ESMA Risk Dashboard

No. 1, 2016

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 The reporting period of this Report is 01 July 2015 to 31 December 2015, unless indicated otherwise. The reporting quarter of the Risk Dashboard in the Risk Section is 4Q15. Legal reference of this Report: Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC, Article 32 "Assessment of market developments", 1. "The Authority shall monitor and assess market developments in the area of its competence and, where necessary, inform the European Supervisory Authority (European Banking Authority), and the European Supervisory Authority (European Insurance and Occupational Pensions Authority), the ESRB and the European Parliament, the Council and the Commission about the relevant micro-prudential trends, potential risks and vulnerabilities. The Authority shall include in its assessments an economic analysis of the markets in which financial market participants operate, and an assessment of the impact of potential market developments on such financial market participants." The charts and analyses in this report are, fully or in parts, based on data not proprietary to ESMA, including from commercial data providers and public authorities. ESMA uses these data in good faith and does not take responsibility for their accuracy or completeness. ESMA is committed to constantly improving its data sources and reserves the right to alter data sources at any time. The third-party data used in this publication may be subject to provider-specific disclaimers, especially regarding its ownership, its reuse by non-customers and, in particular, the accuracy, completeness or timeliness of the data provided and the provider's liability related to those. Please consult the websites of the individual data providers, whose names are detailed throughout this report, for more details on these disclaimers.

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ESMA Risk Dashboard

R.1
Main risks

Risk segments	Risk	Risk categories	Risk	Change	Outlook	Risk sources	Change
Overall ESMA remit	🟠	Liquidity	🟠	→	→	Macroeconomic environment	↗
Systemic stress	🟡	Market	🔴	→	→	Low interest rate environment	→
Securities markets	🔴	Contagion	🟠	→	→	EU sovereign debt markets	→
Investors	🟡	Credit	🔴	→	→	Funding patterns	→
Infrastructures and services	🟡	Operational	🟡	→	→	Market functioning	→

Note: Assessment of main risks by risk segments for markets under ESMA remit since last assessment, and outlook for forthcoming quarter. Assessment of main risks by risk categories and sources for markets under ESMA remit since last assessment, and outlook for forthcoming quarter. Risk assessment based on categorisation of the ESA Joint Committee. Colours indicate current risk intensity. Coding: green=potential risk, yellow=elevated risk, orange=high risk, red=very high risk. Upward arrows indicate an increase in risk intensities, downward arrows a decrease, horizontal arrows no change. Change is measured with respect to the previous quarter; the outlook refers to the forthcoming quarter. ESMA risk assessment is based on quantitative indicators and analyst judgement.

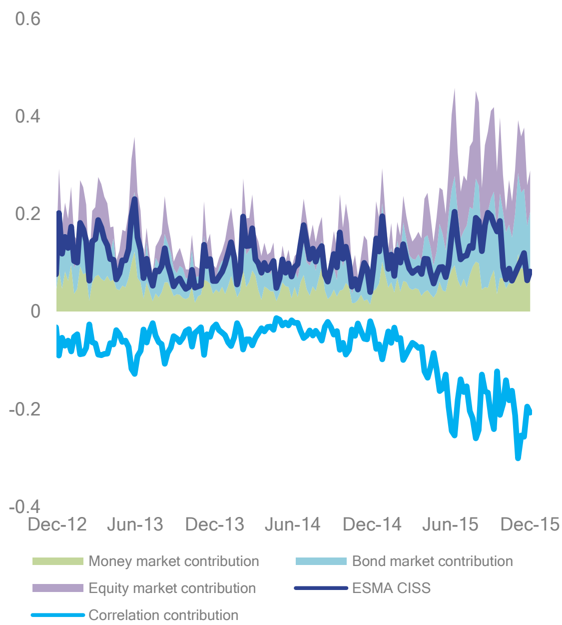
Our 4Q15 risk assessment remains materially unchanged from the previous quarters. Systemic stress remained high, driven by the materialisation of key risks in emerging markets, in particular China. A low interest rate environment still prevails in the EU, with low December EA inflation numbers and the continued downward trend in commodity market prices. The increased difference in yields across rating classes indicating a higher credit risk premium could also signal an end to yield compression. This, in an environment of still-high return volatility and increased interconnectedness in the fund sector, together with potentially thin liquidity on some more vulnerable markets, could amplify the risk of a reversal in global risk premia.

Risk summary

Risk levels in the markets under ESMA remit remained high, reflecting elevated risks for investors, infrastructures and services, and the financial system at large, as well as very high risks in securities markets. We continue to consider market risk very high, following materialisation of the valuation risk. Our credit risk assessment remains unchanged at very high levels. While still at a lower level, liquidity risk is under scrutiny due to ongoing concerns about the reduction of liquidity provision on bond markets, while contagion and operational risk remain unchanged at high and elevated, respectively. Key risk sources remain uncertainty with respect to emerging market developments, in particular China; continued downward pressure on commodity prices, especially oil; and sustained pressure on commodity-export-oriented emerging economies, reinforced by potential weaknesses in market functioning. Subsequent price movements and volatility on EU or US equity markets reflected this anxiety.

