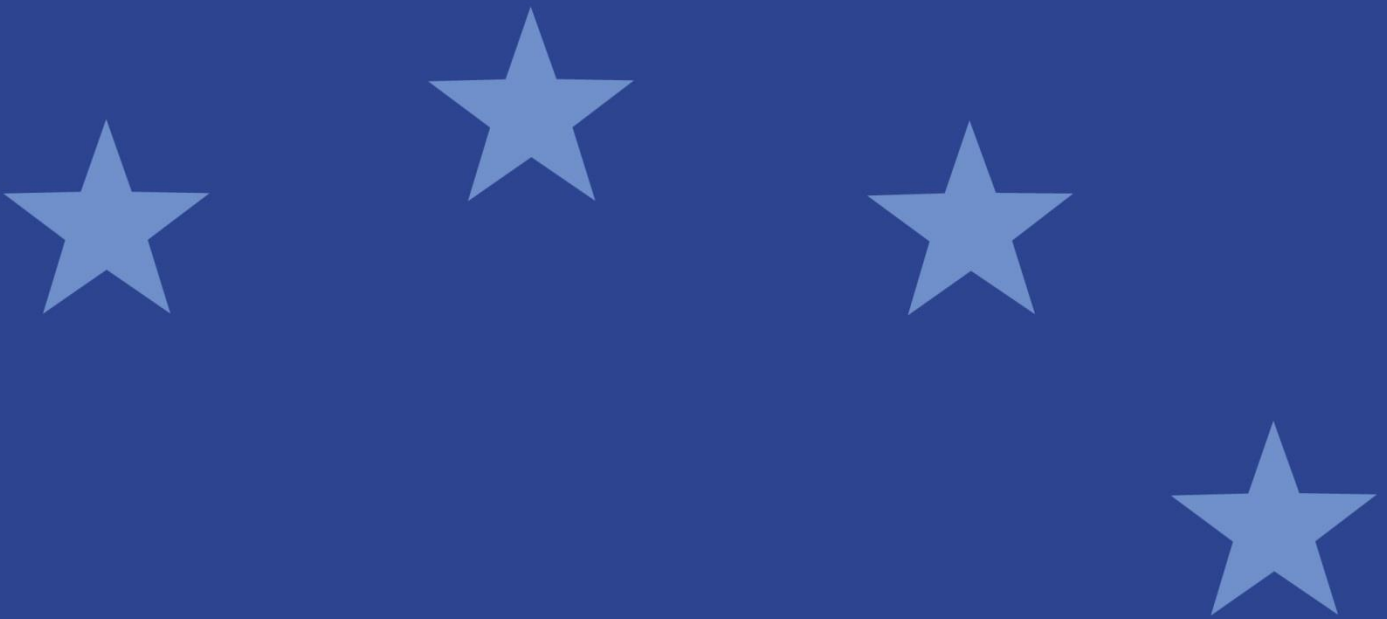




European Securities and  
Markets Authority

# ESMA Risk Dashboard

No. 2, 2016



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ESMA Risk Dashboard  
No. 2, 2016

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# ESMA Risk Dashboard

R.1

## Main risks

Risk segments	Risk categories				Risk sources		
	Risk	Risk	Change	Outlook	Change		
Overall ESMA remit	Orange	Liquidity	Orange	→	→	Macroeconomic environment	↗
Systemic stress	Yellow	Market	Red	→	→	Low interest rate environment	↗
Securities markets	Red	Contagion	Orange	→	→	EU sovereign debt markets	→
Investors	Yellow	Credit	Red	→	→	Funding patterns	→
Infrastructures and services	Yellow	Operational	Yellow	→	→	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 based on quantitative indicators and analyst judgement.

ESMA's 1Q16 risk assessment remains unchanged from 4Q15. Systemic stress was at an elevated level, as uncertainty lingered around EU economic developments also reflecting the materialisation of key macro-financial risks at the global level. The low interest rate environment persisted in the EU, commodity prices remained at low levels and price volatility was high across assets with financial institutions in particular subject to significant price pressures at the beginning of 1Q16. Considerable fund return volatility was observed in the fund sector heightening concerns in relation to its increased interconnectedness with the rest of the financial system. In this environment, vulnerabilities linked to the mispricing of risks, deteriorating liquidity, potential amplification of market distortions persisted. These risks are deemed to prevail in the forthcoming quarter. Therefore our outlook for risk levels is stable for all risk categories.

## Risk summary

Risk in the markets under ESMA remit remained at high levels, with market and credit risks being very high. This was reflected in major price swings in global equity markets, especially affecting financial institutions at the beginning of 1Q16, and high volatilities across market segments. Corporate bond spreads increased substantially, especially for lower rated bonds, before moderating at the end of 1Q16. Key risk sources were mostly related to the uncertain EU and global economic outlook, commodities price dynamics and global financial developments.

Liquidity risk was at high levels amid sustained investors' uncertainty, potentially leading to portfolio reallocation and related liquidity pressures. Contagion risk was high. Main drivers included financial market interconnectedness related to the exposure of EU financial and non-financial sectors to EM and the commodities sector as well as increased interconnectedness of the fund sector with the rest of the financial system.

