the number of banks included in the consistent sample used for the time series analysis. The consistent sample includes banks that have consistently submitted data at all reporting dates since the beginning of the monitoring exercise in June 2011.

Table 5: Number of banks included in the consistent time series analysis (June 2011 - December 2015)

	All banks	Group 1 banks	Group 2 banks
Austria	1	1	—
Belgium	3	1	2
France	6	5	1
Germany	18	6	12
Ireland	4	3	1
Italy	13	2	11
Luxembourg	1	—	1
Malta	1	—	1
Netherlands	5	3	2
Poland	3	—	3
Portugal	3	2	1
Spain	5	2	3
Sweden	4	4	—
Total	**67**	**29**	**38**

Source: EBA QIS data (December 2015)

19. Table 6 shows the number of banks that submitted both EU-specific LCR data in accordance with the EU DA and LCR data under Basel III framework. This sample is used for the comparative analysis presented in Chapter 3.

Table 6: Number of banks that submitted data for Basel III and the DA in the monitoring exercise

	All banks	of which subsidiaries
All banks	**150**	**11**
Group 1	**31**	**2**
- G-SIIs	9	—
Group 2	**119**	**9**
- Large	25	3
- Medium	20	1
- Small	74	5

	All banks	of which subsidiaries
- O-SIIs	51	4

Source: EBA QIS data (December 2015)

20. For Chapter 4 of the report on the analysis of currency mismatch in the LCR, the EU-specific QIS templates do not include information on currencies other than the reporting currency. Therefore, the analysis on currency mismatch in the LCR, unlike the other analyses presented in this report, is based on the templates from the EBA ITS on Supervisory Reporting. Under the EBA ITS on Supervisory Reporting, institutions submit (on a monthly basis) liquidity coverage data according to Part Six, Title II of the CRR. Article 415(2) of the CRR provides that institutions shall report separately for all significant currencies when aggregate liabilities in a currency different from the reporting currency are at least 5% of total liabilities.

21. There are 218 institutions[6] across 29 countries[7] that submitted data on liquidity coverage as of 31 December 2015. Institutions that submitted zero or no values for the relevant parameters in the reporting currency and/or the significant currency are excluded from the analysis. As a result the sample size varies from 160 to 186 institutions, depending on the analysis considered in the chapter.

1.3 Methodology and data

22. The analyses presented for all chapters except Chapter 4 (the analysis of currency mismatch in the LCR) are based on the QIS data as of December 2015. The banks participating in the QIS monitoring exercise submitted comprehensive and detailed non-public confidential data on a best-efforts voluntary basis. Supervisors have been working closely with banks to ensure the high quality, completeness and consistency of data with reporting instructions. Each of the institutions is included in the sample only if they have provided data of sufficient quality to conduct the analysis in question.

23. The 'composite bank' weighting scheme presents average amounts in this report that have been calculated by creating a composite bank at the relevant sample level, i.e. the relevant sample averages are implicitly weighted. For example, the average LCR is the sum of all banks' HQLA included in the relevant sample divided by the sum of all banks' net cash outflows included in the relevant sample. By choosing this weighting scheme, methodologically, the results of this analysis can implicitly be considered as more representative of the European banking sector as a whole than unweighted averages.

24. Box plots illustrate the distribution of results to present more detailed results and, at the same time, ensure data confidentiality. Some charts show box plots, which give an indication of the distribution of the results among participating banks. These box plots are defined as follows:

[6] This number also includes the subsidiaries.

[7] These are the 28 Member States and Norway.

Thick red line	Respective minimum requirement
Dashed lines	Respective minimum requirement under full implementation
Thin red line	Median value (50% of the observations are below this value, 50% are above this value)
'x'	Mean (weighted average)
Blue box	The 25th and 75th percentile values. A percentile is the value of a variable below which a certain percent of observations fall. For example, the 25th percentile is the value below which 25% of the observations are found
Black vertical lines ('whiskers')	The upper end point represents the 95th percentile value and the lower end point the 5th percentile value

25. For Chapter 4 of the report, which includes the analysis on currency mismatch in the LCR, the data collected through the EBA ITS have been used. However, the ITS dataset has a number of caveats that require careful interpretation of the results. Firstly, the reporting templates are based on the requirements of the CRR, which do not reflect specific design and granularity for the calculation of the LCR in the reporting currency and in significant currencies. Secondly, the templates do not specify haircuts and weights for the parameters; therefore, reporting is subject to potential inconsistency across institutions. Finally, the ITS data do not account for provisions introduced under the DA.

26. It should be noted that the EBA's Q&A process[8] leaves at competent authorities' discretions the decision of whether the reporting currency itself is considered a significant currency and whether the values of the activities in the reporting currency should also be reported separately.[9] In practice, since most of the Member States do not report in the reporting currency separately, the methodology of the current analysis and the construction of the indicators rely on the total values in the reporting currency, i.e. across all currencies, and not the reporting currencies (or the 'national' currencies) individually.

27. In addition, in the analysis some of the indicators are constructed from the EBA ITS templates on stable funding to complement LCR data in order to present a more comprehensive overview on the currency risk in liquidity. Similar shortcomings that are mentioned above are also valid for the templates on stable funding.

28. Given the significance of only some (significant) currencies in the dataset the scope of the analysis is limited to three major currencies namely EUR where EUR is not the national currency, GBP where GBP is not the national currency and USD. [10] In addition, in each figure presented throughout the analysis the institutions with zero values for the total figures are

[8] Question ID: 2014_1294 on EBA website

[9] For example, an institution located in Euro area reports the (aggregate, across all currencies) figures in Euro which is the reporting currency. The question is whether Euro-denominated items which are in any case greater than 5% of total liabilities should also be reported individually as significant currency.

[10] For the purpose of this analysis 'national currency' is defined as the national currency of the country where the home supervisor is located. For example, for a large international bank with headquarters in the UK, GBP is considered as the national currency; therefore, EUR and USD are considered the significant currencies.

excluded and the values of the indicators are limited to the maximum values indicated on the axes, i.e. some outliers may have been excluded from the illustrations.

29. Finally, business model analyses in this report are based on the following categorisation and definitions. This categorisation and the definitions of business models have been updated to capture the liquidity profile of institutions more accurately and at a more granular level. This categorisation and the definitions are different from the categorisation and definitions adopted in previous LCR impact assessment reports.

Name	Description
Automotive and consumer credit banks	Banks specialising in originating and/or servicing consumer and/or automotive loans to retail clients.
Building societies	Banks specialised in the provision of residential loans to retail clients.
CCPs	Banks specialising in setting trading accounts, clearing trades, collecting and maintaining margin monies, regulating delivery and reporting trading data.
Cross-border universal banks	Cross-border banking groups engaging in several activities including retail, corporate, investment banking and insurance.
Custody bank	Banks specialised in offering custodian services (i.e. they hold customers' securities in electronic or physical form for safekeeping so as to minimise the risk of loss). These banks may also provide other services, including account administration, transaction settlements, collection of dividends and interest payments, tax support and FX.
Local savings banks	Banks focusing on retail banking (payments, savings products, credits and insurances for individuals or SMEs) and which operate thought a decentralised distribution network, providing local and regional outreach.
Local universal bank	Banks specialising in originating and/or servicing consumer loans to retail clients and SMEs.
Merchant banks	Banks engaging in financing domestic and international trade by offering products such as letters of credit, bank guarantees and collection and discounting of bills.
Mortgage banks	Banks specialising in directly originating and/or servicing mortgage loans.
Other specialised banks	Other specialised banks such as promotional banks and ethical banks.
Private banks	Banks providing wealth management services to high net worth individuals and families.
Public development banks	Banks specialising in financing public-sector projects and/ or the provision of promotional credit or municipal loans.
Security trading houses	Banks facilitating trading done in derivatives and equities markets by guaranteeing the obligations in 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.

2. LCR of the EU banking sector

30. This chapter provides an overview of the LCR of European banks as of 31 December 2015. The remaining shortfall in liquid assets is analysed and the composition of HQLA and net cash outflows is discussed in detail. In addition, the analysis provides an overview of the evolution of the key components of the LCR and its main elements since June 2011. Furthermore, a comprehensive business model analysis is carried out to understand the interaction between the LCR and specific business activities. Descriptive statistics are complemented by an analysis of the outliers, a sensitivity analysis, a volatility analysis to identify the key drivers behind changes in the LCR, and a short descriptive analysis to indicate the correlation between the LCR and other regulatory ratios.

2.1 Descriptive statistics at the EU aggregate level

2.1.1 LCRs

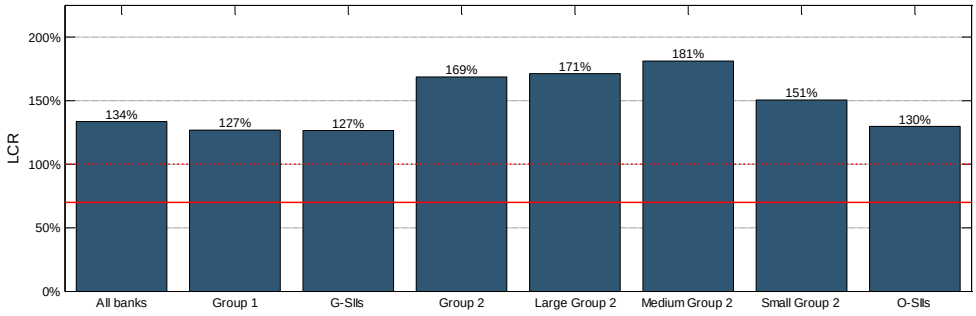
31. In accordance with Article 412 of the CRR and in line with Article 4(1) of the DA, institutions shall hold liquid assets to cover net liquidity outflows over a 30-calendar-day stress period. [11] The LCR is intended to ensure short-term resilience to potential liquidity disruptions. Institutions shall maintain an LCR of at least 100%.[12] However, following Article 460(2) of the CRR in line with Article 38 of the DA, the LCR minimum requirement has been set at 60% from 1 October 2015 and will gradually increase to 100% in January 2018, i.e. the EU regulation requires a minimum of 100% one year before the Basel standard.

32. As of 31 December 2015, the weighted average LCR across all banks in the sample is 134% (Figure 1). Group 2 banks (169%) tend to have a higher LCR than Group 1 banks (127%). The former is driven mostly by large and medium Group 2 banks. The LCR of G-SIIs and O-SIIs are below the LCR for all banks.

[11] From a macroprudential perspective, it is also important to mention that the ECB's guidelines (the ECB guide on options and discretions available in EU law) allow for liquidity waivers to be applied for subsidiaries of foreign banks. This decision means that, in practice, the LCR would be significantly relaxed. For some Member States with banking sectors that are largely subsidiary-based, this may lead to a large-scale outflow of liquid assets, leaving subsidiaries potentially exposed to liquidity stress.

[12] As defined in Article 4(3) of the DA, banks may monetise their liquid assets to cover their net liquidity outflows during stress periods, even if this results in a decrease in the LCR below 100% during these periods.

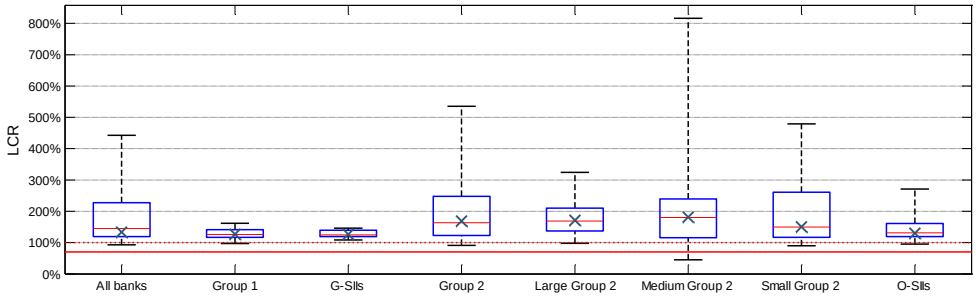
Figure 1: LCR of the EU banking sector as of 31 December 2015



Source: EBA QIS data (December 2015)

33. Overall, 155 out of 171 banks already meet the 100% fully phased-in LCR minimum requirement, while three banks do not meet the minimum LCR requirement of 70%. The dispersion in the LCR across Group 2 banks is greater than that of Group 1 banks (Figure 2). The dispersion is more pronounced among medium Group 2 banks. This observation is in line with the previous EBA LCR impact assessments that show a larger sensitivity among smaller banks and specialised business models towards the LCR requirement.

Figure 2: Distribution of the LCR in the EU banking sector as of 31 December 2015



Source: EBA QIS data (December 2015)

2.1.2 LCR shortfalls

34. Table 7 provides an overview of the shortfall in liquid assets. Three banks have to increase their liquidity buffers by EUR 1.1 billion in order to reach the minimum requirement of 70%. This shortfall corresponds to 1.5% of total assets and to 67.8% of the current liquidity buffer of these banks. At a minimum ratio of 80% (as from January 2017) the shortfall amounts to EUR 1.5 billion. The shortfalls for both minimum ratios are attributed to Group 2 banks only.

35. Regarding the minimum requirement of 100%, monitoring results show a shortfall in liquid assets of EUR 10.9 billion, which represents 1.1% of total assets and 8.8% of the current liquidity buffer of banks reporting a shortfall. The shortfall at the 100% minimum requirement is mostly induced by three Group 1 banks with an aggregate shortfall of EUR 7.6 billion. The

remaining is attributed to two large Group 2 banks with an aggregate shortfall of EUR 0.4 billion, to two medium Group 2 banks with an aggregate shortfall of EUR 2.0 billion and to nine small Group 2 banks with a total shortfall of EUR 0.9 billion. The three Group 1 banks have to increase their liquidity buffers by 24.0%, 3.3% and 3.0%, respectively to meet the minimum ratio of 100%. The two large Group 2 banks have to raise their HQLA by 110% and 283% to meet the same requirement. One out of the nine small Group 2 banks has to raise its HQLA by 234%. For other small Group 2 banks, the required increase in the liquidity buffer to address the shortfall and to fulfil the 100% requirement varies from 0.4% to 20.5%.

Table 7: LCR and shortfall for different minimum ratios in accordance with Article 460(2) of the CRR

	Number of banks	LCR	LCR shortfall (in EUR billion) at a minimum of		
			70% (2016)	80% (2017)	100% (2018)
All banks	**171**	**133.7**	**1.1**	**1.5**	**10.9**
Group 1	**35**	**126.8**	**—**	**—**	**7.6**
- G-SIIs	9	126.5	—	—	—
Group 2	**136**	**168.7**	**1.1**	**1.5**	**3.3**
- Large	24	171.3	—	—	0.4
- Medium	26	181.2	0.9	1.2	2.0
- Small	86	150.6	0.2	0.3	0.9
- O-SIIs	59	129.9	0.2	0.3	8.4

Source: EBA QIS data (December 2015)

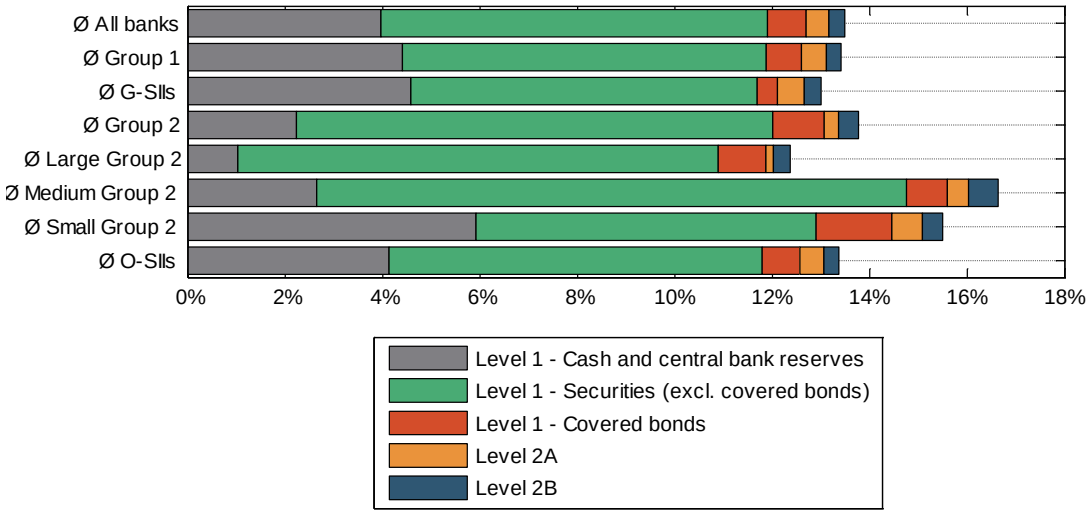
2.1.3 Composition of liquid assets

36. The DA differentiates between assets of extremely high liquidity and credit quality (or Level 1 assets), and assets of high liquidity and credit quality (or Level 2 assets). Consistent with the Basel III framework, the latter is divided into Level 2A and Level 2B assets. Level 1 assets inter alia may comprise cash and central bank reserves, as well as securities in the form of assets representing claims on or guaranteed by central or regional governments, local authorities or PSEs. Unlike the Basel III framework, the DA also considers promotional banks' assets in the Level 1 liquidity buffer. In addition, the DA provides a higher recognition of EHQCB which may be included under Level 1 assets (but with a higher haircut) under the EU framework (see Chapter 3 for a detailed comparison of the DA with the Basel III framework). On the other hand, Level 2 assets, inter alia, include exposures in the form of high-quality covered bonds, highly-rated corporate debt securities and certain securitisations, as well as shares listed on a major stock index.

37. In the QIS sample as of 31 December 2015, the majority of liquidity buffers are comprised of Level 1 assets in the form of cash and central bank reserves and securities (Figure 3). Larger banks tend to report a higher share of central bank reserves. This may also be driven by their

(internationally active) universal business model specific characteristics. Indeed, the composition of the liquid assets highly depends on the business models of institutions.[13] Overall, the liquidity buffer (before the application of the cap on liquid assets) is approximately 13.5% of total assets. Unlike the analyses carried out under the previous EBA LCR impact assessments, the current analysis shows that there is a higher share of liquid assets relative to total assets for smaller banks, which is largely driven by few banks in the relevant subcategory. The median value for the ratio for Group 2 banks is 11.4% whereas the weighted average is 13.8%.

Figure 3: Composition of liquid assets (post-weight and before the cap) relative to total assets



Source: EBA QIS data (December 2015)

38. On average, liquid assets before the cap consist of Level 1 assets (excluding covered bonds) at a share of 85.6%, divided into cash and central bank reserves (28.5%) and securities (57.1%). Furthermore, the share of covered bonds classified as Level 1 assets is 6.1%. The share of covered bonds is 3.9% under Level 2A assets and 4.3% under Level 2B assets. While the share of Level 1 assets in the total liquidity buffer is similar between Group 1 banks and Group 2 banks, the share of cash and central bank reserves is considerably higher for the former. For Group 1 banks, the share of Level 1 assets is 85.9% and the share of cash and central bank reserves is 31.9%, while for Group 2 banks, these figures are 84.7% and 15.7% respectively.

39. Article 17 of the DA sets the minimum requirements for the composition of the liquidity buffer by asset level. According to this, Level 2 assets should not in aggregate account for more than 40% of a bank's stock of HQLA and Level 2B assets may not account for more than 15% of a bank's total stock of HQLA. As an EU-specific derogation, a minimum of 30% of the liquidity buffer is to be composed of Level 1 assets excluding EHQCB, as provided under point (f) of Article 10(1) of the DA.

[13] In fact, as well as the composition of liquid assets, the composition of outflows and inflows depends on the business models of the institutions. Sections 2.3.3 and 2.3.4 present the composition of these parameters by business model categories in more details.

40. In total, the impact of the cap on liquid assets for the LCR of European banks is limited. Overall, 12 (Group 2) banks are affected by the application of the cap on liquid assets. For these banks, EUR 3.8 billion is deducted from the stock of liquid assets which equals 9.4% of their liquidity buffers before the cap. Two banks that are affected by the cap on liquid assets report an LCR below 100%. For both banks, the inclusion of the capped liquid assets would help them reach compliance with the 100% LCR minimum requirement.

2.1.4 Composition of outflows and inflows

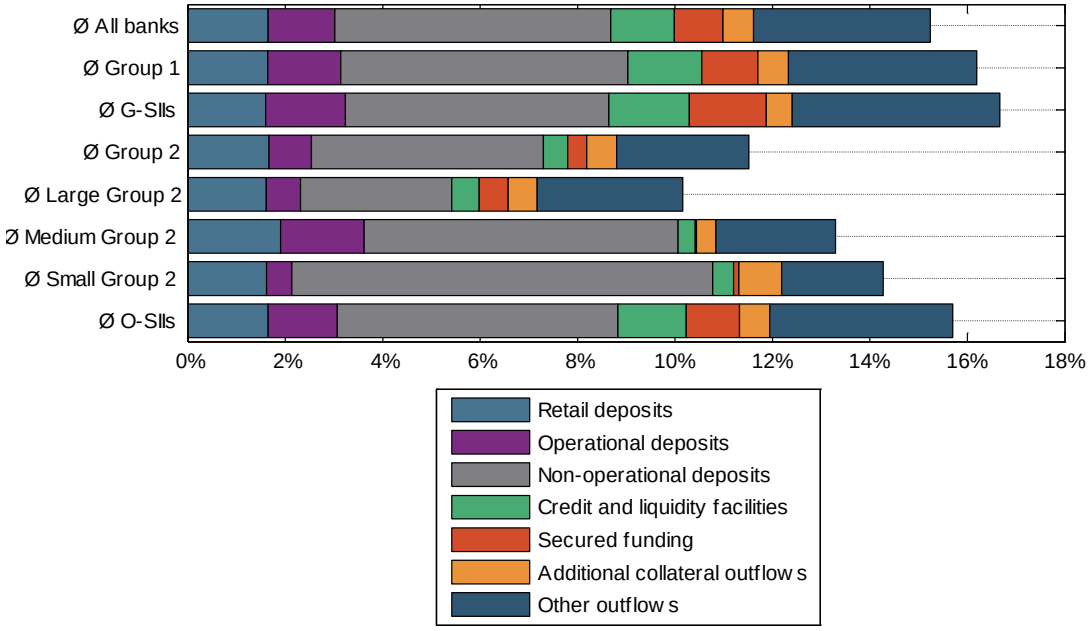
41. In accordance with Article 20 of the DA, net liquidity outflows shall be the sum of liquidity outflows reduced by the sum of liquidity inflows, but shall not be less than zero. In addition, inflows may be subject to a cap as defined under Article 33 of the DA. Liquidity outflows shall be calculated by multiplying the outstanding balances of various categories or types of liabilities and off-balance-sheet commitments by the rates at which they are expected to run off or be drawn down as referred to in Article 22(1) of the DA. In accordance with Article 32(1) of the DA, liquidity inflows shall be assessed over a period of 30 calendar days. They shall only comprise contractual inflows from exposures that are not past due and for which the credit institution has no reason to expect non-performance within 30 calendar days.

42. The QIS data as of 31 December 2015 show that the share of retail deposits relative to the total assets is nearly equal in all groups. The average value is, at most, 2% (medium Group 2 banks). The finding is somewhat surprising because the share of retail deposits between large banks and small banks is minor. Larger banks report higher shares of outflows relative to total assets. As expected, in all groups, the main component of the outflows is non-operational deposits (e.g. short-term unsecured interbank funding, which tends to have higher run-off rates, from 20% up to 100%). In the case of medium and small Group 2 banks non-operational deposits have a significant impact on cash outflows. The finding suggests that those banks that report an LCR shortfall and a large share of non-operational deposits may reduce non-operational deposits and increase stable funding (e.g. retail deposits) to have a more stable outflow composition and to reduce the LCR shortfall.

43. Furthermore, in line with Article 423(3) of the CRR and Article 30(3) of the DA, credit institutions shall add an additional outflow corresponding to collateral needs that would result from the impact of an adverse market scenario on credit institutions' derivatives transactions and other contracts if material. Additional collateral outflows depicted in Figure 4 shows the share of these additional outflows in total assets. The analysis does not indicate any group-specific pattern in the variation of these outflows. However, a further bank-level analysis (not shown) indicates that the variation of these outflows across institutions is significant. When measured relative to the liquidity buffers, the values of the indicator (additional collateral outflows over HQLA) varies from 0% to 18% for Group 1 banks and from 0% to 40% for Group 2 banks. It is, however, unclear whether these variations are due to differences in the portfolios of the institutions or due to differences in the methodologies applied to calculate these additional outflows.

44. Another main component of the composition is the share of other outflows, which mainly consists of derivative outflows (53%). Larger banks tend to have a higher share of such outflows as compared to small banks, as they have a larger volume of derivative activities.

Figure 4: Composition of cash outflows (post-weight) relative to total assets



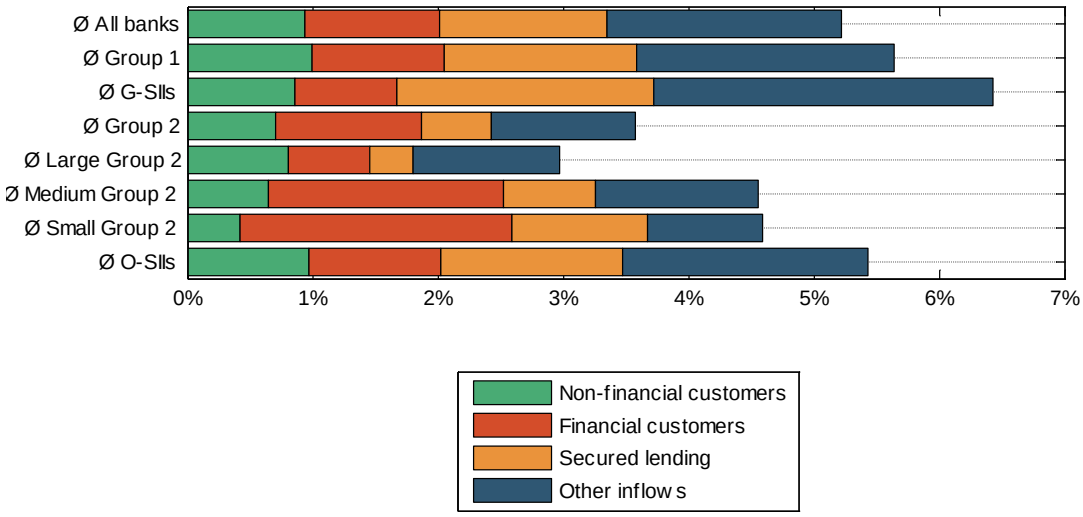
Source: EBA QIS data (December 2015)

45. In accordance with Article 33 of the DA, credit institutions shall limit the recognition of liquidity inflows to 75% of total liquidity outflows. After the approval of the competent authority, specialised credit institutions may be subject to a cap of 90% on inflows. In this sample, nearly 100% of the inflows of all banks are limited to a 75% cap. Only less than 1% of the inflows is limited to 90% of total liquidity outflows or is fully exempt from the cap.

46. With regard to the amount of cash inflows, there is a large difference between the bank groups. The cash inflows relative to total assets for Group 1 banks are approximately 60% higher than the cash inflows of Group 2 banks. Driver banks in Group 1 are G-SIIs with about 1 percentage point above the average value. In Group 2, large banks have an adverse effect on the average, with inflows relative to total assets at almost 3%.

47. The illustration shows that the composition of the cash inflows is similar to the composition of the outflows. But, compared to the outflows, it is clearly smaller in size. This is an indication that most of the banks are affected by the cap on inflows. In fact, 9 out of 171 banks are affected by the cap but none of them have an LCR below 100%.

Figure 5: Composition of cash inflows (post-weight and before the cap) relative to total assets



Source: EBA QIS data (December 2015)

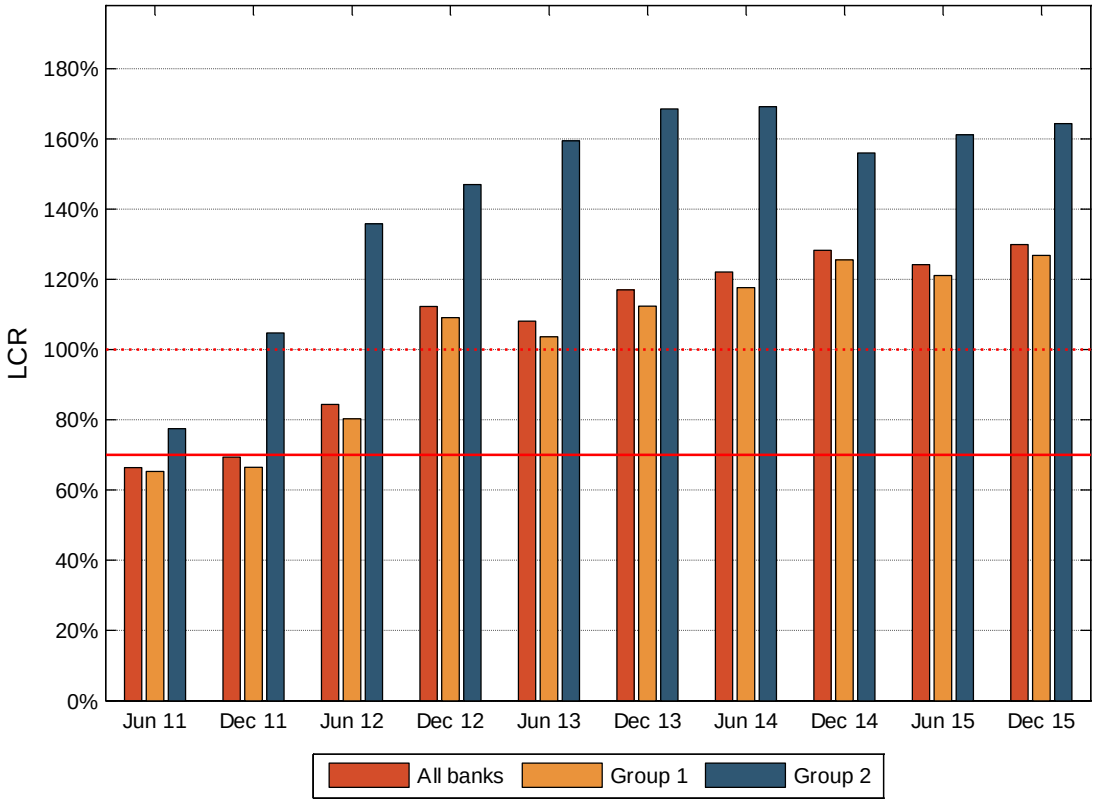
2.2 LCR and the shortfall in liquid assets over time

48. The analysis of the LCR and the shortfall in liquid assets over time allows for the identification of key measures that banks have taken so far to comply with the LCR requirement. When analysing the evolution of the LCR, it should be noted that the figures calculated from data before June 2015 are based on Basel III definitions, i.e. apart from structural changes, part of the change can also be attributed to the differences between the Basel III framework and the DA. In addition, some changes in the LCR between June and December 2012 may also be driven by the recalibration of the Basel III framework published in January 2013.[14] Nevertheless, banks have put significant effort into increasing their LCR (Figure 6).[15] Since June 2011, on average, banks have increased their LCR by more than 50 percentage points.

[14] http://www.bis.org/publ/bcbs238.pdf

[15] This section is based on a consistent sample of 67 banks, i.e. it only includes the banks that have consistently reported the relevant data for all sought reference dates.

Figure 6: Evolution of the LCR by bank group over time (in percent)

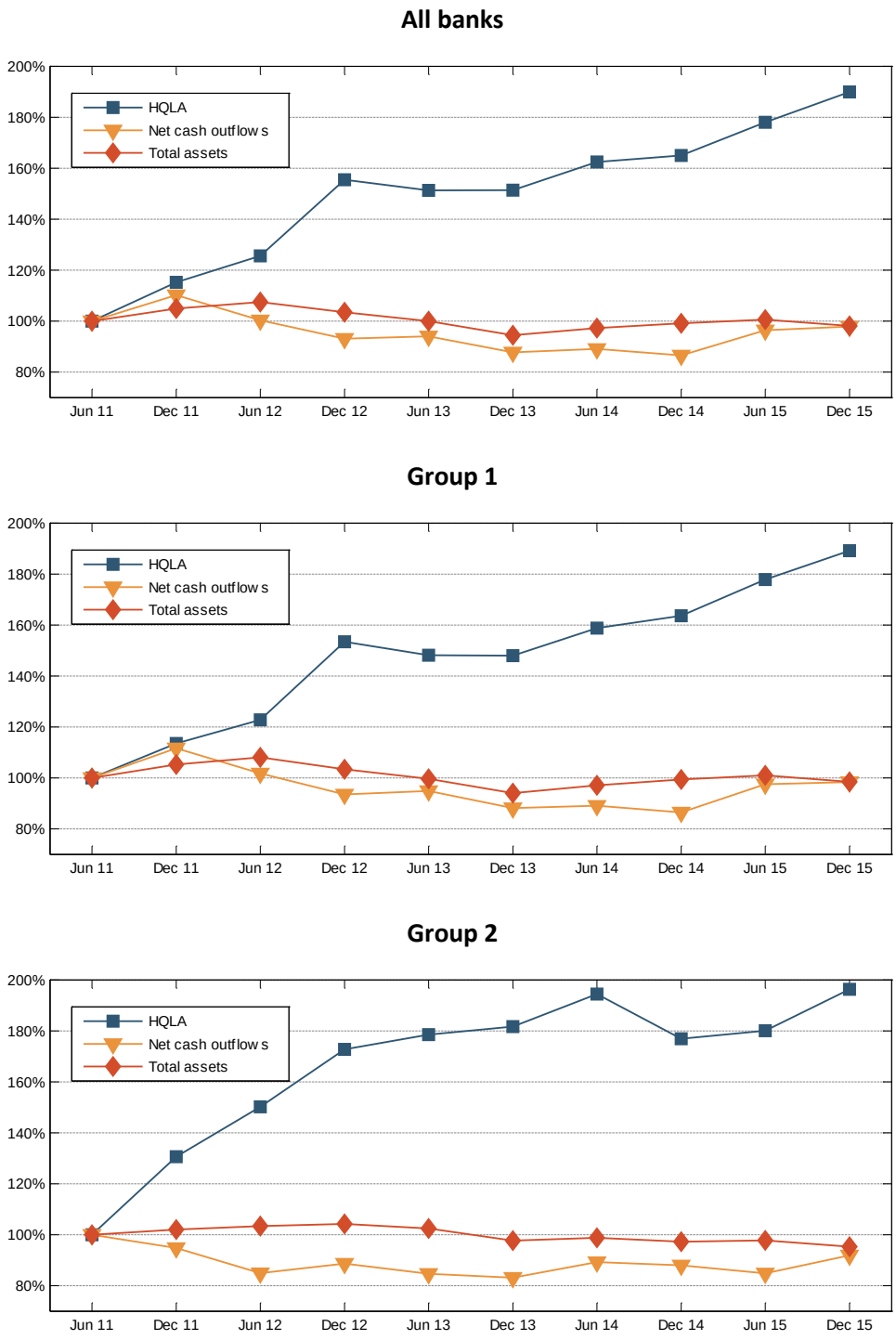


Source: EBA QIS data (December 2015)

49. The positive trend in the evolution of the LCR is also reflected in the share of banks with an LCR above 100% compared to the first data point. While, only 33% of all banks met the LCR minimum requirement of 100% in June 2011, more than 90% of all banks report an LCR above 100% in December 2015.