Systemic stress decreased at the beginning of 4Q15, following the elevated sovereign debt and equity market tensions in 3Q15, to return to 2Q15 levels.

R.2
ESMA systemic stress indicator
Systemic stress higher and volatile



Note: ESMA version of the ECB-CISS indicator measuring systemic stress in securities markets. It focuses on three financial market segments: equity, bond and money markets, aggregated through standard portfolio theory. It is based on securities market indicators such as volatilities and risk spreads.
Sources: ECB, ESMA.

Risk sources

Macroeconomic environment: The macroeconomic environment in the EU was mixed in 4Q15 with, for example, low industrial production in some core Member States and lower-than-expected inflation in December. On the other hand, the European Commission's Economic Sentiment Indicator improved markedly in the EU at the end of the reporting period and growth seemed to be back on a positive trend in some peripheral countries. Internationally, employment figures in the US were good at the end of the reporting period; despite disappointing news from the manufacturing sector, this increases the probability of a gradual rise in interest rates following the Federal Reserve's December decision to increase rates for the first time in nearly a decade. Uncertainty around emerging market developments persisted, notably with equity price swings, low growth prospects in China and spillovers to other markets. Low commodity prices also heavily impacted global financial markets, due chiefly to the repercussions on energy corporates and emerging market commodity-exporting countries. The EUR exchange rate held stable in 4Q15 versus the USD, GBP, and CHF, but slightly less so against a basket of emerging market currencies including CNY, IDR, MXN, RUB and TRY, against which the EUR gained around 10%.

Low-interest rate environment: In December the Federal Reserve raised its Federal Funds Rate to 0.5%, ending –a long-lasting near-zero cost-of-borrowing policy. Good employment figures are driving expectations that US interest rates will gradually be increased in 2016. In the EA, low inflation in December, coupled with the continued EUR 1.1tn bond buying programme, confirmed expectations of a prolonged low interest rate environment. This was illustrated by low sovereign risk premia and price earnings ratios in the EA close to their long-term average. In this environment of continued search for yield, potentially low secondary-market liquidity could still harbour the risk of a sudden reversal in global risk premia.

EU sovereign debt markets: Following the tensions fuelled by uncertainties around EU sovereign debt developments in 3Q15, the situation improved from August after agreement was reached with Greece on an overall EUR 85bn bailout package and the successful release of the first tranches. Most of the emergency capital market measures were totally or partially lifted towards the end of 4Q15. But tensions around public debt were still present on EU markets amid low growth prospects in some core countries and persistently low inflation in an environment of still-high EU sovereign debt levels.

Funding patterns: Issuance was stable, if not indeed higher, over the reporting period compared to 4Q14. HY issuance remained the same as in 3Q15, at EUR 12bn, although it was still up on the EUR 8bn issued in 4Q14. IG issuance also remained unchanged and issuance of sovereign debt in the EU amounted to EUR 240bn, somewhat lower than the EUR 273bn in 3Q14 but similar to issuance in the same year-earlier period (EUR 242bn in 4Q14). Covered bond issuance was sustained at EUR 37bn, slightly below the EUR 43bn issued in 3Q15 when a large number of deals in the covered bond primary market led to an increase in the issuance of covered bonds, but still well above the EUR 26bn issued in 4Q14 (R.14). Investment funds increased their leverage ratios for bond funds and held them stable for other fund types, while volatilities in returns within almost all segments fell from the 3Q15 peak (R.22) related to the spillovers from equity market price swings in China.

Market functioning: Resilience in systems remained a key concern following market disturbances in the US after the Chinese market crash, notably the mispricing of several ETFs. More recently, newly established trading halt facilities for Chinese securities markets were suspended by local authorities amid volatile trading and high uncertainty. Market circuit breakers were called into question in China as analysts and investors argued that they might have amplified losses during market turmoil. In a different context, the lifting of the emergency capital market measures adopted by Greece in 3Q15 was implemented without any relevant effects on EU markets outside Greece. However, due to ongoing recapitalisation processes the short selling ban was still partially in place until the end of 4Q15 on shares of at least one credit institution admitted to trading on the Athens Exchange and the Multilateral Trading Facility of "EN.A" (Alternative Market of the Athens Exchange). This also affected all depository receipts (ADRs, GDRs) representing those shares.