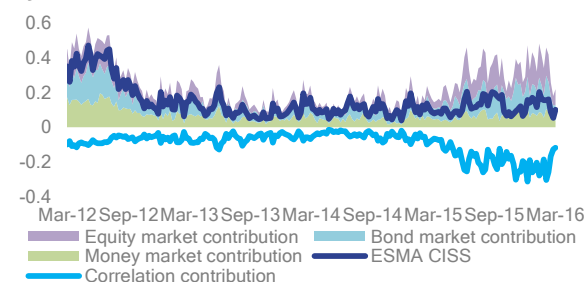
Systemic stress increased during the first part of 1Q16 before moderating in March 2016. This

was mainly driven by bond and equity market dynamics (R.2) and is reflected in movements of the composite systemic stress indicator (CISS).<sup>1</sup>

R.2

### ESMA composite systemic stress indicator

Systemic risk declined at the end 1Q16



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.

<sup>1</sup> When interpreting the CISS, the correlation contribution, which increased in 1Q16, needs to be taken into account. The correlation contribution is the difference between the CISS and its perfect correlation counterpart (the square of the arithmetic average across the three components). In "normal" market conditions, correlations are more moderate than in very calm or stressed periods. Not accounting for correlation will lead to an overestimation of systemic risk.

## Risk sources

**Macroeconomic environment:** The EU economic outlook remained subdued notwithstanding a partial recovery influenced by several factors, including monetary policy and low oil prices. Downside risks persisted in relation to EU internal and external developments. Internal elements included moderate investments, high levels of private and public debt, slow implementation of structural reforms, weak Euro area inflation as well as political uncertainty.<sup>2</sup> At a global level, concerns were primarily related to the EM economic outlook – export-led EMs have been significantly hit by negative commodities price dynamics (R.6) – and highly volatile financial markets, notably in China. This has in turn been reflected in significant EM capital outflows, currency depreciation and reductions in foreign exchange reserves, as well as equity and corporate bond market turbulence.

**Low-interest rate environment:** The low-interest rate environment prevailed, as strong monetary policy stimulus persisted in the Euro Area. The ECB announced a new series of targeted long-term refinancing operations as well as a corporate sector purchase programme, in addition to a further decrease in the reference rate. Monetary support continued to be strong also in other major economies, in light of declining oil prices and uncertainty regarding global economic developments. Sovereign bond spreads in EU remained low. In other market segments, spreads increased at the beginning of 1Q16, especially for lower rated debt instruments. Those, however, decreased at the end of the quarter, probably in relation to extended monetary policy support (R.12, R.15). These swings in market valuations signalled increased market sensitiveness and uncertainty.

**EU sovereign debt markets:** Sovereign risk premia remained low, yet with significant spikes in a small number of peripheral countries in February (R.8). On the one hand, as interest rates continued to be very low and monetary support persisted, investor demand for sovereign bonds was sustained across EU countries. On the other hand, there has been flight-to-quality as uncertainty around private and public debt sustainability within the EU and around global economic outlook mounted. Capital has been reallocated to safer assets, sustaining the demand for higher-rated EU sovereign bonds.

**Funding patterns:** Net sovereign bond issuance was subdued in 1Q16, with low issuance and a significant amount of outstanding debt maturing over the quarter except for one large peripheral economy (R.19). High volatility was observed in the corporate bond market. Yields increased in the beginning of 1Q16, especially for low rated securities, but decreased in March. BBB-rated corporate bond spreads peaked in February 2016 (+31% compared to December 2015), to then decline again at the end of 1Q16 (R.12). This may be related to increased risk perception on one side and yet persistent search-for-yield behaviour on the other, as monetary policy remained ample.

**Market functioning:** No significant disruptions in the functioning of EU markets were observed in the reporting period. The EU CCP stress test showed that the system of EU CCPs can overall be assessed as resilient to the stress scenarios used to model extreme but plausible market developments.<sup>3</sup> Central clearing for interest rate derivatives increased across products, in particular for swaps, +7% from 4Q15 (R.36). At a more global level, trading in Chinese securities markets was suspended by local authorities in early January amidst high uncertainty.

## Risk categories

**Market risk – very high:** Following a partial materialisation in 4Q15, market risk remained at very high levels. Adjusted price earnings ratios declined, both in EU and US (R.5). In 1Q16, equity prices dropped reverting only at the end of the quarter. Financial institutions were especially affected. Substantial sell-offs of bank stocks and falls in bank debt instruments were observed in January. This was reflected in high volatilities at the beginning of 1Q16. 1M VSTOXX averaged around 30% in 1Q16 even if significantly moderating in March (R.7). The weakening in market conditions characterising the beginning of 1Q16 was observed for other asset classes. Both corporate and covered bond spreads increased for lower rated securities. Yet, they moderated in March, probably due to the strong monetary policy support. Covered bond spreads for A-rated securities peaked in January 2016, having increased by 15% from December 2015 and were at the highest level since January 2014 (R.15). These movements followed intensified market uncertainty around financial and macroeconomic conditions mainly

<sup>2</sup> EU Commission, February 2016, European Economic Forecasts, Winter 2016, Institutional Paper 020.