50. The increase in the LCR can be mainly attributed to an increase in liquid assets (Figure 7). Since June 2011, banks have almost doubled their liquidity buffers. In contrast to this, net cash outflows have remained relatively stable. Since total assets have remained stable as well, it can be concluded that banks have improved their overall liquidity profile on the asset side.

Figure 7: Evolution of the components of the LCR over time, June 2011 = 100%



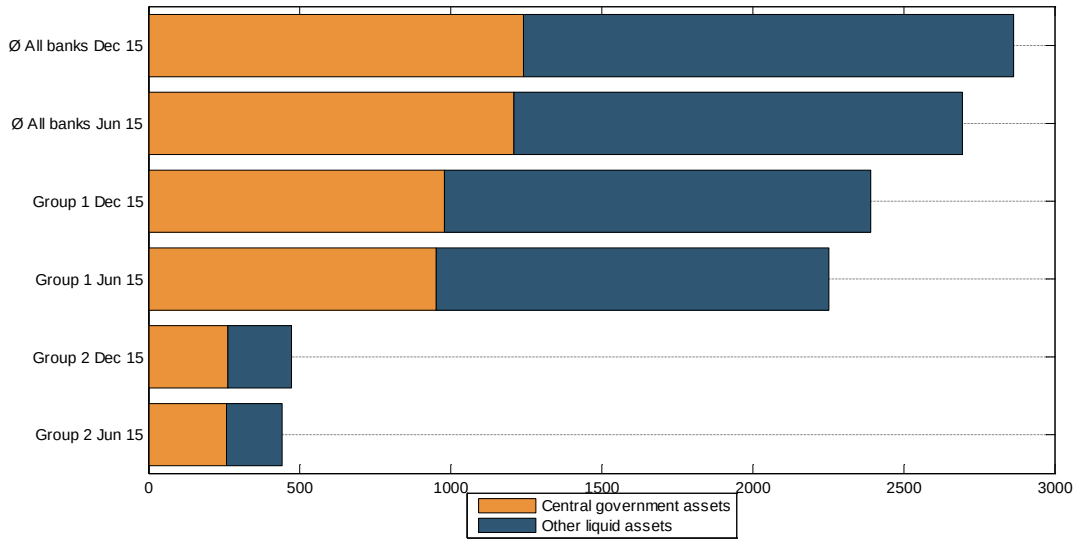
Source: EBA QIS data (December 2015)

51. Figure 8 describes change in central government assets of the institutions in 2015.[16] For all banks, the value of central government assets increased by 7% to EUR 2822 billion in

[16] LCR data in 2015 are based on the provisions of the DA, and LCR data before 2015 are based on the Basel III definitions. Point (c) of Article 10(1) of the DA introduces preferential treatment for assets representing claims on or

December 2015. Since the increase in total liquid assets was more than the increase in central government assets, the share of the latter went down for all banks. This is also true for Group 1 and Group 2 banks, independently. In December 2015, the share of central government assets in the total liquidity buffer was 44% for all banks, 41% for Group 1 banks and 58% for Group 2 banks.[17]

Figure 8: Evolution of central government assets over time, June 2015 – December 2015 (in EUR billion)[18]



Source: EBA QIS data (December 2015)

52. The efforts that banks have taken in order to increase their LCR are particularly reflected in the evolution of the shortfall in liquid assets (Figure 9).

53. Section 1.3 explained that the shortfall shown in Figure 9 is the gross value defined as the sum of the differences between the net outflows and the stock of HQLA for all banks with an LCR that falls below the 100% threshold. In other words, the calculation of shortfall does not account for the offsetting effect of the aggregate surplus arising from those banks that already meet and exceed the minimum requirement. Therefore, the reported shortfall amount represents a conservative proxy of banks' actual shortfall as it excludes any assumptions on the reallocation of liquidity between individual banks or within the system as such. Regarding the net shortfall in the overall system, banks report a liquidity surplus since June 2012 that has further increased up until December 2015, indicating that even those

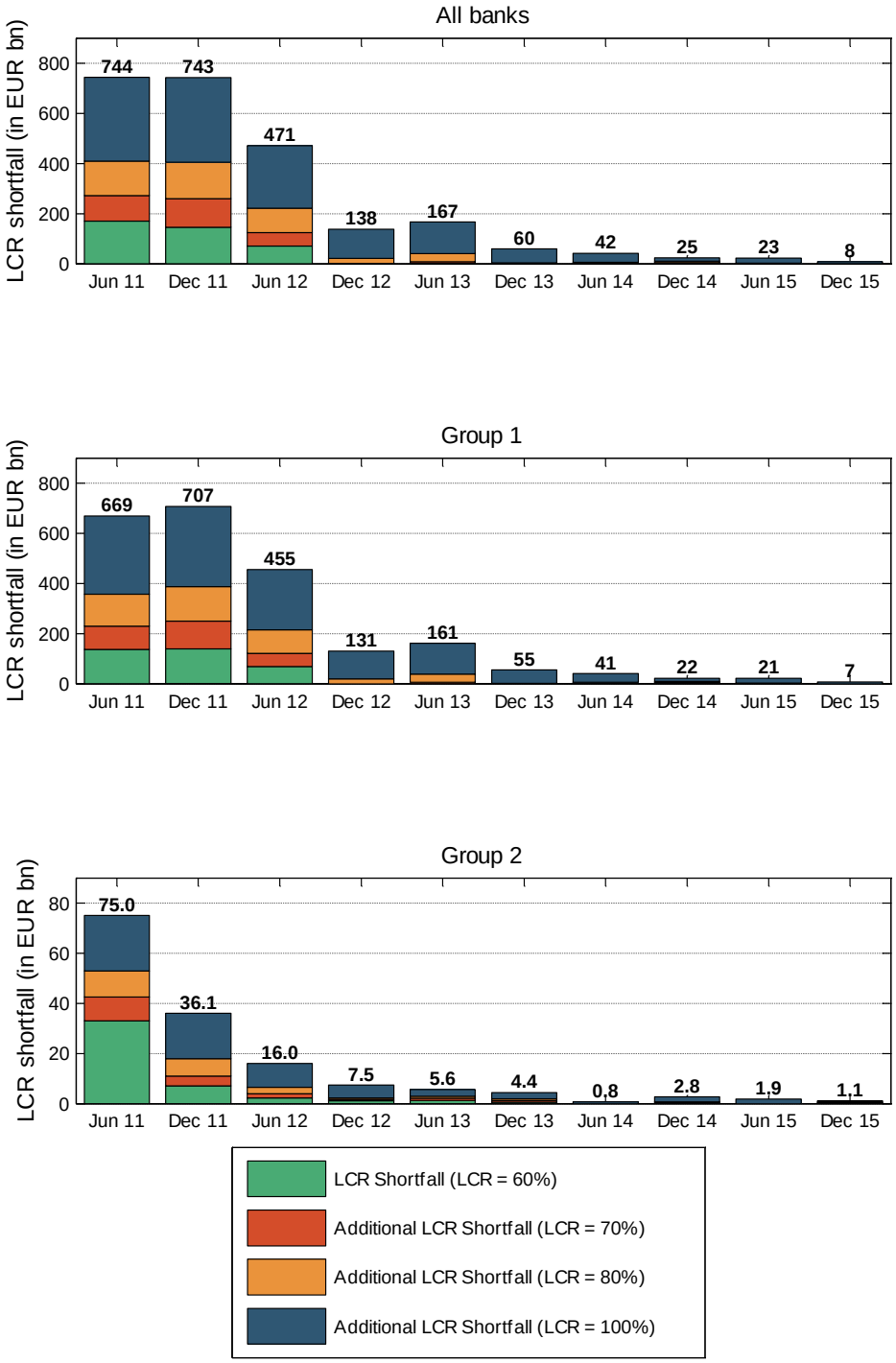
guaranteed by the central government of a Member State. Due to differences in the treatment of central government assets between the two frameworks, Figure 8 presents the evolution in central government assets for 2015 only.

[17] A further analysis (not shown) indicated a positive but weak correlation between (i) the central government assets and the level of the LCR and (ii) central government assets and a change in the LCR.

[18] The sample includes banks that submitted LCR data for June and December 2015 reporting dates.

banks that have already been compliant with the LCR minimum requirement in the past, have further improved their liquidity profiles.

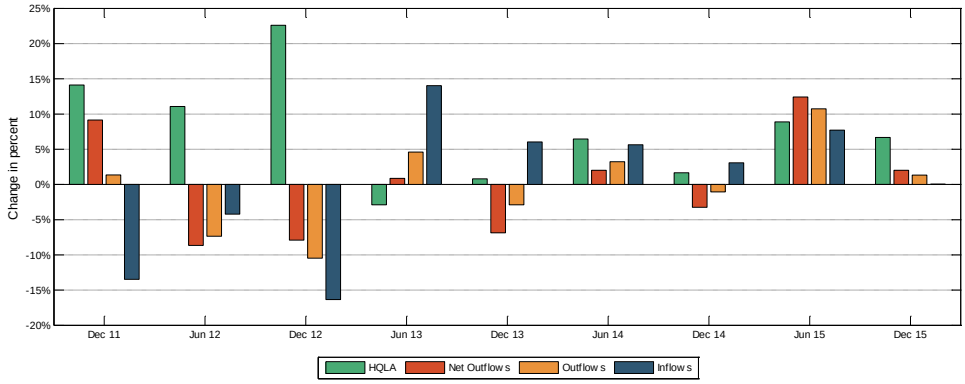
Figure 9: LCR shortfall over time (June 2011 – June 2015)



Source: EBA QIS data (December 2015)

54. Figure 10 presents a more detailed overview of the changes of the key components of the LCR over time. While liquid assets have steadily increased since June 2011 (except for the period between December 2012 and June 2013), cash outflows and inflows have been more volatile. However, some volatility has also been driven by the recalibration of the LCR in December 2012, including the introduction of a wider range of liquid assets and of lower outflow rates for non-financial wholesale deposits. As previously indicated, between December 2014 and June 2015, there was a change from the Basel III framework to the EU calibration, leading to higher levels of liquid assets and cash flows.

Figure 10: Relative change of the LCR's components by period



Source: EBA QIS data (December 2015)

2.3 Descriptive statistics by business models

55. Article 509(1) and point (a) of Article 509(2) of the CRR require the EBA to monitor and evaluate the LCR and its key components across different business models. The LCR was introduced as a universal minimum standard that should be applied to all credit institutions. However, the impact of the LCR regulation on banks may differ on the basis of these banks' specific business models. While some EU-specific derogations, such as in Article 33 of the DA, are in place to account for these business model related characteristics, there is still a wide dispersion in the LCR across different business models in the EU.

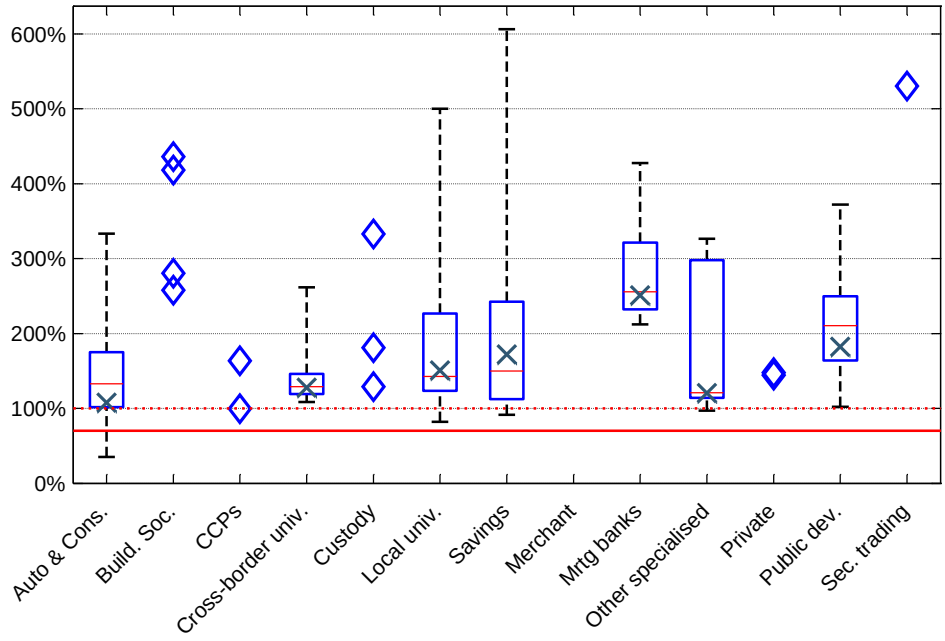
56. In the following section, a sample of 194 banks is used to analyse the impact of the LCR requirement on certain business models. Unlike the other sections of this report, subsidiaries with an EU parent institution are included in the analysis. The expansion of the sample to subsidiaries aims to account for a greater diversity in business models within the overall banking groups and follows the condition that generally all banks have to comply with the LCR minimum requirement on an individual basis.

57. However, the sample is unbalanced, with a high concentration of banks in three business model categories and the others underrepresented. Therefore, results should be interpreted carefully and should be checked against the sample size of the relevant category.

2.3.1 LCRs across business models

58. Figure 11 illustrates the distribution of the LCR across business models. While, on average, all business models are above the minimum requirement of 100%, there is a wide dispersion of the LCR within the individual categories. Banks with an LCR below 100% belong to the savings banks, other specialised banks, CCPs, local universal banks, and automotive and consumer credit banks. All banks in other business models are compliant with the 100% requirement.

Figure 11: Distribution of the LCR by business model[19]



Source: EBA QIS data (December 2015)

2.3.2 LCR shortfalls

59. The LCR shortfall is mainly driven by two business model categories: local universal banks and automotive and consumer credit banks. The local universal banks have approximately 81% of the total shortfall at the 100% minimum requirement. The shortfall of local universal banks accounts for nearly 1.5% of total assets. The shortfall of the automotive and consumer credit banks relative to total assets amounts to 0.8%. In relation to the current liquid assets the shortfall has a share of 12% in the case of local universal banks, while automotive and consumer credit banks have a significantly higher share of approximately 30%. This means that, other things being equal, automotive and consumer credit banks have to raise their

[19] The y-axis is limited to 600%.

current liquid assets by more than 40% to be compliant with the LCR. This observation can be relativised by the fact that none of these banks have made use of the derogation as stated in Article 33 of the DA, which would allow for a higher cap on inflows or even a full exemption from the cap. Six of these banks report inflows that exceed 75% of total weighted outflows, which indicates that they would benefit from EU-specific derogations under Article 33 once they receive approval from their competent authorities.

Table 8: LCR and the shortfall for different minimum ratios in accordance with Article 460(2) of the CRR

	Number of banks	LCR	LCR shortfall (in EUR billion) at a minimum of		
			70% (2016)	80% (2017)	100% (2018)
Automotive and consumer credit banks	8	107.9	0.5	0.7	1.2
Building societies	5	349.2	—	—	—
CCPs	2	100.6	—	—	0.1
Cross-border universal banks	32	127.9	—	—	—
Custody banks	4	173.0	—	—	—
Local savings banks	56	172.2	—	—	0.2
Local universal banks	54	150.9	0.6	0.8	8.9
Merchant banks	1	781.9	—	—	—
Mortgage banks	8	251.2	—	—	—
Other specialised banks	10	120.3	—	—	0.7
Private banks	2	147.0	—	—	—
Public development banks	11	182.5	—	—	—
Security trading houses	1	530.2	—	—	—

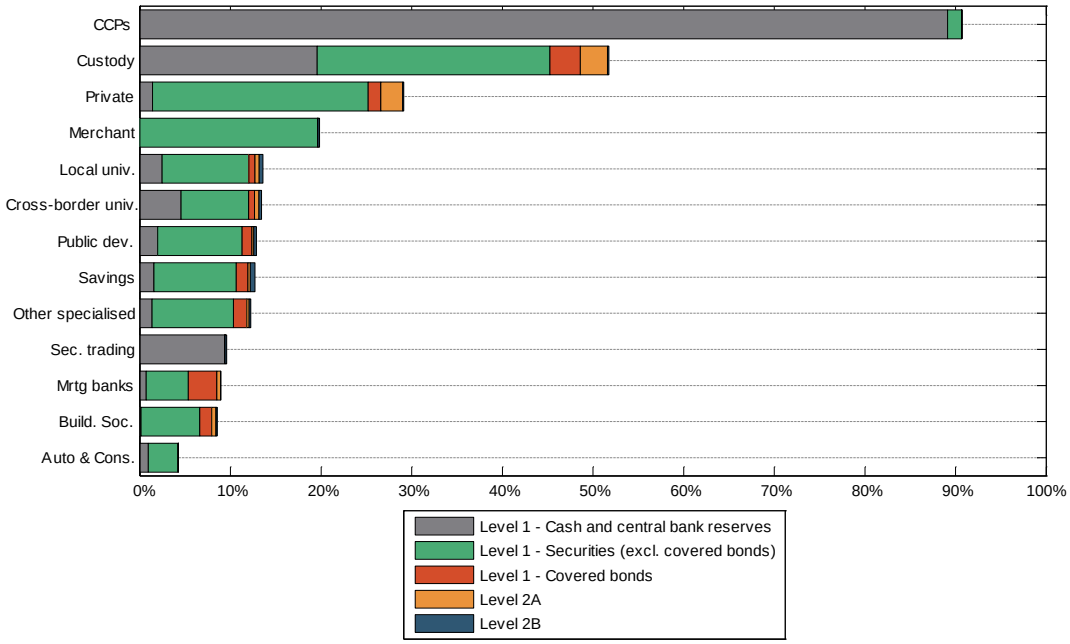
Source: EBA QIS data (December 2015)

2.3.3 Composition of liquid assets

60. Figure 12 shows that CCPs, custody banks and private banks have a high share of liquid assets relative to their total assets. CCPs, given the nature of their business model, hold a large amount of central bank reserves to cover short-term funding. A similar effect can be observed for custodian banks which use liquid assets in the form of central bank reserves and eligible securities in order to cover a larger share of short-term funding relative to total assets.

61. Due to their business model, the share of liquid assets relative to total assets for automotive and consumer credit banks is small. This finding was one rationale behind the introduction of the 90% cap on inflows for banks involved in these business activities.

Figure 12: Composition of liquid assets (post-weight and before the cap) relative to total assets



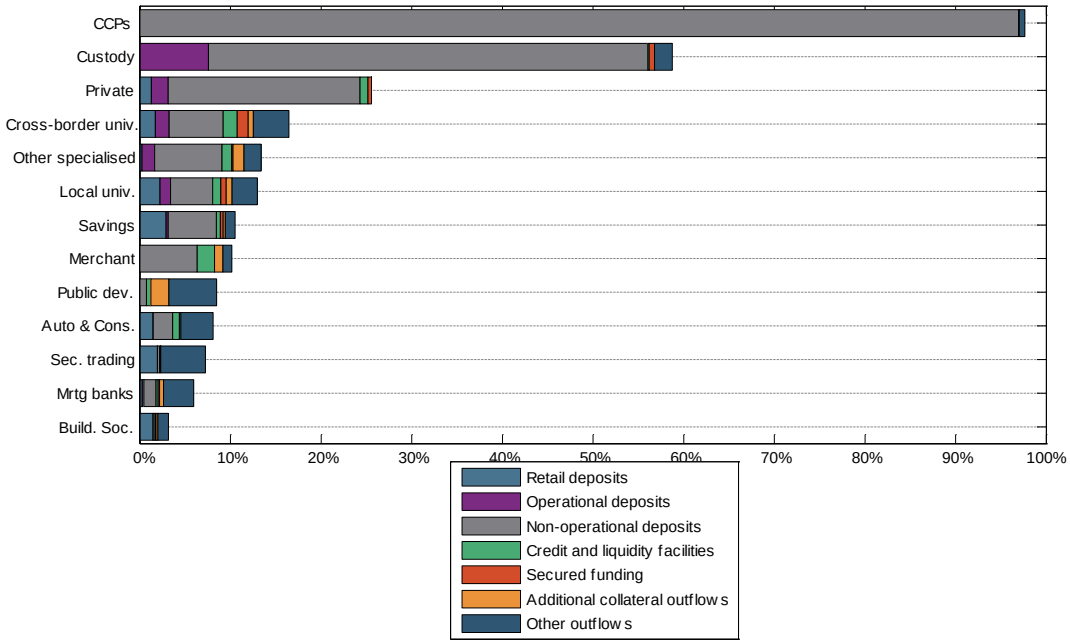
Source: EBA QIS data (December 2015)

2.3.4 Composition of outflows and inflows

62. Business model characteristics are also well reflected in the composition of cash inflows and outflows (Figure 13 and Figure 14). CCPs and custodian banks report higher shares of short-term liabilities arising from non-operational interbank deposits which result in high cash outflows due to higher run-off rates for financial non-operational deposits.

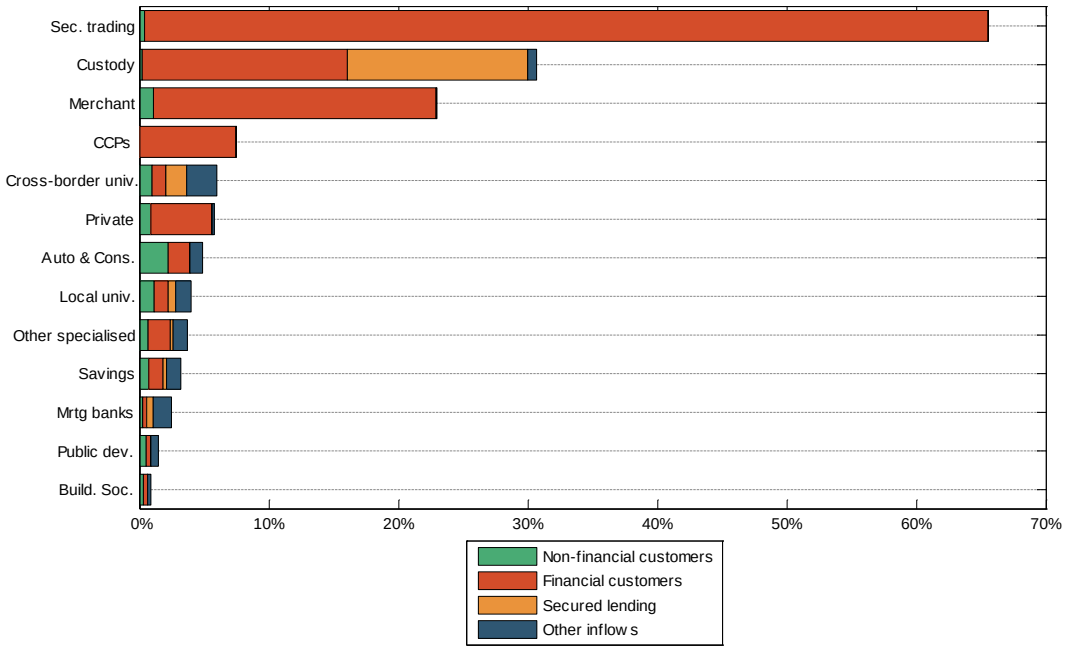
63. The share of inflows relative to total assets is less than 10% across business models except for security trading houses, custodian banks and merchant banks. For those banks, the higher share is caused by inflows from financial customers, which can again be attributed to specific characteristics of their business models.

Figure 13: Composition of cash outflows (post-weight) relative to total assets



Source: EBA QIS data (December 2015)

Figure 14: Composition of cash inflows (post-weight and before cap) relative to total assets



Source: EBA QIS data (December 2015)

2.4 Further statistics on the LCR

64. This section aims to complement the descriptive statistics presented earlier in this chapter. The section starts with the analysis of the outliers. The objective is to investigate if there are any outliers in the major statistics of the LCR and whether there are any patterns for these outliers. The section then presents a sensitivity analysis. This investigates which components of the LCR have the highest impact on the LCR level, assuming a 1% change in HQLA, outflows and inflows. Thirdly, the section studies volatility in the LCR and in the components of the LCR, liquid assets and net cash outflows between December 2014 and December 2015. Finally, the interaction between the LCR and other regulatory ratios is analysed.

2.4.1 Analysis of the outliers

65. Table 9 presents the (selected) components of the LCR for a group of 30 banks with the lowest level of the LCR in the sample, for a group of 30 banks with the highest level of the LCR in the sample and for the total sample. The purpose of the comparative analysis is to capture the main drivers for negative and positive outliers in terms of the LCRs of these banks. Firstly, it is noteworthy that the weighted average of the 30 banks with the lowest LCR is above 100%. The major driver for the lowest LCR score of the 30 banks is the high volume of outflows. The group of banks with the lowest LCR have outflows three times more than the outflows for the group of banks with the highest LCR and nearly 27% more than the average of all banks. The aggregate level of Level 1 assets and that of inflows are greater for 30 banks with the lowest LCR than those of 30 banks with the highest LCR. However, the large number of outflows offsets (and dominates) the relatively higher volume of Level 1 assets and inflows. Findings do not indicate other drivers with explanatory power in the performance of the outliers.

Table 9: Liquid assets, outflows and inflows relative to total assets among the LCR outliers

	LCR	as a percentage of total assets							
		Level 1 assets	Level 1 covered bonds	Level 2A assets	Level 2B assets	Caps on liquid assets	Outflows	Inflows before the cap	Cap on inflows
Weighted average of 30 banks with the lowest LCR	100.3	11.24	0.84	0.31	0.72	0.15	19.26	6.33	0.00
Weighted average of 30 banks with the highest LCR	361.7	10.57	1.85	0.36	0.26	0.04	6.98	4.64	1.26
Weighted average of all banks	133.7	11.90	0.79	0.46	0.33	0.02	15.24	5.20	0.03

Source: EBA QIS data (December 2015)

2.4.2 Sensitivity analysis

66. The sensitivity analysis reveals the components of the LCR that lead to the largest changes in the level of the LCR, others things being equal, assuming a 1% change in HQLA, outflows and inflows. The components that have a greater positive impact on the LCR are Level 1 assets. A 1% increase in Level 1 exposures would increase the average LCR by 1.18 percentage points. The impact of other components in the numerator is negligible. The finding is predictable, as Level 1 assets receive a high weight of 100% in the liquidity buffer, and for most banks in the sample, a large share of unweighted HQLA consists of Level 1 assets. The finding is comparable to the similar analysis presented in the previous EBA LCR impact assessment.

67. By contrast, non-operational deposits have the greatest negative impact on the LCR as a 1% increase in these exposures, other things being equal, would lead to a reduction of 0.75 percentage point in the LCR. Despite its low average weight, other outflows (e.g. derivatives) are the second component with the highest (negative) impact on the denominator of the LCR. A 1% increase in other outflows would decrease the LCR by 0.56 percentage point.

Table 10: Impact on the LCR assuming an increase in the underlying item of 1% (in percentage points)

	All banks	Group 1	Group 2
Number of banks	171	35	136
Level 1 assets (excl. covered bonds)	1.18	1.12	1.48
Level 1 assets (covered bonds)	0.08	0.07	0.13
Level 2A assets	0.05	0.05	0.04
Level 2B assets	0.03	0.03	0.03
Retail deposits	-0.22	-0.20	-0.35
Operational deposits	-0.18	-0.18	-0.17
Non-operational deposits	-0.75	-0.70	-0.98
Facilities	-0.17	-0.18	-0.10
Secured funding	-0.13	-0.14	-0.08
Other outflows	-0.56	-0.54	-0.68
Inflows from non-financial customers	0.12	0.12	0.14
Inflows from financial customers	0.13	0.13	0.18
Secured lending	0.18	0.18	0.12
Other inflows	0.24	0.24	0.22

Source: EBA QIS data (December 2015)

2.4.3 Volatility analysis

68. An analysis of volatility[20] as a percentage point change in the LCR and percentage change in the components of the LCR (liquid assets and net outflows) between June 2015 and December 2015 (semi-annual) and December 2014 and December 2015 (annual) shows similar results as the time series analysis presented in Section 2.2. The mean and the median values for the percentage point change in the LCR between the last two reporting dates are broadly identical for all categories and equal to approximately zero. The average value of 'zero change' in the LCR at the last reporting dates stems from the offsetting effect of the growth in liquid assets and the growth in net cash outflows. Dispersion in the change in the LCR and in its components is larger for small Group 2 banks. Hence, small Group 2 banks are the sample of banks subject to highest short-term volatility.

69. The semi-annual change between June 2015 and December 2015 is similar to the annual change of the same LCR parameters between December 2014 and December 2015 for all categories except for medium Group 2 banks.

70. In terms of the business models of these banks, the change in the LCR between June 2015 and December 2015 is high for savings banks, other specialised banks and public development banks. As indicated and discussed in Table 3 in Section 1.2, the number of banks under each business model category varies significantly and there are business model categories with a small number of banks such as building societies, custody banks, merchant banks, mortgage banks, private banks and security trading houses. A clear conclusion from this analysis cannot be drawn because runaway values may have a large effect on business model categories with a very small number of banks. The same conclusions apply to liquid assets and net cash outflows.

71. Another investigation on volatility in the LCR looks at the median value of the variation in the LCR for each group of banks, all banks, Group 1 banks and Group 2 banks. Median value considers variations in the LCR excluding the impact of outliers on the average value. The analysis investigates whether, over time, the size (or the group) of banks has a relationship with the change in the LCR. The findings suggest that, even when the outlier effect has been removed, the trends are similar to the results of the time series analysis at levels presented in Section 2.2. The impact of the outliers on the evaluation of the LCR is minimal on aggregate, and the volatility of the LCR expressed as a percentage point change on a semi-annual basis during the period June 2012 to December 2015 is higher for Group 2 banks. This finding is valid for positive, negative and absolute volatility.[21]

[20] The volatility analysis is based on consistent samples for the period between: (i) December 2014 and December 2015 and (ii) June 2015 and December 2015. In other words, the findings include banks that submitted data consistently for the relevant periods. The QIS dataset includes 106 banks (31 Group 1 banks and 74 Group 2 banks) for the period December 2014 to December 2015 and 124 banks (35 Group 1 banks and 88 Group 2 banks) for the period June 2015 to December 2015.

[21] Positive volatility is the median value of all positive changes in time, negative volatility is the median value of negative changes in time and absolute volatility is the median value of all positive and negative changes in time.

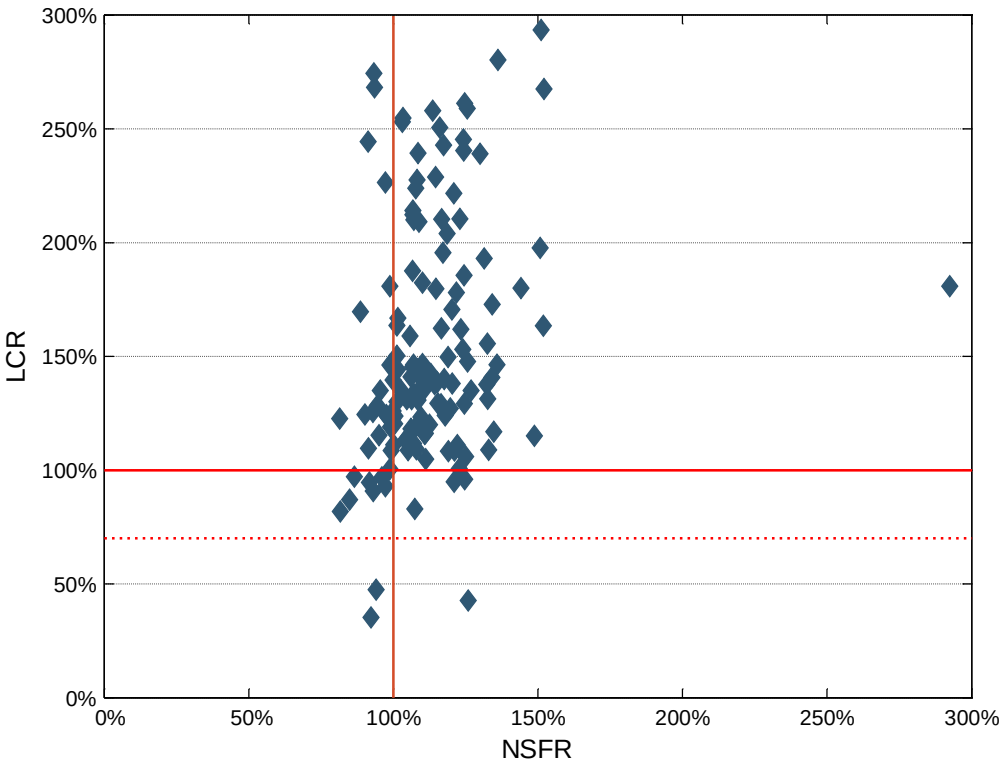
2.4.4 Interaction between the LCR and other regulatory ratios

72. The current section presents the correlation between the LCR and other regulatory ratios, including the NSFR[22] and the LR. The analysis excludes risk-based capital ratios since, as of December 2015, all banks in the QIS sample comply with these ratios.

