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Prudential data report

EU GSIBs prudential capital and liquidity

Q4: 2016

Association for Financial Markets in Europe
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Highlights

"EUGSIBs improved their solvency ratios in 2016 with a combination of balance sheet restructuring (…) and to a lesser extent from internal capital generation through profits retention and from external capital raised from markets."

Notwithstanding the challenging market environment of 2016, European headquartered systemically important banks (or EU GSIBs[1]) continued to improve their solvency positions during the year.

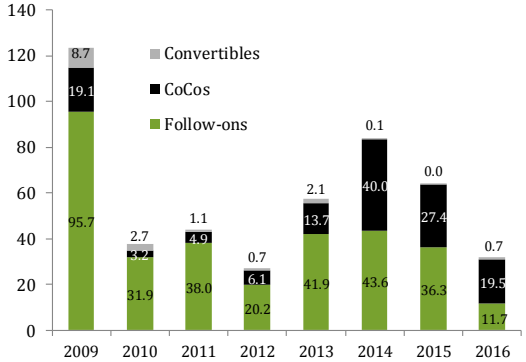
EUGSIBs improved their solvency ratios in 2016 with a combination of balance sheet restructuring (decrease of 6.4%YoY in phased-in RWAs and 3%YoY in exposure measure) and to a lesser extent from internal capital generation through profits retention and from external capital raised from markets.

The market environment was challenging for external capital raises. EU banks raised a total of €31.9bn in fresh capital from markets, about half of that raised in 2015 (€63.7bn) and significantly below the volume of 2013 (€57.7bn) and 2014 (€83.7bn). See graph on left panel.

The improvement in European bank solvency in the middle of a challenging market environment is also illustrated by the main findings of this report:

- EU GSIBs have increased their end-point Common Equity Tier 1 Capital ratio (CET1 ratio) to 12.3% in 4Q16, from 10.0% in 2013.
- End-point Tier 1 ratios increased to 13.7% in 4Q16, from 10.8% in 2013.
- End-point Leverage ratios have improved over the last three years, to 4.8% in 4Q16 from 3.7% in 2013.
- Available information indicates the weighted average[2] Liquidity Coverage Ratio (LCR) stood at 132.1% in 4Q16, above the minimum required by 1 January 2018 (100%).

Fresh capital raised by EU banks (€ bn)



Source: *Dealogic. Follow-ons refer to issuance of stock of existing publicly traded banks*

Capital and liquidity ratios and fresh capital raised by EU banks (as at 4Q16)[3]

		2013	2014	2015	2016
EU GSIBs	CET1 ratio (end-point)	10.0%	11.0%	11.8%	12.3%
	T1 ratio (end-point)	10.8%	11.8%	12.9%	13.7%
	Leverage ratio (end-point)	3.7%	4.3%	4.6%	4.8%
	LCR	-	127.5%	128.2%	132.1%
EU banks	Fresh capital raised (€bn)	57.7	83.7	63.7	31.9
	of which CoCos (€bn)	13.7	40.0	27.4	19.5

Source: *EU GSIBs balance sheets, EBA and Dealogic*

Improvement in CET1 ratio

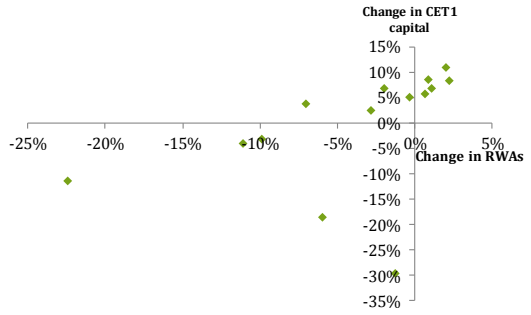
During 2016, 12 of the 14 EU GSIBs in this report increased their end-point CET1 ratios from the reported in 4Q15.

[1] The Banks aggregated in this report are the 14 EU GSIBs as designated by the FSB in 2014, which was in force in 4Q16. In November 2015, the FSB updated the list of systemically important banks, changing the number of EU GSIBs from 14 to 13. The assignment of the GSIBs to the respective buckets will apply from 1 January 2017. In November 2016, the FSB updated the bucket allocation once again; the new bucket allocation will apply from 1 January 2018.

[2] Weighted by end-point RWAs with information of 7 of the 14 EU GSIBs that reported LCRs in 4Q16 earnings reports and Pillar 3 disclosure documents.

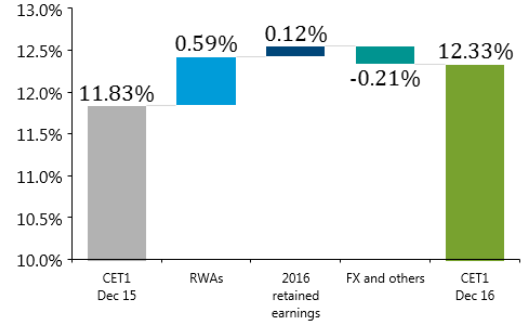
[3] 2014 LCR is sourced from the EBA's September 2015 Basel III monitoring exercise. Ratios are rounded to 1 decimal.

Change in CET1 capital and RWAs by EU GSIB (YoY, %, end-point)[4]



Source: *EU GSIBs balance sheets*

Change in end-point CET1 by components: 2016FY



Source: *AFME from EU GSIBs balance sheets*

"Over the last three years, the proportion of market risks on total RWAs has decreased from 8.1% in 1Q14 to 5.6% in 4Q16"

By banks, five of the 14 EU GSIBs increased[5] their RWAs and CET1 capital from a year ago; five decreased CET1 capital and RWAs; and four increased CET1 capital and decreased RWAs (see graph on left panel).

Some of the abnormal decreases in RWAs were related to asset disposals and, particularly for one bank, changes in the regulatory risk treatment of a large operation.

On aggregate, the annual increase in end-point CET1 ratio was driven by contributions of 59bps from lower RWAs and 12bps from retained earnings, partially offset by a negative contribution of 21bps from FX variation and other additional factors. The breakdown of the CET1 ratio build up varied by GSIBs, with four of the 14 banks presenting a negative annual contribution of retained earnings to capital generation and five banks reporting higher RWAs compared to a year ago.

RWA adjustment away from market risks

Banks have continued to restructure their balance sheets and their RWA positions. EUGISBs have decreased their RWAs by 5.9% over the last three years, while RWA densities (RWA/assets) have decreased from 39.1% in 4Q13 to 33.1% in 4Q16.

Over the last three years, the proportion of market risks on total RWAs has decreased from 8.1% to 5.6% in 4Q16. This could be in anticipation of revised minimum capital requirements for market risk under the standardised approach at the Basel committee level.

CoCos and TLAC-compliant debt issuance

European banks[6] issued €23.5bn in CoCos during 2016 (€19.5bn by EU banks). New issuance was below 2015's volume (€34.3bn, €27.4bn of which were raised by EU banks). Of the volume issued by European banks, average coupons of fixed-rate instruments increased from 6.6% in 2015 to 7.6% in 2016, due to an increase of 81bps in the risk premia of CoCo instruments, not offset by a decrease in average risk-free yields. All CoCo instruments issued in 2016 were structured contingent on Tier 1 performance and in the form of perpetual bonds.

EUGSIBs have also increased the proportion of subordinated unsecured bonds in their funding mix over the last year, from 11.2% of banks' outstanding market debt in 1Q15 to 13.5% in 4Q16, as banks continue to prepare for the implementation of MREL and TLAC rules.

20% CoCo prices recovery and credit assessment

The CoCo volatility episode of 1Q16 was short-lived. CoCo prices accumulated gains in 2016 of 3.3%YoY, standing at Mar-17 20% above the lowest price reached during 1Q16.

[4] The quarterly changes are in the original reporting currencies (USD, EUR or GBP) to isolate for FX effects.

[5] On the basis of the values reported in the original currencies of the financial statements.
[6] Including EU, EFTA, Turkish and other Eastern European Banks.

An improved perception of risk which was partly behind the rise in CoCo prices was also mirrored to some extent by credit rating actions during the year. Three EUGSIBs had their long-term credit ratings upgraded, driven by improvements in solvency positions and strong issuances of loss-absorbing securities. Three GSIBs were downgraded, due to concerns on profitability and the macro environment.

Secondary market for NPLs ('Box' on pages 12-13)

The persistent high level of NPLs in some EU countries continues to limit the capacity of banks to fully support the economic recovery.

As shown in the "Box" (pages 12-13), although NPL ratios have decreased since the peak of the crisis, the adjustment has been heterogeneous between countries. These differences might be related to a range of factors including variations in portfolio composition and book values of loans as well as quality of insolvency, tax and accounting regimes, or the depth of secondary markets of NPLs.

"The volume of NPL market transactions continues low (€80bn in 2016 compared with €1tn in NPLs), with a minor participation of NPL securitisations with an issuance volume of €155m"

European banks have already put in place NPL strategies and actively manage NPL portfolios, including extensive report to supervisors, which has resulted in a decreasing trend in the cost of risk. However, a deeper secondary market of NPLs could contribute to a faster NPL adjustment.

The volume of NPL market transactions remains low (€80bn in 2016 compared with €1tn in NPLs), with a minor participation of NPL securitisations with an issuance volume of €155m in 2016. Authorities like the IMF have proposed measures to develop this market, including a more active involvement of the European Investment Bank or the European Investment Fund in the securitisation market; this is intended to facilitate the participation of a wider range of market participants in managing and purchasing NPLs; and acknowledging the role of Asset Management Companies (AMC) to kick-start the market.

Major upcoming regulatory, legislative and policy initiatives

There are several regulatory initiatives that are currently being considered at both the global and European level. These will in due course potentially impact the basis of calculations for the metrics covered in this report for future iterations. Some of the key initiatives are:

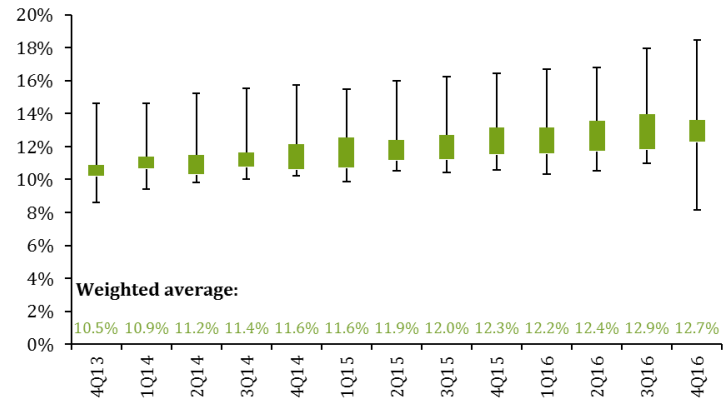
- Review of the Leverage Ratio
- Fundamental Review of the Trading Book
- Credit Valuation Adjustment
- IRB models, revised Standardised Approaches & capital floors
- Interest Rate Risk in the Banking Book

AFME is actively contributing to each initiative.