Risk categories

Market risk – very high: After a market correction in 3Q15, notably in the EU in the wake of the

Chinese stock market crash, volatility held the high levels reached in 3Q15. Price-earnings ratios remained around their historical average in the EA despite the equity market price correction and were well above these averages in the US (R.5). In EU sovereign bond markets risk premia decreased from the two previous quarters (R.8). Implied bond market volatilities increased further in 4Q15, after having fluctuated around already high levels in 3Q15 (R.6). Although the increase is amplified by the fact that short term interest rates are very low, this is nevertheless a sign of expected uncertainty over future price developments. These movements were also related to concerns over low secondary market liquidity. Commodity markets were very volatile, reaching historical lows as Brent Crude fell below USD 40 per barrel and copper and aluminium traded at a six-year low. Sliding oil prices eventually translated onto global financial markets through their direct impact on energy corporates and energy-dependent countries, and also due to the fear of negative second-round effects and their impact on growth. Finally, USD-EUR exchange rate volatility peaked around the Fed’s December committee meeting, when rates were raised for the first time in nearly a decade (R.7).

Liquidity risk – high: Liquidity pressures were still high in 4Q15 although the equity illiquidity index remained around its long term average (R.4). Sovereign bid-ask spreads decreased slightly for most reported countries and returned to end-2014 levels (R.9). Corporate bond spreads, having peaked towards the end of 3Q15, were also stable, although at a relatively high level. Nevertheless, the difference in yields across rating classes indicates a higher credit risk premium than during the first half of the year (R.11). Various market participants are reporting a structural reduction in liquidity provision on corporate bond markets, rendering them more vulnerable to liquidity shocks than other markets, but unequivocal evidence is scarce. Finally, with the exception of real-estate funds return volatility for funds was still high (R. 22), which could exacerbate market liquidity tensions.

Contagion risk – high: Sovereign market clustering increased at the beginning of 4Q15 only to decrease towards the end of the reporting period without having reached the highs of the previous quarters, while the dispersion in yield correlations also decreased, potentially reflecting a change in the core-periphery structure of the EU sovereign market (R.12). The intra-country correlation between sovereign and corporate bonds entered negative territory at the beginning of 4Q15, returning to positive levels towards the end of the reporting period, possibly signalling improved diversification potential in securities markets (R.13). In the hedge fund sector, intra-sector contagion between hedge funds remained low, both for funds balancing the sector’s performance trend and for those reinforcing it (R.26).

Credit risk – very high: Gross sovereign debt issuance contracted in 4Q15. In non-sovereign markets, issuance decreased for MBS, covered bonds and hybrid capital, held broadly stable for high-yield and investment grades and increased only for ABS. However, net sovereign debt issuance started to accelerate again at the beginning of 4Q15 to end up positive over the reporting period (net calculated as the difference between new issuance and outstanding debt maturing over the same period). Fund sector volatilities, having peaked at the end of 3Q15, returned to lower levels, while leverage remained high for the fund industry. This gave rise to unease, especially in an environment of continued search for yield. Finally, concerns were raised that declining oil prices might increase the probability of default for all corporates in to the energy sector.

Operational risk – elevated: Operational risk, including technology and conduct risks, remained a key concern both within and outside the EU, as several events reignited disquiet over potential technology fragilities in the financial system during the previous quarters. The level of dispersion in 3M Euribor submissions fell slightly in 4Q15 while investigations into financial benchmark manipulations, including interbank interest reference rates, derivatives prices, oil price benchmarks and exchange rates, continue both in the EU and elsewhere.

Securities markets

R.3

Risk summary

Risk level

Risk change from 3Q15

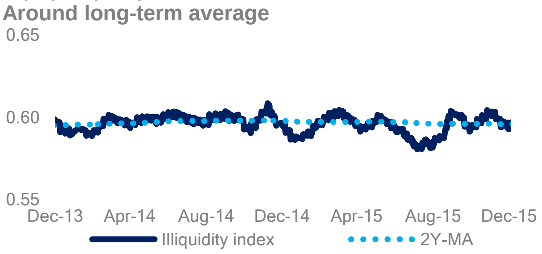
Outlook for 1Q16

Risk drivers

– Emerging market risk materialisation.
– Low-interest-rate environment and high asset valuations.
– Low EU growth and inflation prospects.
– Spillovers from the fall in commodity prices(oil)

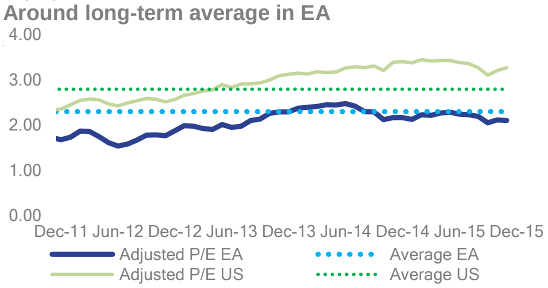
Note: Assessment of main risk categories for markets under ESMA remit since past quarter, and outlook for current quarter. Systemic risk assessment based on categorisation of the ESA Joint Committee. Colours indicate current risk intensity. Coding: green=potential risk, yellow=elevated risk, orange=high risk, red=very high risk. Upward arrows indicate a risk increase, downward arrows a risk decrease. ESMA risk assessment based on quantitative indicators and analyst judgement.