<sup>3</sup> ESMA, 29 April 2016, EU-wide CCP Stress test Report 2015.

outside the EU. Conditions in the Chinese financial market continued to deteriorate with significant stock price declines, large sell-offs in January and connected substantial capital outflows. In this environment, concerns related to search-for-yield strategies and asset overvaluation persisted. Tension has been increasing around political and economic challenges related to the UK referendum on EU membership. Against this background, the outlook for market risk remains at a very high level.

**Liquidity risk – high:** Liquidity pressures were high in 1Q16. Low performance, high volatility and uncertainty on global financial and economic developments increased liquidity concerns. High historical and implied volatilities especially at shorter maturities mirrored lingering vulnerabilities and high risk sensitivity among investors (R.7). High liquidity in sovereign bonds was reflected in low levels of collateral scarcity (R.11). In the corporate bond segment, however, bid-ask spreads increased by 8% over 1Q16 (R.13). Funds, except those focusing on government bonds, experienced substantial outflows in 1Q16 (R.26). EU focused equity funds registered outflows of EUR 4bn (R.25), far less than US focused funds (EUR 39bn in outflows). Fund return volatilities initially increased substantially, especially for equity and commodities funds, yet moderated in March, with the annualised 40D historical volatilities peaking in February around 23% and 18% respectively (R.27). Looking forward, liquidity risk is deemed to stay high as the potential for risk reassessment and portfolio rebalancing may increase pressures on market liquidity.

**Contagion risk – high:** For sovereign bonds, correlations were high in 1Q16 and dispersion increased, driven by a number of peripheral countries (R.16). Sovereign and corporate bond correlations decreased at the beginning of 1Q16, probably reflecting the dichotomy between sovereign and corporate bond dynamics (R.17). However, correlation increased again in March, also in relation to the corporate sector purchase programme in the Euro area. The interconnectedness of the asset management sector with the banking and insurance sector has been increasing over the past years, highlighting potential contagion risk from the asset management sector.<sup>4</sup> Intra-sector contagion between hedge funds remained low

overall, despite a slight increase for stabilising funds balancing the sector's performance trend (R.32). Key risk sources were mostly external to the EU financial system, such as spillovers on asset valuations stemming from drops in prices in the Chinese stock market as well as persisting low commodities prices. Against this background, the outlook on contagion risk remains at a high level.

**Credit risk – very high:** Sovereign issuance in 1Q16 remained subdued. High Yield issuance significantly reduced in the EU (-70% compared to 1Q15), yet increasing substantially in Asia (R.20). EU Investment Grade (IG) issuance, instead, increased (R.18). Over a five year horizon, however, the risk profile of outstanding long-term corporate debt significantly worsened. The share of issuance of corporate bonds rated A or above declined from 81% in 1Q11 to 67% in 1Q16. Differently, the share of non-IG corporate debt securities outstanding reached 13% compared to 6% in 1Q11 (R.14). The above developments are probably the result of sustained investor search-for-yield strategies. In an environment of heightened uncertainty and strong downside macroeconomic risks, pressures may increase on corporates and, via non-performing loans, on financial institutions. Looking ahead, this reinforces credit risk, leaving our outlook stable at a very high level.

**Operational risk – elevated:** Recent events confirmed the importance of effective market monitoring and surveillance in ensuring market efficiency and investor protection. In EU, the potential practice of closet indexing for investment funds, i.e. the proximity of a fund to a benchmark while still claiming to be actively managed, remained under scrutiny. Closet indexing can expose investors to different risk-return profiles than expected and to management fees close to those of more active funds. ESMA published a Statement on the matter on 02 February 2016. At the beginning of 1Q16, three authorised CCPs, LCH Clearnet UK, Eurex and CCP.A successfully replaced all open positions of a common clearing member in default, Maple Bank GmbH, by relying on initial margins only. At a more global level, trading suspensions in China raised questions regarding the effectiveness of market interventions such as circuit breakers. The outlook on operational risk remains stable at an elevated level.

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<sup>4</sup> Joint Committee Report on Risk and Vulnerabilities in the EU financial system, March 2016.

# Securities markets

R.3

## Risk summary

Risk level



Risk change from 4Q15



Outlook for 2Q16



## Risk drivers

- Global economic and financial developments.
- Low-interest-rate environment and high asset valuations.
- Low EU growth and inflation.
- Sluggish structural reforms.

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

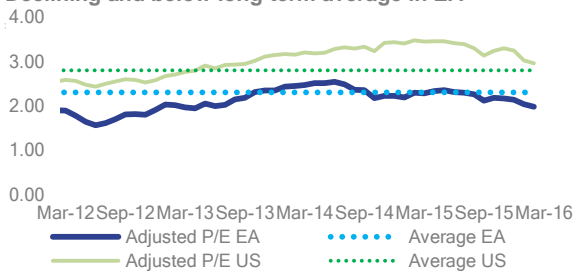
## Equity illiquidity Around average



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

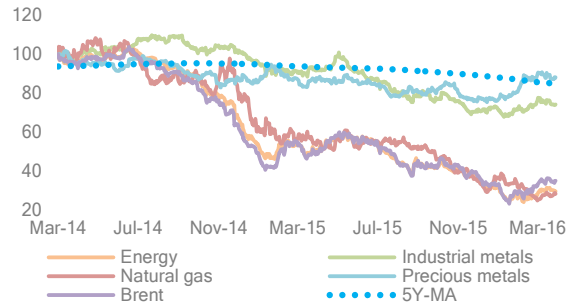
## Equity valuation Declining and below long-term average in EA



Note: Monthly earnings adjusted for trends and cyclical factors via Kalman filter methodology based on OECD leading indicators; units of standard deviation; averages computed over 8Y. Data reported from 2012 and available until the end of February 2016. Sources: Thomson Reuters Datastream, ESMA.