73. Figure 15 shows the correlation between the LCR and the NSFR. It is possible to indicate a correlation between the two ratios and to state that compliance with the LCR regulation has a somewhat direct positive impact on compliance with the NSFR, i.e. banks that are compliant with the LCR regulation also reach the NSFR at the 100% level. Indeed, the theory suggests that there is an interaction between the two ratios.[23]

74. Figure 17 shows that 83% of banks with LCR levels of at least 100% also comply with the NSFR, while 56% of the banks with LCR levels below 100% are not compliant with the NSFR. The findings indicate a correlation within the group of compliant banks and within the group of non-compliant banks.

Figure 15: Interaction between the LCR and the NSFR (all banks)



[22] Note that, in this section, the NSFR analysis is based on the Basel III standard.

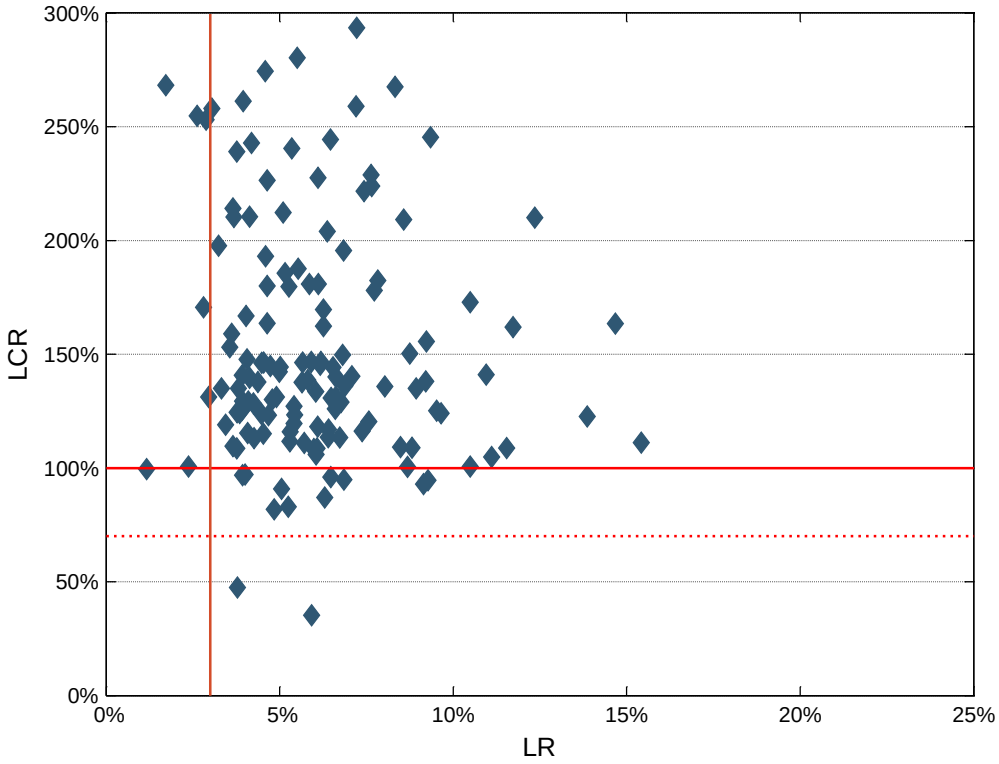
[23] For example, a bank may receive long-term stable funding, e.g. 9 month stable term deposits and invests this in Level 1 HQLA. In this case, the numerator of the LCR increases since Level 1 HQLA are weighted at 100% and the denominator remains constant as long-term funding has no impact on the outflows. As a result the LCR position of the bank improves. The bank also increases its NSFR position because the increase in the numerator due to long-term funding weighted at 95% dominates the increase in the denominator due to an increase in HQLA weighted at 5%.

Please see the previous EBA LCR impact assessment report for a detailed analysis of the interactions.

Source: EBA QIS data (December 2015)

75. Figure 16 indicates a similar positive correlation between the LCR and the LR.[24] However, Figure 18 shows that the majority of both LCR compliant and LCR non-compliant banks meet the 3% level with the LR therefore compliance with the LCR does not seem to provide an explanation for the compliance of the banks with the LR regulation.

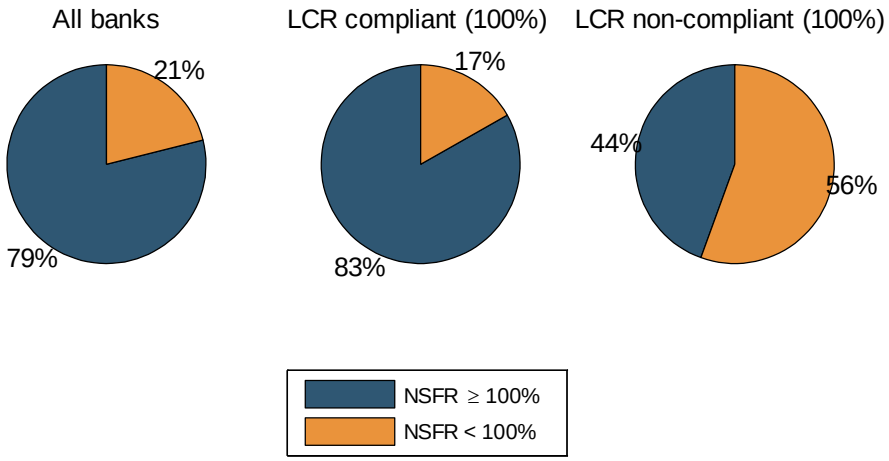
Figure 16: Interaction between the LCR and the LR (all banks)



Source: EBA QIS data (December 2015)

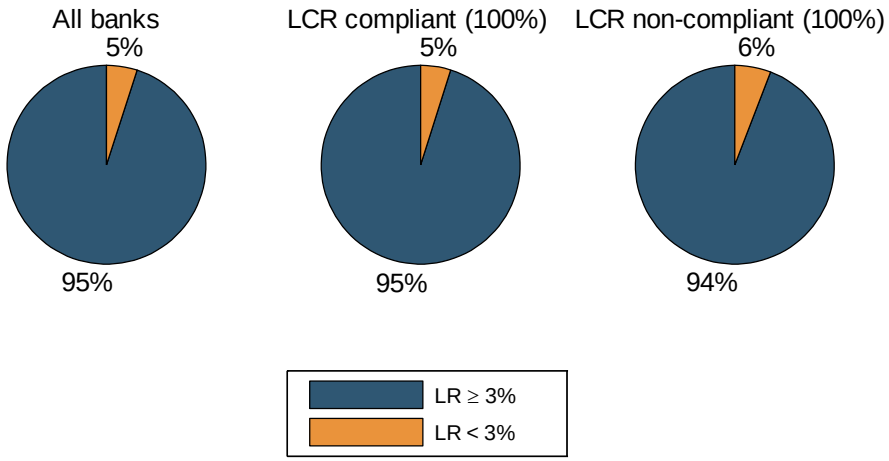
[24] Unlike the theoretical relationship between the LCR and the NSFR, the relationship between the LCR and the LR is not reinforcing. Depending on the bank's strategy to increase the level of the LCR, the LR can only remain constant or decrease.

Figure 17: Interaction between the LCR and the NSFR



Source: EBA QIS data (December 2015)

Figure 18: Interaction between the LCR and the LR



Source: EBA QIS data (December 2015)

3. Comparison between the LCR under the DA and the LCR under the Basel III framework

76. In October 2014, the Commission adopted the DA to complement the CRR with regard to the liquidity coverage requirement for credit institutions. The DA accounts for the specificities of the EU banking sector and differs from the Basel III framework in a number of aspects. This section of the report aims to present and measure these differences between the two frameworks.

77. In addition to the Basel III specific LCR data, the EBA TFIS collected the LCR data based on the DA through the Basel III monitoring exercise at the reporting dates of June 2015 and December 2015. This allows the analysis team to quantify the impact of the differences between the two frameworks. This analysis would explicitly present the movements in institutions' LCR performance of depending on the underlying legal framework and the potential beneficiaries of EU-specific derogations related to business models under the DA.

78. The quantitative analysis presented in the previous EBA LCR impact assessment (2014) was based on a theoretical EU-specific LCR under the DA using Basel III data only and with a number of assumptions.[25] The current analysis is based on EU-specific LCR data and therefore provides certain tangible elements to assess the marginal impact of the DA.

79. The sample for the comparative analysis includes institutions that submitted both EU-specific and Basel III LCR data as of 31 December 2015. The analysis covers 31 Group 1 banks from 10 countries and 119 Group 2 banks from 12 countries, as indicated in Table 6 in Section 1.2. The data have also been analysed by business models.

3.1 Quantitative analysis at the EU aggregate level

80. The scope and differences in the weights of the parameters are the major differences between the LCR under the DA and the LCR under the Basel III framework. These differences affect all three components of the LCR, including liquid assets, outflows and inflows.

81. The objective of this empirical analysis is informative and it does not intend to evaluate the consistent implementation of the Basel III framework. Such an assessment is outside the scope of the current report and will be conducted within the RCAP in the future under BCBS.

[25] http://www.eba.europa.eu/documents/10180/950548/2014+LCR+IA+report.pdf

3.1.1 Main requirements introduced under the DA

82. The following points present the major differences between the Basel III framework and the DA with respect to HQLA:

- Under point (f) of Article 10(1) of the DA, EHQCB may qualify as Level 1 assets and receive a lower haircut of 7% compared to 15% under the Basel III framework. Under the DA, such assets can comprise up to 70% of the overall liquidity buffer;

- Assets issued by credit institutions, including promotional lenders, can be included in the stock of Level 1 assets under point (e) of Article 10(1) of the DA, whereas the Basel III framework does not consider these assets in the liquidity buffer;

- High-quality covered bonds are eligible for the stock of Level 2A assets under point (c) of Article 11(1) of the DA, whereas the Basel III framework does not consider these securities as HQLA;

- The scope of HQLA under the DA is broader: it includes larger Level 2B securitisations (Article 13 of the DA), and CIUs (Article 15 of the DA) are classified in all categories of HQLA depending on their quality;

- Under the Basel III LCR framework, central government assets may be included in the liquidity buffer only in case the central government is assigned a 0% risk-weight or in case the central government is in the bank's home country (see Paragraph 50(c) of the Basel III LCR framework). Other central government assets may only be included to the extent that they cover a net cash outflow in the specific country or currency (see Paragraph 50(d) and (e) of the Basel III LCR framework). On the other hand, the LCR DA contains a preferential treatment for assets representing claims on or guaranteed by the central government of a Member State as those assets can be included as Level 1 assets on an unlimited basis and are not subject to any haircut in the calculation of the liquidity buffers (see point (c) of Article 10(1) of the DA).[26]

83. Article 17 and Annex 1 of the DA describe the caps on HQLA. With the exception of Level 1 EHQCB, these provisions are similar in both regulations:

- A minimum of 60% of the liquidity buffer is to be composed of Level 1 assets;

- A minimum of 30% of the liquidity buffer is to be composed of Level 1 assets excluding EHQCB;

- A maximum of 15% of the liquidity buffer shall contain Level 2B assets.

84. Points (a) and (b) of Article 25(3) of the DA apply higher outflow rates for retail deposits that are not classified as stable retail deposits and Article 23 introduces specific treatment for

[26] Due to data limitations, it is not possible to carry out a granular quantitative analysis on this point. The report will therefore present the difference at the aggregate HQLA level only.

other products and services, especially mortgages that have been agreed but not yet drawn down. Furthermore, Article 16 of the DA specifies the treatment of liquid assets that are covered by a cooperative network or an institutional protection scheme and Article 27 of the DA provides the treatment of outflows related to these operations.

85. At the same time, under the treatment of secured funding transactions, the DA allows a larger scope of liquid assets, which results in a broader set of categories of secured funding transactions eligible for lower weights. For example, institutions can enter into secured funding transactions with the central bank by posting central bank eligible but illiquid assets in LCR terms. In this case, unlike the secured funding transactions in the interbank market, no cash outflows will be assigned to transactions (see point (a) of Article 28(3) of the DA). Still, these transactions, where the credit institution and the counterparty exchange liquid assets on only one leg of the transaction, enter into the calculation of the unwinding of secured funding (and lending) transactions, which is relevant for the calculation of the cap on liquid assets (as referred in Annex I of the DA). This provision under the DA is different from the Basel III framework where secured funding transactions are considered when the institution and the counterparty exchange liquid assets on both legs of the transactions. Section 5.1 of the current report presents a more detailed analysis on secured funding transactions and the differences in the unwind mechanisms of the Basel III framework and the DA.

86. Finally, the main differences between the two frameworks in relation to inflows are: (i) the differences in the weights for unsecured transactions (Article 32 of the DA) and (ii) the exemptions that the DA introduces on the cap on inflows (Article 33 of the DA). Regarding the latter, the inflows are limited to 75% of the outflows in the calculation of net outflows. However, the EU-specific regulation allows the total exemption of specialised credit institutions when their main activities are leasing or factoring businesses. In addition, specialised credit institutions with the main activities of financing for the acquisition of motor vehicles or consumer credit may be subject to a cap of 90%. These exemptions are not included in the Basel III framework.

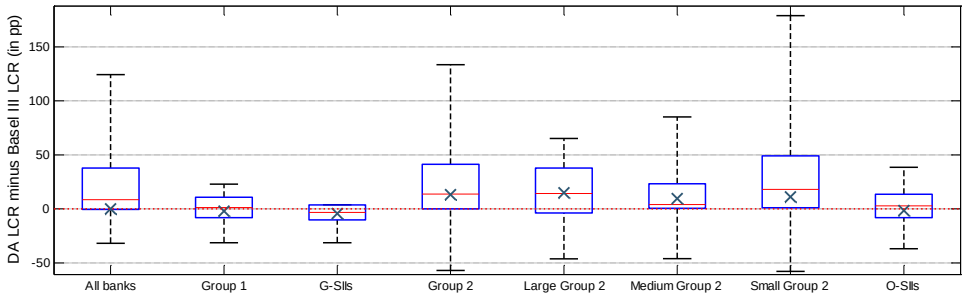
3.1.2 Transition from the Basel III LCR standard to the LCR under the DA

87. The current section quantifies the differences between the EU-specific LCR under the DA and the Basel III LCR framework. It aims to identify the drivers of change in the LCR in the transition from one framework to the other.

88. As of December 2015, the LCR under the DA is equal to the LCR under the Basel III framework. However, a more granular analysis, i.e. the analysis of sub-elements of the LCR, highlights some differences between the two frameworks.

89. Figure 19 shows the statistics of the difference. It indicates that while the difference is small for Group 1 banks, it is large in the Group 2 sample and driven mainly by small Group 2 banks.

Figure 19: Distribution of differences between the DA LCR and the Basel III LCR as of 31 December 2015



Source: EBA QIS data (December 2015)

90. Figure 20 details the methodology behind the calculations used in this analysis to identify the main drivers behind the differences between the frameworks.

Figure 20: Methodology for the identification of the main drivers behind the change in the LCR

Methodology for the identification of the main drivers behind the change in the LCR

Under the Basel III LCR framework, the LCR is calculated by

$$LCR_{B3} = \frac{HQLA_{B3}}{Out_{B3} - In_{B3}}.$$

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

$$LCR_{B3} + \Delta LCR = \frac{HQLA_{B3} + \Delta HQLA}{Out_{B3} + \Delta Out - In_{B3} - \Delta In}$$

$$\Delta LCR = \frac{HQLA_{B3} + \Delta HQLA}{Out_{B3} + \Delta Out - In_{B3} - \Delta In} - \frac{HQLA_{B3}}{Out_{B3} - In_{B3}}$$

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

$$\Delta LCR = \frac{\Delta HQLA}{Out_{B3} + \Delta Out - In_{B3} - \Delta In} - \left(\frac{\Delta Out}{Out_{B3} + \Delta Out - In_{B3} - \Delta In}\right) \cdot LCR_{B3} + \left(\frac{\Delta In}{Out_{B3} + \Delta Out - In_{B3} - \Delta In}\right) \cdot LCR_{B3}$$

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

$$\Delta LCR(HQLA) = \frac{\Delta HQLA}{Out_{B3} + \Delta Out - In_{B3} - \Delta In} \qquad \Delta LCR(Outflows) = -\left(\frac{\Delta Out}{Out_{B3} + \Delta Out - In_{B3} - \Delta In}\right) \cdot LCR_{B3}$$

$$\Delta LCR(Inflows) = \left(\frac{\Delta In}{Out_{B3} + \Delta Out - In_{B3} - \Delta In}\right) \cdot LCR_{B3}$$

The negative sign for the calculation of the outflow-effect means that an increase in total weighted outflows due to the application of the DA will lead to a decrease in banks' LCR compared to Basel III framework. In contrast to this, 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 percentage points)
Application of the formula leads to: Δ LCR (HQLA): 23 percentage points, Δ LCR (Outflows): -12 percentage points, Δ LCR (Inflows): 8 percentage points, the sum equals the difference in the LCR.

91. The LCR under the DA equals the LCR under the Basel III framework at a level of 133.1%, suggesting that there is no difference between the two frameworks. There are, however, differences at a more granular comparison. While the change between the two frameworks is negative and small in percentage for Group 1 banks, the change between the two frameworks among Group 2 banks is positive and greater in relative terms. The negative impact of the provisions of the DA among Group 1 banks is greater for G-SIIs. The major driver behind the negative change in Group 1 banks is outflows. A change in outflows for Group 1 banks dominates the increase in HQLA and inflows. For Group 2 banks positive change in HQLA and inflows dominates negative change in outflows.

Table 11: Breakdown of the main drivers behind the change in the LCR

	Number of banks	**Change in the LCR under the DA compared to Basel III**	**of which can be attributed to**		
			HQLA	Outflows	Inflows
All banks	**139**	**0.0**	**4.0**	**-8.1**	**4.2**
Group 1	**29**	**-2.1**	**3.1**	**-8.1**	**2.8**
- G-SIIs	9	-4.3	2.1	-12.7	6.3
Group 2	**110**	**13.2**	**8.7**	**-8.3**	**12.7**
- Large	22	14.9	8.1	-5.4	12.2
- Medium	19	9.7	10.9	-21.9	20.6
- Small	69	11.1	8.4	-3.7	6.4
- O-SIIs	47	-1.5	3.3	-8.2	3.4

Source: EBA QIS data (December 2015)

92. Table 12 presents a comparative analysis of the two frameworks with a break-down of each component of the LCR, HQLA, outflows and inflows. It shows how, in practice, the value of the LCR (and that of its components) changes from the Basel III framework to the European standards under the DA. For example, the row 'DA: Δ Level 1 assets' captures the difference between the Basel III Level 1 assets and the DA Level 1 assets. Aggregate HQLA are then shown at the bottom of the relevant panel in Table 12.

Table 12: From the Basel III LCR to the DA LCR (in EUR billion)

	All banks	Group 1	Group 2
Number of banks	139	29	110
HQLA under Basel III (before the cap)	**2712.2**	**2205.0**	**507.3**
DA: Δ Level 1 assets	179.6	129.5	50.1
DA: Δ Level 2A assets	-98.7	-73.4	-25.3
DA: Δ Level 2B assets	2.6	-1.1	3.6
Cap on HQLA under Basel III	2.3	0.7	1.6
Cap on HQLA under DA	1.8	—	1.8
HQLA under Basel III (after the cap)	**2709.9**	**2204.3**	**505.7**
HQLA under the DA (after the cap)	**2794.0**	**2260.0**	**534.0**
Outflows under Basel III	**3067.2**	**2634.9**	**432.4**
DA: Δ Outflows from retail deposits	44.3	37.2	7.1
DA: Δ Outflows from operational deposits	56.0	58.6	-2.6
DA: Δ Outflows from non-operational deposits	-31.4	-63.3	31.8
DA: Δ Outflows from secured funding transactions	-11.7	-10.1	-1.6
DA: Δ Outflows from credit and liquidity facilities	15.1	16.7	-1.8
DA: Δ Other outflows	56.0	71.4	-15.4
Outflows under the DA	**3195.5**	**2745.4**	**450.1**
Inflows under Basel III (before the cap)	**1030.6**	**931.6**	**98.9**
DA: Δ Inflows from unsecured transactions	79.5	54.9	24.6
DA: Δ Inflows secured lending transactions	-13.9	-16.5	2.6
Cap Inflows under Basel III	0.1	—	0.1
Cap Inflows under DA	0.2	-0.0	0.2
Inflows under Basel III (after the cap)	**1030.5**	**931.6**	**98.9**
Inflows under the DA (after the cap)	**1096.1**	**970.1**	**126.0**
Net cash outflows under Basel III	**2036.7**	**1703.2**	**333.5**
Net cash outflows under the DA	**2099.4**	**1775.3**	**324.1**
LCR under Basel III (in %)	**133.1**	**129.4**	**151.6**
LCR under the DA (in %)	**133.1**	**127.3**	**164.8**

Source: EBA QIS data (December 2015)

93. At the aggregate level, HQLA increased for all banks under the DA by EUR 84.1 billion (or by 3.1%) compared to HQLA under the Basel III framework. This increase in HQLA amounts to

EUR 55.7 billion (or an increase by 2.5%) for Group 1 banks and to EUR 28.3 billion (or an increase by 5.6%) for Group 2 banks.

94. Although the definitions of caps on HQLA are similar for both regulations (except for Level 1 covered bonds), the cap on HQLA under the DA shows a smaller impact, especially for Group 1 banks. This is due to a larger scope for Level 1 assets. Globally, the impact is not very significant.

95. On average, the outflows under the DA increased for all banks by EUR 128.3 billion (or by 4.2%) compared to outflows under the Basel III definition. The increase in outflows amounts to EUR 110.5 billion (or an increase by 4.2%) for Group 1 banks and EUR 17.5 billion (or an increase by 4.1%) for Group 2 banks.

96. There is also a decrease in outflows arising from secured funding transactions. This is due to a larger scope of Level 1 assets under the DA, which can be collateralised in secured transaction with 0% weight. This effect is further driven by the strengthening of EHQCB. Under the DA, secured funding transactions backed by this type of collateral receive a lower outflow rate of 7% compared to 15% in the Basel III framework.

97. Differences between operational deposits under the DA and operational deposits under the Basel III framework must be reconciled with the reclassification of non-operational deposits for a few banks and with other deposits with the similar weights for other banks. Other outflows also capture differences in weights for other products and services.

98. Inflows, on aggregate, for all banks increased under the DA. The increase is mainly due to unsecured transactions but by a lower amount compared to outflows. In total, banks increased their inflows under the DA by EUR 65.6 billion (by 6.4%) compared to the inflows under the Basel III framework. The increase is EUR 38.5 billion (by 4.1%) for Group 1 banks and EUR 27.1 billion (by 27.4%) for Group 2 banks.

99. At the bottom of Table 12, it is shown that the global LCR of all banks under the DA reaches 133.1%, which is equal to the LCR under the Basel III framework. For Group 1 banks, the LCR under the DA (127.3%) is lower compared to the LCR under the Basel III framework (129.4%). For Group 2 banks, the LCR under the DA reaches 164.8% compared to 151.6% based on the Basel III definition.

3.1.3 Comparative analysis of the LCR and the LCR shortfall

100. Among the 30 non-compliant banks with the 100% LCR requirement under the Basel III framework (Table 13), 15 of them benefit from EU-specific derogations and become compliant under the European framework. These institutions are mainly Group 2 banks but also one Group 1 bank. One compliant bank under the Basel III framework becomes non-compliant under the DA.

Table 13: LCR analysis under the Basel III framework and the DA

	All banks	Group 1	G-SIIs	Group 2	Large Group 2	Medium Group 2	Small Group 2	O-SIIs
Basel III LCR < 100% & DA LCR < 100%	15	3	—	12	2	2	8	6
Basel III LCR < 100% & DA LCR >= 100%	15	1	—	14	3	1	10	2
Basel III LCR >= 100% & DA LCR < 100%	1	—	—	1	—	—	1	—
Basel III LCR >= 100% & DA LCR >= 100%	108	25	9	83	17	16	50	39

Source: EBA QIS data (December 2015)

101. In December 2015, the shortfall (for the 100% minimum requirement) under the Basel III framework reached EUR 29.3 billion, whereas the shortfall under the DA is EUR 9.9 billion (Table 14).

Table 14: LCR and the shortfall under the Basel III framework and the DA

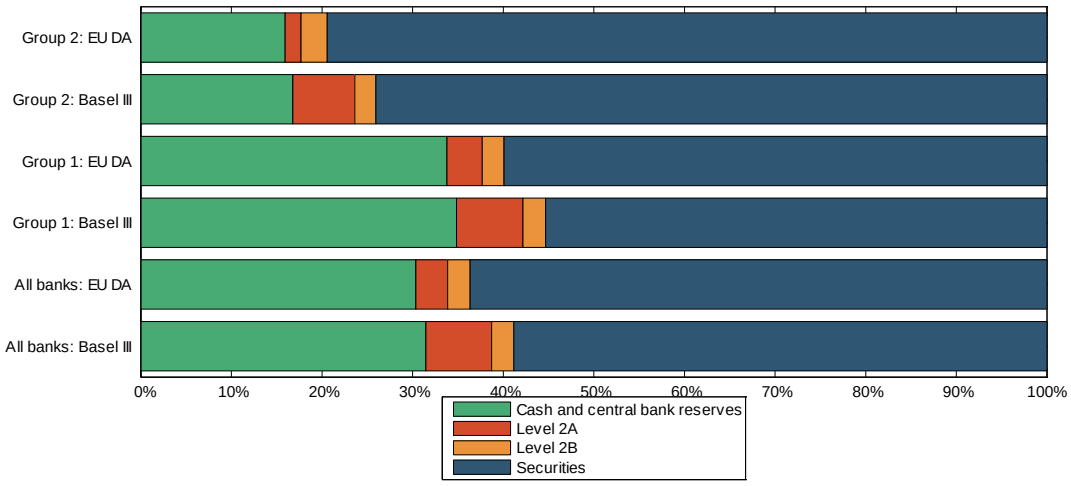
	Number of banks	LCR		LCR shortfall (in EUR billion)	
		Basel III	DA	Basel III	DA
All banks	**139**	**133.1**	**133.1**	**29.3**	**9.9**
Group 1	**29**	**129.4**	**127.3**	**17.4**	**7.6**
- G-SIIs	9	130.9	126.5	—	—
Group 2	**110**	**151.6**	**164.8**	**12.0**	**2.3**
- Large	22	153.1	168.0	7.6	0.4
- Medium	19	164.6	174.2	2.7	1.0
- Small	69	131.6	142.7	1.7	0.9
- O-SIIs	47	131.5	130.1	25.1	8.4

Source: EBA QIS data (December 2015)

3.1.4 Composition of HQLA

102. Figure 21 shows the composition of HQLA. Securities represent more than 50% of total weighted HQLA under both regulations. However, under the DA, this category represents more than 80% of the total liquidity buffer for Group 2 banks. Cash and central bank reserves represent one third of the total, while the share of Level 2A assets is small under the DA.

Figure 21: Composition of weighted assets under the DA LCR compared to the Basel III LCR



Source: EBA QIS data (December 2015)

103. Table 15 describes the change between the Basel III framework and the DA for each relevant component of the HQLA. For example, the column 'DA: Δ Covered bonds' captures the difference between the weights for EHQCB under the Basel III definition and the DA and non-Level 1 high-quality covered bonds under the Level 2 category, which are not included in the Basel III framework.

Table 15: From Basel III HQLA to DA HQLA (in EUR billion)

	Number of banks	HQLA under Basel III (before the cap)	DA: Δ Covered bonds	DA: Δ CIUs	DA: Δ Promotional banks' assets	DA: Δ ABSs	DA: Δ Other	HQLA under the DA (before the cap)	Cap on Basel III HQLA	Cap on EU HQLA	HQLA under Basel III (after the cap)	HQLA under the DA (after the cap)
All banks	**139**	**2712.2**	**44.4**	**4.2**	**47.6**	**3.4**	**-16.0**	**2795.7**	**2.3**	**1.8**	**2709.9**	**2794.0**
Group 1	**29**	**2205.0**	**36.3**	**2.7**	**29.5**	**1.5**	**-15.0**	**2260.0**	**0.7**	**—**	**2204.3**	**2260.0**
- G-SIIs	9	1381.8	20.4	2.0	15.8	1.4	-16.3	1405.1	—	—	1381.8	1405.1
Group 2	**110**	**507.3**	**8.1**	**1.5**	**18.1**	**1.8**	**-1.0**	**535.8**	**1.6**	**1.8**	**505.7**	**534.0**
- Large	22	315.5	4.5	0.8	10.9	0.2	0.2	332.1	0.8	1.4	314.7	330.7
- Medium	19	112.9	1.6	0.5	4.3	1.7	-0.7	120.3	0.4	0.2	112.6	120.1
- Small	69	78.8	2.0	0.2	2.8	0.0	-0.6	83.3	0.4	0.1	78.3	83.2
- O-SIIs	47	2452.6	39.6	3.1	36.0	1.6	-15.6	2517.3	1.5	1.5	2451.1	2515.8

Source: EBA QIS data (December 2015)

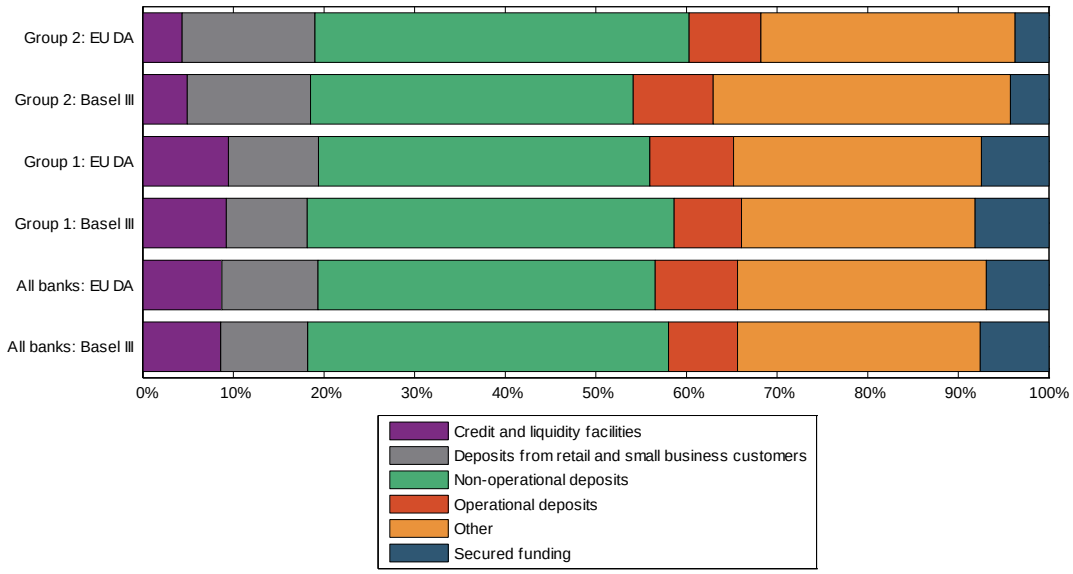
104. The overall increase of EUR 84.1 billion in HQLA after the cap from Basel III framework to the DA can be attributed to:

- Promotional banks' assets issued by credit institutions (EUR 47.6 billion) which are not included in the liquidity buffer under the Basel III definition;
- Differences in the scope of covered bonds and the haircuts applied (EUR 44.4 billion);
- Larger scope of ABSs and CIUs (EUR 7.6 billion) under the DA;
- Other changes between the two frameworks, covering differences in scope, as preferential treatment for assets and marketable securities representing claims or guaranteed by the central government, the central bank, regional governments, local authorities or PSEs of a Member State or deposits by credit institutions in an institutional protection scheme or in a cooperative network should have resulted in an increase.[27]

3.1.5 Composition of outflows

105. Figure 22 shows the composition of outflows. Non-operational deposits represent the main share of the weighted cash outflows (38%) under the DA. The shares of operational deposits and deposits from retail and SMEs are higher compared to the Basel III framework, especially for Group 1 banks.

Figure 22: Composition of cash outflows (post-weight)



Source: EBA QIS data (December 2015)

[27] However, the decrease of EUR 16.0 billion is explained by the differences in filling in the Basel III framework and the DA worksheets, more particularly on covered bonds that may have been recognised under the Basel III framework and therefore do not strictly appear as a gap.

106. Table 16 describes the change in outflows from the Basel III framework to the DA for each relevant component of outflows. For example, the column 'DA: Δ Retail and SME deposits' captures the difference in the weights for deposits subject to higher outflows under the DA.

