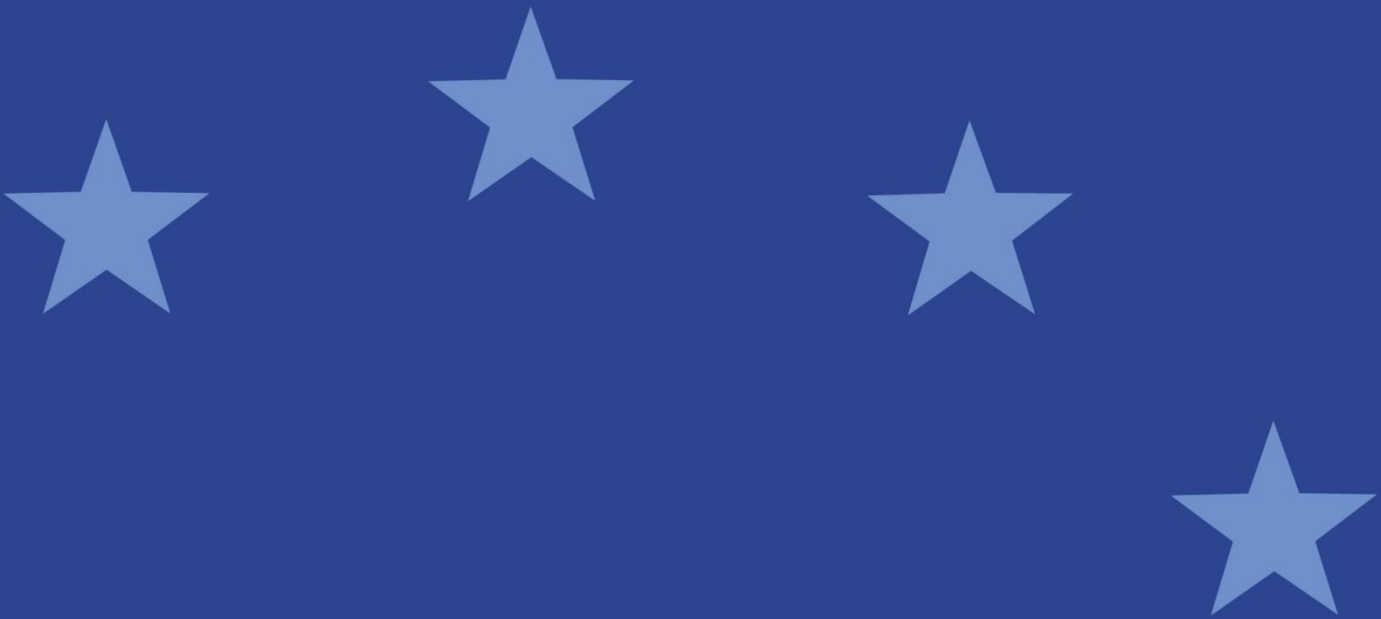




European Securities and
Markets Authority

ESMA Risk Dashboard

No. 3, 2018



6 September 2018
ESMA 50-165-633

ESMA Risk Dashboard
No. 3, 2018

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ESMA Risk Dashboard

R.1

Main risks

Risk segments	Level Outlook		Risk categories		Risk sources	Outlook	
	Level	Outlook	Level	Outlook			
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	Orange	→	Infrastructure disruptions, incl. cyber risks	↗
Infrastructures and services	Yellow	→	Operational	Yellow	↗	Political and event risks	↗

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.

Equity markets in the EU began the quarter with a price recovery from the previous drop but then fell again in May. Sovereign and corporate bond market volatility was also high, as signs of liquidity drying up appeared in May. Market risk is very high, resulting from high asset valuations in equities coupled with market uncertainty as the period of ultra-low interest rates draws to a close. Our outlook for liquidity, contagion and credit risk remains unchanged. Operational risk was elevated, with a negative outlook, as cyber threats and Brexit-related risks to business operations remain major concerns. Going forward, EU financial markets can be expected to become increasingly sensitive to mounting political and economic uncertainty from diverse sources, such as weakening economic fundamentals, transatlantic trade relations, emerging market capital flows, Brexit negotiations, and others. Assessing business exposures and ensuring adequate hedging against these risks will be a key concern for market participants in the coming months.