R.6

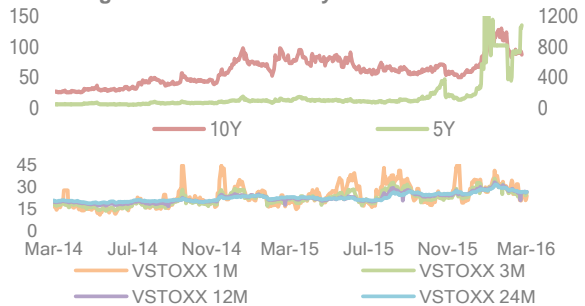
## Commodities prices Still at low levels



Note: S&P GSCI Commodity indices and Brent price, indexed, 03/03/2014=100. 5Y-AVG = 5Y average computed using S&P GSCI. Indices denominated in USD. Sources: Thomson Reuters Datastream, ESMA.

R.7

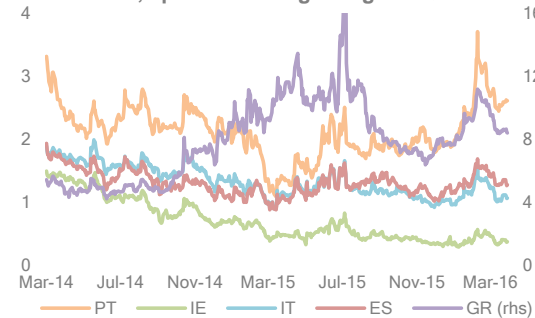
## Financial instruments volatilities Increasing interest rate volatility



Note: Top panel reports 1M forward Euro-Euribor swaptions implied volatilities; low panel reports Eurostoxx 50 implied volatilities measured as indices, %. Sources: Thomson Reuters Datastream, ESMA.

R.8

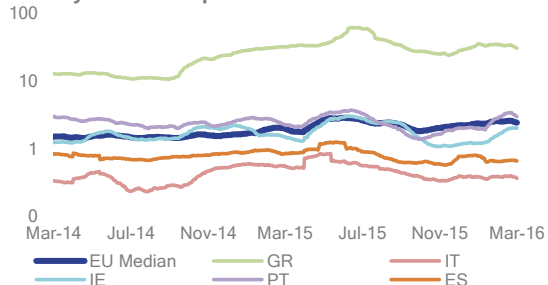
## Sovereign risk premia At low levels, spike at the beginning of 1Q16