R.4
Equity illiquidity
Around long-term average



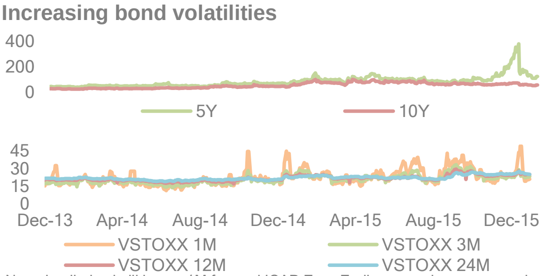
Note: Composite indicator of liquidity in the equity market for the current Eurostoxx 200 constituents, computed by applying the principal component methodology to six input liquidity measures (Amihud illiquidity coefficient, bid-ask spread, Hui-Heubel ratio, turnover value, inverse turnover ratio, MEC). The indicator range is between 0 (higher liquidity) and 1 (lower liquidity).
Sources: Thomson Reuters Datastream, ESMA.

R.5
Equity valuation
Around long-term average in EA



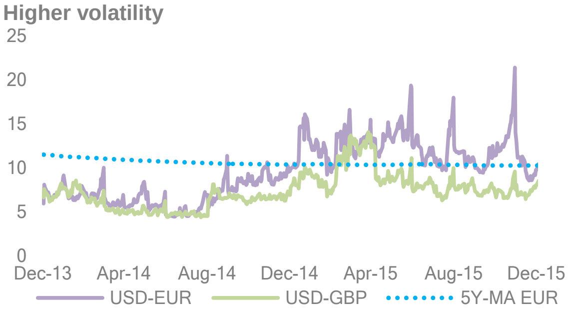
Note: Monthly earnings adjusted for trends and cyclical factors via Kalman filter methodology based on OECD leading indicators; units of standard deviation; averages computed from 8Y. Data available until the end of October 2015.
Sources: Thomson Reuters Datastream, ESMA.

R.6
Financial instruments volatilities
Increasing bond volatilities



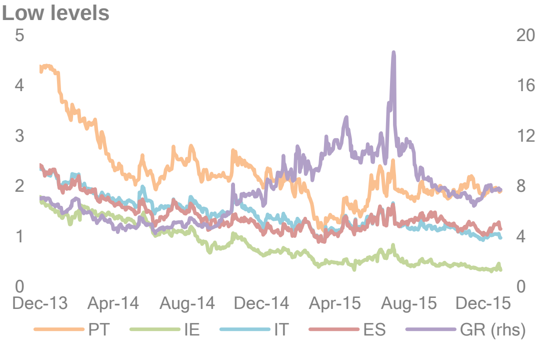
Note: Implied volatilities on 1M forward ICAP Euro-Euribor swaptions measured as prices indices. Below, Eurostoxx50 implied volatilities, measured as price indices; %.
Sources: Thomson Reuters Datastream, ESMA.

R.7
Foreign exchange volatilities
Higher volatility



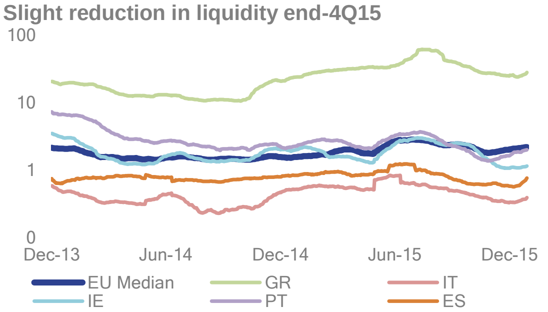
Note: Implied volatilities for continuous options on exchange rates traded in the Chicago Mercantile Exchange. 5Y-MA EUR is the five-year moving average for the implied volatility for the options on the USD / EUR exchange rate.
Sources: Thomson Reuters Datastream, ESMA.

R.8
Sovereign risk premia
Low levels



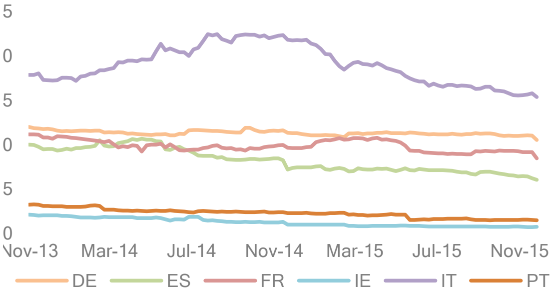
Note: Selected 10Y EA sovereign bond risk premia (vs. DE Bunds), in %.
Sources: Thomson Reuters Datastream, ESMA.