Table 16: From Basel III outflows to DA outflows (in EUR billion)

	Number of banks	Outflows under Basel III	DA: Δ Retail and SME deposits	DA: Δ Operational deposits	DA: Δ Non-operational deposits	DA: Δ Credit and liquidity facilities	DA: Δ Secured funding	DA: Δ Others	Outflows under the DA
All banks	**139**	**3067.2**	**44.3**	**56.0**	**-31.4**	**15.1**	**-11.7**	**56.0**	**3195.5**
Group 1	**29**	**2634.9**	**37.2**	**58.6**	**-63.3**	**16.7**	**-10.1**	**71.4**	**2745.4**
- G-SIIs	9	1693.8	26.5	41.6	-14.4	16.8	-9.3	46.7	1801.7
Group 2	**110**	**432.4**	**7.1**	**-2.6**	**31.8**	**-1.6**	**-1.6**	**-15.4**	**450.1**
- Large	22	265.7	2.9	0.1	-1.6	-0.4	-1.5	7.4	272.6
- Medium	19	93.3	1.5	-2.9	6.2	-1.5	-0.2	6.0	102.4
- Small	69	73.5	2.7	0.2	27.3	0.2	0.1	-28.8	75.1
- O-SIIs	47	2846.9	38.5	58.5	-60.5	15.7	-10.5	79.2	2967.9

Source: EBA QIS data (December 2015)

107. The global increase of EUR 128.3 billion in total outflows from a shift from the Basel III framework to the DA can be attributed to:

- Differences in the scope of operational deposits of EUR 56.0 billion and non-operational deposits of EUR -31.4 billion;
- Differences in the weights for retail and SME outflows of EUR 44.3 billion;
- Other changes between both frameworks (covering differences of weighting) regarding additional outflows and other products and services, especially internal netting of clients´ positions, mortgages that have been agreed but not yet drawn down, and planned outflows related to renewal or extension of new retail or wholesale loans or trade finance off-balance-sheet-related products (EUR 56.0 billion).

108. Table 17 summaries the impact of the different treatment of the average outflow rate. Overall, the DA increases the average outflow rate by 2.0 percentage points whereas the cash outflows relative to the total assets increase by 0.7 percentage point.

Table 17: Average outflows rate and weighted outflows under the Basel III framework and the EU DA (in percent)

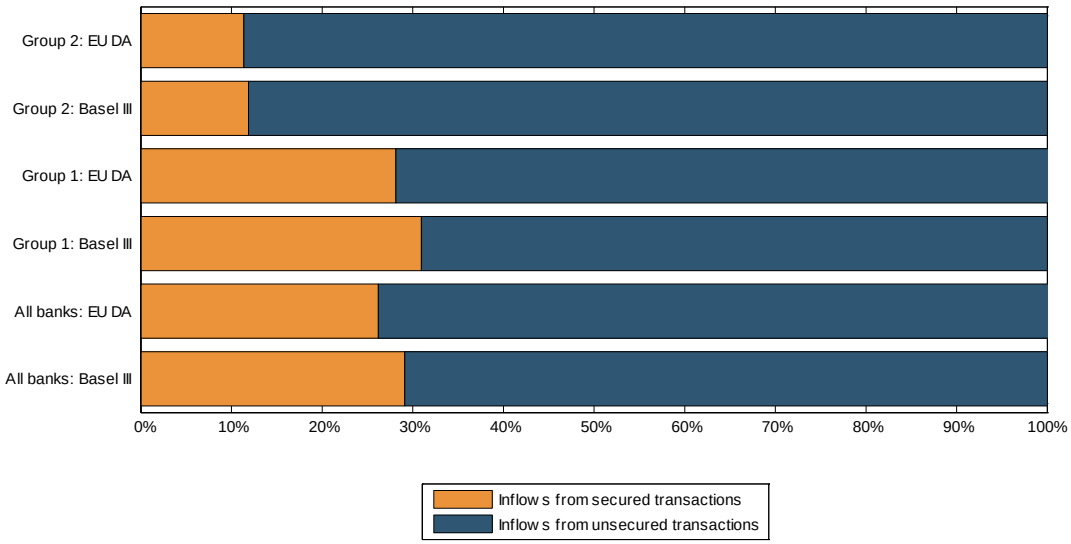
	Number of banks	Basel III			EU DA		
		LCR	Average outflow rate	Cash outflows (post-weight) relative to total assets	LCR	Average outflow rate	Cash outflows (post-weight) relative to total assets
All banks	**139**	**133.1**	**21.7**	**14.8**	**133.1**	**23.7**	**15.5**
Group 1	**29**	**129.4**	**22.2**	**15.6**	**127.3**	**23.9**	**16.2**
- G-SIIs	9	130.9	23.2	15.7	126.5	23.4	16.7
Group 2	**110**	**151.6**	**19.1**	**11.4**	**164.8**	**22.9**	**11.9**
- Large	22	153.1	16.8	10.2	168.0	20.7	10.5
- Medium	19	164.6	20.8	14.4	174.2	25.8	15.8
- Small	69	131.6	31.3	13.6	142.7	30.4	13.9
- O-SIIs	47	131.5	21.9	15.1	130.1	23.7	15.8

Source: EBA QIS data (December 2015)

3.1.6 Composition of inflows

109. Figure 23 shows that, although the share of secured transactions is higher under the Basel III framework (especially for Group 1 banks), inflows arising from unsecured transactions represent 73%, the largest part of the weighted cash inflows under the DA framework.

Figure 23: Composition of cash inflows (before the application of a haircut)



Source: EBA QIS data (December 2015)

110. Table 18 shows the change from inflows under the Basel III framework to inflows under the DA for each relevant component of inflows. For example, the column 'DA: Δ Operational deposits' captures the difference in the inflow rates for monies due from financial customers (being classified as operational deposits).

Table 18: From Basel III inflows to DA inflows

	Number of banks	Inflows under Basel III	DA: Δ Secured lending	DA: Δ Operational deposits	DA: Δ Intragroup or IPS	DA: Δ Trade finance	DA: Δ Assets with an undefined maturity	Δ DA: Others	Inflows under the DA
All banks	**139**	**1030.6**	**-13.9**	**3.5**	**0.0**	**39.6**	**62.2**	**-25.9**	**1096.2**
Group 1	**29**	**931.6**	**-16.5**	**1.4**	**0.0**	**39.3**	**49.0**	**-34.8**	**970.1**
- G-SIIs	9	637.9	-10.5	0.9	0.0	36.9	40.5	-14.7	691.0
Group 2	**110**	**98.9**	**2.6**	**2.1**	**0.0**	**0.4**	**13.2**	**8.9**	**126.2**
- Large	22	60.1	1.3	0.7	—	0.1	8.1	5.6	75.7
- Medium	19	24.9	1.2	0.7	—	0.3	4.6	1.8	33.5
- Small	69	14.0	0.1	0.7	0.0	0.0	0.5	1.6	16.9
- O-SIIs	47	983.4	-13.5	2.7	0.0	39.3	51.6	-30.0	1033.5

Source: EBA QIS data (December 2015)

111. Compared to the Basel III framework, inflows before the cap increase by EUR 65.6 billion. This increase stems mostly from:

- Difference in the scope of assets with an undefined maturity, amounting to EUR 62.2 billion;
- Difference in the scope of monies due from trade financing transactions (EUR 39.6 billion);
- Difference in the scope of secured lending (EUR -13.9 billion);
- Other changes covering differences in the rates on other inflows (EUR -25.9 billion).

3.2 Analysis by business models

3.2.1 LCR and the LCR shortfall

112. Table 19 summarises the comparative analysis between the Basel III framework and the DA by business models. Most of the banks in the sample report higher LCR under the DA and the impact is more significant for banks with two business models in particular:

- On average, automotive and consumer credit banks and other specialised banks become compliant at the 100% minimum requirement under the DA although they are not compliant with the LCR under the Basel III framework;
- For cross-border universal banks, the LCR under the DA is lower than the LCR under the Basel III framework, although the shortfall disappears under the former.

Table 19: LCR and the shortfall under the Basel III framework and the DA

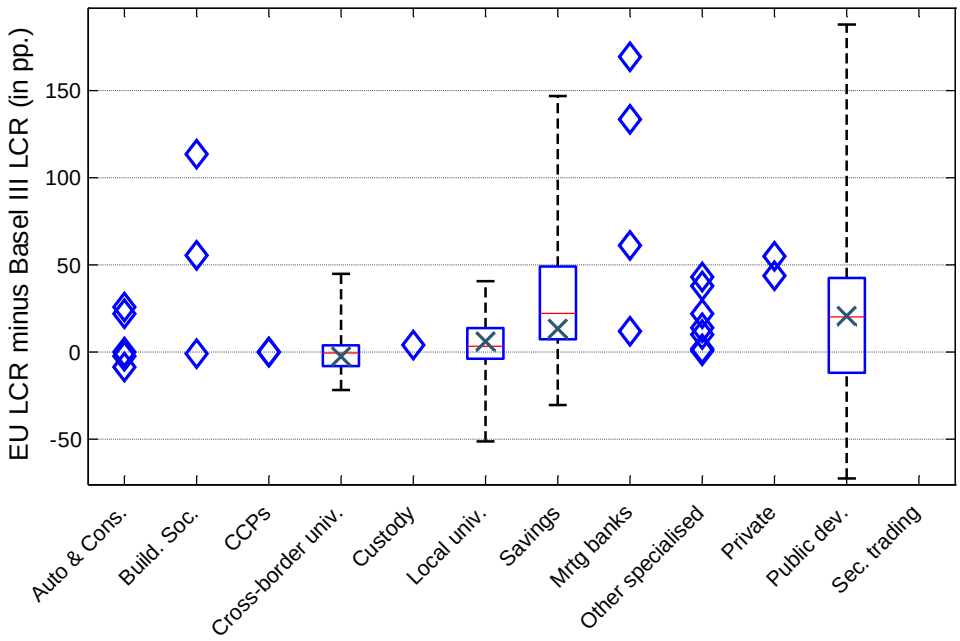
	Number of banks	LCR		LCR shortfall (in EUR billion)	
		Basel III	DA	Basel III	DA
Automotive and consumer credit banks	5	91.4	116.8	1.6	0.2
Building societies	4	311.2	364.4	—	—
CCPs	2	100.6	100.6	0.1	0.1
Cross-border universal banks	26	131.0	128.4	8.7	—
Custody banks	1	176.8	180.9	—	—
Local savings banks	50	144.6	158.0	0.8	0.2
Local universal banks	38	144.0	150.0	19.9	8.9
Mortgage banks	4	199.7	243.5	0.0	—

	Number of banks	LCR		LCR shortfall (in EUR billion)	
Other specialised banks	7	97.7	116.2	7.3	0.7
Private banks	2	100.4	147.0	0.0	—
Public development banks	10	170.0	190.5	0.0	—
Security trading houses	1	168.0	530.2	—	—

Source: EBA QIS data (December 2015)

113. The distribution of the difference in the LCR between the Basel III framework and the DA (Figure 24) shows that the difference could reach more than 100 percentage points for some mortgage banks and building societies. Whereas the distribution seems to be concentrated for the main business models, such as cross-border universal banks and local universal banks, public development banks and savings banks show the largest (mainly positive) amplitude.

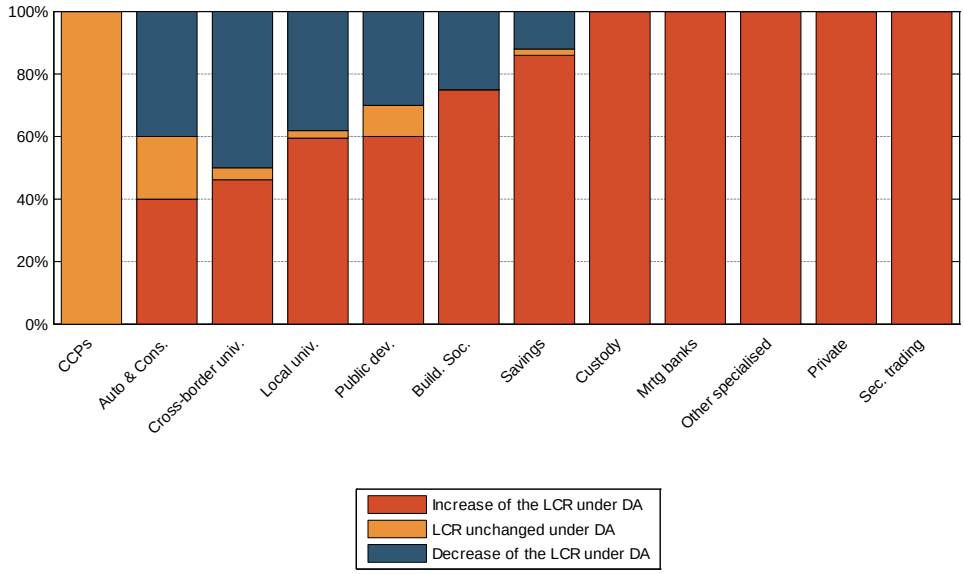
Figure 24: Distribution of difference between the DA LCR and Basel III LCR



Source: EBA QIS data (December 2015)

114. Cross-border universal banks and local universal banks are the business model categories with the highest number of banks seeing their LCR levels fall under the DA. For about 50% and 40% of the banks in these categories respectively, the LCR under the DA is lower than the LCR under the Basel definition. This is shown in Figure 25.

Figure 25: Impact of the DA LCR compared to the Basel III LCR



Source: EBA QIS data (December 2015)

115. Table 20 suggests that automotive and consumer credit banks benefit from EU-specific derogation on the cap on inflows. Other specialised banks profit from a larger stock of HQLA. Building societies, mortgage banks and security trading houses benefit from higher inflows under the DA, whereas cross-border universal banks are negatively affected by the increase in outflows.

Table 20: Breakdown of the main drivers behind the change in the LCR

	Number of banks	**Change in the LCR under the DA compared to Basel III**	**of which can be attributed to**		
			HQLA	Outflows	Inflows
Automotive and consumer credit banks	5	25.4	—	-3.4	28.8
Building societies	4	53.3	29.0	-17.1	41.4
CCPs	2	-0.0	—	-0.0	0.0
Cross-border universal banks	26	-2.6	2.4	-8.2	3.2
Custody banks	1	4.0	0.5	-0.0	3.5
Local savings banks	50	13.4	15.5	-20.8	18.7
Local universal banks	38	6.0	7.1	-10.9	9.8
Mortgage banks	4	43.8	19.2	-3.1	27.8
Other specialised banks	7	18.5	13.1	-1.7	7.0
Private banks	2	46.6	51.1	-4.5	-0.0

	Number of	Change in	of which can be attributed to		
Public development banks	10	20.5	16.4	2.7	1.4
Security trading houses	1	362.2	10.6	-118.6	470.2

Source: EBA QIS data (December 2015)

3.2.2 Composition of HQLA

116. Almost all banks increase their HQLA with the inclusion of promotional bank's assets issued by credit institutions under the DA (Table 21). This is the case particularly for cross-border universal banks, local universal banks, other specialised banks and public development banks. The difference with regard to the Basel III framework is less significant for covered bonds, except for cross-border universal banks and local universal banks. Considering the cap on HQLA, local savings banks and local universal banks are impacted by both the cap under the DA and the Basel III framework. One cross-border universal bank is particularly affected by the cap on HQLA under the DA but not by the cap on HQLA under the Basel III standard, which is due to its higher amount of shares in Level 2B assets.

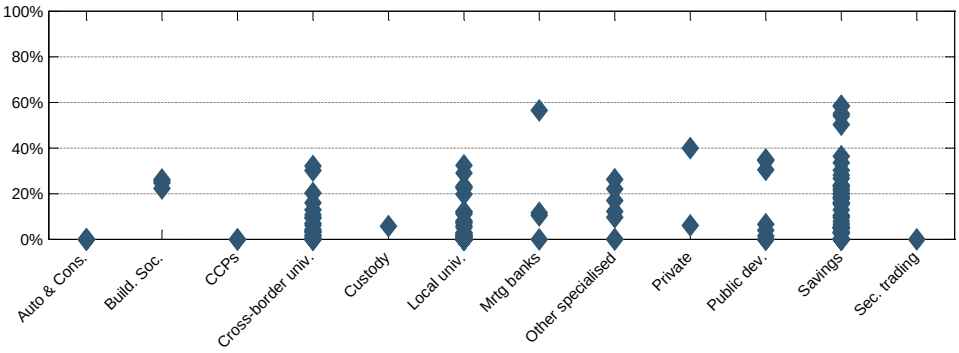
Table 21: From Basel III HQLA to DA HQLA

	Number of banks	HQLA under Basel III (before the cap)	DA: Δ Covered bonds	DA: Δ CIUs	DA: Δ Promotional banks' assets	DA: Δ ABSs	DA: Δ Other	HQLA under the DA (before the cap)	Cap on Basel III HQLA	Cap on the EU DA HQLA	HQLA under Basel III (after the cap)	HQLA under the DA (after the cap)
Automotive and consumer credit banks	5	7.2	—	—	—	—	—	7.2	—	—	7.2	7.2
Building societies	4	3.0	0.2	—	0.0	—	0.0	3.3	—	—	3.0	3.3
CCPs	2	26.3	—	—	0.1	—	-0.1	26.3	—	—	26.3	26.3
Cross-border universal banks	26	2001.5	29.1	2.2	21.3	1.7	-15.2	2040.5	—	0.1	2001.5	2040.4
Custody banks	1	25.9	0.1	—	0.1	—	-0.1	26.0	—	—	25.9	26.0
Local savings banks	50	55.9	1.3	0.5	3.4	0.2	0.1	61.5	0.8	0.3	55.2	61.2
Local universal banks	38	522.0	12.3	0.9	11.5	1.7	-0.8	547.6	1.5	1.4	520.4	546.3
Mortgage banks	4	10.5	0.7	—	0.2	—	—	11.4	—	—	10.5	11.4
Other specialised banks	7	88.2	2.8	0.5	7.9	—	-0.0	99.5	—	—	88.2	99.5
Private banks	2	1.8	0.2	0.0	0.7	—	—	2.8	—	—	1.8	2.8
Public development banks	10	74.7	1.5	—	5.8	—	-0.2	81.8	—	—	74.7	81.8
Security trading houses	1	0.0	—	0.0	—	—	—	0.0	—	—	0.0	0.0

Source: EBA QIS data (December 2015)

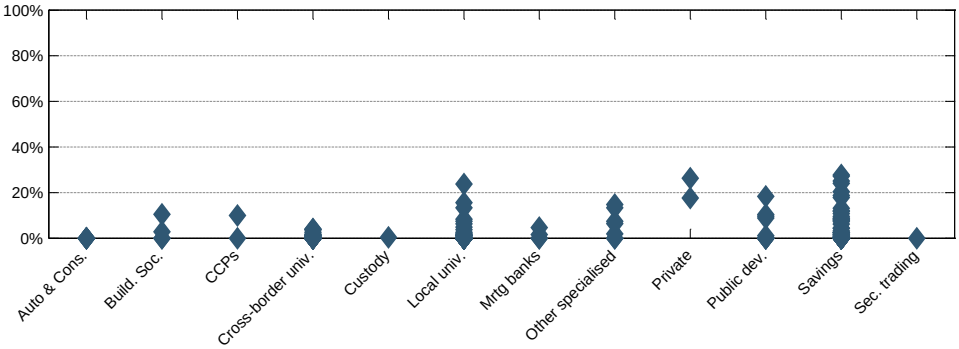
117. Within unweighted HQLA, the proportion of covered bonds and promotional bank assets seem to be significant particularly for saving banks and local universal banks (Figure 26 and Figure 27).

Figure 26: Covered bonds as a percentage of total unweighted HQLA by business model



Source: EBA QIS data (December 2015)

Figure 27: Promotional banks assets as % of the total unweighted HQLA by business model



Source: EBA QIS data (December 2015)

3.2.3 Composition of outflows

118. The impact of the differences in the run-off rates for outflows across banks varies with the business models of these banks. This is shown in Table 22:

- Regarding the average outflow rate, automotive and consumer credit banks benefit from favourable rates under the DA framework. The impact is not significant for other specialised banks;

- For cross-border universal banks, local savings banks and local universal banks, the average outflow rate is significantly higher under the DA;

- Regardless of their business models, banks generally increase the share of cash outflows relative to total assets under the DA.

Table 22: Average outflows rate and weighted outflows under Basel III and the EU DA

	Number of banks	Basel III			EU DA		
		LCR	Average outflow rate	Cash outflows (post-weight) relative to total assets	LCR	Average outflow rate	Cash outflows (post-weight) relative to total assets
Automotive and consumer credit banks	5	91.4	26.1	8.3	116.8	23.5	8.4
Building societies	4	311.2	54.7	2.9	364.4	39.7	3.0
CCPs	2	100.6	1550.0	97.6	100.6	99.2	97.6
Cross-border universal banks	26	131.0	22.0	15.7	128.4	23.5	16.3
Custody banks	1	176.8	63.8	57.6	180.9	63.5	57.6
Local savings banks	50	144.6	13.9	10.1	158.0	16.9	11.2
Local universal banks	38	144.0	16.4	12.5	150.0	20.1	13.2
Mortgage banks	4	199.7	36.2	4.9	243.5	33.9	4.9
Other specialised banks	7	97.7	37.6	13.4	116.2	38.0	13.5
Private banks	2	100.4	33.3	24.7	147.0	34.4	25.6
Public development banks	10	170.0	62.2	8.6	190.5	63.7	8.5
Security trading houses	1	168.0	33.6	6.0	530.2	28.5	7.2

Source: EBA QIS data (December 2015)

119. The overall increase in outflows between the Basel III framework and the DA (Table 23) can be mainly attributed to the difference in the run-off rates for retail and SME funding. This increase affects almost all business models, especially cross-border universal banks, local universal banks and local savings banks.

120. Other changes between the two frameworks, such as additional outflows on other products and services, especially internal netting of clients' positions, mortgages that have been agreed but not yet drawn down, planned outflows related to renewal or the extension of new retail or wholesale loans or trade finance off-balance-sheet related products impact cross-border universal banks, local universal banks and mortgage banks.

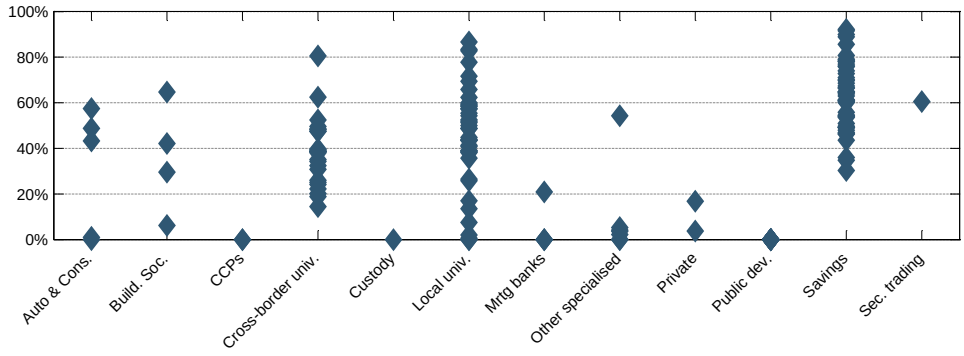
Table 23: From Basel III outflows to DA outflows

	Number of banks	Outflows under Basel III	DA: Δ Retail and SME deposits	DA: Δ Operational deposits	DA: Δ Non-operational deposits	DA: Δ Credit and liquidity facilities	DA: Δ Secured funding	DA: Δ Others	Outflows under the DA
Automotive and consumer credit banks	5	17.8	0.6	—	-0.0	—	—	-0.3	18.1
Building societies	4	1.1	0.4	—	—	-0.0	—	-0.4	1.2
CCPs	2	28.3	—	—	26.7	-0.2	—	-26.5	28.3
Cross-border universal banks	26	2393.3	36.0	48.6	-37.6	16.1	-9.2	45.9	2493.1
Custody banks	1	20.4	—	-0.0	-0.9	—	—	0.9	20.4
Local savings banks	50	49.3	3.2	-2.4	4.8	0.2	-0.1	-0.2	54.9
Local universal banks	38	506.1	6.9	4.1	-16.9	-1.4	-2.4	37.3	533.6
Mortgage banks	4	5.8	0.0	—	-0.0	—	-0.0	1.1	5.9
Other specialised banks	7	108.6	1.2	6.2	-6.5	-0.1	-0.0	-0.4	108.9
Private banks	2	2.3	0.1	—	—	0.0	—	-0.0	2.4
Public development banks	10	53.1	0.0	—	0.4	-0.3	0.1	-0.8	52.4
Security trading houses	1	0.0	0.0	—	—	-0.0	—	-0.0	0.0

Source: EBA QIS data (December 2015)

121. Figure 28 shows that retail deposits, as a share of total unweighted outflows, is important for local universal banks, cross-border universal banks and saving banks, consequently resulting in an increase in outflows for these banks under the DA.

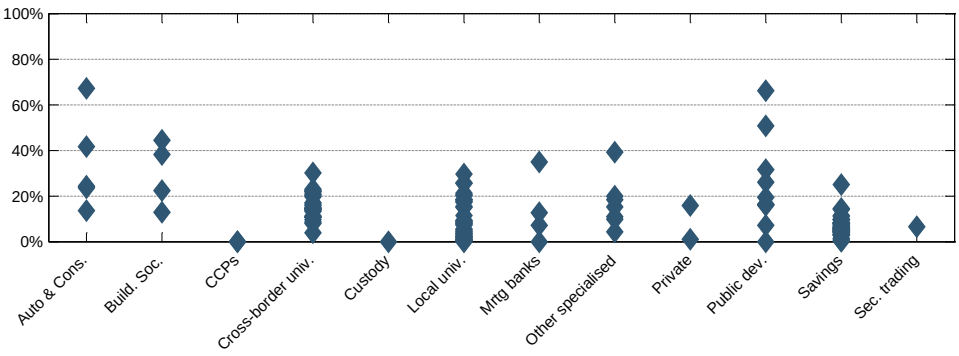
Figure 28: Retail deposits as a percentage of total unweighted outflows by business model



Source: EBA QIS data (December 2015)

122. On the other hand, credit and liquidity facilities (Figure 29) have a more balanced distribution across business models. This however, can result in an increase or a decrease of weighted outflows, depending on the counterparty and the nature of the facility.

Figure 29: Facilities as a percentage of total unweighted outflows by business model



Source: EBA QIS data (December 2015)

3.2.4 Composition of inflows

123. The impact of differences of weighting on inflows (as indicated in Table 24) varies across banks depending on their business models:

- Except CCPs and private banks, all business models (particularly, cross-border universal banks and local universal banks) are affected by higher inflows under the DA. The increase is more than a third of total inflows under the Basel III framework for other specialised banks, local savings banks, mortgage banks, security trading houses and building societies;

- Automotive and consumer credit banks benefit from EU-specific derogations on the cap on inflows (column 'others'), whereas no specialised institution carrying leasing or factoring business pertains to the sample.

Table 24: From Basel III inflows to DA inflows

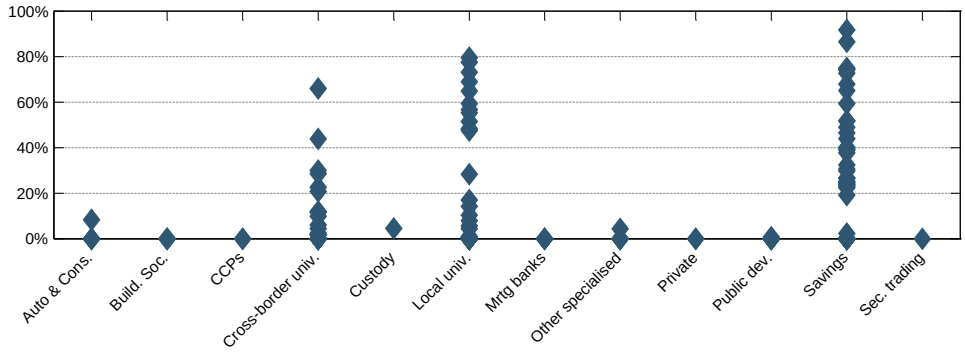
	Number of banks	Inflows under Basel III	DA: Δ Secured lending	DA: Δ Operational deposits	DA: Δ Intragroup or IPS	DA: Δ Trade finance	DA: Δ Assets with an undefined maturity	DA: Δ Others	Inflows under the DA
Automotive and consumer credit banks	5	10.0	—	0.0	—	—	0.0	1.9	12.0
Building societies	4	0.1	—	0.1	—	—	—	0.1	0.3
CCPs	2	2.2	-0.0	—	—	—	—	0.0	2.2
Cross-border universal banks	26	865.8	-15.1	1.3	0.0	43.0	51.0	-41.8	904.2
Custody banks	1	5.7	—	0.6	—	—	0.1	-0.4	6.0

	Number of banks	Inflows under Basel III	DA: Δ Secured lending	DA: Δ Operational deposits	DA: Δ Intragroup or IPS	DA: Δ Trade finance	DA: Δ Assets with an undefined maturity	DA: Δ Others	Inflows under the DA
Local savings banks	50	11.2	-0.0	0.6	0.0	0.4	3.1	1.0	16.2
Local universal banks	38	144.7	1.3	0.9	—	0.4	13.5	8.7	169.4
Mortgage banks	4	0.6	-0.0	—	—	—	—	0.7	1.2
Other specialised banks	7	18.3	-0.0	0.0	—	0.2	0.0	6.0	24.4
Private banks	2	0.5	-0.0	—	—	—	—	-0.0	0.5
Public development banks	10	9.1	—	—	—	—	0.0	0.4	9.5
Security trading houses	1	0.0	—	0.1	—	—	—	—	0.1

Source: EBA QIS data (December 2015)

124. The share of monies due from assets with an undefined maturity in total unweighted inflows (Figure 30) is larger for cross-border universal banks and local universal banks, resulting in an increase of weighted inflows.

Figure 30: Monies due from assets with an undefined maturity as a percentage of total unweighted inflows by business model



Source: EBA QIS data (December 2015)

4. Analysis of currency mismatch in the LCR

4.1 Rationale for the analysis

125. There are several reasons, e.g. diversification, supply factors, structural factors, for institutions to finance their assets in a currency different from the currency at which the assets are denominated. Depending on the composition and the maturity structure of the assets and liabilities, institutions may run a larger funding/outflow risk in a specific currency than the risk manifesting in the overall maturity mismatch and liquidity coverage between assets and liabilities across all currencies. For example, an institution can receive short-term funding to finance long-term assets in a specific currency, but this maturity mismatch is offset by a reverse maturity structure in another currency, masking the risk profile of the institution in this specific currency. Similarly, a shortfall in the liquidity buffer that covers net cash outflows in a specific currency may be offset by a liquidity surplus in another currency, masking the risk profile in the overall composition of liquidity coverage.

126. Overall surplus in the liquidity buffer may suggest that the specific risk profile is manageable because the institution can convert the liquidity buffer from one currency to another to cover net cash outflows using FX swaps. However, under stress situations this channel may not be available for all LCR-eligible liquid assets, especially given that counterparty credit risk and currency-specific liquidity risk can cause dislocation in FX swaps markets.

127. Currency mismatch in funding and the liquidity of asset buffers received a great deal of attention in the aftermath of the latest financial crisis. The ESRB published two recommendations focusing on foreign lending (ESRB/2011/1) and significant currency-denominated funding of credit institutions (ESRB/2011/2).

128. This is also in line with the current regulatory provisions regarding the LCR. In accordance with Article 8(6) of the DA, credit institutions shall ensure that the currency denomination of their liquid assets is consistent with the distribution by currency of their net liquidity outflows.

129. Therefore, an analysis of the liquidity risk profile of institutions in terms of the LCR regulation (which accounts for assets and liabilities in different currencies) would have an added value in the monitoring of the liquidity profiles of these institutions. The objective of the analysis is to investigate whether currency-related liquidity risk exists in EU institutions. The analysis is based on a set of indicators. Under each indicator total figures (across all currencies) reported in the reporting currency and figures in individual significant currencies are compared. The results aim to indicate whether institutions' liquidity coverage and stable

funding are more robust overall (total figures, across all currencies) or in individual significant currencies.

130. The results are presented at an anonymised institution level.[28] An institution is included in the analysis under a specific indicator only if the relevant data are available for the total figures in the reporting currency and in at least one of the significant currencies. Therefore, the sample size may vary under each indicator and for each comparison.

131. The quantitative analysis presented in this section is based on liquidity coverage requirements and stable funding reported by institutions in accordance with the ITS on Supervisory Reporting. The reference date is 31 December 2015[29] (see Section 1.3 for a detailed explanation on the methodology and data).