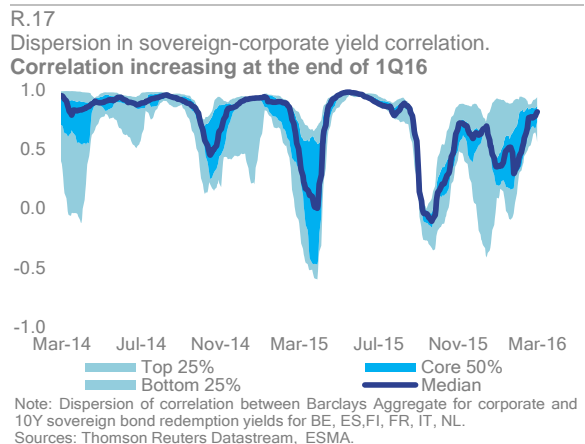
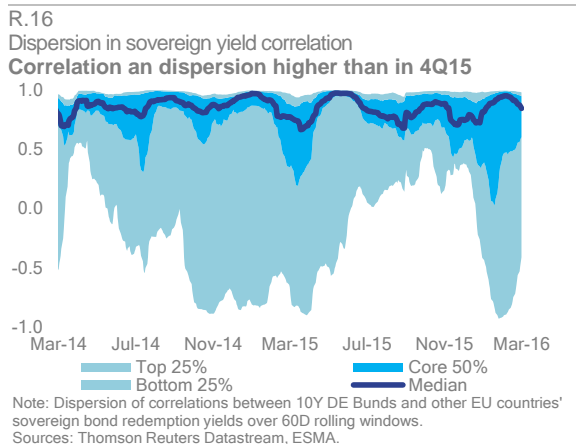
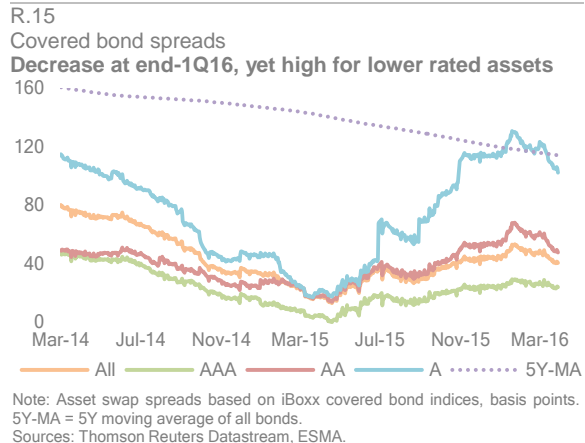
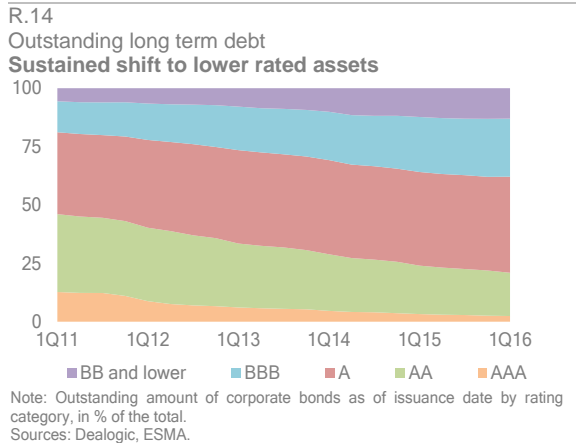
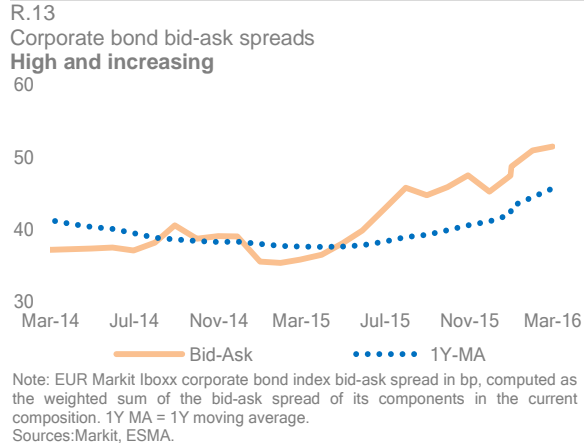
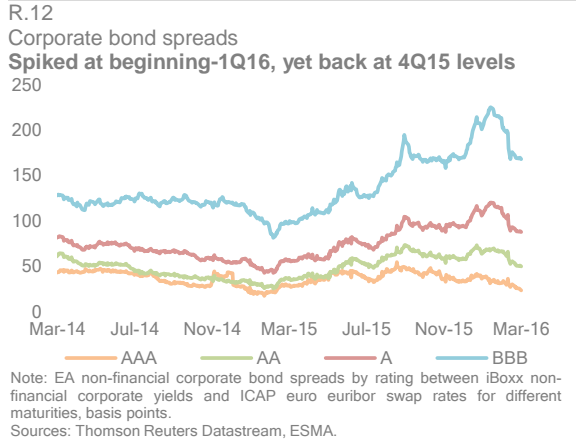
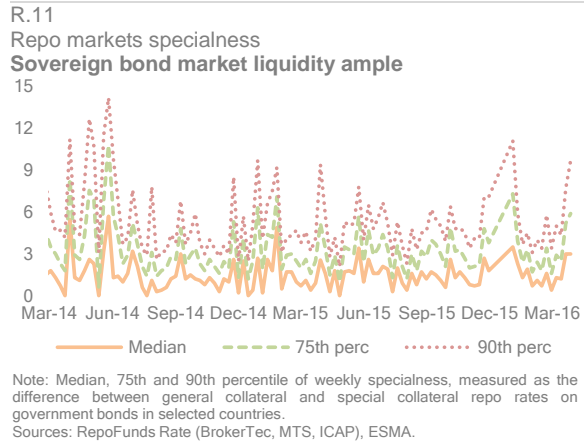
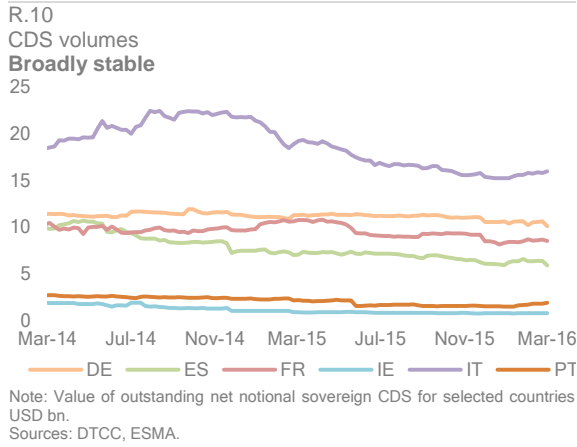
Note: Selected 10Y EA sovereign bond risk premia (vs. DE Bunds), in %. Sources: Thomson Reuters Datastream, ESMA.