R.9
Sovereign liquidity
Slight reduction in liquidity end-4Q15



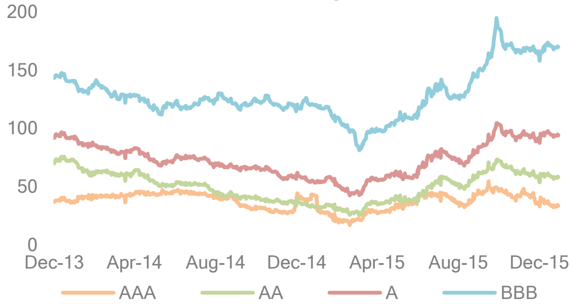
Note: Liquidity measured as difference of ask and bid yields for 10Y sovereign bonds, in basis points. EU Median computed using data for 24 countries. Logarithmic scale.
Sources: Bloomberg, ESMA.

R.10
CDS volumes
Stable



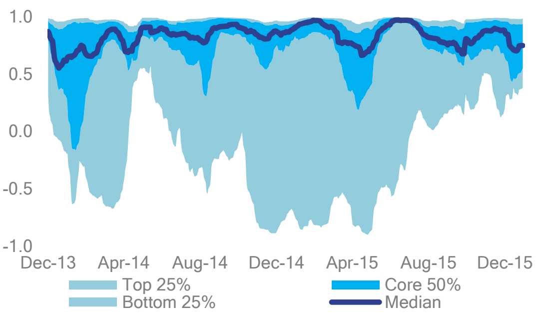
Note: Value of outstanding net notional sovereign CDS for selected countries; USD bn.
Sources: DTCC, ESMA.

R.11
Corporate bond spreads
Greater difference between rating classes



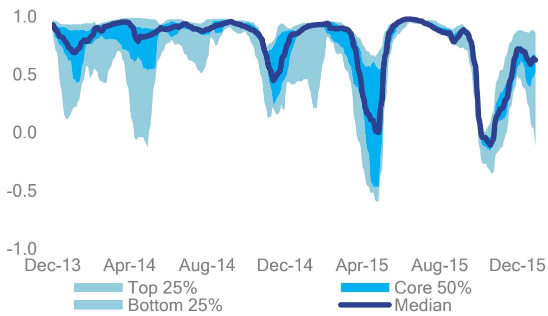
Note: EA non-financial corporate bond spreads by rating between iBoxx non-financial corporate yields and ICAP euro euribor swap rates for different maturities, basis points.
Sources: Thomson Reuters Datastream, ESMA.

R.12
Dispersion in sovereign yield correlation
Correlation fluctuating at lower level



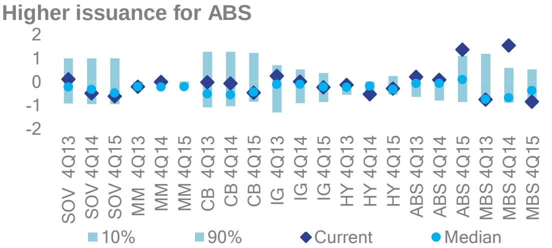
Note: Dispersion of correlations between 10Y DE Bunds and other EU countries' sovereign bond redemption yields over 60D rolling windows.
Sources: Thomson Reuters Datastream, ESMA.

R.13
Dispersion in sovereign-corporate yield correlation.
Lower correlation



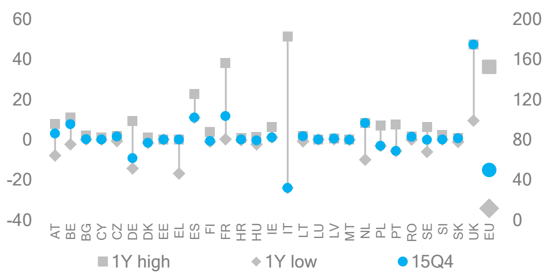
Note: Dispersion of correlation between Barclays Aggregate for corporate and 10Y sovereign bond redemption yields for BE, ES,FI, FR, IT, NL.
Sources: Thomson Reuters Datastream, ESMA.

R.14
Debt issuance growth
Higher issuance for ABS



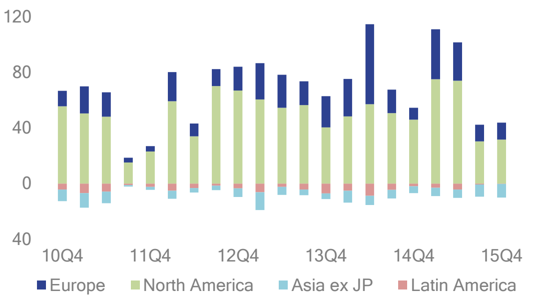
Note: Growth rates in issuance volume in per cent normalised by standard deviation for the following bond classes: sovereign (Sov); money market (MM); covered bonds (CB); investment grade (IG); high-yield (HY); asset backed securities (ABS); mortgage backed securities (MBS). Percentiles computed from 11Q rolling window. All data include securities with a maturity higher than 18M. Bars denote the range of values between the 10th and 90th percentiles.
Sources: Dealogic, ESMA.