1 Capital and liquidity ratios[7]

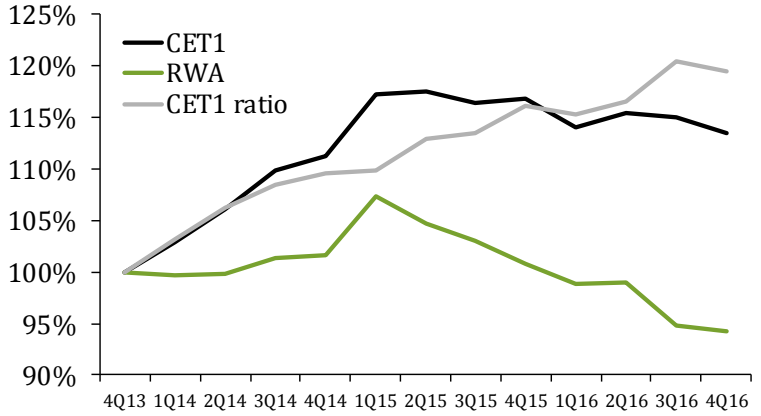
1.1 CET1 ratio: phased-in

Maximum, minimum and 25th-75th percentiles in boxes



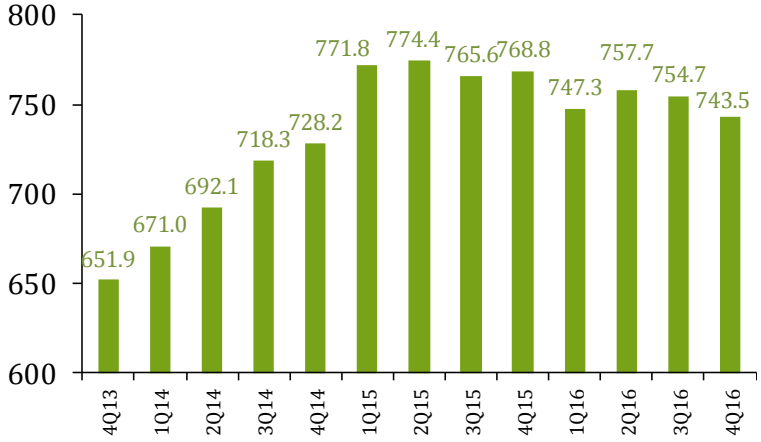
Source: *EU GSIBs balance sheets*

1.2 Cumulative percentage change of CET1, RWAs and CET1 ratio (phased-in)[8]



Source: *EU GSIBs balance sheets*

1.3 CET1: phased-in (€ bn)



Source: *EU GSIBs balance sheets*

[7] The Banks aggregated in this report are the 14 EU GSIBs as designated by the FSB in 2014 which was in force in 4Q16.
[8] The lines represent the cumulative percentage change of aggregate RWAs, CET1 capital and the weighted average CET1 ratio.

CET 1 ratio: phased-in

Improvement of solvency ratios by EU GSIBs

EU GSIBs continued to improved their capital ratios during 2016, in compliance with the CRDIV rules which came into force in 1 January 2014.

The weighted average phased-in CET1 ratio has accumulated an increase of 220bps over the last three years[9], from 10.5% in December 2013 to 12.7% at the end of 2016.

The improvement in phased-in CET1 ratio has been driven by a build-up of CET1 capital and a gradual decrease in Risk-Weighted Assets (RWA). See chart 1.2.

Since December 2013 EU GSIBs have increased their phased-in CET1 capital by 14%, equivalent to €91.6bn raised from markets and internal generation (i.e. retained earnings).

During the same period, banks decreased their RWAs by 5.9% from €6.20tn to €5.83tn (or a decrease of 7.3% excluding the fluctuation of the Euro against the currencies in which banks report their financial statements). See charts 1.3-1.4.

Lower RWAs largely contributed to higher CET1 ratio in 2016

During 2016, phased-in CET1 ratios increased by 41bps, from 12.3% in 4Q15 to 12.7%, standing above the minimum required in 2016 by CRDIV (5.1% excluding GSIB and countercyclical buffers).

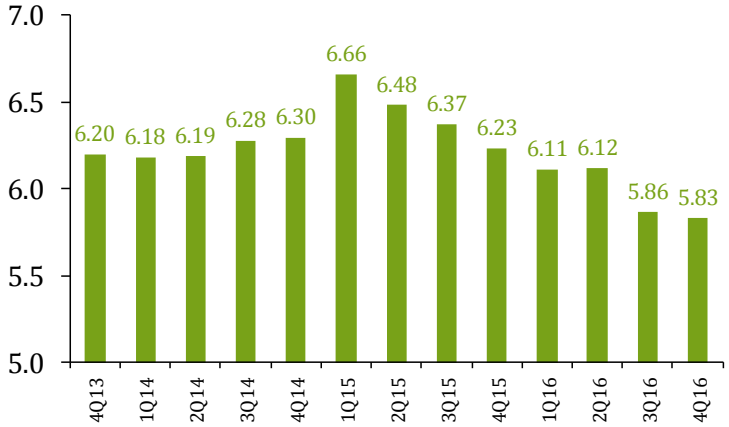
The annual increase in the CET1 phased-in ratio was driven by a decrease in RWAs of 6.4% only partially offset by a decrease of 3.3% in CET1 capital during the same period.

The max-min range in CET1 ratios between banks increased in 4Q16 due to extraordinary one-off adjustments of one bank[10], affecting its profits and capital

[9] CET1 ratios are the amount of CET1 capital that banks hold as proportion of risk-weighted assets (RWA). On a phased-in approach, certain transitional provisions are applied to the calculation of capital related to the treatment of deferred taxes, securitisation, and unrealised losses, amongst others.

[10] Write-offs, additional loan-loss provisions, asset disposal, among others.

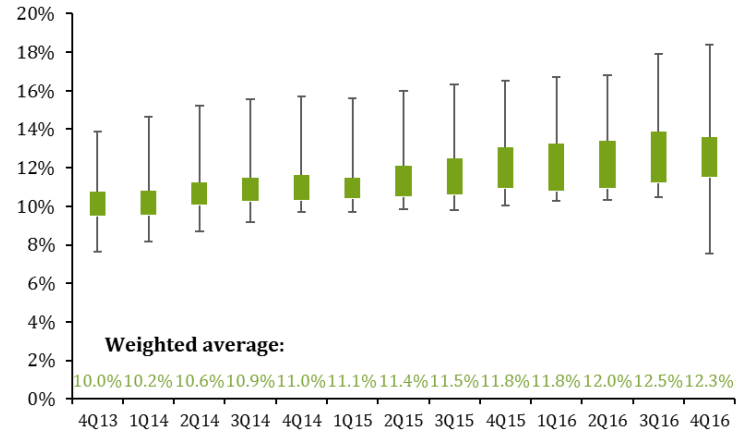
1.4 RWAs: phased-in (€ tn)



Source: EU GSIBs balance sheets

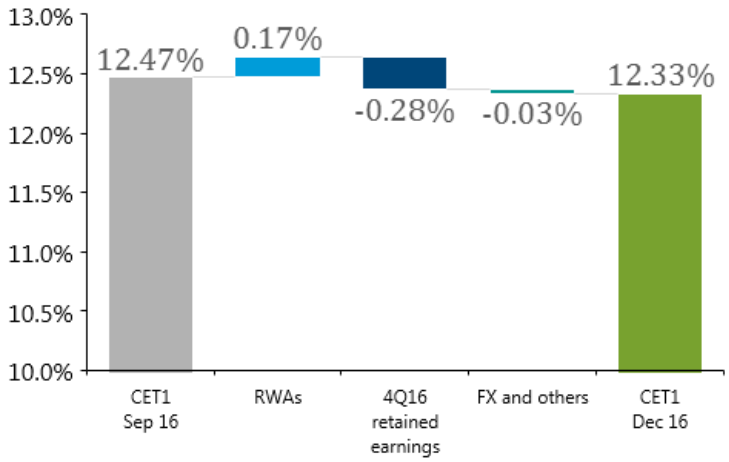
1.5 CET1 ratio: end-point.

Maximum, minimum and 25th-75th percentiles in boxes



Source: EU GSIBs balance sheets

1.6 Change in end-point CET1 by components



Source: EU GSIBs balance sheets

ratios for the end of the year. These one-off adjustments were followed by a rights issue in February 2017, which is anticipated to increase the CET1 ratio for 1Q17 for this bank and stand above the end-of-year ratio.

CET1 end-point basis

On an end-point basis[11], the average CET1 ratio has increased from 10.0% in December 2013 to 12.3% in December 2016.

These ratios are in excess of the minimum required CET1 ratio of between 5.1%-6.25% in 2016 and between 8%-12% required from 2019 onwards, depending on factors such as the size of the bank, the phased-in process of the capital conservation buffer, and the countercyclical buffer applied in the bank's domicile[12].

Over the last quarter, end-point CET1 ratios decreased from 12.47% in 3Q16 to 12.33% in December 2016. By banks, 11 banks increased the ratios during the quarter, while 3 banks decreased their ratios compared to the figures observed at the end of 3Q16.

On an aggregate basis, this quarterly decrease was driven by a contribution of 17bps from lower RWAs and a negative contribution of 28bps from the quarterly losses reported in 4Q16. See graph 1.6.

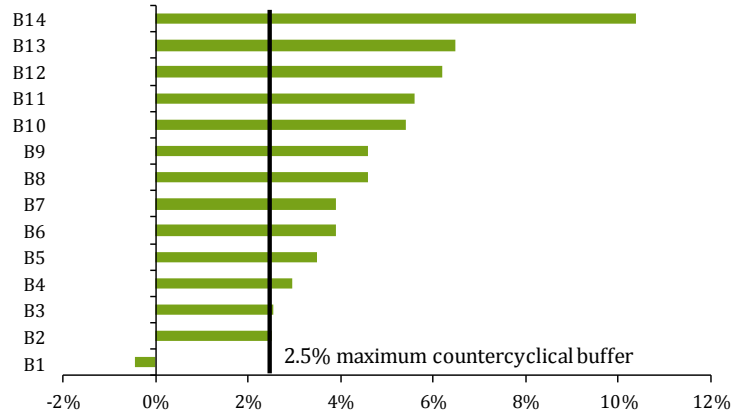
This breakdown, however, varied by banks, with most EU GSIBs reporting a positive contribution of retained profits on capital generation for the quarter.

For the full year, as illustrated on page 4 of this report, the annual increase in CET1 ratio was driven by contributions of 59bps from lower RWAs and 12bps from retained earnings for the full-year, with variance across banks of the capital generated through profits and differences in the contribution of RWA restructuring.

[11] Under the end-point approach, the proportion of CET1 capital to risk weighted assets is calculated as if the rules due to apply at the end of the transition period were in force.

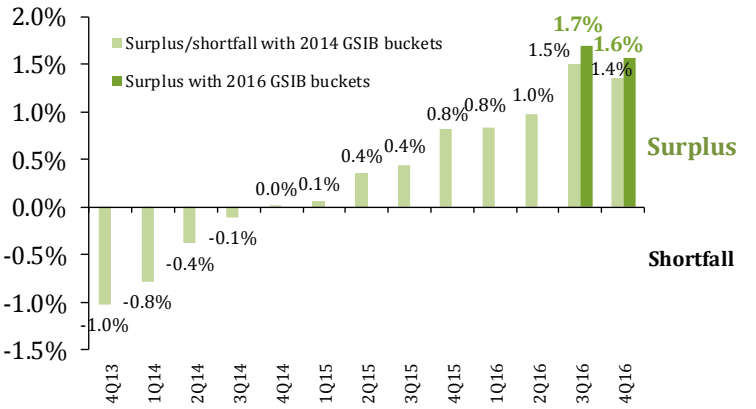
[12] The minimum required ratio in 2019 depends on the bucket in which the GSIB is allocated to, which ranges from 1-2.5% (0% for non-GSIBs), and the Countercyclical Buffer implemented by the NCAs which ranges from 0-2.5%. See Annex for further details.