R.9

## Sovereign liquidity Broadly stable compared to 4Q15

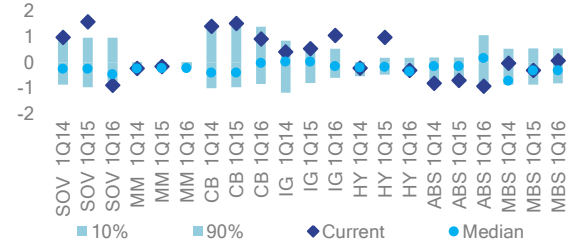


Note: Liquidity measured as difference of ask and bid yields for 10Y sovereign bonds, in basis points. EU Median computed using data for 24 countries. Logarithmic scale. Sources: Bloomberg, ESMA.



R.18

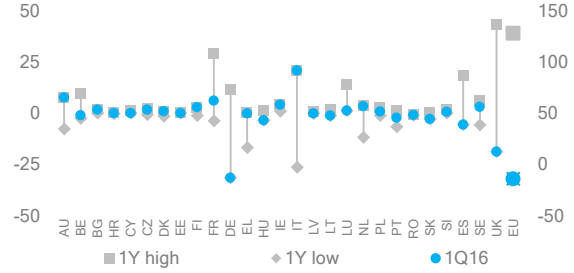
Debt issuance growth  
Increasing IG issuance



Note: Growth rates of 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.19

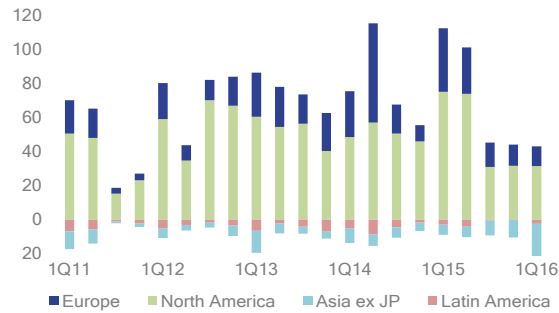
Net sovereign debt issuance  
Low issuance



Note: Quarterly 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.20

HY issuance  
Low issuance in EU, high issuance in Asia



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

R.21

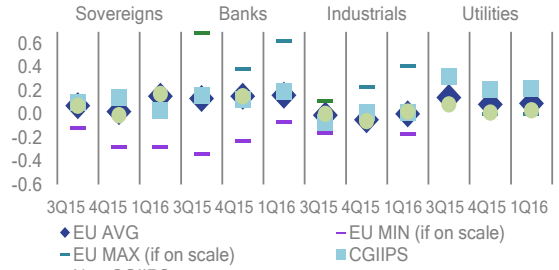
Hybrid capital issuance and outstanding  
Low issuance levels



Note: Outstanding amount computed as the cumulated sum of previously issued debt minus the cumulated matured debt prior to reference date. EUR bn. According to Dealogic classification, hybrid capital refers to subordinated debt Tier 1 capital mostly having perpetual maturity. Sources: Dealogic, ESMA.

R.22

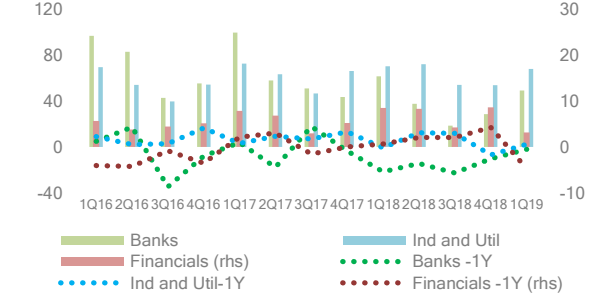
Debt maturity  
Maturity spectrum broadly unchanged



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.23

Debt redemption profile  
Low long term redemption for financials



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. Sources: Dealogic, ESMA.



# Investors

R.24

## Risk summary

- Risk level ●
- Risk change from 4Q15 ➔
- Outlook for 2Q16 ➔

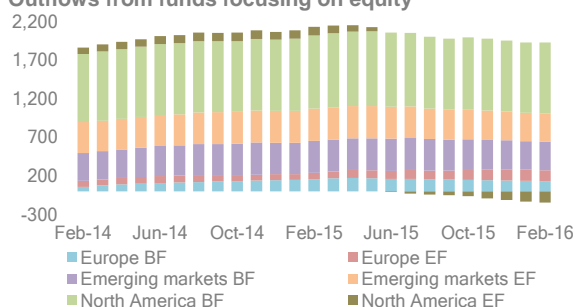
Note: Assessment of main risk categories for markets under ESMA remit since past quarter, and outlook for current quarter. Systemic risk assessment based on categorisation of the ESA Joint Committee. Colours indicate current risk intensity. Coding: green=potential risk, yellow=elevated risk, orange=high 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.

## Risk drivers

- Search for yield set to continue.
- Decline in asset prices, high volatility in returns and increase in redemptions.
- Deterioration of quality of securities in portfolios.
- Funds exposures to commodities and EMs.