R.15
Net sovereign debt issuance
Positive net issuance



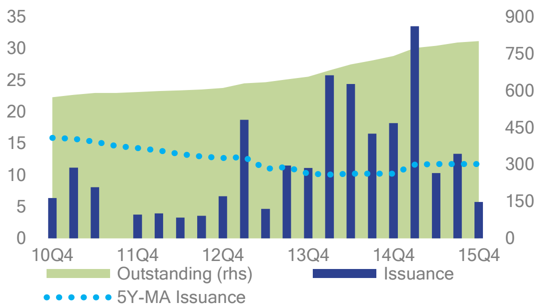
Note: Quartely net issuance of EU sovereign debt by country, EUR bn. Net issuance calculated as the difference between new issuance over the quarter and outstanding debt maturing over the quarter. Highest and lowest quarterly net issuance in the past year are reported. EU total on right-hand scale.
Sources: Dealogic, ESMA.

R.16
HY issuance
Still low in 4Q15



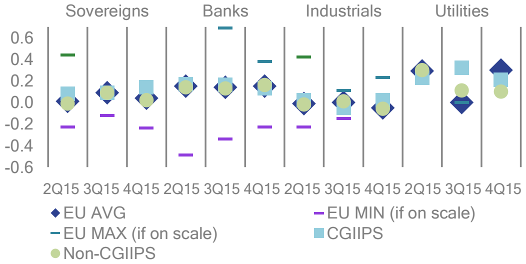
Note: Quarterly data on high-yield corporate bond issuance by region of issue; EUR bn.
Sources: Dealogic, ESMA.

R.17
Hybrid capital issuance and outstanding
Lower issuance



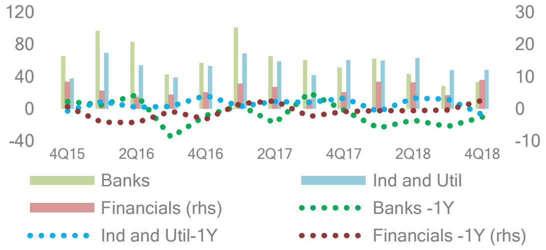
Note: Outstanding amount computed as the cumulated sum of previously issued debt minus the cumulated matured debt prior to reference date. EUR bn.
Sources: Dealogic, ESMA.

R.18
Debt maturity
Stable or lengthened maturity profiles



Note: Quarterly change in maturity of outstanding debt by sector and country groups in the EU, years. CGIIPS include CY, GR, IT, IE, PT and ES. Min and Max may not be displayed where they are out of the scale provided in the graph.
Sources: Dealogic, ESMA.

R.19
Debt redemption profile
Stable or reduced redemption profiles



Note: Quarterly redemptions over a 3Y-horizon by European private corporates (banks, non-bank financials, and industrials and utilities), current and change over last year (dotted lines), EUR bn. Excluding bank redemptions to central banks.

Investors

R.20

Risk summary

Risk level

Risk change from 3Q15

Outlook for 1Q16

Risk drivers

– High return volatility.

– Higher interconnectedness among funds.

– Low interest rates and sustained search for yield

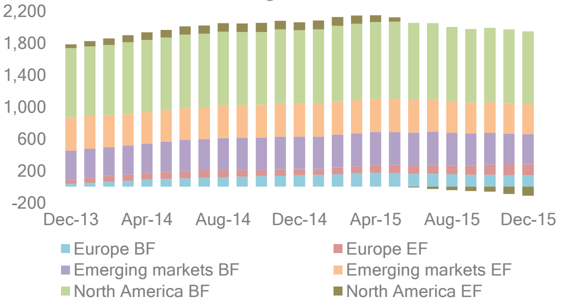
– Funds' exposures to commodities and EMs.

Note: Assessment of main risk categories for markets under ESMA remit since past quarter, and outlook for current quarter. Systemic risk assessment based on categorisation of the ESA Joint Committee. Colours indicate current risk intensity. Coding: green=potential risk, yellow=elevated risk, orange=high risk, red=very high risk. Upward arrows indicate a risk increase, downward arrows a risk decrease. ESMA risk assessment based on quantitative indicators and analyst judgement.

R.21

Cumulative investment fund flows

Outflows for funds with regional focus

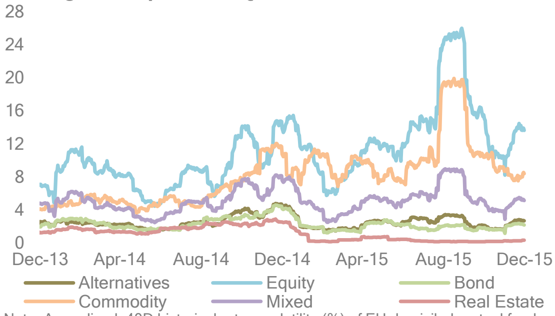


Note: Cumulative net flows into bond and equity funds (BF and EF) over time since 2004 by regional investment focus, EUR bn.
Sources: Thomson Reuters Lipper, ESMA.