1.7 Difference between current CET1 ratios and 2019 minimum requirement incl. GSIB buffer by bank (4Q16, end-point, absolute difference in %)



Source: EU GSIBs balance sheets

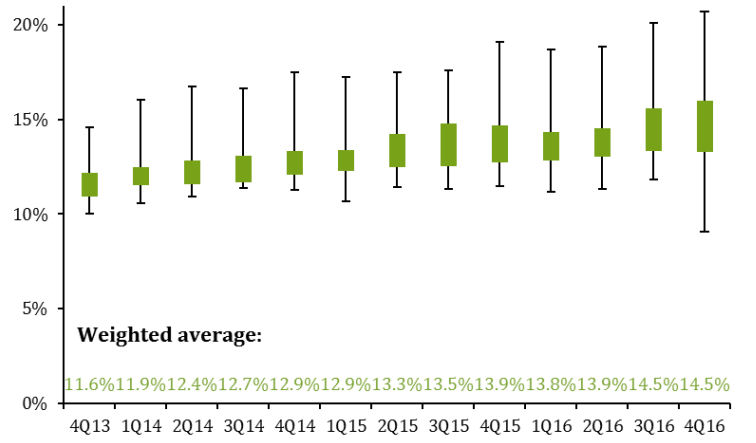
1.8 Weighted average of EU GSIBs' CET1 ratios relative to end-point target assuming a 2.5% countercyclical buffer (absolute difference in %)



Source: EU GSIBs balance sheets

1.9 Tier 1 ratio: phased-in

Maximum, minimum and 25th-75th percentiles in boxes



Source: EU GSIBs balance sheets

Surplus in minimum requirements[13]

Assuming no changes to GSIB bucket allocations and a continuance of 0% countercyclical buffer, data as of 4Q16 suggest that the large majority of banks complied with the 2019 ratios required due to their systemic importance (rows in Chart 1.7).

With an additional assumption that the maximum 2.5% Countercyclical Buffer (vertical line in Chart 1.7) is applied to all EU GSIBs in 2019, the same number of banks are found to be above this requirement.

As previously mentioned, the shortfall from end-point targets for one of the banks was related to one-off adjustments during the quarter, which would have been addressed by a recent rights issue raised during February 2017.

On an aggregate basis, the weighted-average[14] of EU GSIB's CET1 ratios stood in 4Q16 above the maximum Pillar I requirements due to be in force in 2019. This measure (Chart 1.8) assumes the maximum countercyclical buffer is set at 2.5% for all EU GSIBs and that banks are allocated in their current individual GSIB bucket (based on the 2014 GSIB list, in force in 2016), which however was updated by the FSB in 2015 and in 2016, affecting the GSIB buffer of four banks.

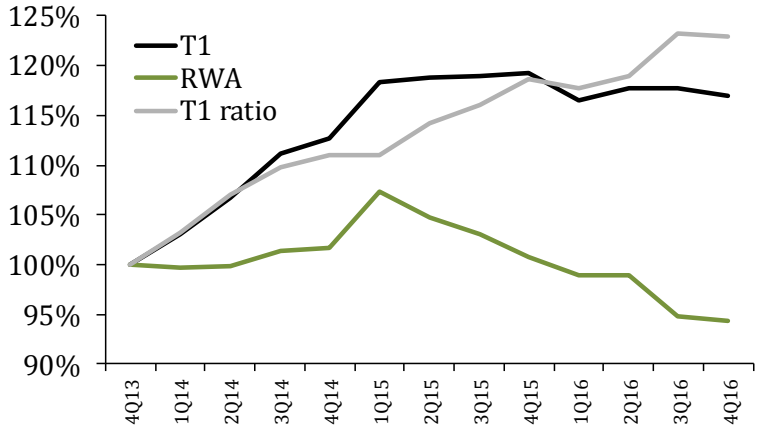
Using the new bucket allocation published by the FSB on November 2016, the weighted average surplus of Pillar I requirements is +1.6%.

Taking into account i) banks' Pillar I due to be met by 2019; ii) Pillar II requirements that have to be met with CET1 end-point capital; and iii) assuming the new 2016 GSIB buffer is maintained, estimations indicate a weighted average surplus on CET1 ratios of 1.8% if the countercyclical buffer is set at 0% in all jurisdictions (or a shortfall of 0.7% assuming a stressed scenario if the buffer is set at 2.5%).

[13] EU GSIBs shall comply with minimum CET1 ratios of between 8% and 12% from January 2019. The required ratio will depend on the G-SIB bucket the bank is assigned to (additional capital buffer between 1% and 2.5%) and the Countercyclical Buffer approved by national authorities which can reach a maximum of 2.5%.

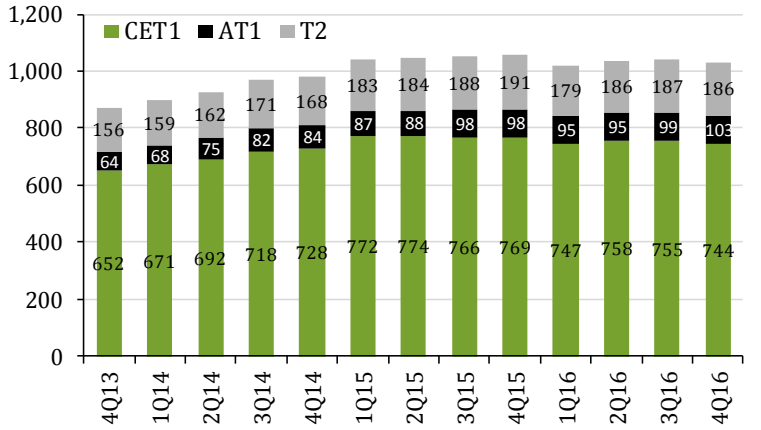
[14] Weighted by RWAs value.

1.10 Cumulative percentage change of T1, RWAs and T1 ratio (phased-in)[15]



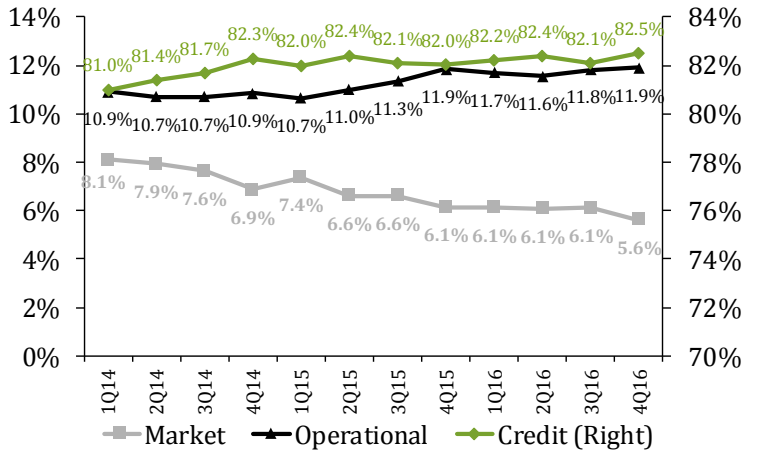
Source: EU GSIBs balance sheets

1.11 Structure of regulatory capital (€ bn, phased-in)



Source: EU GSIBs balance sheets

1.12 RWAs by risks



Source: EU GSIBs balance sheets

[15] The lines represent the cumulative percentage change of aggregate RWAs, T1 capital and the weighted average T1 ratio.

Tier 1 Capital

EU GSIBs have also complied with the requirements on T1 capital ratios[16].

EU GSIBs have increased their phased-in T1 ratios to 14.5% in 4Q16 from 11.6% in 4Q13 and 13.9% in 4Q15 (Chart 1.9). On a fully-loaded basis, data available indicate an improvement in this form of capital to a ratio of 13.7% in 4Q16 from 10.8% in 4Q13 and 12.9% in 4Q15.

These ratios are comparable with a minimum required ratio of 6% in 2015 and between 9.5% and 13.5% in 2019[17], taking into account only Pillar I requirements.

The improvement in T1 ratio is explained by a reduction of RWAs and a similar level in T1 capital than last year (-0.4%YoY), although substantially above that observed at the end of 2013.

Since December 2013 EU GSIBs have increased their phased-in T1 capital by 18%. This represents an increase of €129bn in capital raised from markets and internal generation.

Over the last three years, the participation of AT1 on total regulatory capital has increased from 7% (€64bn) in 4Q13 to 10% (€103bn) in 4Q16, in part due to the continued effort of banks to raise AT1 loss-absorbing capital instruments such as CoCos. See chart 1.11.

Risk-weighted assets

The proportion of market risks on total RWAs has decreased from 8.1% in 1Q14 to 5.6% in 4Q16, with a growing participation of credit and operational risks.

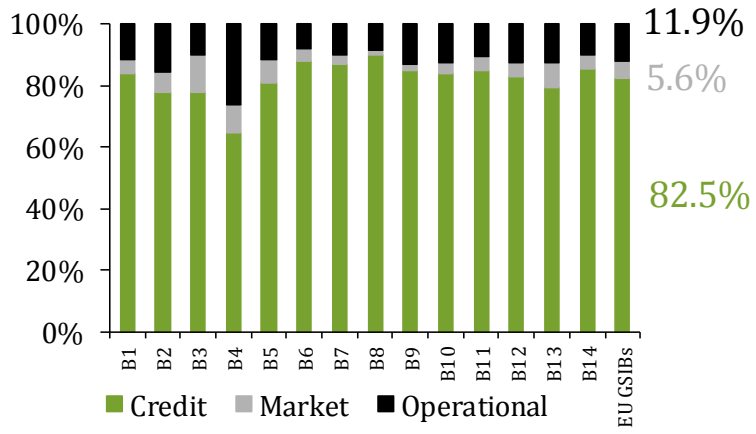
The changes in the RWA mix might be in response to anticipated changes to the Basel III revised minimum capital requirements for market risk, which the BIS finds to[18] be an increase of 75.9% on

[16] T1 capital is a comprehensive measure of capital that encompasses CET1 capital and Additional Tier 1 (AT1) capital. Contingent Convertible bonds, subject to conditions, are included in AT1 capital. This market is discussed in Section II of this report.

[17] As with CET1 capital ratios, the minimum required ratio in 2019 depends on the bucket in which the GSIB is allocated to, which ranges from 1-2.5% (0% for non-GSIBs), and the countercyclical buffer implemented by the NCAs which ranges from 0-2.5%. Further details of the implementation timetable are in the Annex.

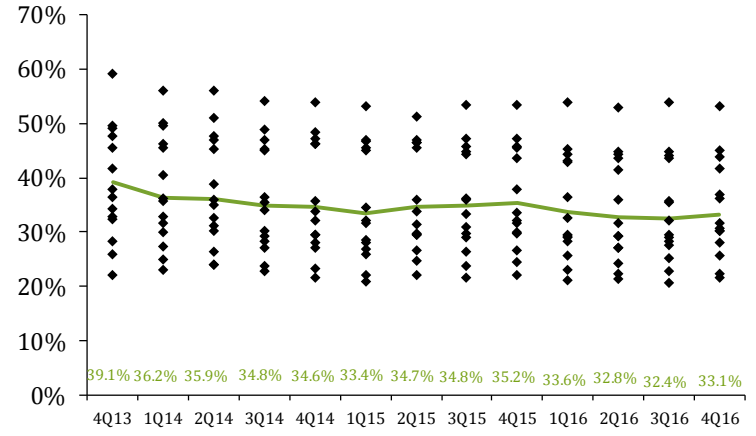
[18] See BIS 2017 Basel III Monitoring Report.