R.25

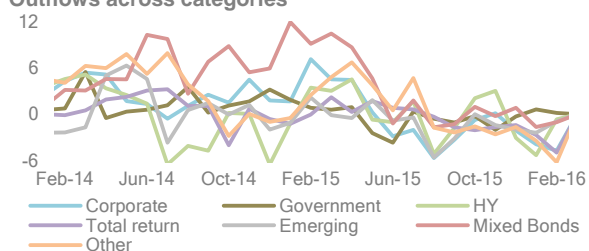
## Cumulative investment fund flows Outflows from funds focusing on equity



Note: Cumulative net flows into bond and equity funds (BF and EF) over time since 2004 by regional investment focus, EUR bn. Data until February 2016. Sources: Thomson Reuters Lipper, ESMA

R.26

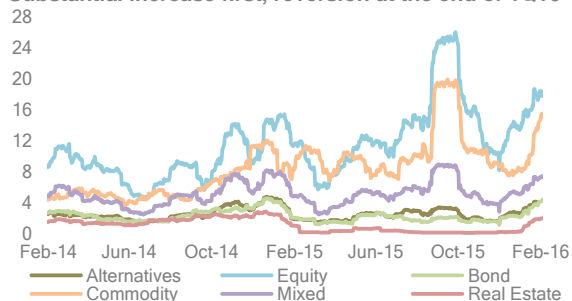
## EU bond fund net flows Outflows across categories



Note: Net flows for bond funds, EUR bn. Funds investing in Corporate and Government bonds that qualify for another category are only reported once (e.g. funds investing in Emerging Government bonds will be reported with the Emerging; funds investing in HY Corporate bonds will be reported with the HY). Data until February 2016. Sources: Thomson Reuters Lipper, ESMA.

R.27

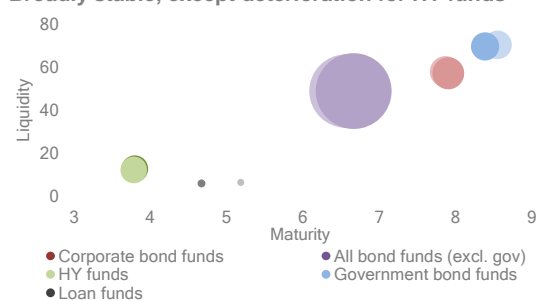
## RoR volatilities by fund type Substantial increase first, reversion at the end of 1Q16



Note: Annualised 40D historical return volatility (%) of EU domiciled mutual funds. Data until February 2016. Sources: Thomson Reuters Lipper, ESMA.

R.28

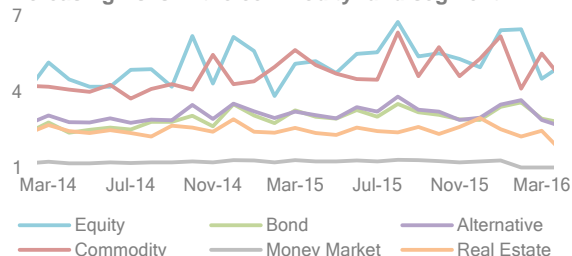
## Liquidity risk profile for EU bond funds Broadly stable, except deterioration for HY funds



Note: Fund type is reported according to their average liquidity ratio, as a percentage (Y-axis), the effective average maturity of their assets (X-axis) and their size. Each series is reported for 2 years, i.e. 2014 (mid tones) and 2015 (hue). Sources: Thomson Reuters Lipper, ESMA.

R.29

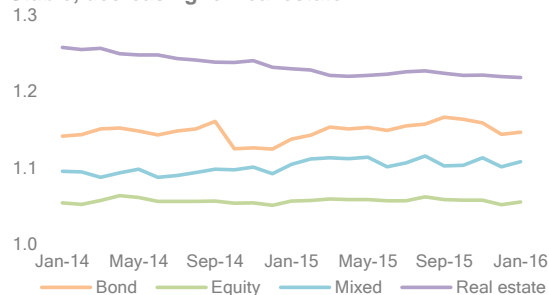
## Retail funds synthetic risk and reward indicator Increasing risks in the commodity fund segment



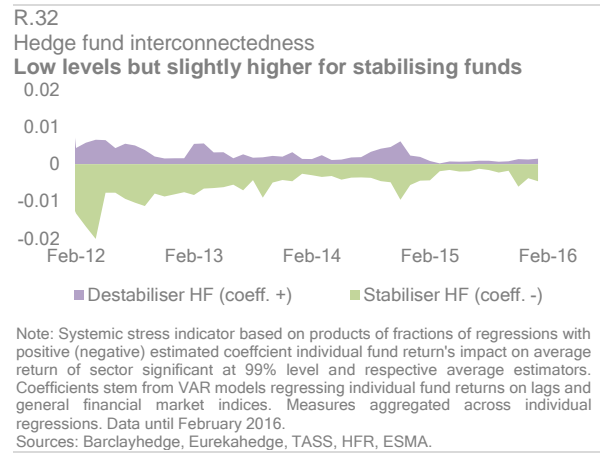
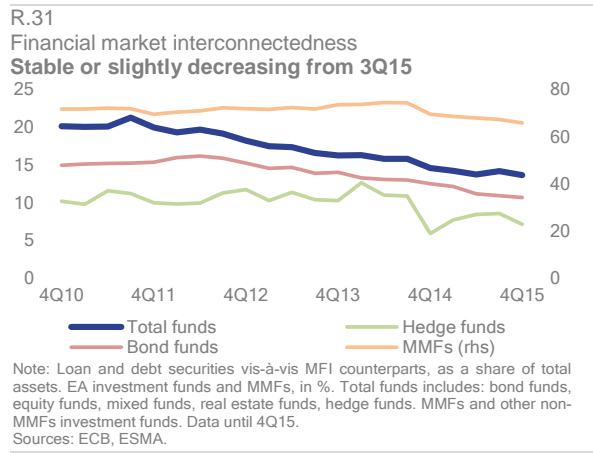
Note: The calculated Synthetic Risk and Reward Indicator is based on ESMA SRRI guidelines. It is computed via a simple 5 year annualised volatility measure which is then translated into categories 1-7 (with 7 representing higher levels of volatility). Sources: Thomson Reuters Lipper, ESMA.