R.22

RoR volatilities by fund type

Still high after peak in 3Q15

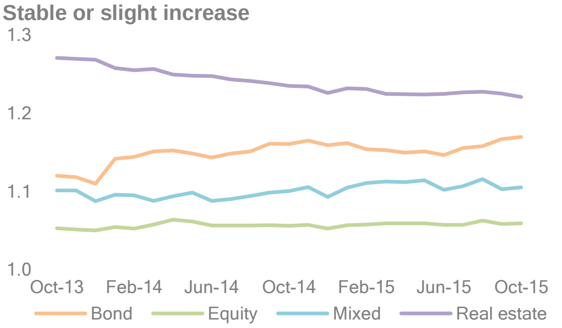


Note: Annualised 40D historical return volatility (%) of EU domiciled mutual funds.
Sources: Thompson Reuter Lipper, ESMA.

R.23

Leverage by fund type excluding HFs

Stable or slight increase

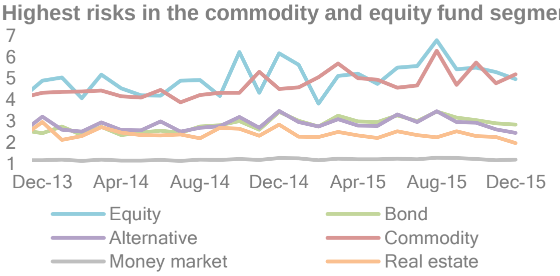


Note: EA Investment funds' leverage by fund type computed as the AuM/NAV ratio.
Sources: ECB, ESMA.

R.24

Retail fund synthetic risk and reward indicator

Highest risks in the commodity and equity fund segments

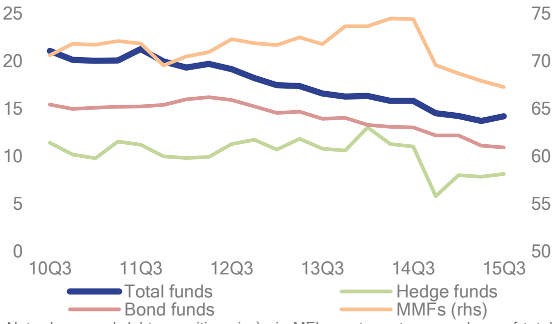


Note:The calculated Synthetic Risk and Reward Indicator is based on ESMA SRRI guidelines. It is computed via a simple 5 year annualised volatility measure which is then translated into categories 1-7 (with 7 representing higher levels of volatility).
Sources:Thomson Reuters Lipper, ESMA.

R.25

Financial market interconnectedness

Overall increase

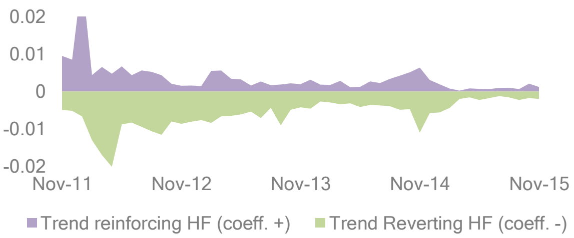


Note: Loan and debt securities vis-à-vis MFI counterparts, as a share of total assets. EA investment funds and MMFs, in %. Data until September 2015.
Sources: ECB, ESMA.

R.26

Hedge fund interconnectedness

Low levels of interconnectedness



Note: Systemic stress indicator based on products of fractions of regressions with positive (negative) estimated coeffcient individual fund return's impact on average return of sector significant at 99% level and respective average estimators. Coefficients stem from VAR models regressing individual fund returns on lags and general financial markets indices. Measures aggregated across individual regressions. Data until November 2015.
Sources: Barclayhedge, Eurekahedge, TASS, HFR, ESMA.

Infrastructures and services

R.27

Risk summary

Risk level

Risk change from 3Q15

Outlook for 1Q16

Risk drivers

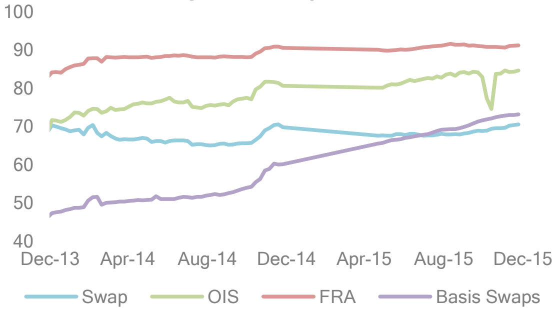
– Operational risks, incl. insufficient technology management, cyber-attacks.

– Conduct risk, incl. intentional or accidental behaviour by individuals, market abuse.

– Systemic relevance of individual operations, including size, market share, complexity of operations, interconnectedness with other infrastructures or financial activities and entities, substitutability of systems.