1.13 RWAs by risks and EU GSIB[19]



Source: EU GSIBs balance sheets

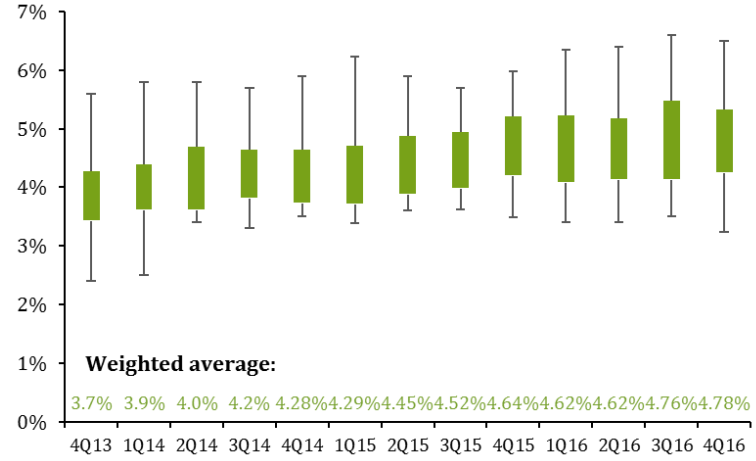
1.14 RWA densities (weighted average)[20]



Source: EU GSIBs balance sheets

1.15 Leverage ratio: end-point

Maximum, minimum and 25th-75th percentiles in boxes



Source: EU GSIBs balance sheets

[19] Breakdown as of 4Q16 for 11 of the 14 EU GSIBs. Others are presented as of latest available (2Q16).
[20] Phased-in RWAs as proportion of total assets.

average against current market risk minimum required capital for G-SIBs.

The proportions in the RWA mix will continue to change through the implementation of the remainder of the Basel package with the final trading book proposals pushing up market risk assets to around 10% before other changes are taken into account.

By banks, 10 of the 14 EU GSIBs had an exposure to credit risks above 80% of RWAs (with a maximum of 90% and a minimum of 65%), while only one bank reported an exposure above 10% of RWAs to market risks (compared with 3 banks in 1Q14). In relation to operational risks, 11 of the 14 EU GSIBs reported an exposure at or above 10% of RWAs to operational risks (range between 26% and 8% between banks).

RWA densities

The ratio of RWAs relative to total assets has decreased over the last three years, from 39.1% in 4Q13 to 33.1% in 4Q16.

The decreasing trend can be in part explained by the continued balance sheet restructuring of banks, with the de-risking of high risk-weight activities by some banks.

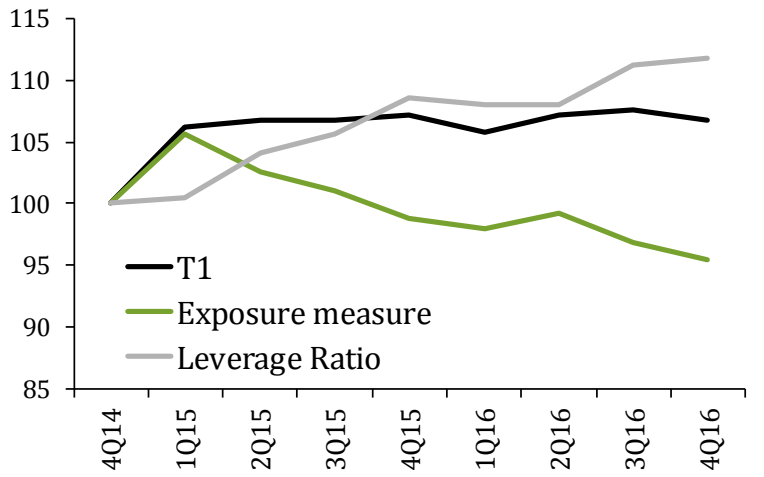
Notwithstanding the decreasing trend in RWA densities, the aggregate ratio is expected to increase with the implementation of new Basel initiatives such as the IRB models, revised Standardised Approaches & capital floors.

Leverage ratio

EU GSIBs have also improved their leverage ratios since December 2013. Leverage ratios are a measure of Tier 1 capital as a proportion of the bank's total exposure (on- and off-balance sheet assets.)

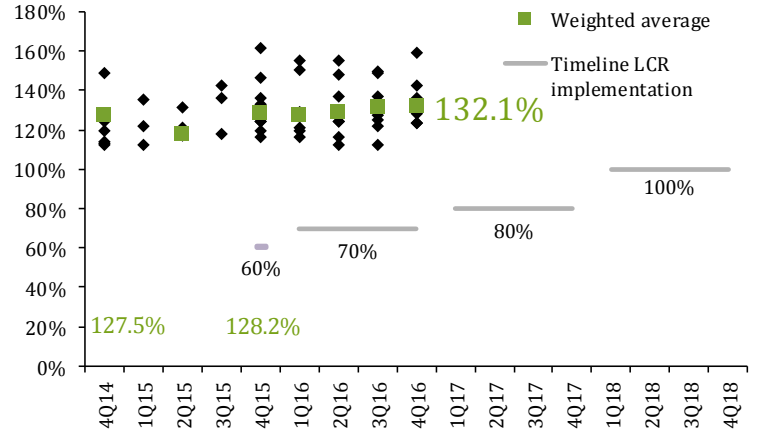
On an end-point basis, the weighted average leverage ratio has improved to 4.78% in 4Q16 from 3.7% in December 2013 and 4.64% in 4Q15. These ratios are comparable with a global minimum standard of 3% according to the Basel III accord.

1.16 Cumulative percentage change of T1 capital, exposure measure and leverage ratio



Source: EU GSIBs balance sheets

1.17 Liquidity Coverage Ratio (LCR)



Source: EU GSIBs balance sheets

The annual increase was driven by a decrease of 3% YoY in exposure measure, not fully offset by a minor annual decrease of 0.4% YoY in end-point T1 capital.

The annual decrease in the exposure measure occurs in tandem with the decrease of 4.1% in RWAs, mirroring the balance sheet restructuring of banks and the recent disposal of assets of some banks to continue to comply with the CRDIV requirements.

By banks, 12 of the 14 GSIBs improved their leverage ratio from last year. Likewise, 11 of the 14 banks improved their ratio compared to 3Q16.

Liquidity Coverage Ratio (LCR)

CRDIV requires banks to have a sufficient level of High Quality Liquid Assets (HQLA) to withstand a stressed funding scenario of 30 days[21]. More specifically, it requires that HQLA relative to total net cash outflows over a 30-day time period are greater than or equal to 100%.

Banks must meet at least 70% of the LCR requirement from from 1 January 2016, 80% from 1 January 2017, and 100% from 1 January 2018 (timescale in Graph 1.17).

Available information[22] on the basis of the fully-loaded requirement indicates that the weighted average LCR is already above the 2018 minimum required ratio (100%). The weighted average LCR stood at 132.1% in 4Q16, above the ratio observed in 4Q15 (128.2%)[23] and 127.52% in 4Q14.

[21] See EBA Basel III monitoring exercise here.
[22] Information was available for seven of the 14 EU GSIBs. Among the banks not included in this calculation, two reported that their LCRs stood above 110% while three banks reported that their ratios stood above 100%.
[23] According to the 2016 EBA Basel III monitoring exercise, as of June 2016, Group 1 banks reported an LCR ratio of 127.7%. As of June 2015, The EBA reported that Group 1 banks had a weighted average LCR of 121.1% of which GSIBs had a ratio of 118.1%. Only 9 EU GSIBs were covered in the EBA report. In the 2014 Basel III monitoring exercise, the average LCR for GSIBs was reported by the EBA at 127% (see here).

Box: A secondary market for NPLs

Non-performing loans (NPL) remain an issue that some EU Member States continue to deal with. As part of the CMU mid-term review, the European Commission (EC) will assess the case for the development of the secondary market of NPLs.

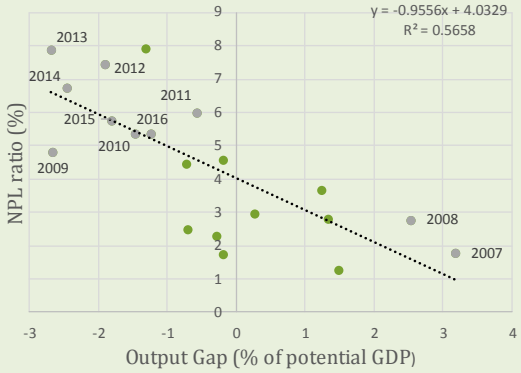
This Box summarises the recent trends in NPLs, state of play of NPL secondary markets and existing policy proposals to kick-start the market.

NPL adjustment

The 2007-08 global financial crisis and the subsequent sovereign debt crisis had long-standing adverse economic consequences in Europe, including rising NPLs.

As shown in chart 1.18 for Euro area countries, an increasing negative GDP output gap (difference between GDP and GDP potential) was mirrored by a growing NPL ratio. In 2007, euro area countries had an NPL ratio of 2.8% with a positive output gap of c3%. As the economic consequences of the crises unfolded, the NPL ratio rose to 8% in 2013 when the output gap was -2.6% while more recently the ratio has fallen to 5.4%. The adjustment of the euro area NPL ratio has been slow, albeit consistent with its historic relationship with macro performance and, specifically, with the adjustment of the GDP output gap.

1.18 Euro area NPL ratio and output gap: 1997-2016



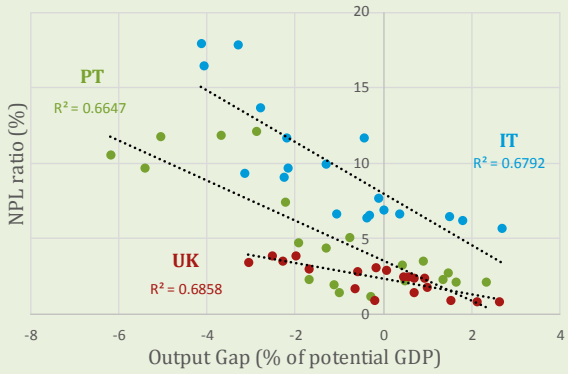
Source: IMF and World Bank

The relationship between NPL and GDP is notably two-sided: adverse macroeconomic performance increased NPLs but also persistently high NPLs have stifled credit growth and economic activity.

Some European countries were hit harder than others by the crises and endured, in consequence, a more prominent increase in their NPL ratios.

However, there are country-level differences in the NPL dynamic that would suggest that other factors apart from macroeconomic performance may have contributed to rising NPLs. For example, in the United Kingdom, a negative output gap of 3% was accompanied by an NPL ratio of c4.8% while in Italy a similar output gap was met with an NPL ratio of between 10% and 14% (see chart 1.19). The structural factors behind a slow NPL adjustment may relate to, for example, the quality of insolvency regimes, tax and accounting differences, or also the depth of secondary markets of NPLs.

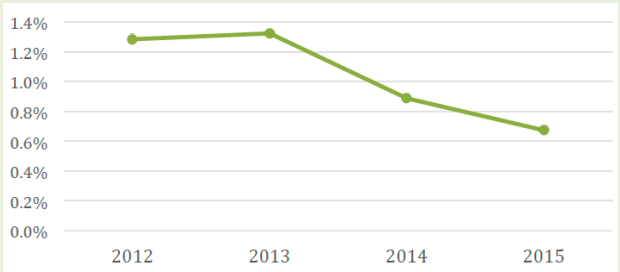
1.19 NPL ratio and output gap for selected EU countries: 1997-2016 (or latest)



Source: IMF and World Bank

The continued high NPL ratios have affected bank profitability and capital build-up. However, notwithstanding the difficulties of legal and restructuring proceedings in some countries and limitations of unharmonized insolvency regimes for debt resolution, European banks have already put NPL strategies in place and actively manage NPL portfolios, including extensive reporting to supervisors. This is proven to be effective as shown in the downward trend in the cost of risk (loan loss provisions/average gross loans) for Tier 1 SSM banks over the past years.