R.30

## Leverage by investment fund type Stable, decreasing for real estate



Note: EA Investment funds' leverage by fund type computed as the AuM/NAV ratio. Data until January 2016. Sources: ECB, ESMA.



# Infrastructures and services

R.33

## Risk summary

Risk level



Risk change from 4Q15



Outlook for 2Q16



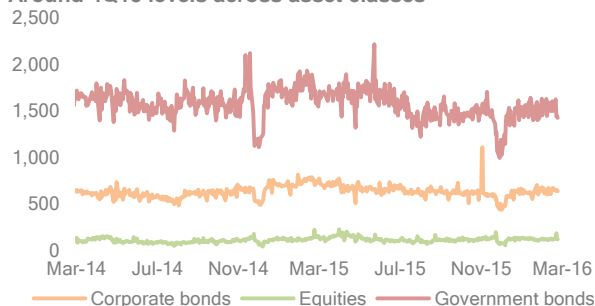
## Risk drivers

- 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.34

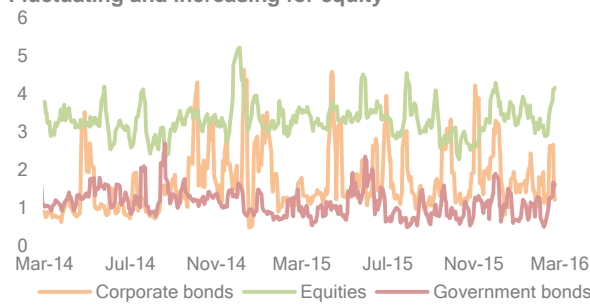
## Value of settled transactions Around 4Q15 levels across asset classes



Note: Total value of settled transactions in the EU as reported by NCAs, daily values in EUR bn. Free-of-payment transactions not considered. Sources: National Competent Authorities, ESMA.

R.35

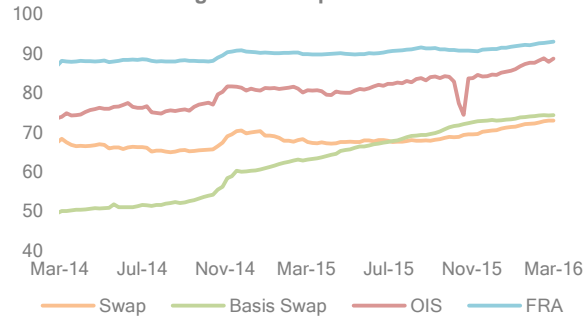
## Settlement fails Fluctuating and increasing for equity



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

R.36

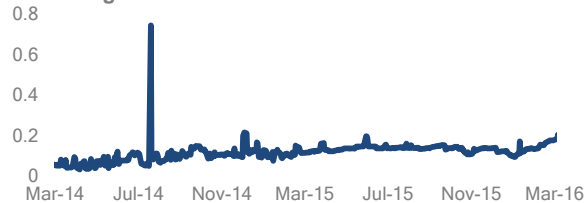
## IRS clearing Increase in clearing across all products



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

R.37

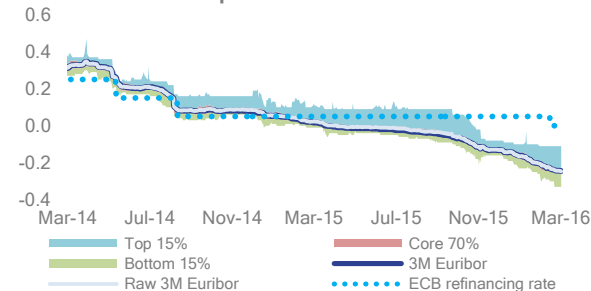
## Euribor – Dispersion in contributions Increasing in 1Q16



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.38

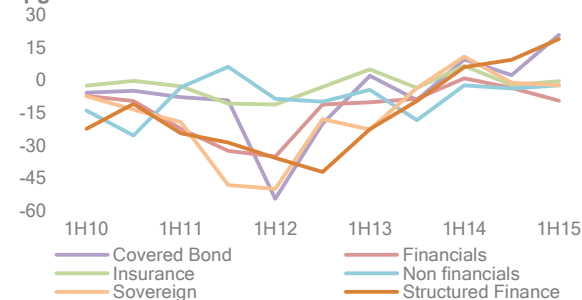
## Euribor – Dispersion of submission levels Submission level dispersion increased



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.39

## Rating changes Upgrade 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.



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