Risk summary

Market risk remained at a very high level in 2Q18, accompanied by very high risk in securities markets and elevated risks for investors, infrastructures and services. Equity and bond volatility spikes in February and May reflected growing sensitivities. The level of credit and liquidity risk remained high, with a deterioration in outstanding corporate debt ratings and weakening corporate and sovereign bond liquidity. Operational risk was elevated, with a negative outlook as cyber threats and Brexit-related risks to business operations remain major concerns. Investor risks persist across a range of products, and under the MiFIR product intervention powers ESMA recently restricted the provision of Contracts for Difference (CFDs) and prohibited the provision of Binary Options to retail investors. Going forward, EU financial markets can be expected to become increasingly sensitive to mounting political and economic uncertainty from diverse sources, such as weakening economic fundamentals, transatlantic trade relations, emerging market capital flows, Brexit negotiations, and others. Assessing business exposures and ensuring adequate

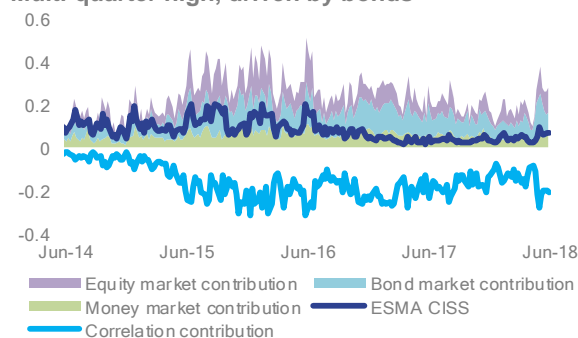
hedging against these risks will be a key concern for market participants in the coming months.

Systemic Risk as measured by the ESMA version of the Composite Systemic Indicator increased in 2Q18, reaching levels unseen since mid-2016 following the UK referendum on membership of the EU. The main sectoral contribution to the indicator's increase stems from bond markets.

R.2

ESMA composite systemic stress indicator

Multi-quarter high, driven by bonds



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 European economy grew at its fastest rate for ten years in 2017. EU GDP growth moderated in 1H18 and it is forecast at 2.1% in 2018 while global economic growth is overall solid but has become more differentiated across regions (3.9% predicted in 2018).¹ In the US, stronger-than-anticipated inflation reignited investors' fears of more aggressive interest-rate increases. The macroeconomic environment and its interaction with market expectations, notably over future monetary policy actions, played an active role in February's market correction and remain a significant risk source going forward. Appreciation of the USD raised fears over companies' ability to repay their dollar-denominated debt and, in April 2018, drove the first two weeks of outflows from emerging market bond funds since 2016.

Low interest-rate environment: In 2018, risks related to the low interest-rate environment switched from risks related to the consequences of this environment - with the associated search-for-yield behaviour by investors and potential mispricing of assets - to risks related to the gradual increase in interest rates and end of low yields. Initial signs of a reversal in risk premia related to an exit from the low interest rate environment first appeared in the US, triggering a global equity sell-off in February. Since then, risk premia on sovereign and corporate bond markets have started to diverge, showing signs of risk reallocation. Ten-year EA sovereign spreads to the DE Bund increased by 23bps on average (R.9), while corporate spreads widened by 15bps on average across ratings (R.15). Covered bond spreads experienced similar movements (R.18). Another sign of the potential curbing of search-for-yield behaviour is the continued net outflows from high-yield bond funds experienced over 2Q18 (R.25). Market reactions to monetary policy actions and the phase-out of the low-interest-rate environment will be interlinked going forward. Hence, our risk outlook for this category remains on a deteriorating trend.