4.2 Analysis of the parameters of the LCR under significant currencies

4.2.1 Components of the LCR denominated by the significant currency

a. Indicator 1: HQLA over net cash outflows

132. The indicator is somehow a proxy of the LCR. It is constructed as:

$$Indicator\ 1 = \frac{HQLA^z}{outflows^z - min(inflows^z, 0.75 \times outflows^z)}$$

where $z = reporting\ currency,\ EUR, GBP, USD.$

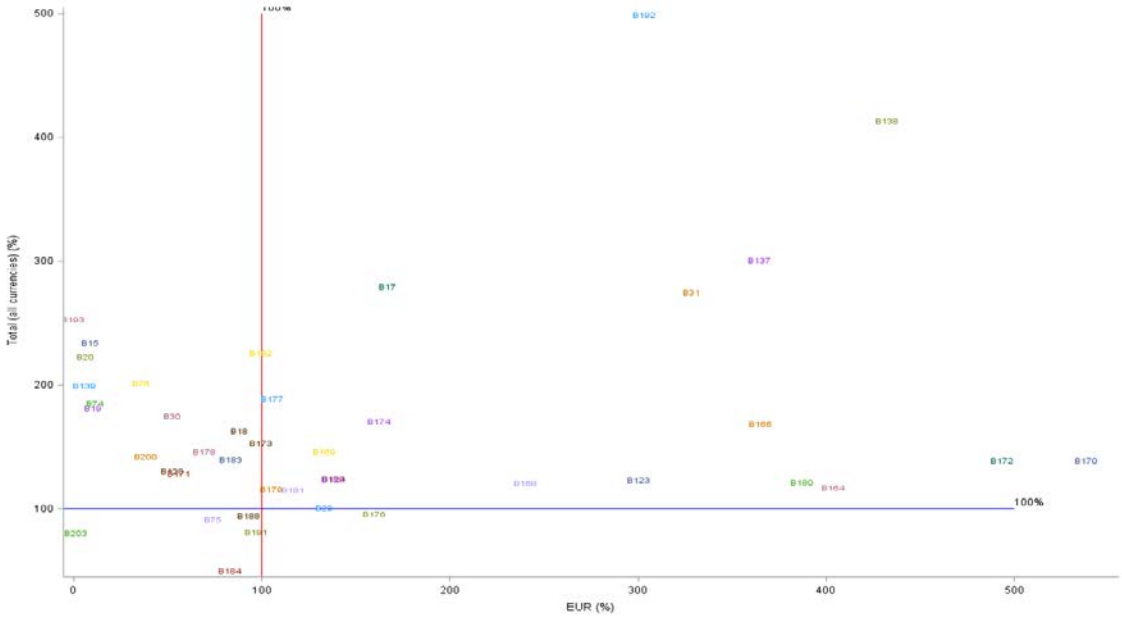
133. The objective is to test whether there are any currency specific patterns in the liquidity profiles of institutions as defined in this indicator, i.e. whether the difference between foreign currency denominated liquidity buffer and net cash outflows is more pronounced than the overall difference between these two parameters across all currencies.

134. Figure 31 shows the values of Indicator 1 where $z = \text{reporting currency}$ on the y-axis and $z = \text{EUR}$ on the x-axis.

[28] An institution has been allocated the same unique arbitrary code across the figures so that the same institution can be followed throughout the analysis.

[29] Please note that this is not the most recent reporting date, 31 December 2015, has been chosen to provide consistency with the reporting date of the QIS data used for the rest of this report.

Figure 31 Values for Indicator 1 where the significant currency is EUR

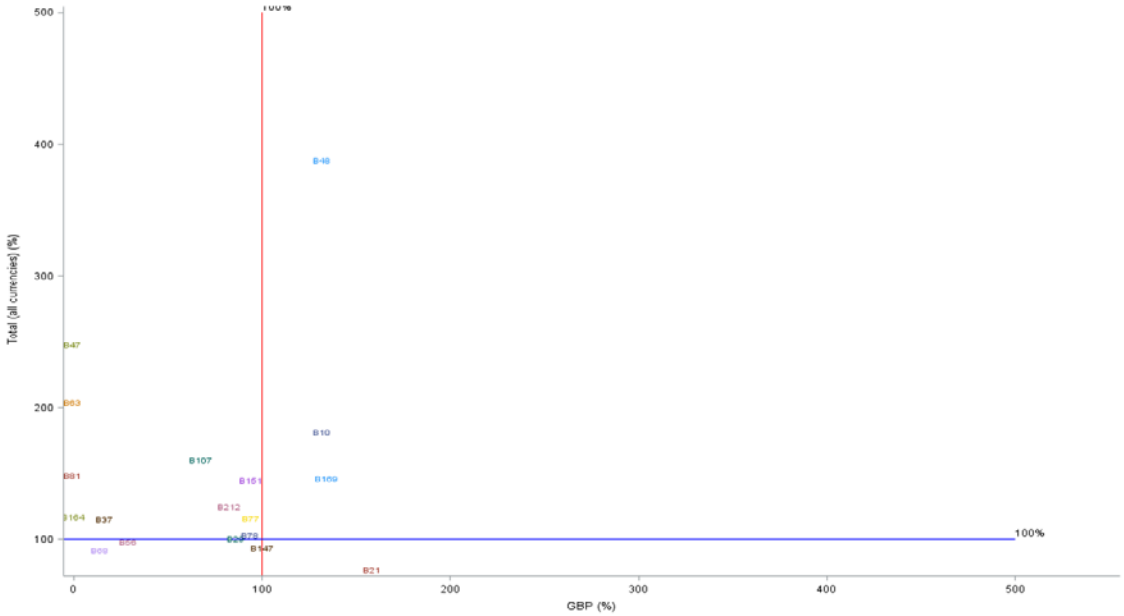


Source: EBA ITS data (December 2015)

135. Figure 31 shows that there is some evidence of a different pattern when EUR is the significant currency. A total of 46 institutions reported EUR as significant currency and, for 25 institutions in this sample (54% of this sample) the ratio is higher in the reporting currency than in the significant currency (EUR). The difference between the two ratios varies from 252 percentage points (B193) to 0.2 percentage point (B188). There are 16 institutions that have values for Indicator 1 above 100% in total figures but below 100% in the significant currency. These institutions are located on the top left rectangular area.

136. Figure 32 and Figure 33 indicate the values against other significant currencies, (GBP and USD respectively). In the sample, there are 20 institutions with operations in GBP as the significant currency. In 80% of the cases (16 banks), the total figures for the ratio are greater than the figures in the significant currency. There are 10 institutions (50% of the total sample of institutions) reported GBP as the significant currency, that have values for Indicator 1 above 100% in aggregate across all currencies but below 100% in GBP separately. These institutions are located on the top left rectangular area in Figure 32.

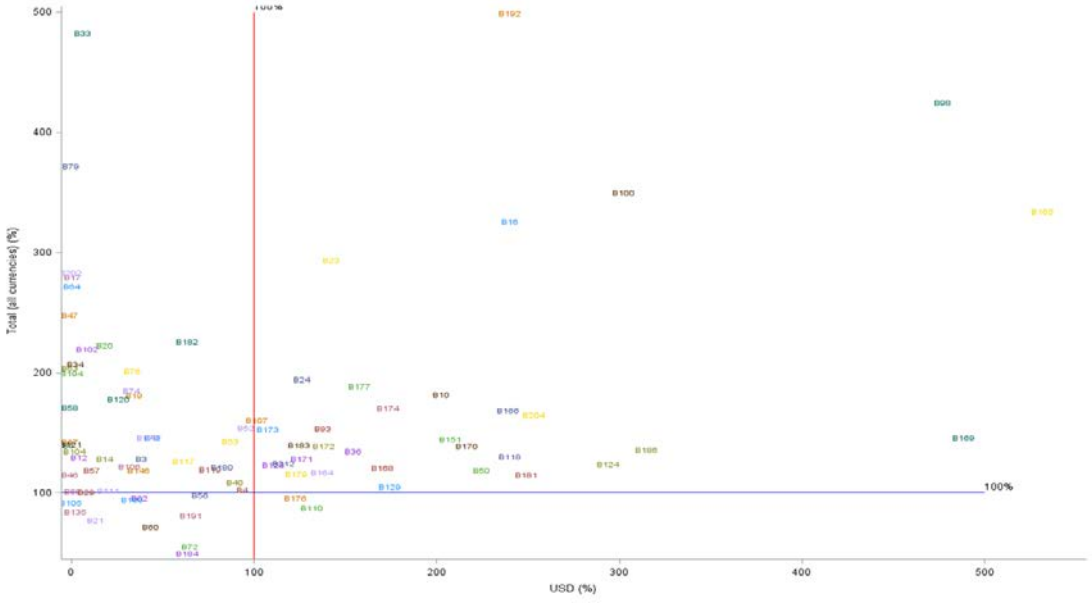
Figure 32 Values for Indicator 1 where the significant currency is GBP



Source: EBA ITS data (December 2015)

137. For 85 institutions reporting USD as the significant currency, in 75% of cases, the total figure is greater than the ratio in USD. In the sample, about 46% of institutions (39 institutions) have the overall ratio above 100% but below 100% in USD. In other words, the LCR monitoring exercise which relies on the overall figures would capture the risk profile of institutions located on the bottom left corner of the figures, i.e. institutions that fail to reach a certain threshold in total, across all currencies. However, it would potentially fail to identify cases where a currency specific liquidity risk profile is offset by a surplus in another currency.

Figure 33 Values for Indicator 1 where the significant currency is USD



Source: EBA ITS data (December 2015)

138. Consequently, the data show that, for most institutions, the ratio under Indicator 1 for total figures (across all currencies) in the reporting currency is greater than the ratio in individual significant currencies. This implies that institutions are likely to hold a higher liquidity buffer in relation to their net cash outflows in the national currency than in the significant (foreign) currencies. Thus, in aggregate the surplus in liquidity coverage in national currencies offsets (or dominates) the liquidity shortfall in other significant currencies.

b. Indicator 2: Assessment of HQLA, inflows and outflows

139. The following indicators are complementary to Indicator 1. The objective is to analyse whether the institutions display different liquidity risk profiles in terms of the composition of the LCR across different significant currencies. Indicators[30] 2a, 2b and 2c are constructed as:

$$Indicator\ 2a = \frac{HQLA^z}{funding^z}$$

$$Indicator\ 2b = \frac{outflows^z}{funding^z}$$

$$Indicator\ 2c = \frac{inflows^z}{funding^z}$$

where $z = reporting\ currency,\ \ EUR, GBP, USD$

140. Indicator 2a shows that, in general, institutions are more likely to invest in liquid assets denominated in national currencies than in foreign currencies. In fact, most institutions cover their funding with liquidity buffers in national currencies even if this funding is denominated in other currencies. The values for Indicator 2a are higher for the reporting currency, i.e. total figures across all currencies, than in the significant currencies. This pattern is more pronounced when USD-denominated HQLA and funding are considered (Figure 36). The 45-degree line shows equality between the value measured on the y-axis and the value measured on the x-axis. For values falling above the 45-degree line, the graph indicates that the value measured on the y-axis (in this case the ratio expressed in the reporting currency) is greater than the value measured on the x-axis, the ratio expressed in significant currency. The opposite is true when the values fall below the 45-degree line.

141. In contrast to the pattern in HQLA, the values for Indicator 2b are higher in USD than in reporting currency. This indicates that short-term funding, i.e. outflows, as described in the ITS data on liquidity coverage, is a more common phenomenon in USD-denominated funding than in national currencies (Figure 39). In a sample of 79 institutions, in 85% of the cases the

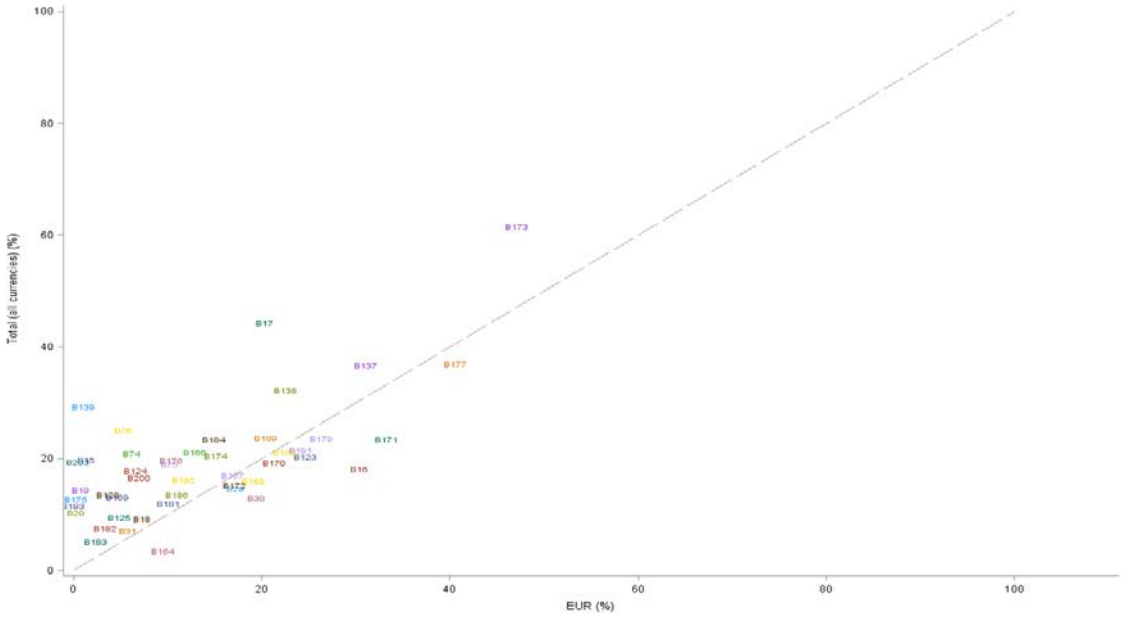
[30] Note that funding, the denominator of the Indicator 2, is calculated throughout the analysis as the sum of retail deposits, liabilities from non-financial customers and liabilities from financial customers in all maturity categories from less than 3 months to more than 12 months, as indicated in the EBA ITS templates on stable funding.

value for Indicator 2b in USD as a significant currency is higher than that of the reporting currency.

142. Figure 39 illustrates that the majority of the values in the dataset fall below the 45-degree line. More precisely, the driver of the low value for Indicator 1 in USD is both the limited liquidity buffer in USD and the large volume of USD-denominated short-term funding. The analysis does not support such a clear conclusion for EUR and GBP-denominated parameters of Indicator 2b.

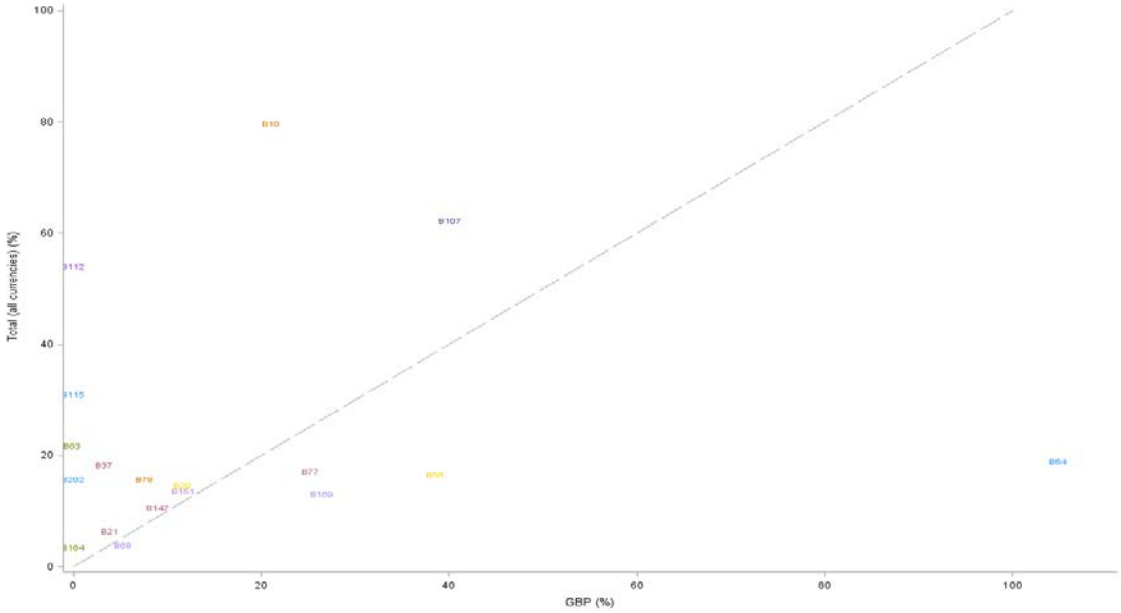
143. Similarly, the ratio of inflows to total funding (Indicator 2c) is high among institutions with USD-denominated activities. This indicates that, as of December 2015, the short-term nature of exposures in USD in LCR terms is more prominent than the overall share of short-term exposures across all currencies. They have a large share both with respect to total USD-denominated balance sheet activities in general and with respect to total inflows in the significant currency. Therefore, it is possible to argue that for these institutions, a lower level of the liquidity buffer and a large volume of outflows can be compensated (to a certain extent) by a large volume of inflows.

Figure 34 Values for Indicator 2a where the significant currency is EUR



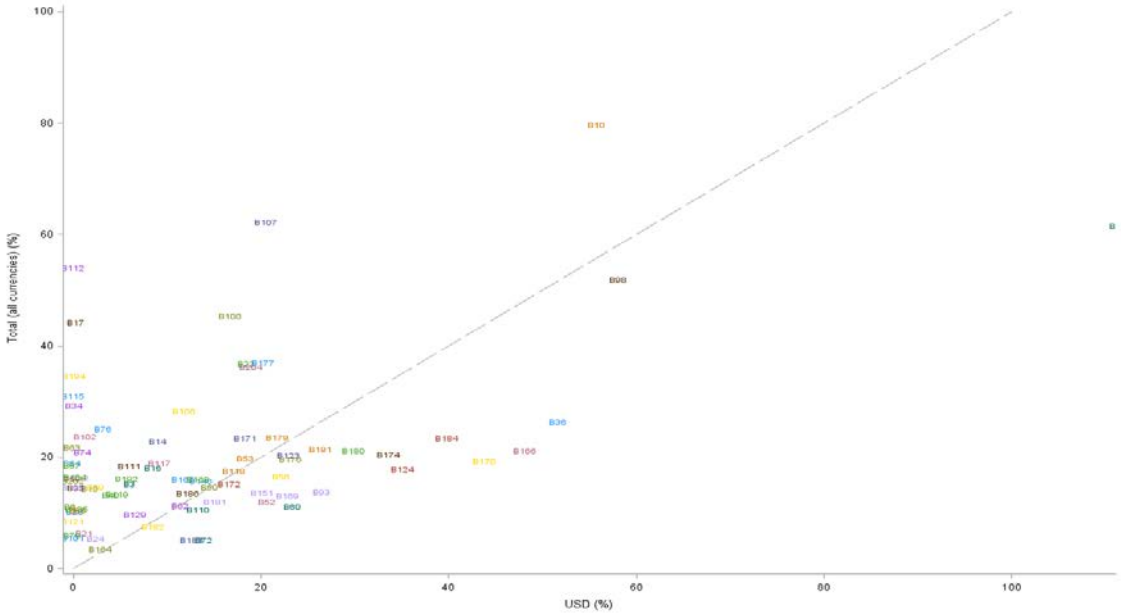
Source: EBA ITS data (December 2015)

Figure 35 Values for Indicator 2a where the significant currency is GBP



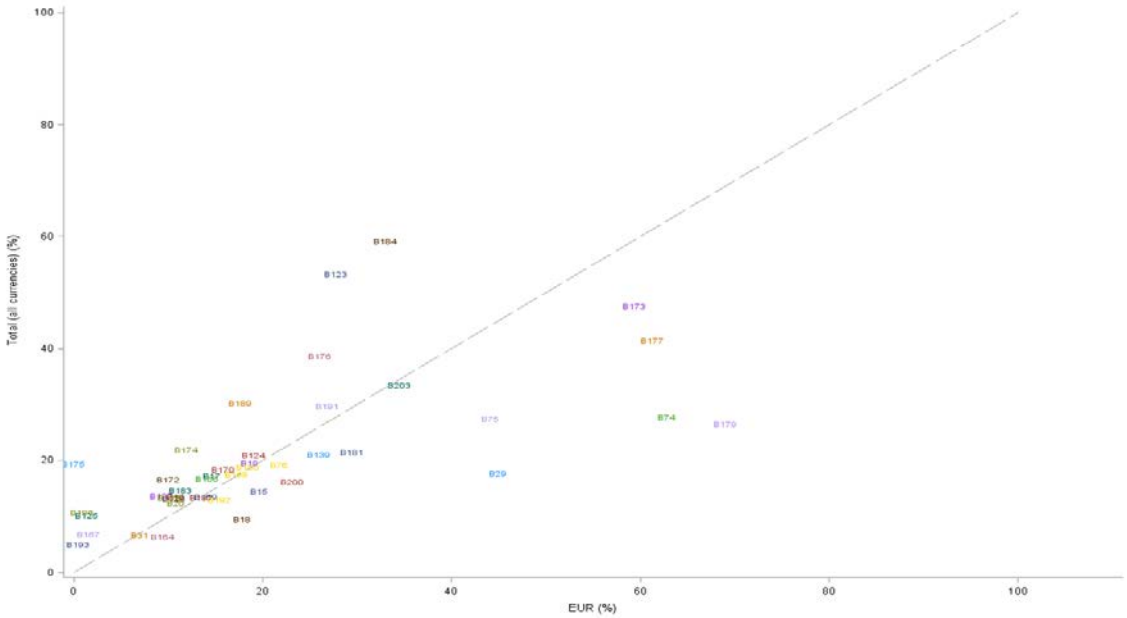
Source: EBA ITS data (December 2015)

Figure 36 Values for Indicator 2a where the significant currency is USD



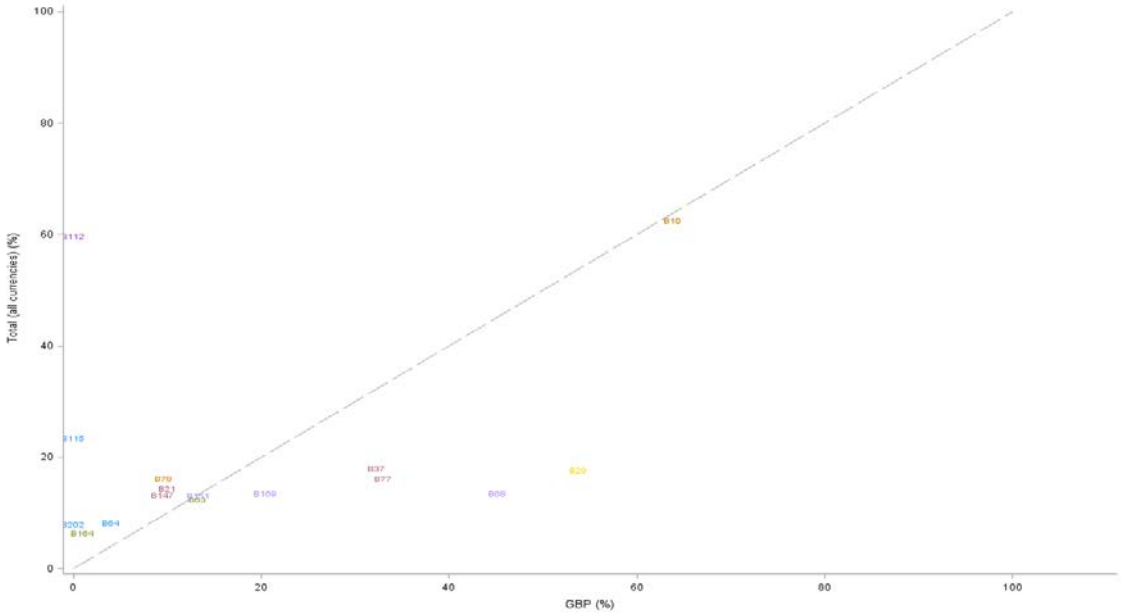
Source: EBA ITS data (December 2015)

Figure 37 Values for Indicator 2b where the significant currency is EUR



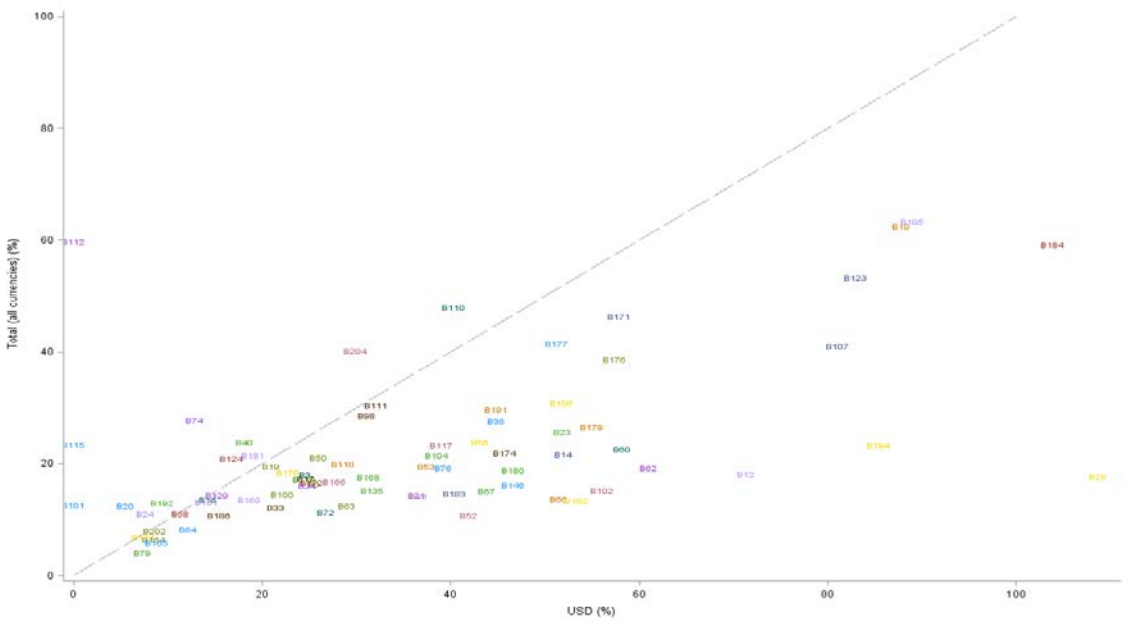
Source: EBA ITS data (December 2015)

Figure 38 Values for Indicator 2b where the significant currency is GBP



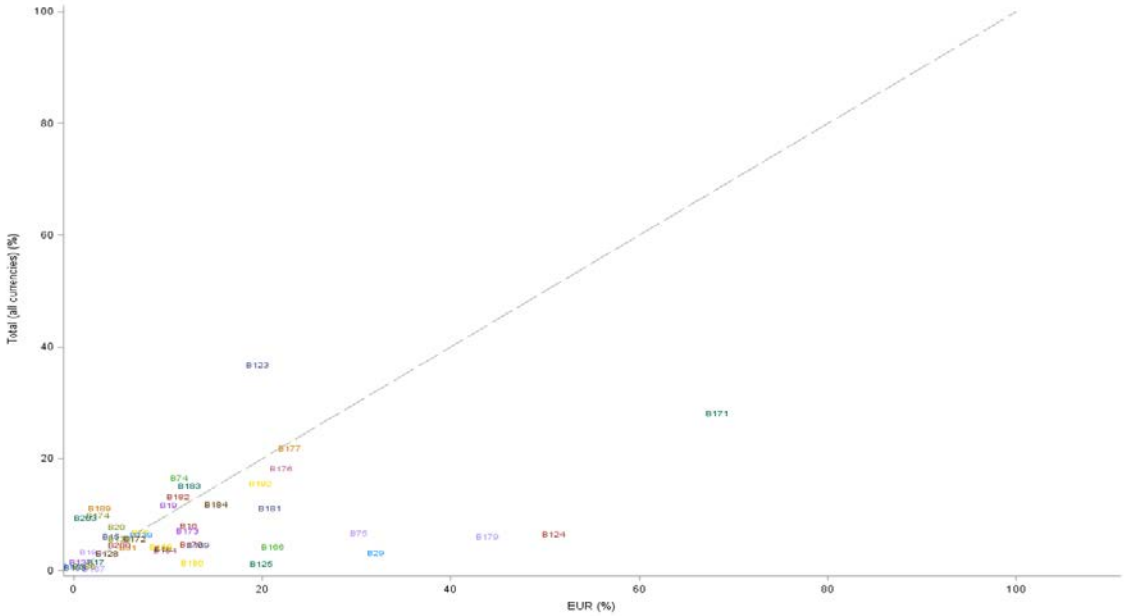
Source: EBA ITS data (December 2015)

Figure 39 Values for Indicator 2b where the significant currency is USD



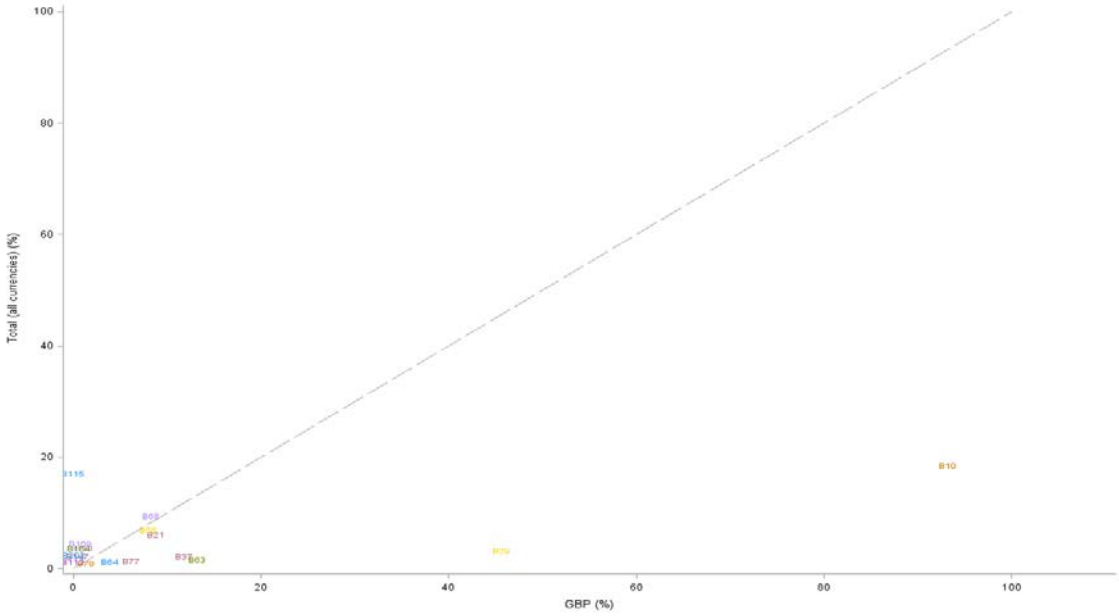
Source: EBA ITS data (December 2015)

Figure 40 Values for Indicator 2c where the significant currency is EUR



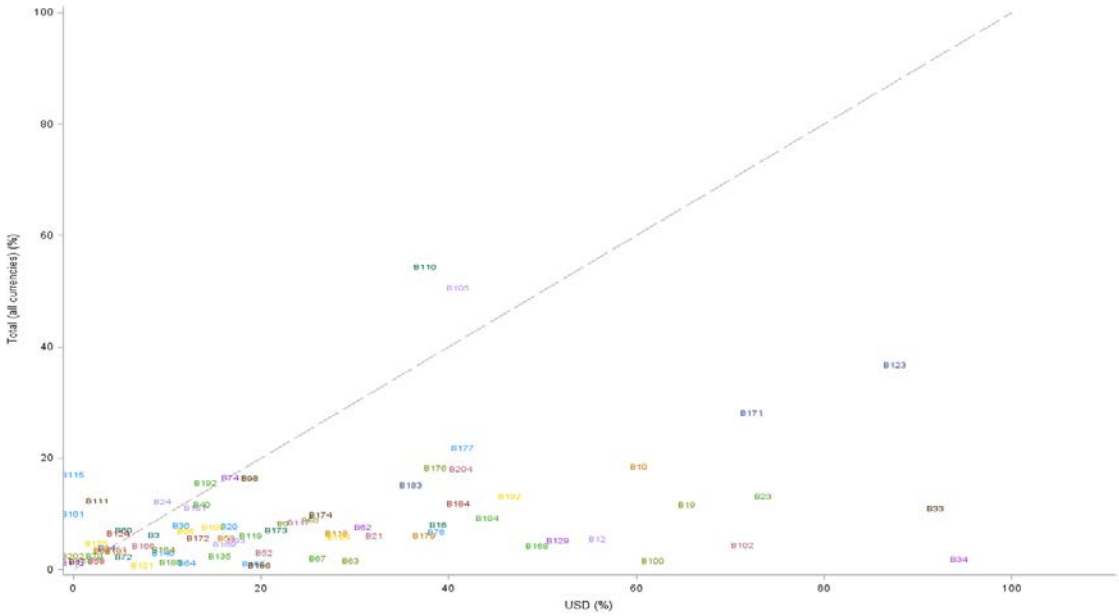
Source: EBA ITS data (December 2015)

Figure 41 Values for Indicator 2c where the significant currency is GBP



Source: EBA ITS data (December 2015)

Figure 42 Values for Indicator 2c where the significant currency is USD



Source: EBA ITS data (December 2015)

4.2.2 Components of funding denominated by the significant currency

144. There are two major drivers of liquidity risk stemming from currency mismatch. Firstly, this is the maturity mismatch within significant foreign currency. In other words, long-term assets are funded with short-term liabilities. The ESRB (ESRB/2011/2) states that USD-denominated activities are subject to maturity mismatch and comparison with the overall

maturity structure in the EU banking sector, the maturity mismatch between USD-denominated assets and liabilities is more pronounced than the overall maturity mismatch in all currencies. The second driver is the limited stable funding in foreign currencies. Institutions mostly fund themselves through wholesale markets, from parent institutions and/or via swap markets instead of retail deposits. Secured and unsecured wholesale USD funding accounts for around one third of total wholesale funding activities in the EU banking sector and approximately 75% of wholesale USD funding has a maturity of less than one month (ESRB/2011/2). On the other hand, USD-denominated retail deposits in the EU banking sector represent approximately 3% of total liabilities (ESRB/2011/2). Current analysis investigates whether the available data provide evidence to support these findings.

c. Indicator 3: Retail deposits with less than one month maturity over total funding

145. Indicator 3 estimates the share of retail deposits in total funding by maturity. Retail deposits considered in Indicator 3 are the retail deposits with a maturity below one month.