1.20 Cost of risk – Tier 1 SSM banks



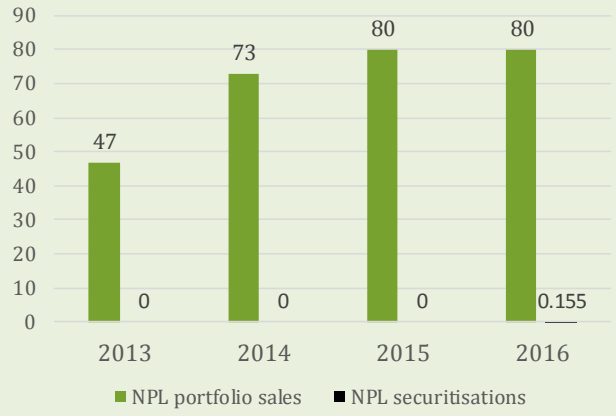
Source: Weighted average cost of risk (loan loss provisions/average gross loans) for 10 SSM banks. Data taken from Reuters: Deutsche Bank, Commerzbank, BBVA, Santander, BNP Paribas, Credit Agricole, Société Générale, UniCredit, Intesa San Paolo and ING. Does not include Commerzbank in 2012 and 2013 and ING in 2012 due to missing data

A deeper secondary market of distressed debt

Deeper secondary markets of NPLs can contribute to accelerate the NPL adjustment process as banks continue internal workout towards restructuring their NPL portfolios.

The volume of NPL secondary market transactions continues low compared to the outstanding amount of NPLs, with €80bn in 2016 in market transactions[24] (against €1tn of NPLs in the EU) with most activity traded in the form of NPL portfolio sales and to a lesser extent as NPL securitisations[25] (only €155m issued in 2016). According to the EBA[26], since 2013, NPL transactions (including securitisation) were observed in only 13 (CZ, DE, GB, HR, IE, IT, LV, NO, PL, PT, RO, SI, ES) out of 27 European countries surveyed.

Chart 4: Size of secondary market of NPLs: NPL portfolio sales and NPL securitisations (€bn)



Source: PwC (NPL loans) and AFME (Securitisation). NPL loan sales are estimates as usually portfolio sales include performing and non performin g loans. NPL Securitisation data does not include re-performing pools

Market impediments and policy proposals

The development of secondary markets of distressed debt has been analysed by policy makers, Central Banks and multilateral agencies like the IMF and the EBRD.

The identified impediments for a more active secondary market have converged around six common themes, including i) "poor" data quality of the assets behind the transaction; ii) quality of legal and insolvency frameworks (including limitations to a rapid execution of collateral); iii) subdued securitisation market; iv) lack of licensing and regulatory regimes to enable nonbanks to own and manage NPLs; v) tax (dis)incentives relating to transfer of NPL portfolios and loan loss deductibility and accounting standards; and vi) lack of economies of scale for small banks, heterogeneity of loans and role of AMCs in that context.

Among the proposals to develop the market, in 2015 the IMF suggested[27]:

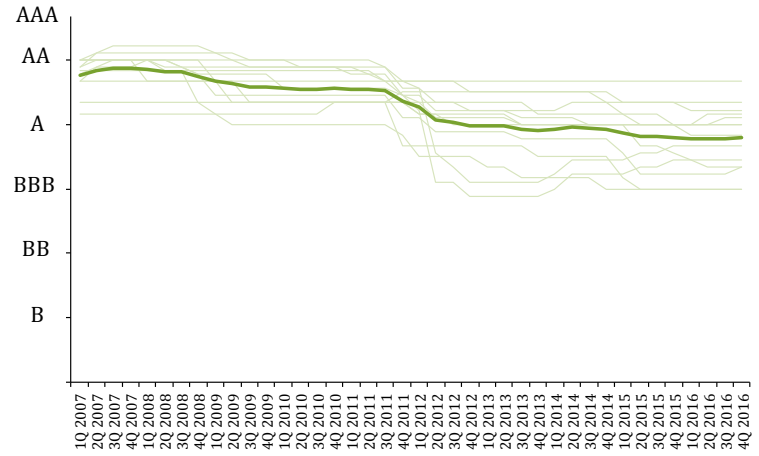
- **Securitisation:** a more active involvement by the EIB/EIF through investing in senior tranches or providing guarantees on mezzanine tranches of NPL securitisation transactions.
- **Participation of non-banks:** facilitate licensing of non-banks for restructuring (or participation off non-banks in purchasing NPLs), which would lower the cost of entry into this market and allow for greater specialization; and
- **AMCs:** recognised the importance of AMCs to kick-start the market, although acknowledged that any public involvement should be compatible with state aid rules[28].

The European Commission, in the context of the CMU mid-term review asked stakeholders feedback on the development of secondary market of NPLs. The consultation can help the Commission in developing a strategy that establishes how the CMU project can contribute to facilitate the process of NPL resolution through market-based instruments. The consultation can also help as an initial diagnosis of the functioning of the market, where further analysis will be needed to provide evidence of possible existing market failures and evaluate the costs and benefits of existing policy proposals.

[24] PwC estimates that in 2016, 2016 European loan sales accumulated €120bn of which around €80bn were NPL volumes. In 2013, total loan sales accumulated €64bn of which around €47bn were NPLs.
[25] AFME data. Does not include re-performing pools. Market information (deals on the pipeline) indicates that issuance volume should substantially increase in 2017.
[26] EBA Report on the Dynamics and Drivers of Nonperforming Exposures in the EU Banking Sector (June 2016)
[27] IMF Staff Discussion Note (2015) "A Strategy for Resolving Europe's Problem Loans"
[28] Andrea Enria, Chairperson of the EBA, has recently put forward a proposal on a European AMC. Further information on this proposal available in: https://www.esm.europa.eu/speeches-and-presentations/esm-seminar-andrea-enria-eba-chairperson and in: http://www.centralbanking.com/central-banking-journal/opinion/2481794/why-the-eu-needs-an-asset-management-company

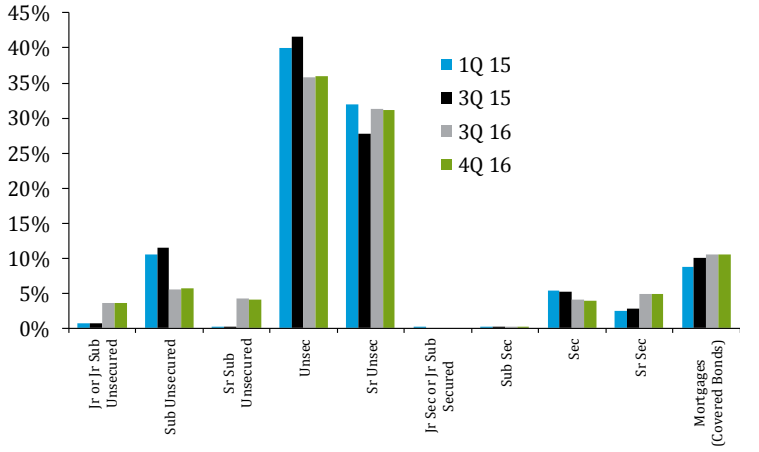
2 Debt securities and contingent convertibles

2.1 EU GSIBs simple average long-term credit rating



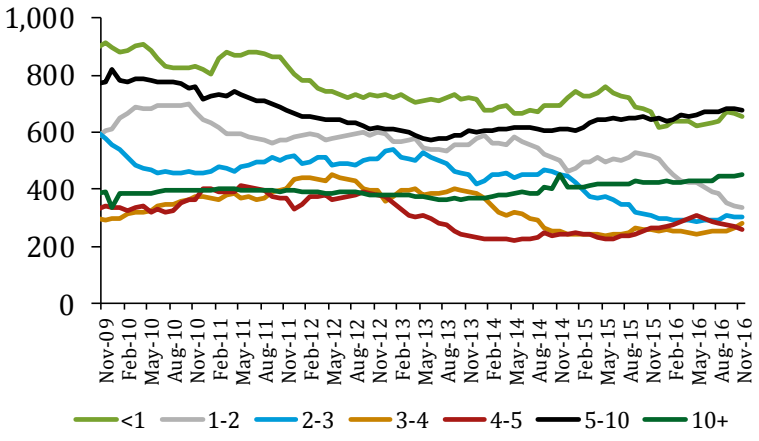
Source: *Thomson Reuters Eikon with information of Moody's, Fitch and S&P*

2.2 EU GSIBs debt outstanding by seniority



Source: *Thomson Reuters Eikon*

2.3 Maturity profile of EU 28 Banks' outstanding debt securities (€ bn, maturity in years)



Source: *ECB*

Credit ratings

In 2016, six EU GSIBs saw changes to their credit quality assessment, with three banks upgraded and three banks downgraded during the year.

All the credit rating downgrades were observed in the first half of the year and were driven by reasons such as concerns about prospects of profitability and the macro environment (three banks), and concerns about the capacity to build loss-absorbing instruments (one bank).

The credit upgrades were mostly observed in the second half of the year. These changes were mostly driven by the material improvement in solvency and financial strength of the assessed banks (two banks), and strong issuances of loss-absorbing securities and expectation of further issuance (one bank).

At the end of 2016, the average EU GSIB long-term credit stood at A (or A2 in the Moody's scale), the same rating observed in 4Q15.

Debt securities

EU GSIBs have increased the proportion of subordinated unsecured bonds in their funding mix. In Dec-2015, subordinated unsecured bonds accounted for 11.2% of banks' outstanding market debt, which rose to 13.5% in Dec-2016 as banks continue to prepare for the implementation of MREL and TLAC rules.

Future changes to the debt structure will continue to be driven by the preparation for the implementation of MREL and TLAC, ahead of the finalisation of the legal text of the provisions.

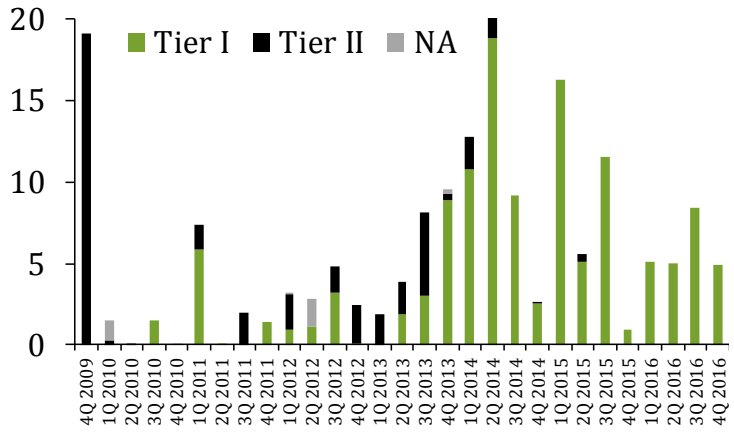
Maturity profile

The average maturity of outstanding debt securities has increased from 4.3 years in 4Q09 to 5.3 years in 4Q16[29].

The proportion of short-term debt (<1Y maturity) relative to outstanding debt securities decreased from 30% in 2009 to 22% in 4Q16. Likewise, the proportion of long-term debt (>10Y maturity) increased from 11% of total market debt to 15% in 4Q16.