EU sovereign debt markets: In 2Q18, EU sovereign bond yields were characterized by high volatility during short periods of political uncertainty. Ten-year sovereign yields increased in IT, PT or ES (+0.9, +0.4 and +0.2pps respectively) while they decreased by 0.2 % in DE, DK or SE. These movements may have been

amplified by lower liquidity in these markets, most notably in May.

Market functioning: Following the entry into force on 3 January 2018 of MiFID II/MiFIR, ESMA published the first Double Volume Cap (DVC) data on 7 March 2018. For the ISINs banned by the DVC publications, volumes on continuous trading and auctions represent the large majority of trading; between the end of 2017 and the end of May 2018 they increased from 91% to 96% of the total. Dark pool volumes decreased from almost 9% to 0.15% of the total over the same period, while volume traded in periodic auctions increased from 0.2% to 3.4%. Hour-long market interruptions due to technical glitches occurred, for example, in the US (25 April) and in the UK (7 June) with only few to no repercussions on the related markets. The number of circuit-breaker occurrences, which averaged 100 per week, peaked at 202 during the last week of May. Overall, this mean weekly number is below long-term averages (R.35). Regarding market infrastructures, central clearing continued to increase amid ongoing implementation of the clearing obligation for derivatives. With respect to securities settlement systems, following completion of the final migration wave to T2S, EU CSDs have applied for authorisation under CSDR. Cyber risk remained a concern for financial institutions, especially with respect to their business continuity and the integrity of proprietary data, as data theft is still the main source of breaches in the financial sector (R.43). Finally, the total volume of retail investor complaints increased in 1Q18, with the majority remaining linked to the execution of orders for bonds and equities (R.32, R.33).

Political and event risk: In the EU, Brexit remains one of the most significant political risks, even though a preliminary common understanding on a transition period was reached in March 2018. Market participants need to prepare for a potential scenario of no agreement and the related risks, including contract continuity and reduced access to financial market infrastructures. Growing uncertainty around trade and global market policies could also pose a threat to the continued improvement of trade and capital market integration in the EU and other jurisdictions.

¹ IMF, World Economic Outlook, July 2018, and European Commission, Summer 2018 (Interim) Forecast.

Risk categories

Market risk – very high, outlook stable: Equity markets began 2Q18 with a recovery from the previous quarter's losses. Nevertheless, EU equity markets were unsettled again at the beginning of May as political developments in Europe, together with geopolitical events and discussions over international trade arguments, drove up volatility. Measured by the VIX for the US or the VSTOXX for the EU, volatilities jumped in May to 17% and 20% respectively. Other markets, such as sovereign and to a lesser extent corporate bonds, were also subject to these event risks. Appreciation of the USD against most of the other main currencies amid a strong US economy and expectations of monetary tightening from the Federal Reserve forced several EM central banks to raise official rates as well. Against the EUR, the USD gained 5% over the course of the quarter. These developments should be closely monitored, as equity and sovereign markets, where liquidity is becoming tighter, appear vulnerable to these short-lived events and EM-focused European funds registered outflows (R.25).

Liquidity risk – high, outlook stable: In May bond markets experienced temporary deteriorating liquidity. On sovereign bond markets in particular, both the bid-ask spreads (R.10) and the composite sovereign bond indicator jumped. Two-year Italian debt rose by 130bps on 29 May, its biggest daily move since 1992. The rise was less pronounced on corporate bond markets, where only the Amihud indicator (R.16) increased significantly. Tight bond liquidity may have exacerbated price movements on these markets. Trading volumes of centrally cleared repos broadly followed the long-term upward trend (R.13). Collateral scarcity premia (i.e. the difference between general collateral and special collateral repo rates) were lower in 2Q18 than during the previous quarter, despite an end-quarter spike. High levels of collateral scarcity premia reflect possible shortages of high-quality collateral (R.14). This may fuel liquidity risk and volatility in funding costs and reduce overall market confidence.

Contagion risk – high, stable outlook: On sovereign bond markets, the median correlation between Germany and other EU countries' bond

yields decreased during 2Q18 as only some MS saw significant increases in their yields. Dispersion levels increased for the same reason (R.19). Finally, interconnectedness between hedge funds or MMFs and the banking sector decreased slightly in 2Q18 although remaining at a relatively high level (R.29).