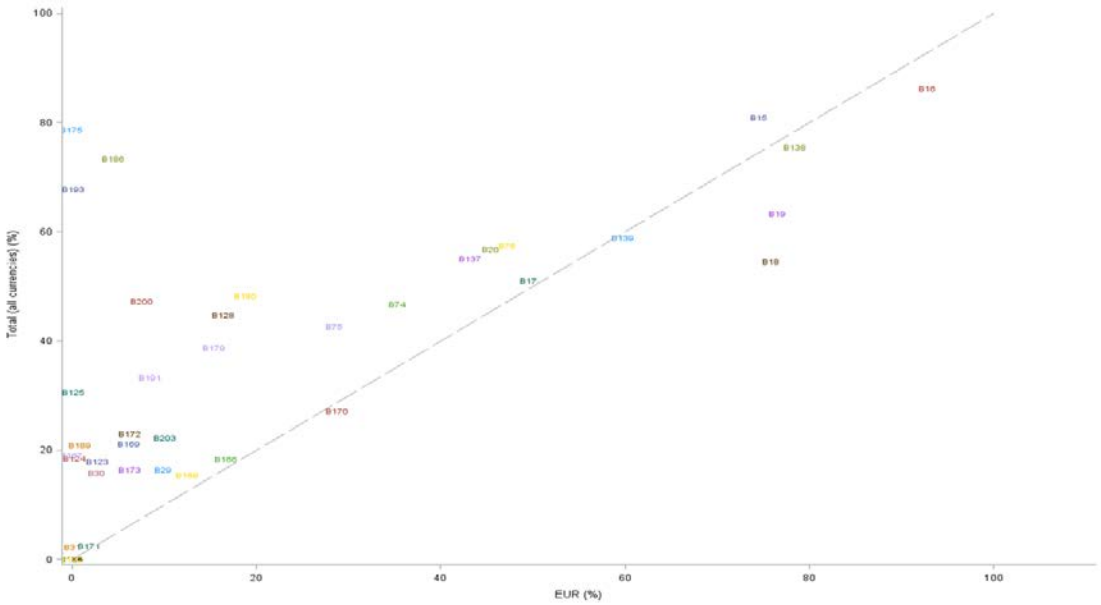
$$Indicator\ 3 = \frac{Retail\ deposits^{z}}{funding^{z}}$$

where $z = reporting\ currency,\ EUR, GBP, USD.$

146. There is evidence for limited stable funding in EUR and USD-denominated activities. In 64% of the cases the share of EUR-denominated retail deposits in EUR-denominated total funding is lower than the overall share of retail deposits in total funding across all currencies. This difference is more prominent in USD-denominated parameters. In 89% of the cases the share of USD-denominated retail deposits in total funding is lower than the overall share of retail deposits in total funding across all currencies.

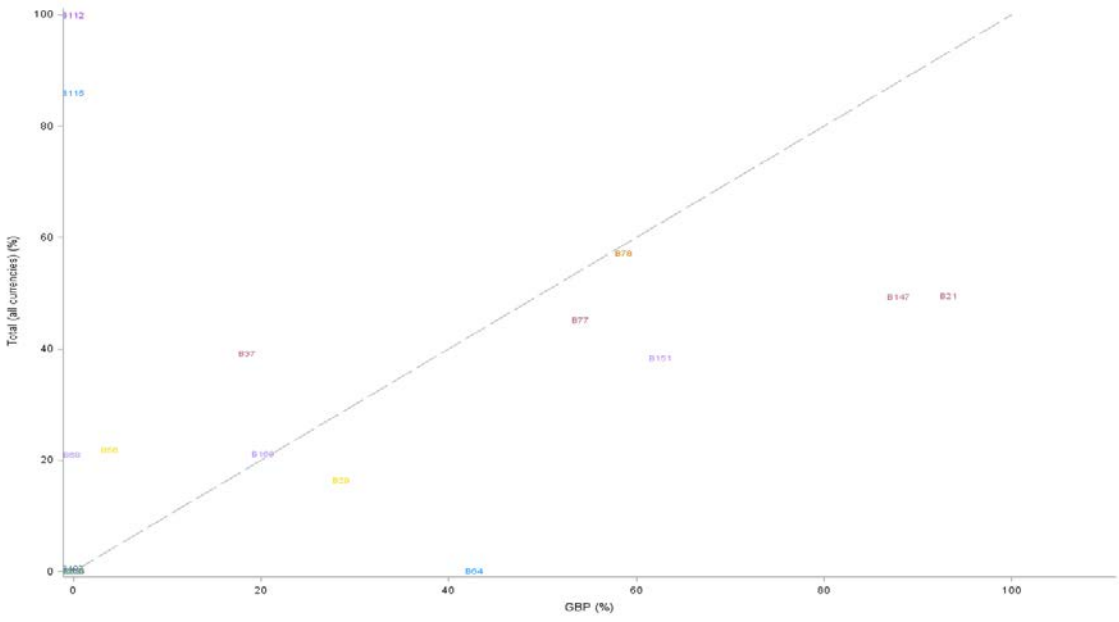
147. Figure 45 shows the distribution of the institutions with respect to the values of Indicator 3. Most of the institutions reporting EUR or USD as significant currency fall above the 45 degree line. However, this is not necessarily a risky profile towards compliance if the institutions are compensated by the relevant short-term inflows of an offsetting size.

Figure 43 Values for Indicator 3 where the significant currency is EUR



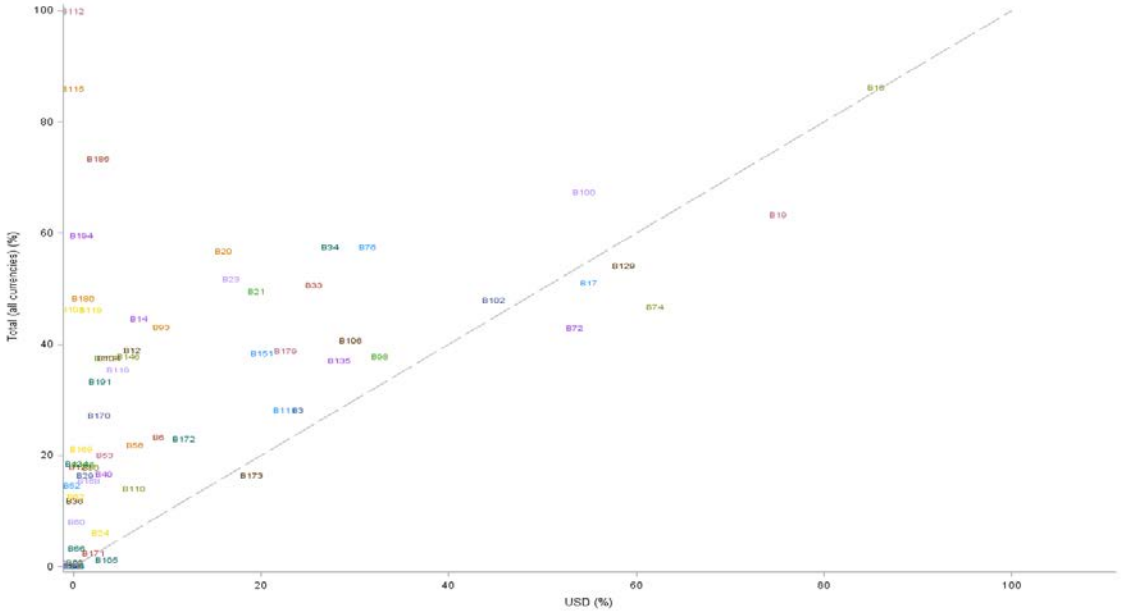
Source: EBA ITS data (December 2015)

Figure 44 Values for Indicator 3 where the significant currency is GBP



Source: EBA ITS data (December 2015)

Figure 45 Values for Indicator 3 where the significant currency is USD



Source: EBA ITS data (December 2015)

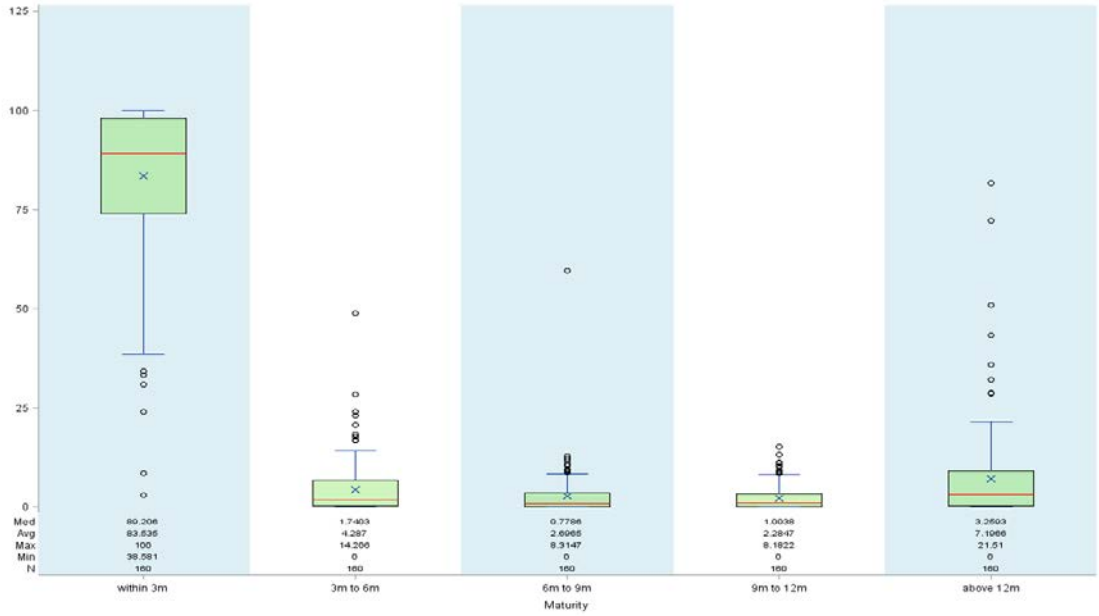
d. Indicator 4: Composition of retail deposits by maturity

148. Indicator 4 presents retail deposits by maturity and investigates whether the maturity structure of retail deposits changes with the type of denomination. Short-term retail deposits are the major part of total retail deposits. For 94% of the institutions in the sample, the value of retail deposits of less than three months in the reporting currency is greater than that of the sum of retail deposits in all other maturity categories, i.e. all retail deposits from three months to over a year.

149. The analysis in Indicator 4 compares the ratios of retail deposits by maturity and shows that the maturity structure of USD-denominated retail deposits is significantly different from the total figures reported across all currencies.

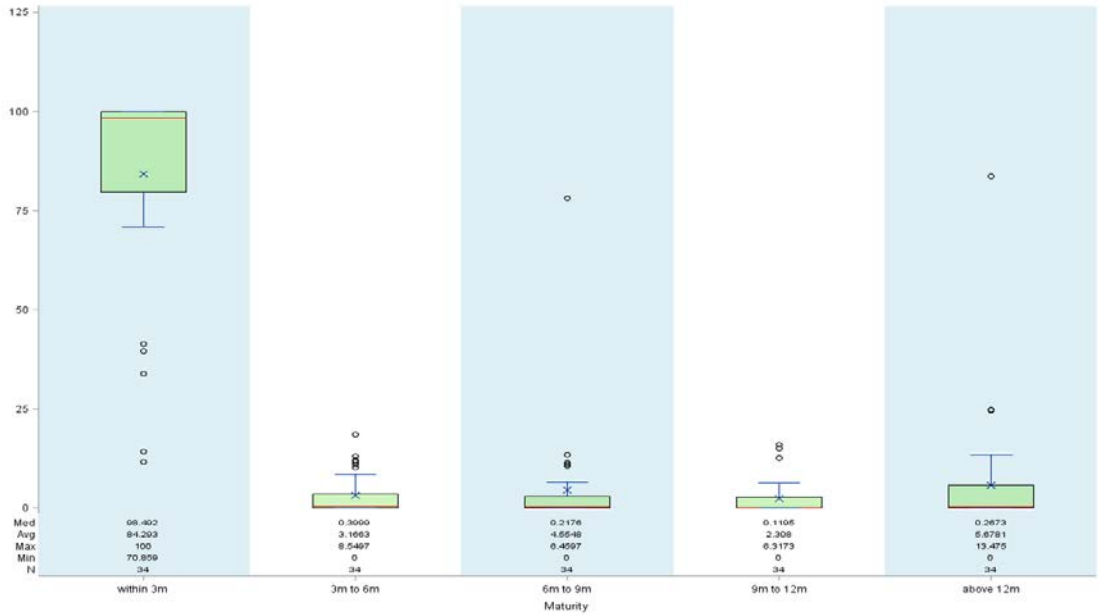
150. Figure 46 presents the composition of retail deposits by maturity in the reporting currency and Figure 47 presents the same statistics in USD as the significant currency. The distribution of retail deposits by maturity is similar in both currencies. However, the difference in the shares of short-term retail deposits and long-term retail deposits is slightly larger under the significant currency. Among the institutions reporting USD as the significant currency, the lower the maturity, the higher the number of cases where the share is greater for the deposits in the significant currency. In other words, while institutions have a relatively more balanced maturity structure in the overall retail deposits across all currencies, this is not the case for USD-denominated retail deposits. USD-denominated retail deposits are mostly short-term and limited to a maturity category of less than three months. On the other hand, a similar structural difference between retail deposits in other significant currencies (EUR and GBP) and total retail deposits across all currencies is not evident.

Figure 46 Share of retail deposits by maturity in the reporting currency



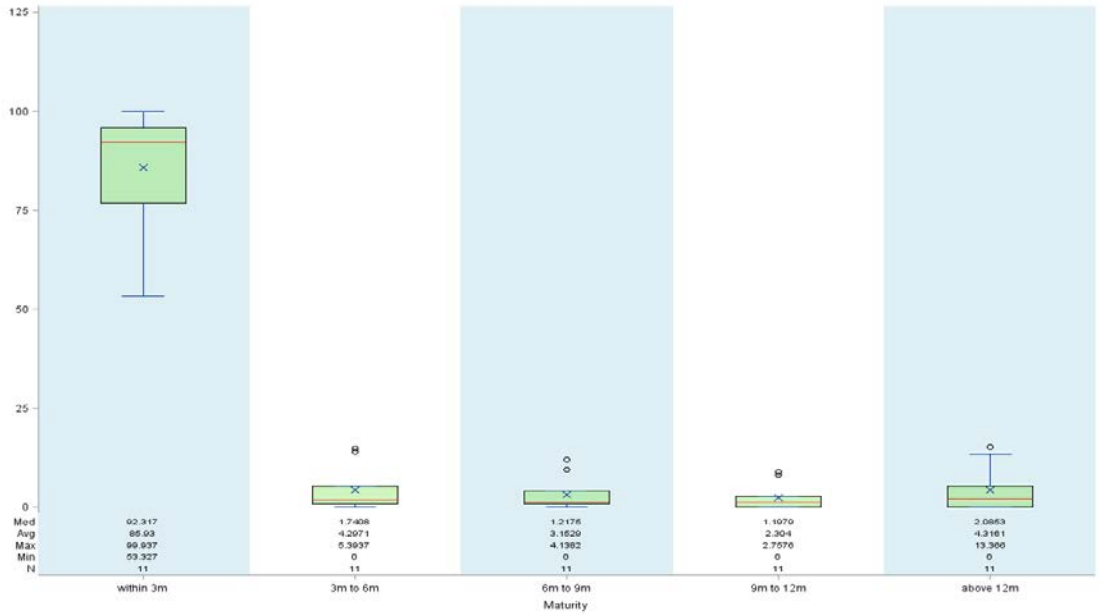
Source: EBA ITS data (December 2015)

Figure 47 Share of retail deposits by maturity in EUR



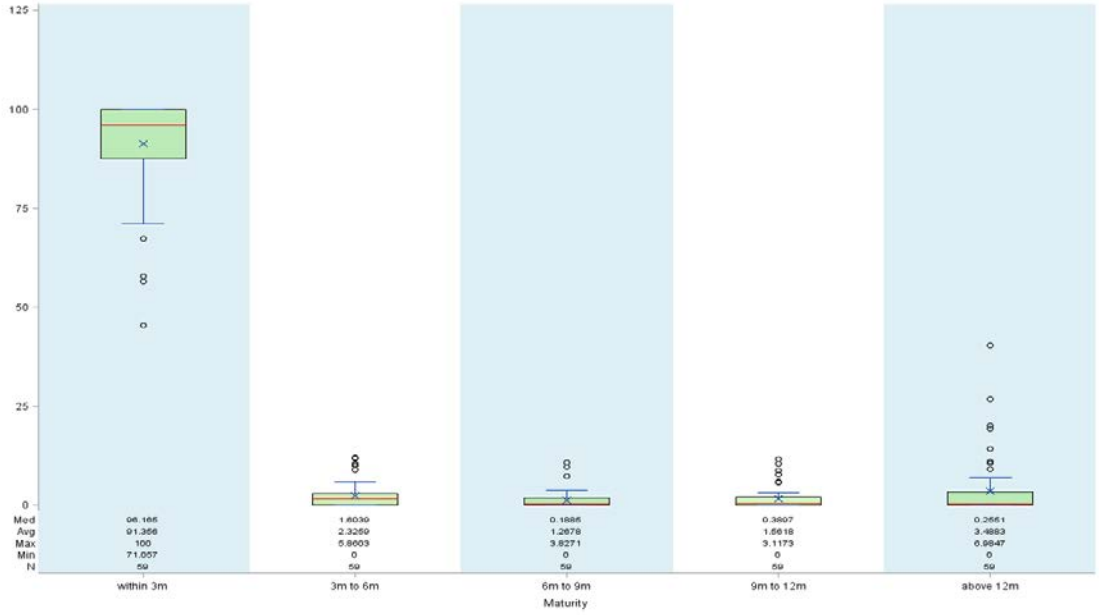
Source: EBA ITS data (December 2015)

Figure 48 Share of retail deposits by maturity in GBP



Source: EBA ITS data (December 2015)

Figure 49 Share of retail deposits by maturity in USD



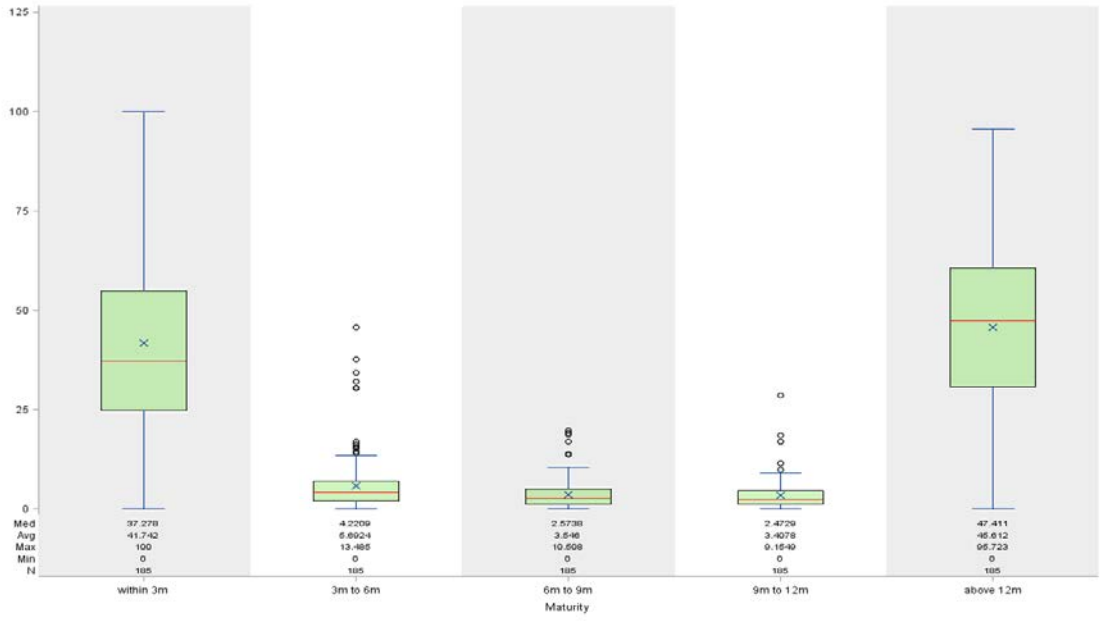
Source: EBA ITS data (December 2015)

e. Indicator 5: Composition of financial wholesale funding by maturity

151. Previous analyses (ESRB/2011/2) have shown that almost all of the funding available for use in the EU is wholesale and much of it is very short term. Indicator 5 investigates the composition of financial wholesale funding by maturity and analyses the differences, if any, between the maturity structures of total financial wholesale funding across all currencies and

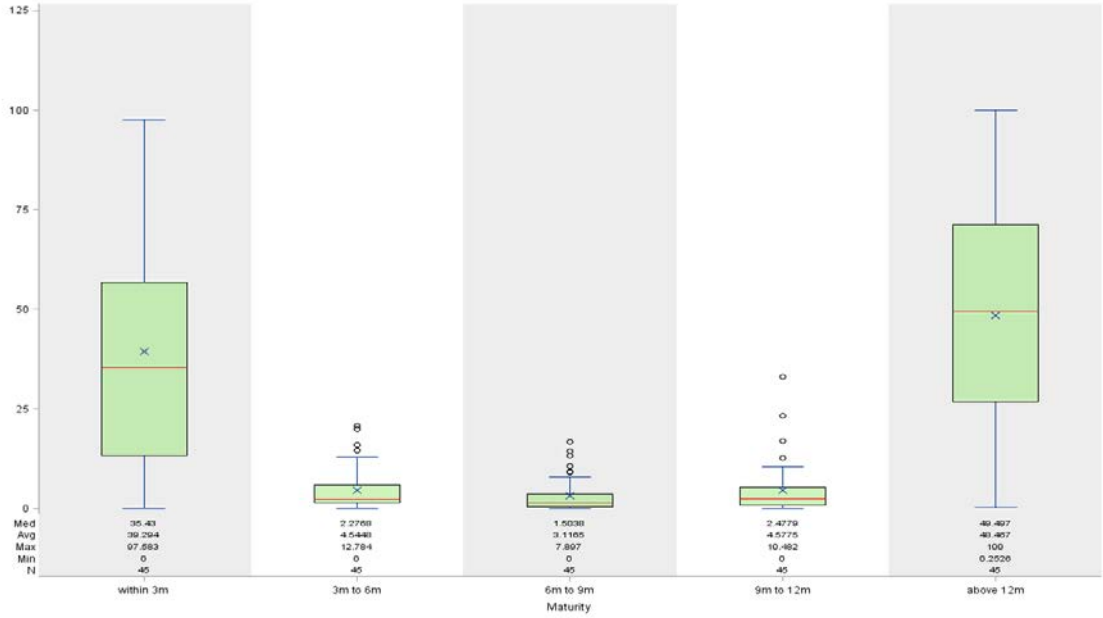
financial wholesale funding in significant currencies. Similar to previous findings, the difference between the maturity compositions of financial wholesale funding is more pronounced in the significant (foreign) currency than in aggregate across all currencies. The difference is visible in USD (Figure 53) and indeed they present the opposite pictures when wholesale funding within 3 months and over 12 months are compared. The mean and the median are higher in long-term wholesale funding than in short-term wholesale funding under the reporting currency, while the opposite is true for the significant currency. In the sample of 79 institutions reporting USD as the significant currency, only 22 of them (28%) have the share of financial wholesale funding with a maturity of within three months in overall exceeding the same ratio in USD-denominated financial wholesale funding. This figure reverses for financial wholesale funding with a maturity of above 12 months, i.e. 57 institutions in the same sample report the share of financial wholesale funding with a maturity of above 12 months in aggregate figures (across all currencies) exceeding the same ratio in USD-denominated financial wholesale funding. The findings are somewhat similar for GBP as the significant currency; however, due to the small sample size, it is not possible to draw definite conclusions. For EUR as the significant currency, the data do not show a currency-related pattern in the maturity structure of financial wholesale funding.

Figure 50 Share of financial wholesale funding by maturity in the reporting currency



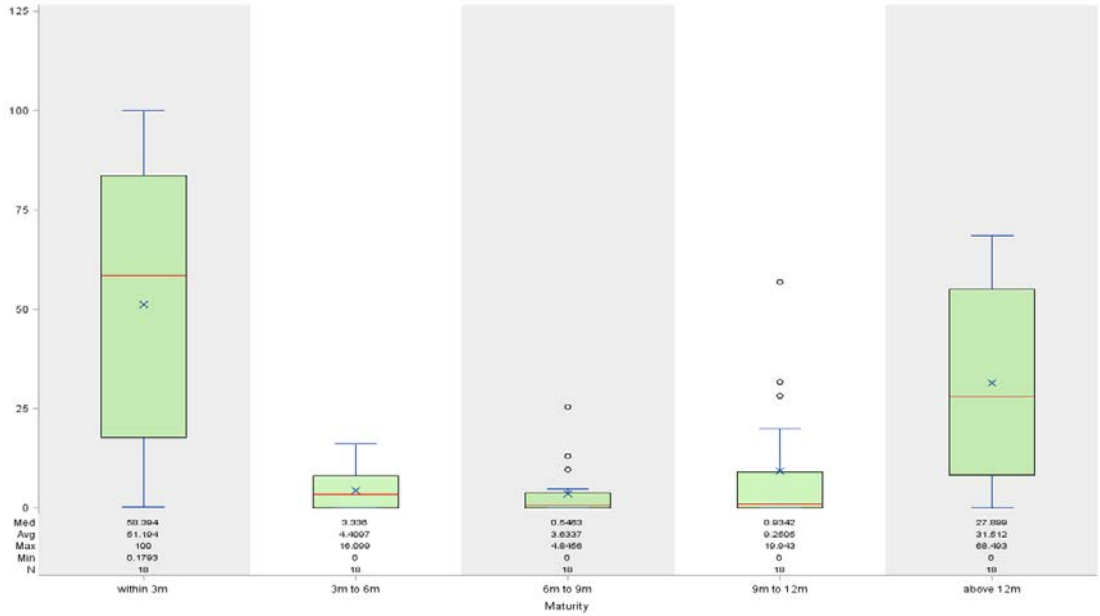
Source: EBA ITS data (December 2015)

Figure 51 Share of financial wholesale funding by maturity in EUR



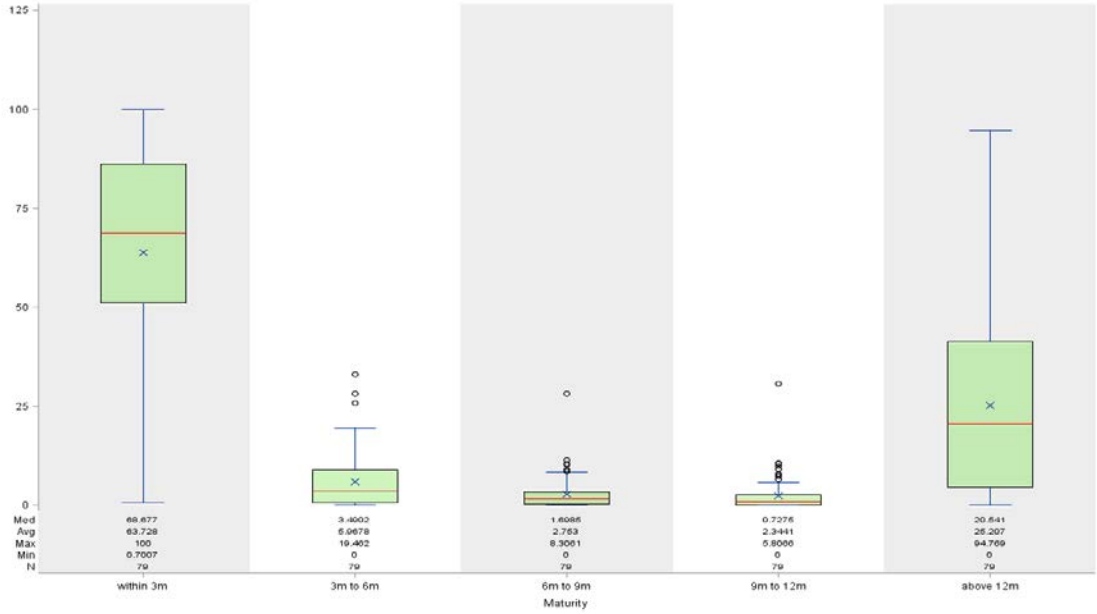
Source: EBA ITS data (December 2015)

Figure 52 Share of financial wholesale funding by maturity in GBP



Source: EBA ITS data (December 2015)

Figure 53 Share of financial wholesale funding by maturity in USD

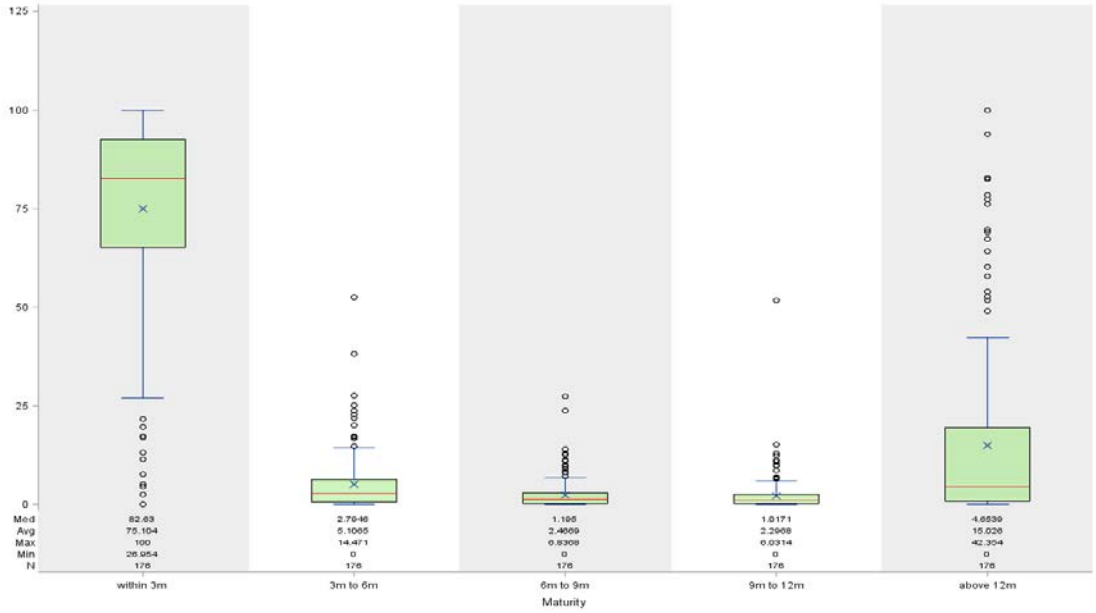


Source: EBA ITS data (December 2015)

f. Indicator 6: Composition of non-financial wholesale funding by maturity

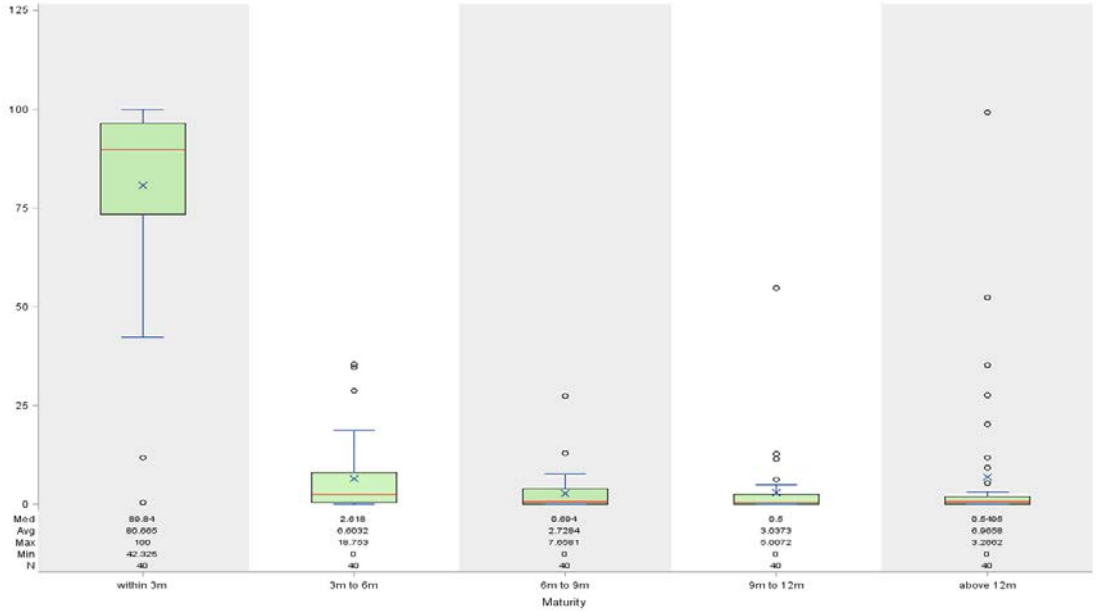
152. Indicator 6 complements Indicator 5. The maturity structure of non-financial wholesale funding in GBP (Figure 56) and USD (Figure 57) is the opposite of what is observed in the maturity structure of overall non-financial wholesale funding in all currencies. While non-financial wholesale funding denominated in GBP and USD as significant currencies is mostly of short term in nature, the opposite statement is true for reporting currencies. A similar pattern has not been observed for EUR-denominated non-financial wholesale funding.