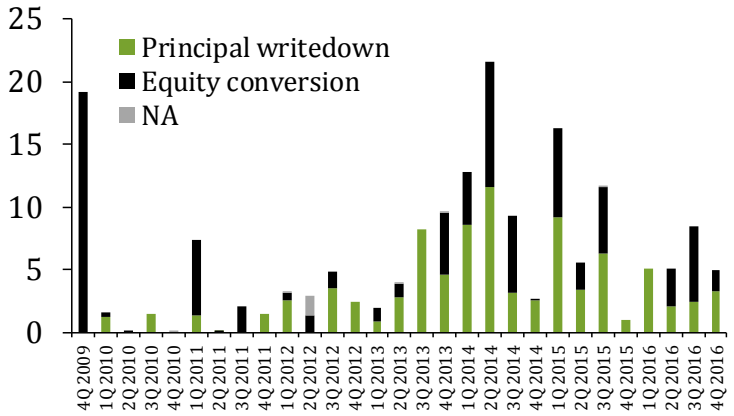
[29] This calculation assumes that bonds with maturities above 10 years (including perpetual) have a weighted average maturity of 15 years.

2.4 CoCos by capital tiering (€ bn)



Source: Dealogic and Thomson Reuters Eikon

2.5 CoCos by loss absorbing mechanism (quarterly, € bn)



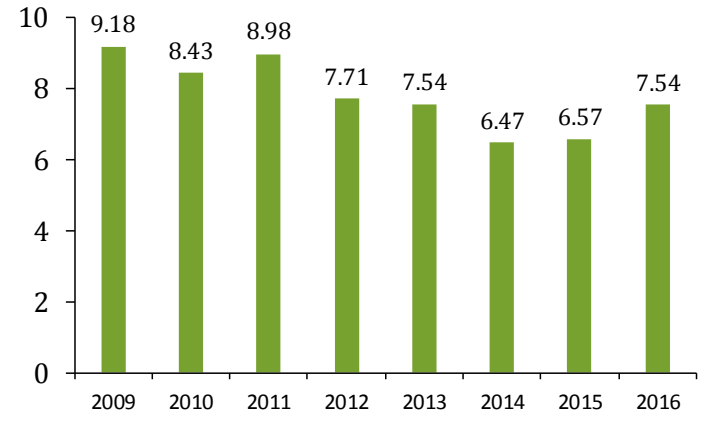
Source: Dealogic and Thomson Reuters Eikon

2.6 CoCos by loss absorbing mechanism (€ bn)

	2010	2011	2012	2013	2014	2015	2016
Writedown	2.8	2.8	8.4	16.4	25.8	19.7	12.9
Conversion to Equity	0.4	8.0	3.4	7.1	20.4	14.5	10.6
Not Available	0.0	0.0	1.5	0.0	0.0	0.0	0.0
Writedown (%)	87%	26%	63%	70%	56%	58%	55%
Conversion to Equity (%)	13%	74%	26%	30%	44%	42%	45%
Total European	3.2	10.9	13.3	23.5	46.2	34.3	23.5

Source: Dealogic

2.7 Weighted average coupons of fixed-rate CoCos



Source: AFME with Dealogic data

Contingent capital

Contingent Convertible (CoCo) bonds are hybrid capital securities that absorb losses when the capital of the issuing bank falls below a certain pre-determined threshold[30].

European banks[31] issued a total of €4.9 bn in CoCo bonds during 4Q16, accumulating a total of €23.5bn issuance during 2016.

The 2016FY issuance volume was below the volume observed in the previous two years (€34.3bn in 2015 and €46.2bn in 2014) as a challenging macro and financial environment (mainly in the first half of the year) may have limited a more accelerated pace of origination by banks.

CoCos by capital tiering and absorbing mechanism

A total of €12.9bn of CoCo instruments issued in 2016 were structured on the basis of principal write down, representing 55% of the total issued volume. €10.6bn (or 45% of the total) were structured on the basis of equity conversion.

The majority of the instruments issued in 2016 were structured with fixed rate coupons. The remaining variable rate coupons were structured contingent on the performance of Nordic interbank interest rates (NIBOR, STIBOR and CIBOR).

Average coupons of new fixed-rate issues[32] increased to 7.54% in 2016 from 6.57% in 2015 on a weighted average basis.

The increase in coupon rates was driven by higher yield spreads of European CoCos against benchmark rates during the year (520bps in 2016 vs. 438 bps in 2015-see chart 2.13), not fully offset by the decrease during the year in 10Y average benchmark yields (0.2% of AAA EUR benchmark in 2016 vs. 0.6% in 2015).

[30] BIS (2013) "CoCos: a primer". BIS Quarterly Review, September 2013.
[31] Including EU, EFTA and other Eastern European Banks.
[32] Weighted average by Euro deal value, taking into account only fixed rate coupon notes.

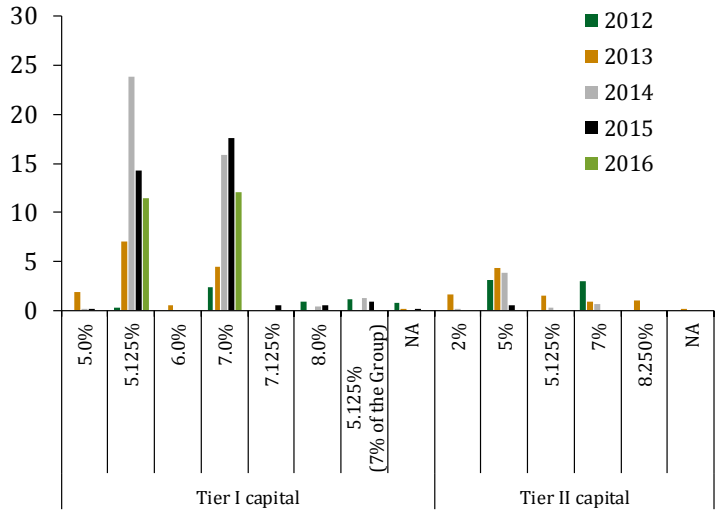
2.8 CoCos by credit rating at date of issuance (€ bn)

33

	2009	2010	2011	2012	2013	2014	2015	2016
AAA		1.3						
AA-			6.1				0.05	
A			1.4				0.5	0.04
A-		0.1	1.4		0.1	0.8	0.03	
BBB+		1.0	1.5			3.0	0.4	
BBB		0.5			4.9	7.0	7.0	3.1
BBB-				6.1	4.3	0.9	5.8	4.8
BB+				1.4	2.2	10.2	8.2	5.8
BB	12.7	0.3			6.4	13.6	6.0	4.0
BB-	5.6				3.6	4.7	1.0	2.0
B+						0.3	2.9	2.9
B	0.9						0.7	0.7
B-							0.5	
NA/Not rated		0.01	0.5	5.8	2.0	5.8	1.2	0.3
Total	19.1	3.2	10.9	13.3	23.5	46.2	34.3	23.5
Investment Grade	0.0	2.9	10.4	6.1	9.3	11.6	13.7	7.9
High Yield	19.1	0.3	0.0	1.4	12.2	28.8	19.4	15.3

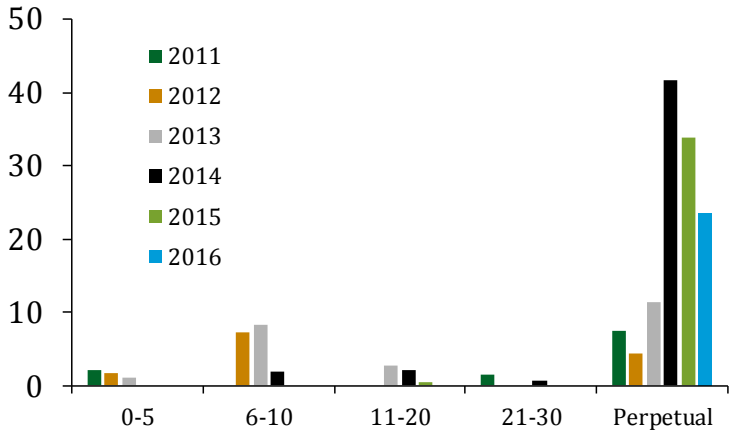
Source: Dealogic

2.9 CoCos by trigger (€ bn)



Source: Dealogic and Thomson Reuters Eikon. * 5.125% of the bank or 7.0% of the Group

2.10 CoCos by maturity at date of issuance (€ bn)



Source: Dealogic

CoCos by credit rating

CoCo securities issued during 2016 were assessed with credit ratings of between A and B (or between A2 and B2 in the Moody's scale).

The weighted average credit rating of the rated instruments issued in 2016 stood at BB+, the same rating of 2015.

€7.9 bn of the equivalent value of issued instruments were rated at an investment grade rating of BBB- or above (34% of the total issuance value), while €15.3bn were rated BB+ or below (65% of the issuance value), and 1% was unrated.

The breakdown is comparable with the credit ratings observed in 2015, when 40% (€13.7bn) of issued CoCos were rated between AA- and BBB- and 57% (€19.4 bn) at BB+ and below, with 3% (€1.2 bn) unrated or having an unavailable rating.

Average trigger

CoCo instruments contingent on Tier 1 performance are typically structured with capital triggers of 5.125% and 7%.

During 2016, 22 instruments representing 49% of the issuance value (or €11.5bn) were structured with a 5.125% trigger contingent on Tier 1 performance. 13 instruments representing €12bn in volume were structured with a trigger of 7%, also contingent on Tier 1 performance.

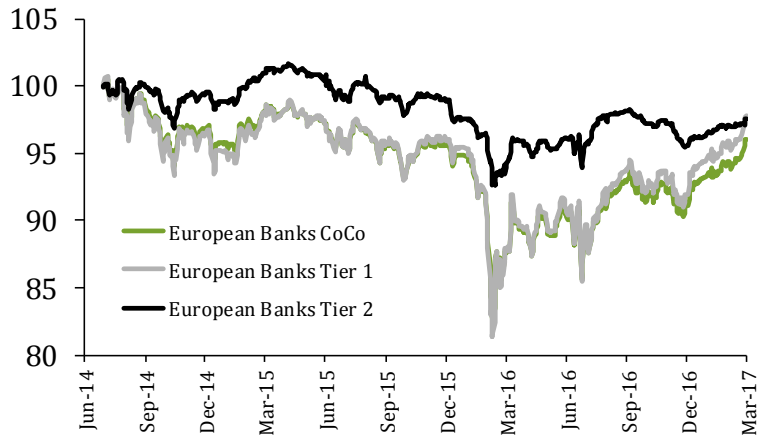
Average maturity

All CoCo instruments issued during 2016 were structured in the form of perpetual bonds.

This is broadly consistent with the typical maturity of new issues structured in recent years. For example, in 2015 99% of issued CoCos were structured in the form of perpetual bond instruments and 90% in 2014.

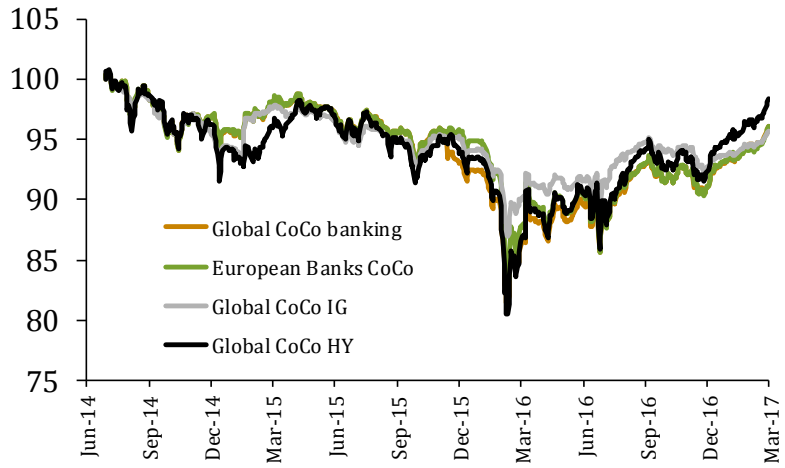
[33] Total figures may appear not to add up due to rounding.