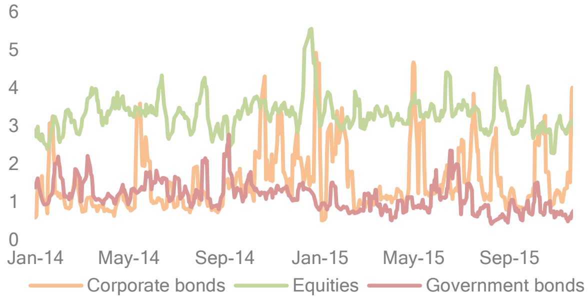
Note: Assessment of main risk categories for markets under ESMA remit since past quarter, and outlook for current quarter. Systemic risk assessment based on categorisation of the ESA Joint Committee. Colours indicate current risk intensity. Coding: green=potential risk, yellow=elevated risk, orange=high risk, red=very high risk. Upward arrows indicate a risk increase, downward arrows a risk decrease. ESMA risk assessment based on quantitative indicators and analyst judgement.

R.28
IRS clearing
Increase in clearing across all products



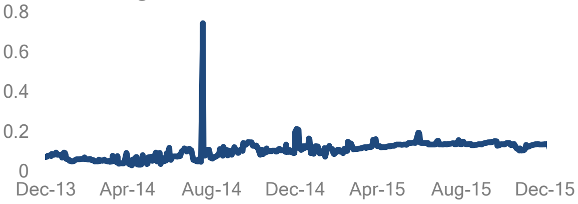
Note: OTC interest rate derivatives cleared by CCPs, % ot total notional amount.
Sources: DTCC, ESMA.

R.29
Settlement fails
Fluctuation, notably for corporate bonds



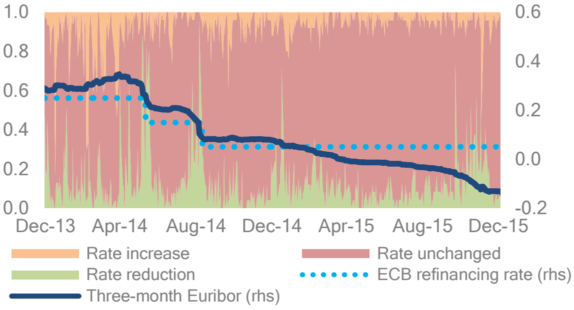
Note: Share of failed settlement instructions in EU; % of value, 5D-MA. Free-of-payment transactions not considered.
Sources: National Competent Authorities, ESMA.

R.30
Euribor – Dispersion of submissions
Level unchanged



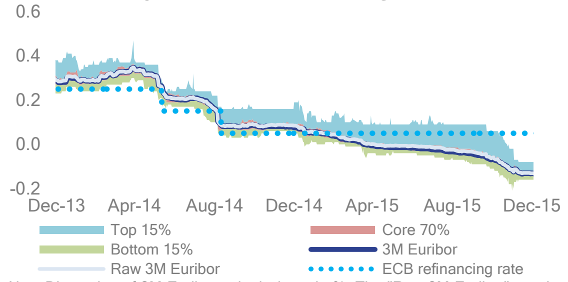
Note: Normalised difference in percentage points between the highest contribution submitted by panel banks and the corresponding Euribor rate. The chart shows the maximum difference across the 8 Euribor tenors. The increase since 2013 is linked to technical factors such as low Euribor rates. The spike in August 2014 reflects the fact that two panel banks submitted respectively a quote for the two-week tenor which was 7 times higher than Euribor and a quote for the 1M tenor which was 10 times higher than Euribor.
Sources: Euribor-EBF, ESMA.

R.31
Euribor – Variation in daily changes
Peak in rate reductions



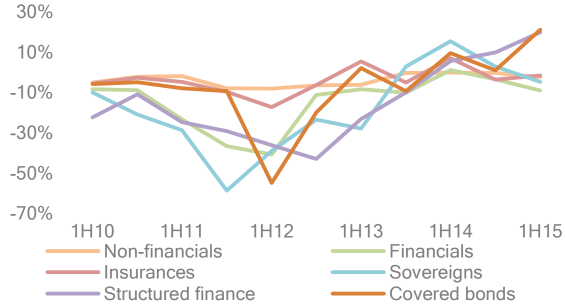
Note: Number of banks changing their three-month Euribor submission from day to day, %.
Sources: Euribor-EBF, ESMA.

R.32
Euribor - Dispersion of submission levels
Decreased dispersion towards end-4Q15



Note:Dispersion of 3M Euribor submissions, in %. The "Raw 3M Euribor" rate is calculated without trimming the top and bottom submissions of the panel for the 3M Euribor.
Sources: Euribor-EBF, ESMA.

R.33
Rating changes
Positive drift for covered bonds and structured finance



Note: Drift of ratings from all credit rating agencies by asset class computed as percentage number of upgrades minus percentage number of downgrades, %.
Sources: CEREP, ESMA.

European Securities and
Markets Authority