Figure 54 Share of non-financial wholesale funding by maturity in the reporting currency



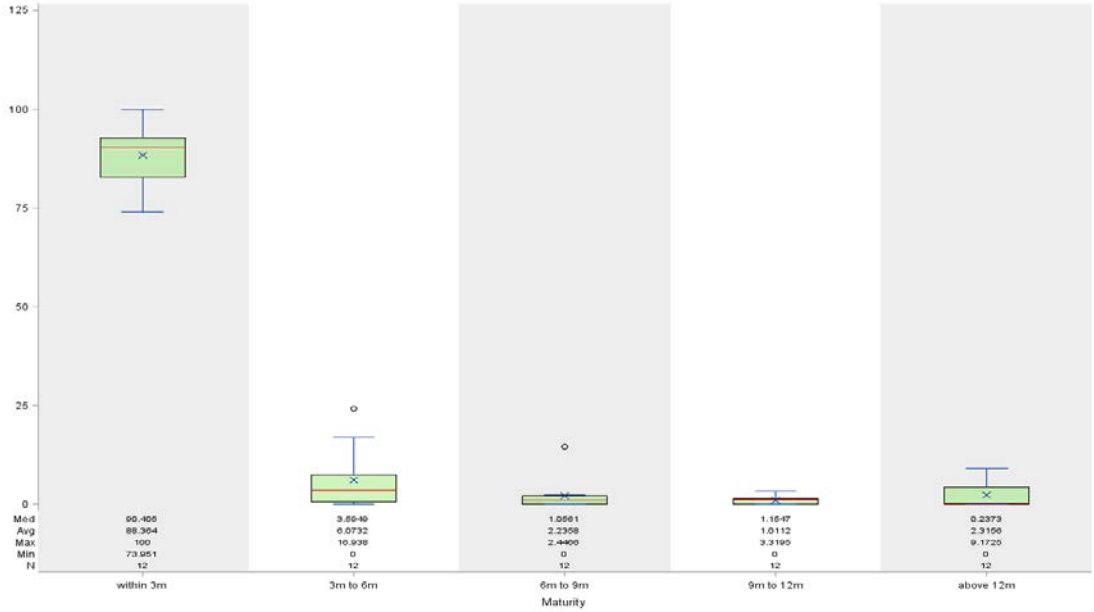
Source: EBA ITS data (December 2015)

Figure 55 Share of non-financial wholesale funding by maturity in EUR



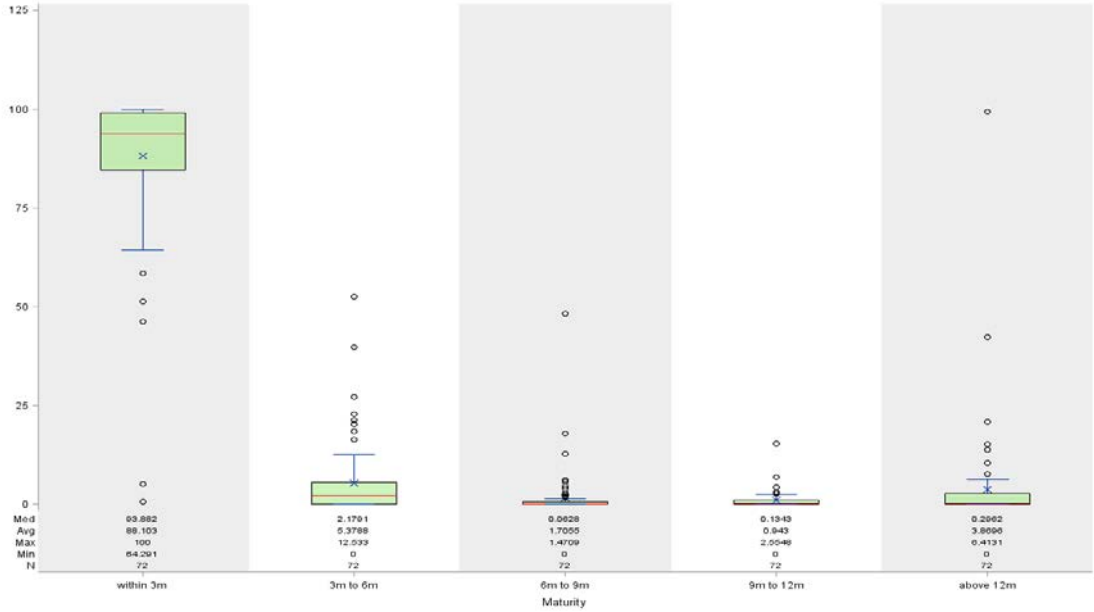
Source: EBA ITS data (December 2015)

Figure 56 Share of non-financial wholesale funding by maturity in GBP



Source: EBA ITS data (December 2015)

Figure 57 Share of non-financial wholesale funding by maturity in USD



Source: EBA ITS data (December 2015)

5. Activities with the central bank under the LCR regulation

153. Operations with central banks receive preferential treatment under the LCR regulation. This preferential treatment, in combination with the current macroeconomic environment, gives institutions incentives to increase their central bank related operations and help them manage their LCRs. Therefore, the analysis of central bank related operations and their impact on the LCR regulation deserves a detailed analysis.

154. Section 5.1 first explains the preferential treatment for central bank exposures and secured funding transactions with central banks as defined in Commission DR (EU) 2015/61 (DA) and then presents key descriptive statistics on central bank related transactions under the LCR regulation. In Section 5.2, three scenarios are introduced where the impact of a change in central bank related transactions on the LCR is analysed.

5.1 LCR and central bank related transactions

155. Article 4(1) of the DA requires banks to hold a sufficient amount of liquid assets to cover net cash outflows over a 30-calendar-day stress period. In this regard, central bank related transactions may have a significant influence on the LCR, as exposures and liabilities towards central banks receive preferential treatment concerning the calculation of liquid assets and the determination of outflows and inflows.

a. Central bank reserves

156. (Withdrawable) central bank reserves and other assets to central banks may be included in the stock of liquid assets.[31] If the issuer is the ECB or any other Member State's central bank, relevant assets representing claims are classified as Level 1 assets and can have an unlimited share in the liquidity buffer without any haircuts. If the central bank is from a third country, those assets may still be included as Level 1 assets without a haircut as long as the central bank or its central government are assigned a credit assessment by a nominated ECAI that is at least credit quality step 1 in accordance with Article 114 (2) of Regulation (EU) No 575/2013 (see point (b) of Article 10(1) of the DA).

[31] As defined under point (b) (iii) of Article 10(1) of the DA, only those central bank reserves that can be withdrawn at any time during stress periods are be considered. In this context, the DA requires an agreement between the relevant competent authority and the ECB or the relevant central bank. For instance, in the Eurozone and in Poland, only the reserve holdings exceeding the average daily required reserves are taken into account for Level 1 assets. As there is no such minimum reserve requirement in Denmark and Sweden, all reserves can be taken into account as Level 1 assets in these jurisdictions. Due to the Danish infrastructure with respect to the settlement of retail payments, a small share of the total deposits in current account deposits in the Danish central bank is set aside for immediate settlement of retail payments during the day. As these deposits do not fulfil the operational requirements as defined under Article 8 of the DA, they cannot be considered as Level 1 assets.

157. Assets representing claims on or guaranteed by the central bank of a third country that is not assigned a credit quality step 1 credit assessment by a nominated ECAI in accordance with Article 114(2) of Regulation (EU) No 575/2013 may be included as Level 1 assets provided that, in this case, the credit institution may only recognise the asset as Level 1 to cover stressed net liquidity outflows incurred in the same currency in which the asset is denominated. Where the asset is not denominated in the domestic currency of the third country, the credit institution may only recognise the asset as Level 1 up to the amount of the credit institution's stressed net liquidity outflows in that foreign currency corresponding to its operations in the jurisdiction where the liquidity risk is being taken (see point (d) of Article 10(1) of the DA).

158. In case of a lower credit quality step, assets representing claims on or guaranteed by the central bank of a third country may be classified as Level 2A assets provided that they are assigned a 20% risk weight in accordance with Articles 114(2), 115 or 116 of the CRR (see point (b) of Article 11(1) of the DA).[32] In this case, these exposures will be subject to a haircut of 15% as provided under Article 11(2) of the DA. In addition, those assets may be subject to the 40% cap on Level 2 assets given in Article 17 of the DA.

159. Restricted-use committed liquidity facilities that may be provided by the ECB, the central bank of a Member State or the central bank of a third country may be included as Level 2B assets provided that the requirements laid down in Article 14 of the DA are met (see point (d) of Article 12(1) of the DA). The maximum amount of those assets that may be included in the stock of liquid assets is limited by the 15% cap on Level 2B assets as defined under point (c) of Article 17(1) of the DA.

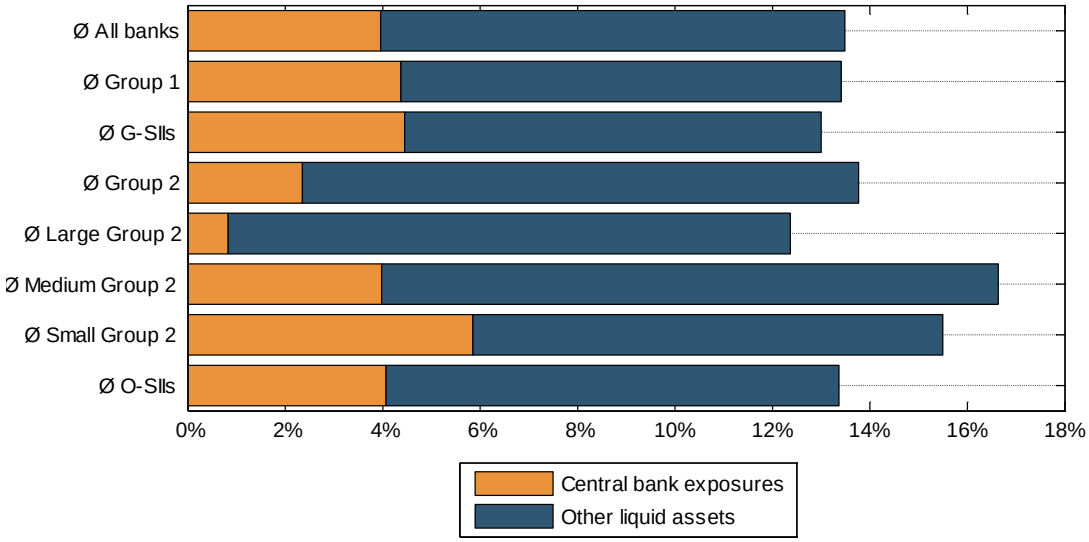
160. Where there are insufficient liquid assets in a given currency to meet the LCR, the credit institution may cover the deficit with credit facilities from the central bank in a Member State or third country of that currency (see point (b) of Article 19(1) of the DA).

161. Figure 58 illustrates the composition of the liquidity buffer relative to total assets (before application of the cap on liquid assets). It shows that, on average, central bank exposures comprise almost one third of the total liquidity buffer.[33] The greater part of central bank exposures included in the stock of liquid assets includes Level 1 assets such as central bank reserves and assets representing claims on or guaranteed by the ECB or a Member State's central bank. Only a very small part of the total liquidity buffer can be attributed to other central bank exposures, such as claims on central banks of third countries or credit facilities.

[32] The quantitative significance of these Level 2 assets in the form of exposures to the central bank may be negligible or even non-existent given that these assets can be expected to qualify as Level 1 assets under Article 10(1) of the DA.

[33] Central bank exposures being included under Level 2A assets are ignored in this analysis, as they cannot be isolated from exposures to sovereigns and public sector entities where the exposures are assigned to a 20% risk weight. As shown in Chapter 2, the share of Level 2A assets is small and mainly includes covered bonds and corporate bonds so that the impact of central bank operations on the amount of Level 2A assets is expected to be small.

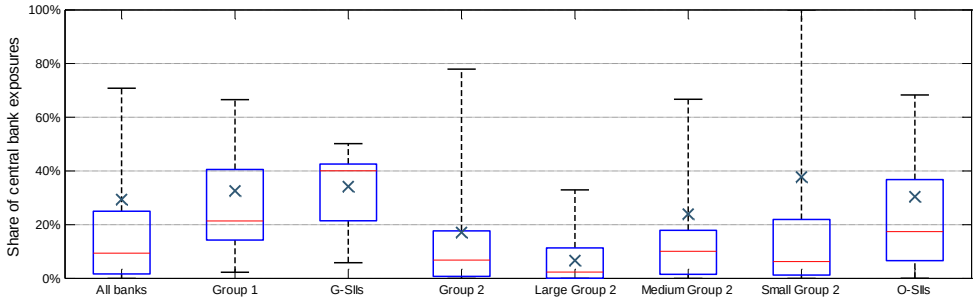
Figure 58: Composition of liquid assets relative to total assets (before the cap)



Source: EBA QIS data (December 2015)

162. At the institution level, the share of central bank exposures relative to total liquid assets may be higher and even reaches 100% for some small Group 2 banks (Figure 59). However, consistent with previous impact assessment reports, larger banks tend to report a higher share of liquid assets in the form of central bank exposures (mainly in the form of central bank reserves).

Figure 59: Central bank exposures relative to total liquid assets

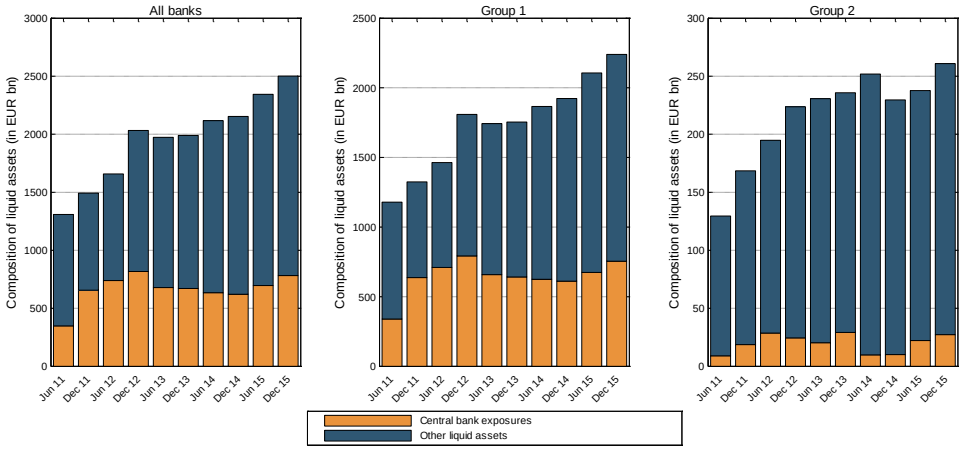


Source: EBA QIS data (December 2015)

163. In Chapter 2, it has been shown that banks have continuously increased their liquidity buffer over time towards the new LCR minimum requirement (see also Figure 60 and Figure 61). Until December 2012, this development was also driven by a steady increase in central bank exposures that could be partially attributed to the ECB's LTROs, assuming that part of the received liquidity in the form of central bank reserves was not directly re-invested into other (liquid or illiquid) assets. Since the beginning of 2013, the amount of central bank exposures has slightly decreased, which suggests less liquidity hoarding with the end of the

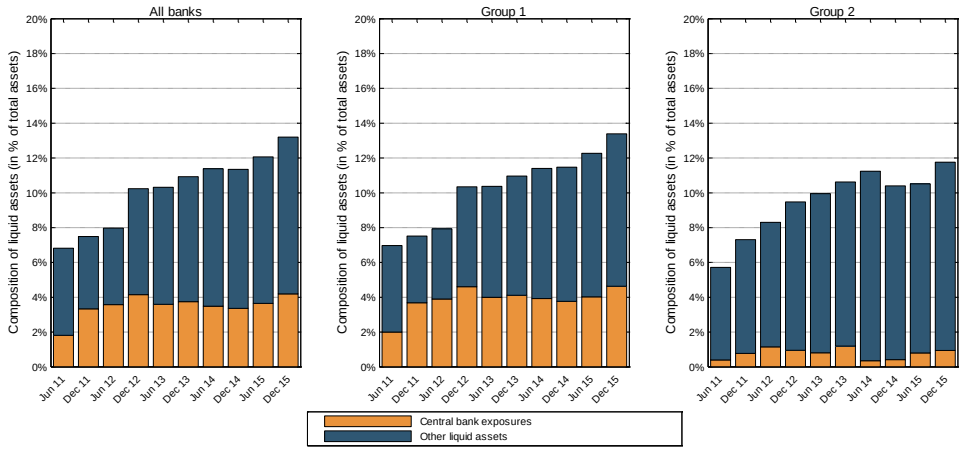
most severe phase of the crisis period. As banks have further invested in other liquid assets since 2013, the share of central bank exposures relative to the total liquidity buffer has decreased.

Figure 60: Evolution of the composition of liquid assets (in EUR billion)



Source: EBA QIS data (December 2015)

Figure 61: Evolution of the composition of liquid assets (in percentage of total assets)



Source: EBA QIS data (December 2015)

b. Secured funding transactions with the central bank

164. As most of (if not all) central bank related funding transactions have to be collateralised by eligible collateral, they will be considered as secured funding transactions that may affect the LCR in case the remaining maturity is less than 30 calendar days. However, unlike interbank secured funding transactions, no cash outflows will be assigned to transactions where the lender is the central bank (see point (a) of Article 28(3) of the DA). The underlying rationale behind the treatment is the assumption that, in times of stress, the central bank will roll-over any secured funding transactions as long as the relevant collateral is central bank

eligible disregarding the LCR liquidity quality of these assets.[34] Still, these transactions enter the calculation of the unwinding of secured funding and lending transactions which is relevant for the calculation of the cap on liquid assets (see Annex I of the DA).[35]

165. In order to quantify the impact of this preferential treatment, it is necessary to compare secured funding transactions with central banks and those that are conducted with other counterparties. Overall, 88 of the 171 participating banks have reported secured funding transactions with a maturity of less than 30 days, of which 38 banks have reported transactions with central banks (Table 25). The small share of secured funding transactions relative to total unweighted outflows suggests that the importance of these transactions as an element towards compliance with the LCR regulation is limited. For example, for the 88 banks that reported any secured funding transactions, these operations comprise approximately 8.4% of their total unweighted outflows. For those 38 banks that have reported secured funding transactions with the central bank, these operations are only 1.1% of total unweighted outflows. This observation is in line with the high market liquidity that currently allows banks to predominantly use the interbank repo markets in order to generate liquidity.

Table 25: LCR and secured funding transactions

	Number of banks	**Total secured funding transactions**		**Secured funding transactions with the central bank**	
		Number of banks	Liabilities relative to total unweighted outflows (in percent)[36]	Number of banks	Liabilities relative to total unweighted outflows (in percent)[37]
All banks	**171**	**88**	**8.4**	**38**	**1.1**
Group 1	**35**	**34**	**8.3**	**21**	**0.9**
- G-SIIs	9	9	10.3	7	0.8
Group 2	**136**	**54**	**9.4**	**17**	**5.5**
- Large	24	18	9.3	5	3.8
- Medium	26	16	10.5	5	9.1
- Small	86	20	6.3	7	6.8
- O-SIIs	59	53	8.3	26	1.0

Source: EBA QIS data (December 2015)

[34] In all other cases, it is assumed that the ability to continue to transact repurchase, reverse repurchase and other securities financing transactions is limited to transactions backed by liquid assets in terms of the LCR.

[35] The cap on liquid assets (as defined in Annex I of the DA) may be relevant in case the bank is conducting significant amounts of short-term central bank operations where the bank is providing less liquid collateral and where the bank has re-invested the cash received into illiquid assets.

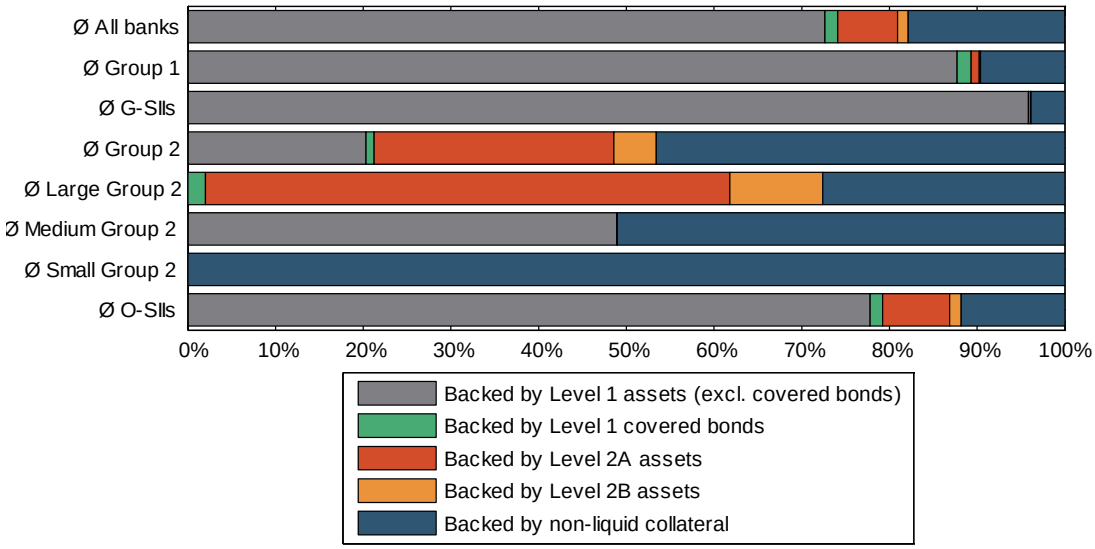
[36] This column only includes those 88 banks that reported any secured funding transactions.

[37] This column only includes those 38 banks that reported any secured funding transactions with central banks.

166. The institutions that benefit the most are the ones that post illiquid assets as collateral. While an outflow rate of 0% will be applied to those transactions with the central bank, an outflow rate of 100% of the amount due will be calculated in the case of transactions with other counterparties (as defined under point (g) of Article 28(3) of the DA).[38] On the other hand, transactions backed by Level 1 assets (excluding covered bonds) will receive an outflow rate of 0%.

167. Figure 62 shows the composition of the underlying collateral within secured funding transactions with central banks for those 38 banks that have reported any of these transactions. For larger banks, most of these transactions are backed by Level 1 assets (excluding covered bonds) which imply that total cash outflows would not change significantly in case all of these transactions are conducted with other counterparties. For Group 2 banks, the share of transactions that are backed by illiquid collateral is higher. For the seven small Group 2 banks, the share of those transactions is 100%. Consequently, these banks would report higher cash outflows in case they conducted secured funding transactions via interbank repo markets. However, as the total amount of repo transactions relative to total liabilities is small, the overall impact of such a change would still be limited.

Figure 62: Composition of secured funding transactions with the central bank



Source: EBA QIS data (December 2015)

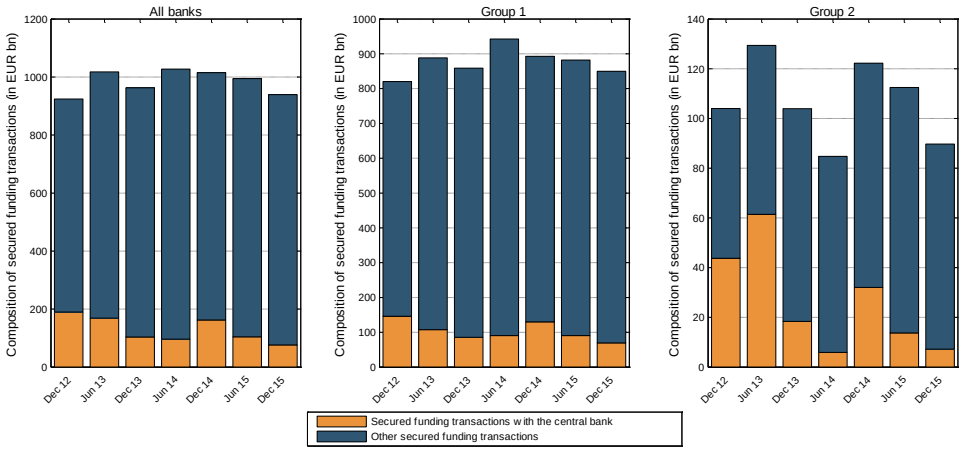
168. The share of secured funding transactions relative to total assets has been relatively stable for Group 1 banks (Figure 63 and Figure 64).[39] For these banks, transactions with the central bank only comprise a very small part of all of these transactions. Over time, these operations have even further decreased. For Group 2 banks, the share of secured funding

[38] The outflow rate may be 25% if the counterparty is the central government, a PSE of the Member State or of a third country in which the credit institution has been authorised or has established a branch (risk weight of 20% or lower), or a multilateral development bank following the requirements in Article 28(3)(d)(ii) of the DA.

[39] The time series analysis starts at 31 December 2012 as central bank and non-central bank counterparty breakdown for secured funding transactions was not available before this date.

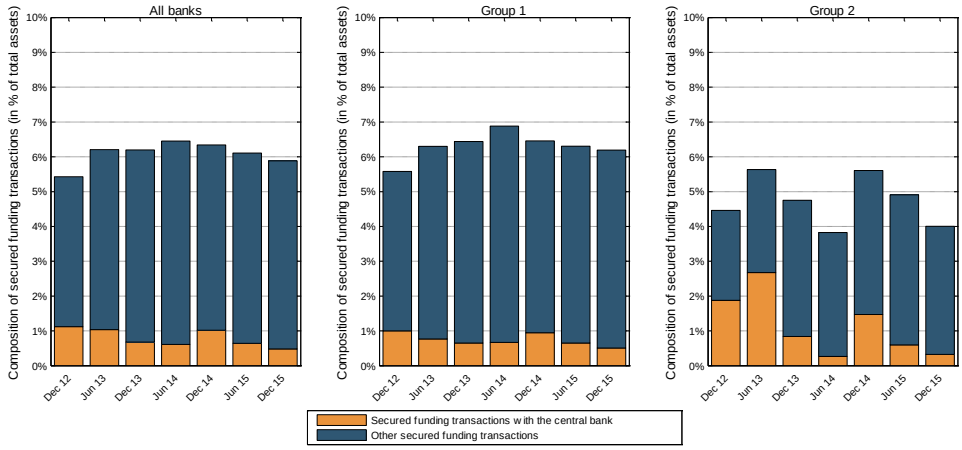
transactions is more volatile although the overall level relative to total assets is quite low. The higher share of transactions with central banks is driven by larger Group 2 banks.

Figure 63: Evolution of the composition of secured funding transactions (in EUR billion)



Source: EBA QIS data (December 2015)

Figure 64: Evolution of the composition of secured funding transactions (in percentage of total assets)



Source: EBA QIS data (December 2015)

Excursus: Differences in the unwind mechanism between the Basel III framework and the DA

As defined in Paragraph 48 in combination with Annex 1 of the Basel III LCR framework and in line with Article 3 of Annex I of the DA, the cap on liquid assets is determined after taking into account the unwind of any secured funding and lending transactions and collateral swaps (and collateralised derivatives under the DA). Under both legal frameworks, the unwind mechanism includes secured transactions with all counterparties including central banks. However, while the Basel III LCR framework only refers to those transactions, where the credit institution and the counterparty exchange liquid assets on both legs of the transactions, the unwind methodology under the DA even covers those transactions, where the credit institution and the counterparty exchange liquid assets on only one leg of the transaction. Practically, this would mean that secured transactions that are collateralised with illiquid assets will be included in the unwind mechanism under the DA but will not be considered in the unwind mechanism according to the Basel III framework.

Basel III thus puts secured transactions backed by illiquid assets on a level with unsecured transactions that are not considered in the unwind mechanism. Under the DA, all short-term secured transactions, which may imply a temporary increase of the liquidity buffer, are included in the unwind mechanism.

It should be noted that the different unwind mechanisms affect both secured funding and lending transactions. While the unwind mechanism under the DA will consider more cash outflows arising from secured funding transactions backed by illiquid assets compared to the Basel III framework, it will also capture more cash inflows arising from secured lending transactions. Therefore, depending on the amount and the composition of secured funding and lending transactions, the different treatment under the DA may lead to a greater or smaller liquidity buffer compared to the Basel III framework.

c. Monies due from central banks

169. Point (a) of Article 32(2) of the DA states that any other monies due from central banks with a maturity of less than 30 calendar days not already included in the stock of liquid assets may be counted as cash inflows with a 100% inflow rate. As most of these monies due have already been included in the liquidity buffer, the impact of these items is low. Only 32 banks report inflows from monies due from central banks. For these banks, those inflows only comprise approximately 4% of total weighted inflows. For two Group 1 banks and two Group 2 banks the share of inflows from monies due from central banks is above 50% of total weighted inflows. As these inflows are not directly related to any central bank related strategies with which banks may choose to control their LCR levels, they will not be further discussed throughout this chapter.

5.2 Scenario-based analysis on the interaction between the LCR and central bank related transactions

170. The current subsection presents a scenario-based analysis in order to measure the magnitude of central bank related operations in institutions' compliance with the LCR. In the first scenario, the impact of a full replacement of central bank exposures with illiquid assets on the LCR is analysed. The second and third scenarios focus on secured funding transactions with central banks and analyse the impact of a reduction (the second scenario) and an increase (the third scenario) of secured funding transactions with central banks. In this scenario-based analysis, it is not possible to account for future strategies that institutions may implement as a response to the changing liquidity environment. Therefore, the findings of this analysis should be considered as the extreme (upper and lower) limits of potential movements in the level of the LCR due to changes in secured funding transactions.

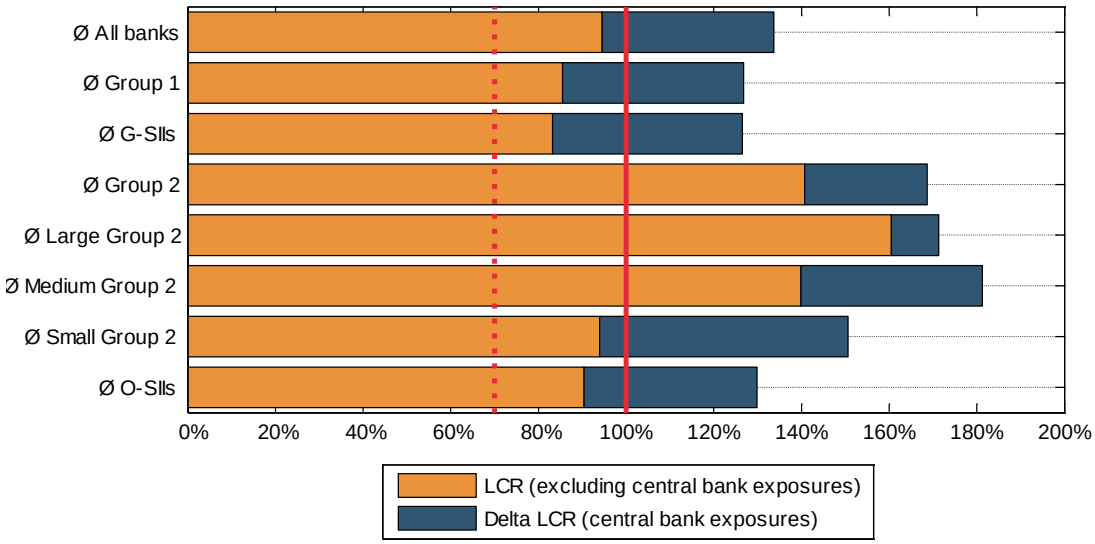
a. Scenario: All central bank exposures will be replaced with illiquid assets

171. Given the current economic environment with low (or, in some cases, negative) interest rates for reserves deposited at the central bank, banks may try to shift their central bank reserves to other asset classes. In this scenario, it is therefore assumed that banks replace all their central bank exposures with illiquid assets.[40] Of course, this is a conservative assumption as banks may always be required to hold a sufficient amount of central bank reserves and other central bank assets as part of their business strategy (e.g. for the purpose of payments and settlements) or may replace these exposures with other liquid assets.[41] This scenario can therefore be seen as an extreme case and provides a lower limit for the impact of a reduction of central bank reserves and exposures. The results of this scenario are illustrated in Figure 65. Due to the large share of central bank exposures in banks' liquidity buffers, the impact of a replacement of these exposures with illiquid assets is significant. On average (all banks), the LCR will drop below 100% but will still remain above 70%.

[40] This analysis does not take into account any required minimum reserve and only considers withdrawable central bank reserves.

[41] The assumption is only applicable to micro-prudential analysis, since on the systemic level, the independence of banks and the banking sector is practically impossible under the prevalent monetary policy regimes.

Figure 65: Impact of the replacement of central bank exposures with illiquid assets on the LCR



Source: EBA QIS data (December 2015)

172. At the individual level, the scenario will lead to a significant increase of the liquidity shortfall of up to EUR 70 billion (LCR = 70%) and EUR 373 billion (LCR = 100%) (Table 26). Under this scenario, approximately 15% (LCR = 70%) and 35% (LCR = 100%) of participating banks would be non-compliant. Practically, this would mean that even in the extreme case of a full replacement of central bank exposures with illiquid assets, approximately 85% of all banks in the sample would still be compliant with the current LCR minimum requirement of 70%. It can be concluded that, despite the important role of central bank exposures as part of the liquidity buffer, most banks have a sufficient amount of liquid assets to be compliant with the current LCR minimum requirement of 70%, even in the case of a shift away from central bank exposures.