2.11 CoCo prices by capital tiering (Jun-14=100)



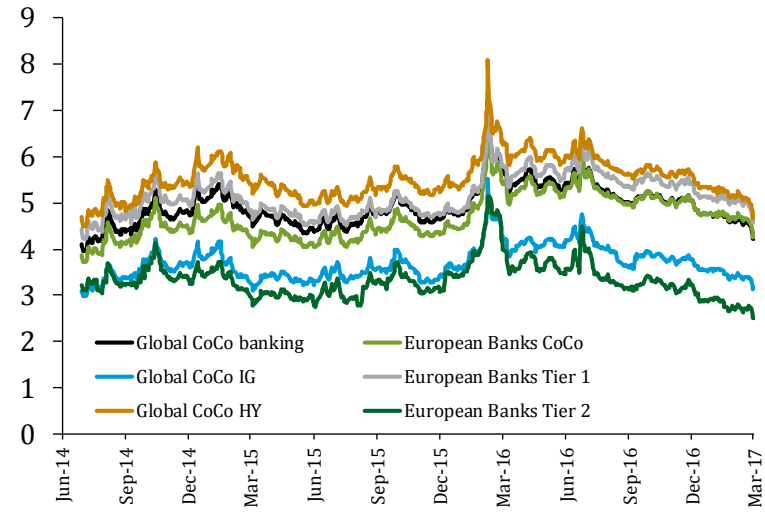
Source: Barclays

2.12 CoCo prices by risk and location (Jun-14=100)



Source: Barclays

2.13 CoCo option-adjusted spreads (OAS) (%)



Source: Barclays

Valuations

CoCo prices fully recovered after the market volatility episode of 1Q16 and the market reaction in the immediate aftermath of the UK referendum result.

European CoCo prices closed the year with gains of 3.3% against the prices observed at the end of 2015 on a total return basis. More recently, during the first months of 2017 CoCo prices have accumulated gains of 4.33% from December 2016, standing 20% above the lowest price level reached in the trough of the market turbulence episode of 1Q16.

As of March 2017, T1 and high-yield CoCo instruments have recovered the most since 1Q16 (+20%), while T2 instruments recovered by 5%.

T2 investors take losses on their instruments only after T1 investors. This explains why the valuations of T1 instruments were hardest hit during the market turbulence episode and, in consequence, have seen a more rapid increase than T2 instruments.

Option-adjusted spreads (OAS)

In tandem with the recent increase in CoCo prices, OAS against benchmark risk-free rates (or *risk premium*) fell as of 4Q16 by an average of 208 bps against the highest level reached during 1Q16, although 34 bps above the level observed in 4Q15.

More recently, the risk premium on European CoCo bonds has continued to fall during 2017 with a decrease of 50bps against the spreads observed[34] at the end of 2016.

[34] As of 6 March 2017

2.14 Recently issued CoCos by European Banks (2017 as of mid-January)

Pricing Date	Issuer	Tier Capital	Deal Total Value (Euro)	Trigger	Conversion mechanism	Issue Rate	Effective Rating (Launch)	Maturity	Coupon
12-Jan-16	Intesa Sanpaolo SpA	Tier I	1,250,000,000	5.125%	Writedown	Fixed	BB-	Perpetual	7
12-Jan-16	Credit Agricole SA	Tier I	1,146,473,448	5.125%	Writedown	Fixed	BB	Perpetual	8.125
14-Mar-16	UBS Group AG	Tier I	1,345,412,145	7%	Writedown	Fixed	BB+	Perpetual	6.875
23-Mar-16	BNP Paribas	Tier I	1,331,676,136	5.125%	Writedown	Fixed	BBB-	Perpetual	7.625
07-Apr-16	Banco Bilbao Vizcaya Argentaria SA - BBVA	Tier I	1,000,000,000	5.125%	Equity conversion	Fixed	BB	Perpetual	8.875
19-Apr-16	Rabobank Nederland	Tier I	1,250,000,000	5.125%	Writedown	Fixed	BBB-	Perpetual	6.625
28-Apr-16	Bankinter SA	Tier I	200,000,000	5.125%	Equity conversion	Fixed	BB-	Perpetual	8.625
13-May-16	SBAB Bank AB	Tier I	83,321,238	5.125%	Writedown	Fixed	BB+	Perpetual	5.052
13-May-16	SBAB Bank AB	Tier I	77,945,675	5.125%	Writedown	Variable	BB+	Perpetual	3-mth STIBOR + 475bp
25-May-16	Erste Group Bank AG	Tier I	500,000,000	5.125%	Writedown	Fixed	BB	Perpetual	8.875
24-May-16	HSBC Holdings plc	Tier I	1,783,007,934	7%	Equity conversion	Fixed	BBB	Perpetual	6.875
17-Jun-16	DNB Bank ASA	Tier I	149,118,603	5.125%	Writedown	Variable	BBB	Perpetual	3-mth NIBOR + 525bp
03-Aug-16	UBS Group AG	Tier I	893,295,815	7%	Writedown	Fixed	BB+	Perpetual	7.125
10-Aug-16	Royal Bank of Scotland Group plc	Tier I	2,389,324,678	7%	Equity conversion	Fixed	B+	Perpetual	8.625
11-Aug-16	Standard Chartered plc	Tier I	1,792,516,245	7%	Equity conversion	Fixed	BB+	Perpetual	7.5
24-Aug-16	Barclays plc	Tier I	1,324,274,930	7%	Equity conversion	Fixed	BB	Perpetual	7.875
08-Sep-16	Jyske Bank A/S	Tier I	131,609,425	7%	Writedown	Variable	BB+	Perpetual	3-mth STIBOR + 580 bp
08-Sep-16	Jyske Bank A/S	Tier I	67,176,762	7%	Writedown	Variable	BB+	Perpetual	3-mth CIBOR + 530 bp
06-Sep-16	Societe Generale SA	Tier I	1,344,086,022	5.125%	Writedown	Fixed	BB+	Perpetual	7.375
07-Sep-16	Sparebanken Vest	Tier I	43,388,419	5.125%	Writedown	Variable	A	Perpetual	3-mth NIBOR + 450bp
19-Sep-16	CYBG plc	Tier I	477,300,542	7%	Equity conversion	Fixed	B+	Perpetual	8
11-Oct-16	DNB Bank ASA	Tier I	671,411,307	5.125%	Writedown	Fixed	BBB	Perpetual	6.5
13-Oct-16	Julius Baer Group AG	Tier I	213,226,611	7.000%	Writedown	Fixed	BBB-	Perpetual	5.75
27-Oct-16	Alfa Bond Issuance plc	Tier I	366,821,037	5.125%	Writedown	Fixed	B	Perpetual	8
03-Nov-16	Virgin Money plc	Tier I	254,706,534	7%	Equity conversion	Fixed	Not rated	Perpetual	8.75
16-Nov-16	Danske Bank A/S	Tier I	403,076,820	7%	Writedown	Variable	BBB-	Perpetual	3-mth CIBOR +475bp
16-Nov-16	ING Groep NV	Tier I	930,016,275	7%	Equity conversion	Fixed	BBB-	Perpetual	6.875
22-Nov-16	Skudenes & Aakra Sparebank	Tier I	7,699,881	5.125%	Writedown	Variable	Not rated	Perpetual	3-mth NIBOR +480bp
28-Nov-16	Spar Nord Bank A/S	Tier I	60,492,002	5.125%	Writedown	Fixed	BB+	Perpetual	5.5
07-Dec-16	BNP Paribas SA	Tier I	697,869,173	5.125%	Writedown	Fixed	BBB-	Perpetual	6.75
09-Dec-16	Swedbank AB	Tier I	466,178,733	5.125%	Equity conversion	Fixed	BBB	Perpetual	6
09-Dec-16	Grenke AG	Tier I	20,600,000	5.125%	Writedown	Fixed	BB-	Perpetual	8.25
14-Dec-16	UniCredit SpA	Tier I	500,000,000	5.125%	Writedown	Fixed	BB-	Perpetual	9.25
14-Dec-16	Hoist Kredit AB	Tier I	30,000,000	5.125%	Writedown	Fixed	Not rated	Perpetual	8.625
20-Dec-16	Alfa Bank OAO	Tier I	290,063,182	5.125%	Writedown	Fixed	B	Perpetual	8
04-Jan-17	Intesa Sanpaolo SpA	Tier I	1,250,000,000	5.125%	Writedown	Fixed	BB-	Perpetual	7.75
11-Jan-17	Standard Chartered plc	Tier I	944,688,489	7%	Equity conversion	Fixed	BB+	Perpetual	7.75

Source: *Dealogic and Thomson Reuters Eikon*

Summary of the methodologies adopted in this report

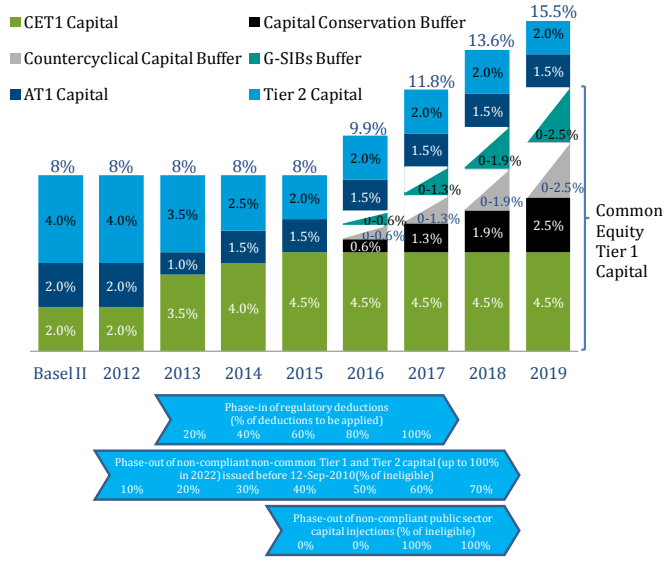
1. Balance Sheets – Overview

In 2013 the European Union adopted the CRDIV legislation, implementing the Basel III accord in the EU. The CRDIV includes a number of transitional measures, which facilitate financial markets and the real economy in adjusting smoothly to the new regulatory landscape. The charts in the first part of the report illustrate the capital and leverage ratios under the phased-in (transitional) and the end-point (fully loaded) approaches, as reported by the EU GSIBs.

During the transition period (2014-2019), certain deductions are applied to the calculation of CET1 capital, Tier 1 capital and Tier 2 capital. For CET1 capital, the regulatory deductions vary by year from 20% in 2014 to 100% from 2018 onwards, with increases of 20% per year. These deductions are related to the treatment of deferred taxes, securitisation, and unrealised losses, among others.

In addition to the abovementioned deductions, the CRDIV also establishes a timetable for the compliance with minimum capital requirements and buffers. The ratio of minimum regulatory capital to risk-weighted assets (RWA) is illustrated in the chart below.

Minimum Capital Requirements & Buffers Implementation Timetable (% of RWAs)



Source: : AFME

The GSIB buffer ranges from 1% to 2.5% for GSIBs. The GSIB buffer varies by bank depending on the bucket where the firm is allocated to as per the FSB's/BIS methodology, which takes into account features such as size; interconnectedness; complexity; financial infrastructure; and cross-jurisdictional activity of the institution. The required countercyclical buffer ranges from 0%-2.5% depending on the assessment of each NCA.

1.1. – 1.5, 1.9 Capital Ratios

The Capital Ratios charts illustrate the implementation of the CRDIV requirements by the 14 EU GSIBs as designated by the FSB in 2014. Such banks are: HSBC; Barclays; BNP Paribas; Deutsche Bank; Royal Bank of Scotland; BBVA; Groupe BPCE; Group Crédit Agricole; ING Bank; Nordea; Santander; Société Générale; Standard Chartered; and UniCredit Group.

The number of reporting banks for each chart varies depending on the availability of information. The table below illustrates the number of banks that are included in each of the charts in Section 1. All figures were compiled on a best efforts basis.

	1.1	1.2, 1.3, 1.4, 1.10	1.5, 1.7, 1.8	1.9	1.11	1.12, 1.13	1.14	1.15	1.16*
4Q13	14	14	14	7	14			10	
1Q14	14	14	12	11	14	7	14	10	
2Q14	14	14	13	12	14	11	14	11	
3Q14	14	14	12	10	14	9	14	11	
4Q14	14	14	14	13	14	14	14	14	6 (7)
1Q15	14	14	13	11	14	11	14	14	3
2Q15	14	14	14	13	14	12	14	14	3 (9)
3Q15	14	14	14	12	14	10	14	14	3
4Q15	14	14	14	12	14	14	14	14	8
1Q16	14	14	14	11	14	11	14	14	7
2Q16	14	14	14	13	14	14	14	14	7
3Q16	14	14	14	14	14	14	13	14	7
4Q16	14	14	14	14	14	13	14	14	7

*The weighted averages for 4Q14 and 2Q15 are sourced from EBA's monitoring exercise reports which is based in the number of banks in parenthesis.

The CET1 Capital ratio is the share of Core Tier 1 (CET1) capital as percentage of Risk Weighted Assets (RWAs); Tier 1 Ratio is the share of Tier 1 capital as percentage of RWAs. Each ratio is shown on a phased-in (transitional) and fully loaded (end-point) approach as per the CRDIV legislation and as reported by the EU GSIBs.

The capital ratios data are sourced from EU GSIBs balance sheets and publicly available information disclosed in periodic financial reports and prudential data reports published by the above mentioned banks (i.e. interim earnings reports, annual reports, results presentations, Pillar III disclosure reports or financial data disclosed as

part of interim earnings results). When not available in the EU GSIBs' financial results and publicly available information, 4Q14 CET1 and RWAs were sourced from the EBA's 2013 stress tests for the transitional approach.

For charts 1.3 and 1.4, for purposes of aggregation in Euros, the balance sheets items reported in USD and GBP were converted to Euros using the end-of-quarter exchange rate as certified by the ECB. The specific exchange rates are the following:

	EUR/USD	EUR/GBP
4Q13	1.3791	0.8337
1Q14	1.3788	0.8282
2Q14	1.3658	0.8015
3Q14	1.2583	0.7773
4Q14	1.2141	0.7789
1Q15	1.0759	0.7273
2Q15	1.1189	0.7114
3Q15	1.1203	0.7385
4Q15	1.0887	0.73395
1Q16	1.1385	0.79155
2Q16	1.1102	0.8265
3Q16	1.1161	0.86103
4Q16	1.0541	0.85618

Source: ECB

1.6. Change in CET1 by components

Chart 1.6 illustrates the contribution of RWAs, profits and other factors to the quarterly change of CET1 ratio on an end point approach. The figures are aggregated by banks on a weighted average basis. The individual contributions are sourced from banks' presentations of the quarterly financial results and quarterly financial statements, when available in the granularity presented. When the figure is not available at the same level of granularity, a linear decomposition is performed: the quarterly percentage change of the CET1 ratio is approximated as the quarterly percentage change in CET1 capital, minus the quarterly percentage change in RWAs.

Accordingly, the contribution of RWAs to the change is calculated as the percentage change of RWAs multiplied by the CET1 ratio in the past quarter. The contribution of profits is calculated as the quarterly profits, divided by the amount of RWAs in the past quarter. The remaining "FX and other" factor is calculated as residual.

1.7. – 1.8. Difference between CET1 ratios and 2019 ratios on an end-point basis

Chart 1.7 illustrates the difference between the individual EU GSIBs CET1 ratios on an end-point basis, and the regulatory ratio due to apply from 2019 assuming that banks are to comply with the GSIB buffer they are currently assigned (between 1% and 2.5%). The additional countercyclical buffer is represented with a horizontal line at 2.5%, to illustrate the maximum buffer that EU GSIBs would have to comply with, should all NCAs implement the maximum buffer at 2.5%. The countercyclical buffer is yet to be implemented by the European NCAs.

Chart 1.8 illustrates the difference between EU GSIBs weighted-average CET1 ratio on an end-point basis, and a stressed maximum regulatory ratio that banks would have to comply with assuming that NCAs implement the maximum countercyclical buffer at 2.5%. That is, a requirement of 4.5% (Minimum CET1 ratio) + 2.5% (Capital conservation buffer) + 1%-2.5% (according to the bucket where the GSIB is currently located) + 0%-2.5% (countercyclical buffer). To estimate the weighted-average CET1 ratio, individual RWAs were used.

One of the 14 EU GSIBs reports its financial results on a semi-annual basis. Chart 1.8 uses the latest CET1 ratio reported for this bank.

1.10. Cumulative change of T1, RWA and T1 ratio

This chart illustrates the cumulative percentage change of each of the components of the Tier 1 ratio on a phased-in basis. As with previous charts, T1 and RWAs are sourced from EU GSIBs' financial reports and publicly available material (see reference to charts 1.1-1.4).

The data is aggregated for banks where information is available. In contrast to chart 1.8, the ratio and its subsequent cumulative percentage change, is calculated as total T1 capital as proportion of total RWAs (and not simple average of ratios).

1.11. Structure of regulatory capital

Total phased-in regulatory capital of EUGSIBs by capital tiering: CET1, AT1 and T2.

1.12. – 1.13. Risk-Weighted Assets (RWAs)

The breakdown of RWAs by risk is sourced from financial reports published by the EU GSIBs as referenced in 1.1-1.4

Chart 1.12 illustrates the breakdown by risk component for each EU GSIB as of 1Q16 or the latest publicly available breakdown.

The credit risk category represents other risks different from market and operational risk as disclosed by the EU GSIBs.

The figures are in Euros which are converted from the currencies used by banks to report their financial results, using the ECB's official FX rate for the corresponding end of period.

1.14. RWA densities

The densities are calculated as the ratio of RWAs to total assets by bank. The amounts of RWAs are phased-in values as reported by banks and are consistent with the figures reported in chart 1.4.

Total assets are sourced from Thomson Reuters EIKON and Banks' financial statements when not available in Reuters.

1.15. Leverage Ratios (fully loaded)

The leverage ratio represents the share of Tier 1 capital as a percentage of eligible assets under the fully loaded approach.

The leverage ratios are sourced from financial reports published by the EU GSIBs referenced in 1.1-1.5 (i.e. interim earnings reports, annual reports, results presentations, Pillar III disclosure reports, or other financial data disclosed as part of earnings results).

All figures were compiled on a best efforts basis.

1.16. Leverage ratio by components

This chart illustrates the cumulative percentage change of each of the components of the Leverage ratio. As with previous charts, T1 and the exposure measure are sourced from EU GSIBs' financial reports and publicly available material (see reference to charts 1.1-1.4).

1.17. Liquidity Coverage Ratio (LCR)

The LCR represents the share of High Quality Liquid Assets (HQLA) relative to total net cash outflows over a 30-day time period.

LCRs are sourced from financial reports published by the EU GSIBs (i.e. interim earnings reports, annual reports, results presentations, Pillar III disclosure reports, and other financial data disclosed by banks).

Some banks disclosed in their reports that their LCR ratios were above a certain level without disclosing the actual ratio (e.g. "above 100%" or "above 110%"). This information was not added in the graph.

All figures were compiled on a best efforts basis.

2. Debt securities and Contingent Convertibles

2.1. Average EU GSIBs credit rating

This chart presents the simple average of the EU GSIBs long-term foreign credit ratings. The rating of each bank is estimated as the simple average of the individual long-term foreign credit ratings assigned by Moody's, Fitch and S&P. To calculate the average by bank, a value between 0 and 17 is assigned to each rating, where 0 represents DDD (or C in Moody's scale and D in S&P scale) and 17 is equivalent to AAA (or Aaa in Moody's scale). When a Credit Rating Agency (CRA) has not rated the long-term foreign performance of an EU GSIB, the average is calculated with the available credit ratings.

The information is sourced from Thomson Reuters EIKON.

2.2. Debt outstanding by seniority

The data is sourced from Thomson Reuters EIKON. The data corresponds to debt issued by the 14 EU GSIBs, which does not take account of holdings by subsidiaries/branches within the same group.

The "Mortgages" category includes mortgage covered bonds.

2.3. EU 28 bank's debt outstanding by maturity

The data is sourced from the ECB and Dealogic DCM. The figures correspond to the outstanding amounts of debt securities other than shares issued by European Union (EU28) banks at the end of reference period broken down by maturity in years.

All securities issued in all currencies are included and converted into EUR terms by the ECB.

2.4. CoCos by capital tiering

CoCo securities included are those issued by banks whose parent company is located in Europe. It does not include securities issued in Europe by banks whose parent company is non-European. Europe is defined as per Dealogic's classification, which includes European Union nations, Eastern European countries (e.g. Russia, Azerbaijan, and Kazakhstan), EFTA countries, old Soviet Union countries, and Turkey.

All securities issued in all currencies are included and converted into EUR terms by Dealogic.

The capital tiering is sourced from Dealogic DCM for each of the securities covered.

2.5- 2.6. CoCos issued by absorbing mechanism

CoCo securities included are those issued by banks whose parent company is located in Europe as defined by Dealogic, which encompasses European Union member states, Eastern European countries (e.g. Russia, Azerbaijan, and Kazakhstan), EFTA countries, old Soviet Union countries, and Turkey.

The absorbing mechanism is sourced from Thomson Reuters EIKON for each of the securities covered.

2.7 Coupons of fixed-rate CoCos

Weighted average coupons of fixed-rate CoCo originations weighted by size of issuance in EUR. Weighted average at date of issuance.

2.8 CoCos issued by credit rating

CoCo securities included are those issued by banks whose parent company is located in Europe as defined by Dealogic.

The credit rating is based on the classification by Dealogic of "Effective rating at launch". This rating is calculated as an average of available ratings from S&P, Moody's and Fitch at the time of issuance. If an issue is rated by just one CRA, such rating is displayed.

The category "High Yield" aggregates issuance volumes of instruments rated at date of launch at BB+ or below. Investment Grade instruments relate to issues rated at BBB- or above at date of launch.

2.9. CoCos issued by maturity

CoCo securities included are those issued by banks whose parent company is located in Europe as defined by Dealogic. All securities issued in all currencies are included and converted into EUR terms by Dealogic.

Maturity is classified on the basis of the number of years from settlement date to legal maturity date. Perpetual bonds are classified under their own category.

2.10. CoCos issued by trigger

The chart aggregates the value of CoCo instruments issued by European banks (in billions of Euros), classified by the underlying trigger and the capital tiering in which the instruments are contingent on (T1 or T2 capital performance).

The data are sourced from Dealogic.

2.11. - 2.13 CoCo prices and option-adjusted spreads (OAS)

The indices in 2.10 and 2.12 are compiled by Barclays according to the capital tiering, location (Global vs. European) and risk of the security (High Yield vs. Investment Grade). The indices in 2.10-2.11 are unhedged and in nominal USD terms.

Annex

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