Table 26: Impact of the replacement of central bank exposures with illiquid assets on the shortfall in liquid assets and the number of non-compliant banks

	Number of banks	Shortfall in liquid assets				Number of non-compliant banks			
		Baseline		Scenario		Baseline		Scenario	
		LCR = 70%	LCR = 100%	LCR = 70%	LCR = 100%	LCR = 70%	LCR = 100%	LCR = 70%	LCR = 100%
All banks	**171**	**1.1**	**10.9**	**70.3**	**373.2**	**3**	**17**	**25**	**59**
Group 1	**35**	**—**	**7.6**	**45.2**	**327.7**	**—**	**3**	**7**	**23**
- G-SIIs	9	—	—	16.4	199.4	—	—	2	6

	Number	Shortfall in liquid assets				Number of non-compliant banks			
Group 2	**136**	**1.1**	**3.3**	**25.1**	**45.5**	**3**	**14**	**18**	**36**
- Large	24	—	0.4	0.2	6.1	—	2	1	3
- Medium	26	0.9	2.0	2.0	4.1	2	3	3	8
- Small	86	0.2	0.9	22.9	35.4	1	9	14	25
- O-SIIs	59	0.2	8.4	45.8	333.6	1	6	10	30

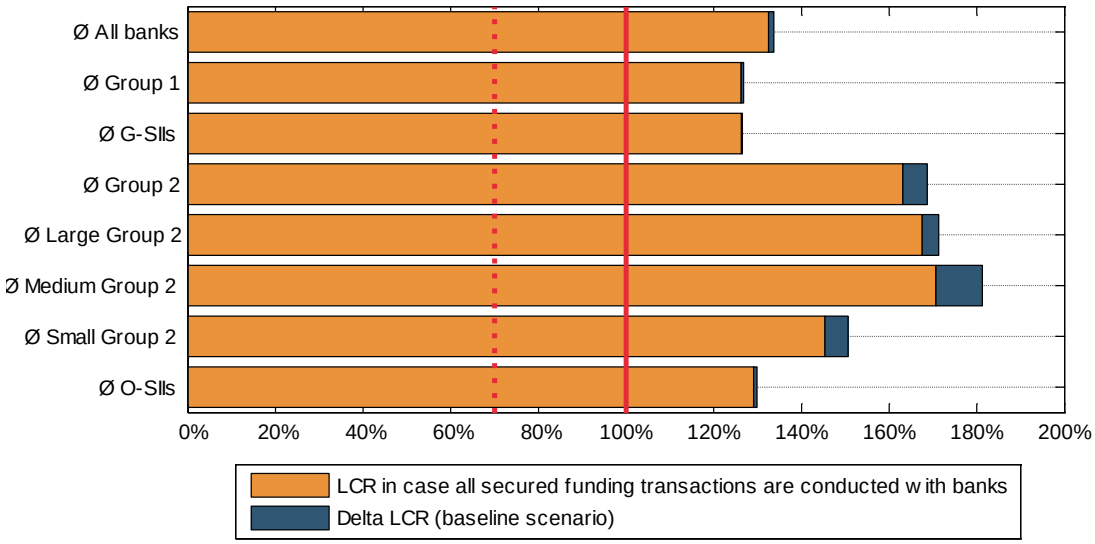
Source: EBA QIS data (December 2015)

b. Scenario: All secured transactions with the central bank will be replaced with secured funding transactions with other banks

173. The following scenario tests the impact of less central bank funding and assumes that all secured funding transactions with the central bank will be replaced by secured funding transactions with other banks. Again, this scenario considers the extreme case where banks may not be able to, or do not want to conduct any secured funding transactions with the central bank. While a shift of these transactions to interbank repo markets will not have an impact on the liquidity buffer, banks will now report outflows arising from these transactions, especially where they are conducting a larger amount of transactions that are backed by illiquid assets, as these transactions now receive a run-off rate of 100% (compared with a run-off-rate of 0% if the relevant transaction is conducted with the central bank).

174. The results under this scenario are displayed in Figure 66. As secured funding transactions with the central bank do not play an important role in the funding structure of banks as of 31 December 2015, the total impact of this scenario on the LCR is small.

Figure 66: Impact of secured funding transactions on the LCR (assumption: all secured funding transactions are conducted with banks)



Source: EBA QIS data (December 2015)

175. At the bank level, some banks are more affected by this scenario. At the 100% minimum requirement, the total shortfall in liquid assets will increase from EUR 10.9 billion to EUR 20.1 billion (or from EUR 1.1 billion to EUR 3.4 billion at the minimum requirement of 70%) (Table 27). Three banks will become non-compliant at the 100% LCR minimum requirement.

Table 27: Impact of secured funding transactions on the shortfall in liquid assets and the number of non-compliant banks (assumption: all secured funding transactions are conducted with banks)

	Number of banks	Shortfall in liquid assets				Number of non-compliant banks			
		Baseline		Scenario		Baseline		Scenario	
		LCR = 70%	LCR = 100%	LCR = 70%	LCR = 100%	LCR = 70%	LCR = 100%	LCR = 70%	LCR = 100%
All banks	**171**	**1.1**	**10.9**	**3.4**	**20.1**	**3**	**17**	**3**	**20**
Group 1	**35**	**—**	**7.6**	**—**	**11.0**	**—**	**3**	**—**	**4**
- G-SIIs	9	—	—	—	—	—	—	—	—
Group 2	**136**	**1.1**	**3.3**	**3.4**	**9.2**	**3**	**14**	**3**	**16**
- Large	24	—	0.4	—	1.3	—	2	—	2
- Medium	26	0.9	2.0	3.2	5.3	2	3	2	3
- Small	86	0.2	0.9	0.2	2.6	1	9	1	11
- O-SIIs	59	0.2	8.4	0.2	12.9	1	6	1	8

Source: EBA QIS data (December 2015)

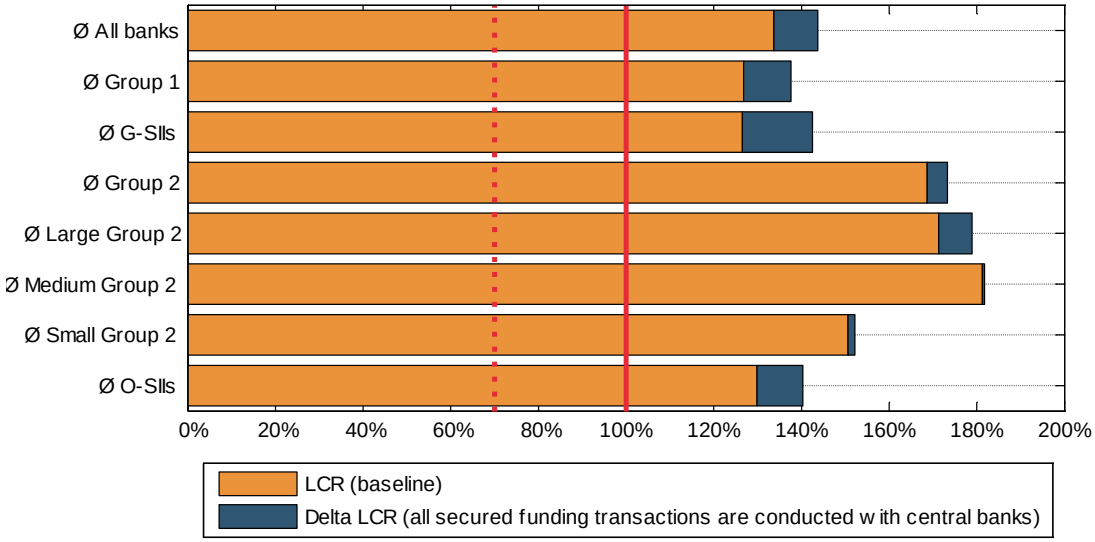
c. Scenario: All secured transactions with other banks will be replaced by secured funding transactions with central banks

176. The third scenario captures the opposite situation of the second scenario. It is assumed that all secured funding transactions with banks will be replaced by secured funding transactions with the central bank. This scenario considers the case that (non-compliant) banks may use this strategy to increase their LCR due to preferential treatment for transactions with the central bank. Clearly, banks with a larger amount of transactions backed by illiquid collateral would benefit the most. There is no impact on the liquidity buffer as the collateral underlying these transactions does not change.

177. Overall, there is an increase in the weighted average LCR by 10 percentage points (Figure 67). G-SIIs will benefit the most due to their larger share of secured funding transactions

relative to total liabilities. The impact of this scenario on the shortfall in liquid assets and the number of non-compliant banks is small (Table 28). While the overall shortfall with regard to a minimum requirement will decrease by less than EUR 1 billion, one Group 2 bank would become compliant. These results show that those banks that are reporting larger amounts of secured funding transactions are in most cases already reporting a LCR above 100% so that any shift towards secured funding transactions with the central bank currently does not have a significant influence on the shortfall and on the number of non-compliant banks.

Figure 67: Impact of secured funding transactions on the LCR (assumption: all secured funding transactions are conducted with central banks)



Source: EBA QIS data (December 2015)

Table 28: Impact of secured funding transactions on the LCR (assumption: all secured funding transactions are conducted with central banks)

	Number of banks	Shortfall in liquid assets				Number of non-compliant banks			
		Baseline		Scenario		Baseline		Scenario	
		LCR = 70%	LCR = 100%	LCR = 70%	LCR = 100%	LCR = 70%	LCR = 100%	LCR = 70%	LCR = 100%
All banks	**171**	**1.1**	**10.9**	**1.0**	**10.2**	**3**	**17**	**3**	**16**
Group 1	**35**	**—**	**7.6**	**—**	**7.2**	**—**	**3**	**—**	**3**
- G-SIIs	9	—	—	—	—	—	—	—	—
Group 2	**136**	**1.1**	**3.3**	**1.0**	**3.0**	**3**	**14**	**3**	**13**
- Large	24	—	0.4	—	0.2	—	2	—	1
- Medium	26	0.9	2.0	0.8	1.9	2	3	2	3

	Number	Shortfall in liquid assets				Number of non-compliant banks			
- Small	86	0.2	0.9	0.2	0.9	1	9	1	9
- O-SIIs	59	0.2	8.4	0.2	7.8	1	6	1	5

Source: EBA QIS data (December 2015)

178. To summarise and conclude: central bank related operations have been widely discussed in banking supervision, especially following the most recent financial crisis. Central banks' policies to inject liquidity in the markets have direct implications on the LCR regulation.

179. Based on the QIS data, this section tried to measure the magnitude of these policies on banks' compliance with the LCR regulation. For this purpose, the focus of the analysis was central bank reserves, secured funding and monies due from central banks.

180. In order to measure the impact of any change in the baseline, three scenarios have been discussed. Results revealed that central bank reserves are an important element in the accumulation of liquidity buffers.

181. Full replacement of central bank exposures by illiquid assets (the first scenario) provides a lower limit in terms of reduction in the level of the LCR. The impact is significant and may lead to a larger number of non-compliant banks at the 100% minimum requirement while 85% of banks in the sample would still remain compliant with the current minimum requirement of 70%.

182. Regarding secured funding, banks still somewhat benefit from the differences between the list of central bank eligible collaterals and assets that are eligible for the LCR liquidity buffer however the magnitude of this is small and the impact of a deviation from the baseline is limited.

183. Analysis suggests that central bank reserves form a key element of the liquidity buffer and that a (partial) withdrawal of these exposures may have a significant influence on the LCR. The findings suggest a different conclusion for secured funding transactions (outflows) and other monies due from central banks (inflows). The shares of these operations in institutions' assets and liabilities are small and the impact of a deviation from the baseline on the level of LCR compliance is not significant.

184. Apart from the LCR regulation, other macroeconomic factors may give banks incentives to change the volume of their central bank related transactions. However, as the different drivers cannot be isolated, such an analysis is outside the scope of this report and has been left for further research.

6. Review of the phase-in period of the LCR

6.1 Introduction

185. Article 460(2) of the CRR (and Article 38 of the DA) provides transitional provisions for the introduction of the LCR. In accordance with Article 460(2) of the CRR, institutions shall comply with the minimum ratio requirements of 70% as from 1 January 2016, of 80% as from 1 January 2017 and of 100% as from 1 January 2018. This transition provision gradually reaches full implementation of the minimum requirement of 100%, one year before the Basel III LCR standard. With these provisional arrangements, the Commission wanted to take account of the key role of liquidity concerning the stability of banks and their role in supporting wider economic recovery in the EU.[42]

186. In accordance with Article 461(1) of the CRR, the EBA shall report to the European Commission on whether the phase-in requirements should be amended in line with the Basel III framework. Based on this, the European Commission may adopt a DA to alter the phase-in and defer until 2019 the introduction of a 100% minimum requirement and, to apply in 2018, a 90% minimum ratio. Legally, there is no need to revise the methodology as stated in the DA, as the Basel III requirements can be seen as minimum standards and national competent authorities may require higher minimum levels.[43] Furthermore, in the EU, competent authorities under Article 412(5) of the CRR may set for domestically authorised institutions (or a subset of those institutions) a higher LCR minimum requirement up to 100% until the full binding minimum standard is introduced.[44]

187. The objective of the analysis in this chapter is therefore to investigate whether the current EU-specific transitional provisions and the introduction of the 100% minimum requirement at an earlier date with respect to the Basel III framework create difficulties for institutions regarding their compliance with the LCR regulation. If a high number of institutions face significant structural problems in achieving compliance with the minimum requirement due to the nature, design or the current calibration of the LCR regulation, this may justify an extension of the phase-in period in line with the Basel III framework.

188. The analysis will include the following steps:

[42] http://europa.eu/rapid/press-release_MEMO-13-690_de.htm

[43] See Paragraph 6 of Basel III: the liquidity coverage ratio and liquidity risk monitoring tools.

[44] As of June 2016, the jurisdictions that have introduced such national provisions under Article 412(5) of the CRR are Denmark, Hungary, Ireland, Lithuania, the Netherlands and the United Kingdom.

i. Identification of the (number of) institutions that (a) fail to comply with 70% minimum requirement, (b) fail to comply with the 100% minimum requirement and (c) are compliant with a 90% ratio but not with a 100% minimum requirement;

ii. Investigation of the reasons for non-compliance including cost-related issues, strategic preferences, problems related to business model and issues around volatility;

iii. Identification of the institutions that would benefit from an extension of the transition period. For this purpose, a qualitative questionnaire has been developed targeting all institutions that submitted the LCR QIS data for the current impact assessment and phase-in report at December 2015 reporting date.

6.2 Overview

189. Table 29 shows the number of institutions by their LCR level. As of today, nine institutions with an LCR between 90% and 100% could benefit directly from the extension of the phase-in period in terms of compliance with the LCR minimum requirement. A further seven banks with a ratio below 90% could potentially benefit as well, as an extension of the phase-in period would at least help these institutions reduce further adjustment costs. However, 155 out of 171 banks are already compliant with the LCR minimum requirement of 100%. For these banks, an extension of the phase-in period would have no direct impact.

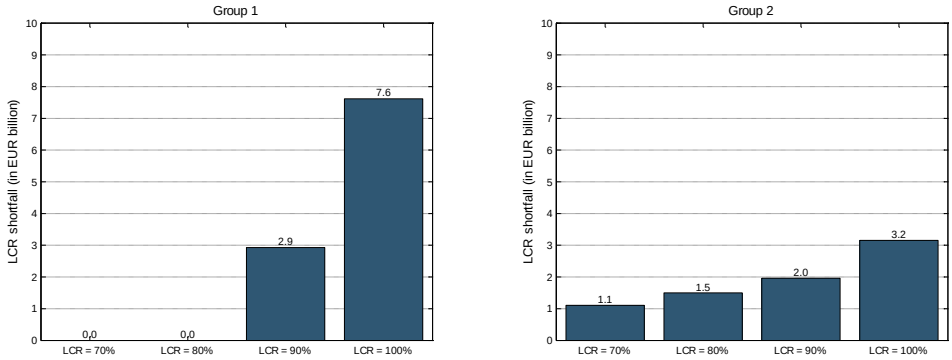
Table 29: Participation and the distribution of the LCR

	Number of banks	of which:				
		LCR < 70%	70% ≤ LCR < 80%	80% ≤ LCR < 90%	90% ≤ LCR < 100%	LCR ≥ 100%
All banks	**171**	**3**	**—**	**4**	**9**	**155**
Group 1	**35**	**—**	**—**	**1**	**2**	**32**
- G-SIIs	9	—	—	—	—	9
Group 2	**136**	**3**	**—**	**3**	**7**	**123**
- Large	24	—	—	—	2	22
- Medium	26	2	—	—	—	24
- Small	86	1	—	3	5	77
- O-SIIs	**59**	**1**	**—**	**1**	**4**	**53**

Source: EBA QIS data (December 2015)

190. Figure 68 indicates that, in a hypothetical case where full implementation of 100% is applied at the current reporting date, nine institutions that have LCRs of at least 90% but less than 100% would potentially benefit from an extended period in the magnitude of a shortfall of approximately EUR 5.9 billion. This is the difference between the shortfall at the minimum requirement of 100% and the shortfall at the ratio of 90%.

Figure 68: LCR shortfall in liquid assets assuming different LCR minimum requirements



Source: EBA QIS data (December 2015)

6.3 Methodology of the qualitative survey

191. The qualitative information gathered through the questionnaire aim to complement the quantitative information collected through the QIS LCR templates. The questionnaire collected information on:

- How institutions are responding to the LCR regulation and what measures they are taking for compliance;
- What further efforts have been envisaged for future compliance in the case of current non-compliance;
- Potential magnitude of the efforts by the institutions for compliance;
- Potential impact of the LCR regulation and the phase-in period on the current businesses and/or business models of the institutions;
- Whether the impact of the LCR regulation on institutions' businesses and the level of compliance would be different should the phase-in period be extended, e.g. fully in line with the Basel III framework;
- Potential impact of volatility on the institutions' compliance with the LCR regulation and whether the current phase-in arrangements accommodate any counter effects of volatility in the LCR.

192. The questionnaire targeted all (194) institutions[45] that have submitted QIS LCR data as of 31 December 2015 and 73% of these institutions responded to the questionnaire (see Table 30 and Table 31).

Table 30: Number of banks that have submitted data on the qualitative questionnaire

	Number of banks	of which: LCR < 100%
All banks	**142**	**12**
Group 1	**27**	**3**
- G-SIIs	8	—
Group 2	**115**	**9**
- Large	19	—
- Medium	19	2
- Small	77	7
- O-SIIs	**40**	**3**

Source: EBA QIS data (December 2015)

Table 31: Number of banks that have submitted data on the qualitative questionnaire (business model)

	Number of banks	of which: LCR < 100%
Automotive and consumer credit banks	5	1
Building societies	5	—
CCPs	2	—
Cross-border universal banks	22	—
Custody banks	2	—
Local savings banks	43	5
Local universal banks	37	5
Merchant banks	1	—
Mortgage banks	5	—
Other specialised banks	8	1
Private banks	2	—
Public development banks	9	—
Security trading houses	1	—

[45] This number includes subsidiaries.

Source: EBA QIS data (December 2015)

6.4 Impact of the phase-in requirement for non-compliant banks

193. Table 32 summarises the responses of the 12 non-compliant institutions to the first set of questions put forward in the questionnaire. It presents an overview of the number of banks according to planned adjustment strategies of these institutions for the future, their expected cost of compliance and whether an extension in the phase-in period would further help these institutions in their compliance.

194. Two of the three non-compliant institutions at a 70% minimum level responded to the questionnaire. In one specific case, non-compliance reflects a temporary situation due to a misinterpretation of the LCR DA on illiquid asset repurchase transactions and their impact on the liquidity buffer. The bank in question had two LTRO transactions in the 30 day window with the central bank and was affected by the cap application on liquid assets. The LCR for this bank was below 100% for a short period (and captured by the data as of December 2015) but reverted to above 100% in early January 2016. The bank in question initiated an LCR remediation plan to reduce central bank borrowing. The plan was fully implemented by May 2016 and the expected LCR is in the range of 130% - 140%. In fact, this institution also expressed that an amendment to the LCR phase-in period would not facilitate further compliance with the LCR regulation.

195. In the second case, the institution experienced severe liquidity run-off in its retail, corporate and wholesale deposits following a reputational crisis. Non-compliance for this bank is captured in the data of the December 2015 reporting date however in 2016 the institution reached the 70% minimum requirement. Similarly, this institution also believes that an extension in the LCR phase-in period would not have a significant impact towards compliance with the regulation.

196. Eight of the 12 institutions, as indicated in Table 32, stated that they keep LCR levels below 100% by preference. In other words, these institutions would be able to comply with the regulation at a 100% minimum requirement at this reporting date, but choose to wait for the final deadline of 2018 from a business strategy perspective. The institutions stating that the non-compliance is not by choice are the above-mentioned automotive and consumer credit bank and the local universal bank that failed to comply with the 70% requirement as of December 2015, as well as the two local savings banks with LCRs approximately 87% and 93%.

197. These institutions plan implementing a combination of asset-based and liability-based measures to increase the LCR to a minimum requirement of 100% in the future. These strategies are mostly increasing the maturity of funding and reducing asset maturity, increasing the share of funding from corporates and the retail sector in relation to financial wholesale and reallocation of assets. The responses to the survey did not indicate clear differences in the foreseen strategies of the institutions on the basis of business model categories. Cost of compliance is expected to be moderate on average. The institutions that

indicated high cost expressed that the major source of cost of the compliance is reducing profitable ineligible assets and investing in less profitable eligible liquid assets.

Table 32: Impact of the phase-in requirement for non-compliant banks

	No. of banks with LCR below 100%	Non-compliance by preference	Adjustment strategy			Cost of compliance					Impact of an extension in the phase-in	
			Asset-based	Liability-based	Combination of asset and liability-based	High	Moderate	Low	Negligible	Unable to indicate	Yes	No
LCR < 70%	2	—	—	—	2	—	1	—	—	1	—	2
70% ≤ LCR < 80%	—	—	—	—	—	—	—	—	—	—	—	—
80% ≤ LCR < 90%	4	3	—	1	3	2	1	1	—	—	3	1
90% ≤ LCR < 100%	6	5	—	—	6	2	1	2	—	1	3	3

Source: EBA QIS data (December 2015)

198. Although the institutions stay below the 100% LCR requirement under full implementation by preference, about half of these institutions believe that a longer phase-in period would have a different cost impact on their business activities such that it would facilitate compliance with the 100% LCR minimum requirement.

Almost all the participating non-compliant institutions that responded to the relevant question mentioned reduced costs as the primary impact that an extended phase-in period would have on their ongoing business with respect to the LCR regulation. An extended period may help institutions adopt less costly strategies, since this would give them more time to improve LCR eligible funding, e.g. increase deposits and optimise the composition of assets. Some institutions also mentioned further benefits of an extended period in terms of the clarification of adverse market scenarios, the interpretation of non-HQLA secured borrowing and timely finalisation of the reporting templates.

6.5 Volatility of the LCR and its impact on the phase-in requirement

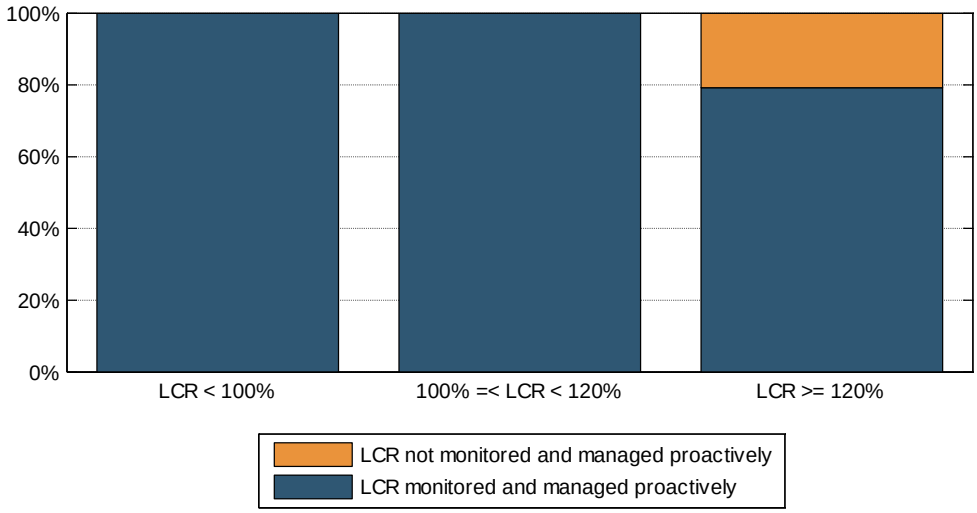
199. The LCR can be subject to volatility. Most institutions may have already implemented internal models and taken measures in order to identify the drivers of volatility, to monitor volatility and to control it. An extension of the phase-in period may give institutions whose LCRs are subject to volatility additional time to analyse the underlying drivers and the behaviour of the relevant parameters, as well as to take necessary measures for monitoring and controlling purposes.

200. This section investigates whether an extension of the phase-in period would be beneficial for the institutions experiencing volatility in the LCR. As in the previous section, the current analysis is based on the questionnaire's responses.

201. Figure 69 shows that approximately 85% of the participating institutions confirmed that they have internal measures in place to monitor and manage volatility in the LCR. The institutions with LCR levels (highly) exceeding the 100% minimum requirement (which corresponds to 15% of the sample) do not take proactive measures to control volatility. Findings show that the institutions that do not carry out monitoring exercises against volatility are mostly the specialised banks with their LCR high above the 100% minimum requirement and that there is no cross-border universal bank in this sample of institutions.

202. Institutions with the LCR less than 120% have internal measures and models in place to monitor and control the parameters of the LCR against volatility. Those institutions (i) set internal limits and liquidity metrics, early warning systems against non-compliance due to volatility, (ii) carry out regular forecasting, (iii) implement risk management measures for asset risk management and concentration in (the maturity structure of) funding. In some cases, risk management and liquidity metrics take place at the business unit level as the institutions monitor LCR related liquidity risk at the business unit level. Most of these internal measures take place daily and/or weekly. Some institutions also state that they use their current accounts with the central bank to manage volatility.

Figure 69: Share of banks monitoring and managing the LCR against volatility

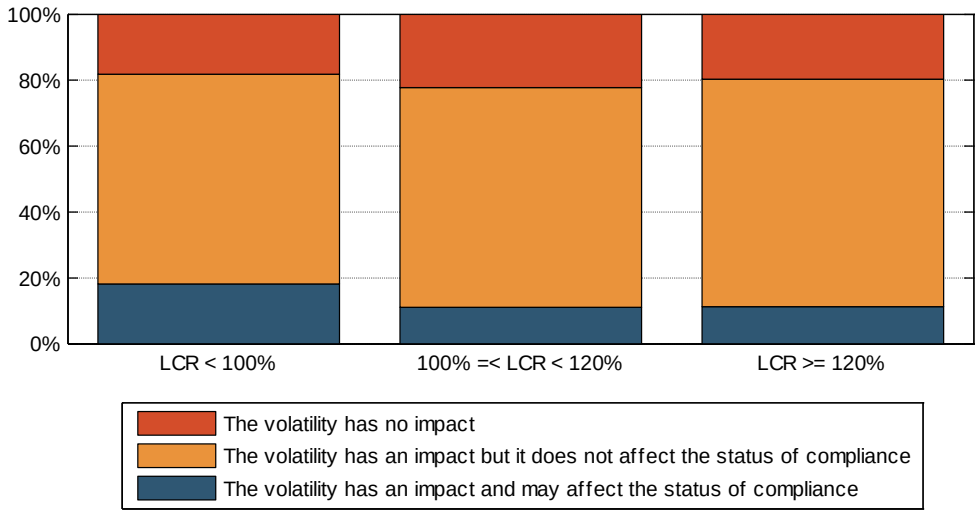


Source: EBA QIS data (December 2015)

203. There are two institutions that are not compliant with the 100% minimum requirement (but are compliant with the 80% minimum level) and that indicated that the volatility has an impact and may affect the status of compliance. For one of these institutions, the major reason is the interaction between the business model of this wholesale bank and the nature of the LCR regulation. Significant moves in the balances on current accounts and maturing benchmark debt securities issued are the major triggers of volatility on the liabilities side. On the asset-side, the institution faces high volatility in cash-inflows from the loan book. One institution also stated that volatility is inevitable, as outflows and inflows stemming from the banking and trading books in a large banking group varies from day-to-day by hundreds of millions of euros and it is not possible to fully capture these shifts in the forecasts. For the other institution, while the liquidity buffer is fairly stable, net outflows fluctuate according to the maturity of deposits.

204. In the sample, 11 institutions with LCR levels above 100% indicated that the volatility has an impact and may affect the status of compliance. For these banks, there are different sources of volatility. While for some institutions volatility is mostly due to changes in cash outflows such as (interbank) wholesale funding, other institutions report fluctuations in cash inflows. One institution also stated that the volatility is partly due to the LCR parameters reflecting a stressed scenario, which does not reproduce the business-as-usual scenario that has occurred in the past year.

Figure 70: Impact of volatility on the LCR of those banks that have observed volatility in the level of their LCR



Source: EBA QIS data (December 2015)

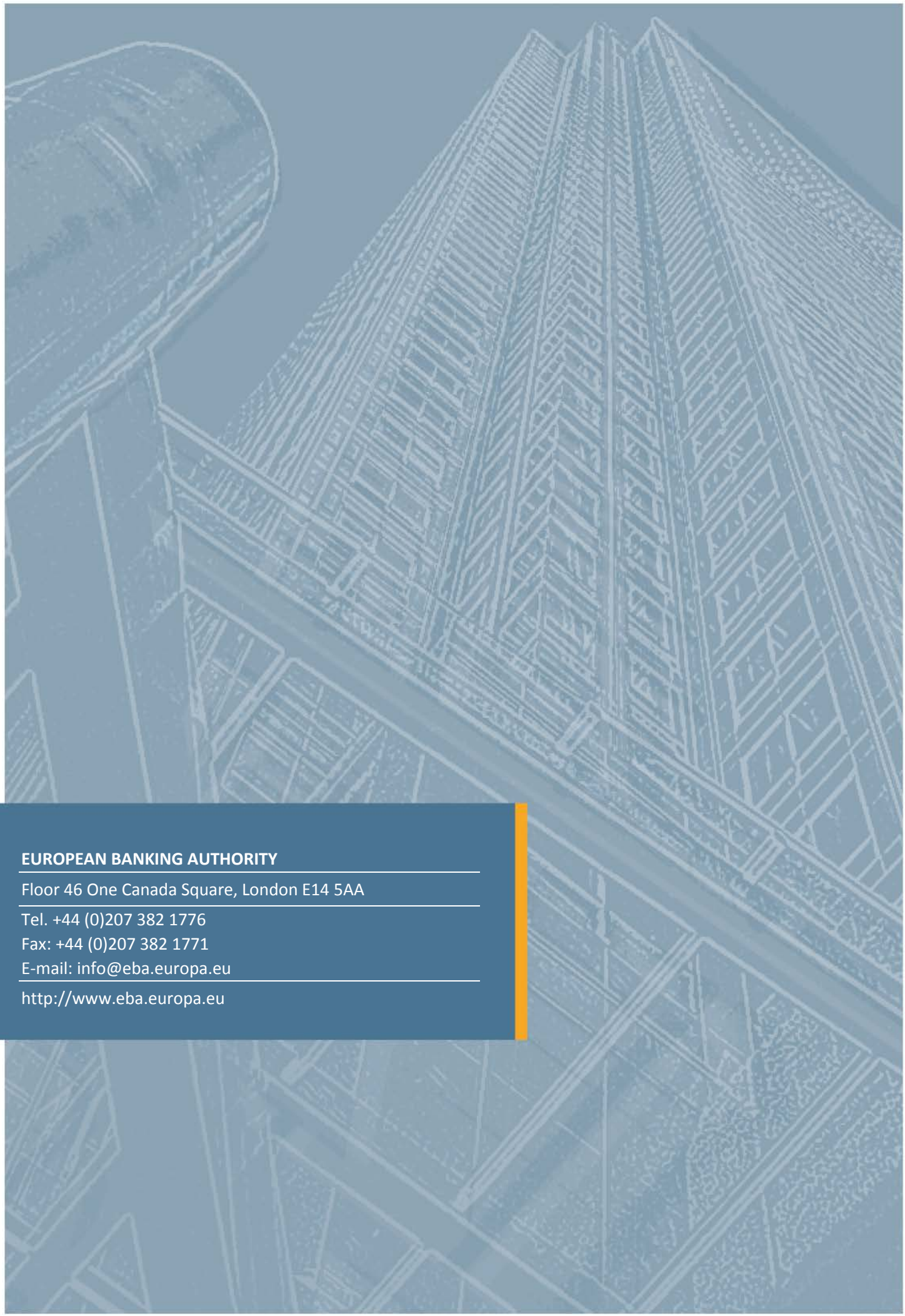
6.6 Conclusion and recommendation

205. The QIS LCR data as of December 2015 and the findings of the questionnaire show that the level of non-compliance with the LCR under full implementation is low: 91% of the participating institutions (155 institutions) have their LCR levels above 100% and only 9% of the participating institutions (16 institutions) fail to comply with the 100% minimum requirement. Consequently, quantitative results do not reveal any strong reasons for an extension of the phase-in period.

206. Among the non-compliant institutions (at the 100% minimum requirement) only four institutions indicated that the status of non-compliance is not by strategic preference.[46] Furthermore, these institutions plan strategies for compliance in the future and associated cost is expected to be manageable. All institutions having their LCR levels below 120% have internal measures such as limits, forecasting tools and early warning systems in place to monitor and control the volatility of the LCR. Most of the institutions do not expect the volatility to have such a significant impact on the LCR so as to change the compliance status.

207. Overall, the analysis on the phase-in period of the LCR that is based on the QIS sample as of December 2015 did not find any significant evidence to recommend the extension of the LCR phase-in period to 1 January 2019.

[46] Note that only 12 of the 16 non-compliant institutions (at the 100% minimum requirement) replied to the questionnaire.



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