Credit risk – high, outlook stable: In 2Q18, non-financial corporate bond spreads continued to increase for low-ratings (BBB). This development had begun in February as a result of asset reallocation and following market movements for equities and bonds. Spread increases were more pronounced for low-rated bonds, which could be considered a sign of shifting risk perceptions linked to risk premia reversals. Spreads stood within a range of 113bps for BBB-rated securities to 10bps for the AAA class, in comparison to the much narrower range of 66bps to 9bps at end-2017 (R.15). At the same time, the credit quality of outstanding corporate bonds continued to deteriorate (R.17).

Operational risk – elevated, outlook deteriorating: ESMA recently identified several significant investor protection and conduct risk concerns in the EU. ESMA has formally adopted new measures on the provision of Contracts for Difference (CFDs) and Binary Options to retail investors. These measures were published in the Official Journal of the European Union on 1 June. As of 2 July 2018, there has been a ban on the marketing, distribution or sale of Binary Options to retail investors, while from 1 August CFDs have been subject to a restriction on their marketing, distribution or sale to retail investors. Risks related to Brexit, and its uncertain impact on an array of complex legal and regulatory issues, continue to pose a significant operational risk to EU financial markets, both for investors and infrastructures. ESMA issued a public statement to raise all market participants' awareness of the importance of preparing for the possibility of no agreement in the context of Brexit.² With regard to cyber risks, concerns are expected to intensify in the medium to long term as financial data breaches are increasingly frequent in comparison to breaches in other sectors (R.43); as a result, the risk outlook for operational risk is deteriorating. Finally, the dispersion of Euribor submission quotes was stable in 2Q18 (R.41).

² <https://www.esma.europa.eu/press-news/esma-news/esma-reminds-uk-based-regulated-entities-about-timely-submission-authorisation>

Securities markets

R.3

Risk summary

Risk level

Risk change from 1Q18

Outlook for 3Q18



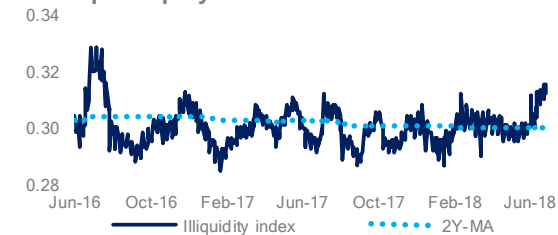
Risk drivers

- Risk-premia reversal
- Political risk
- Geopolitical and event risks
- Potential scarcity of collateral

Note: Assessment of main risk categories for markets under ESMA remit since past quarter, and outlook for forthcoming 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 judgment.

R.4

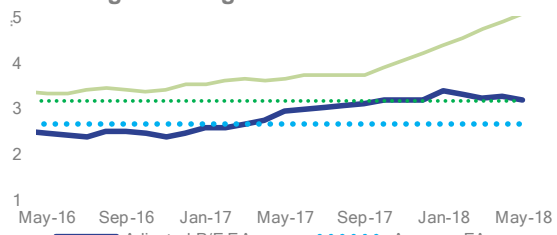
ESMA composite equity liquidity index Less liquid equity market at end-2Q18



Note: Composite indicator of illiquidity 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

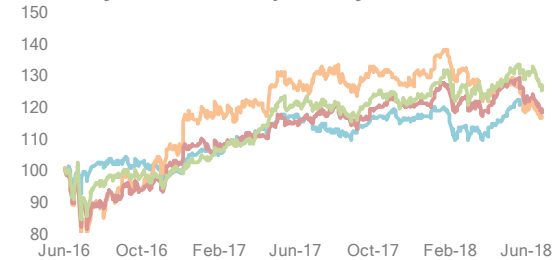
Equity valuation Returning to average in EA



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 May 2018.
Sources: Thomson Reuters Datastream, ESMA.

R.6

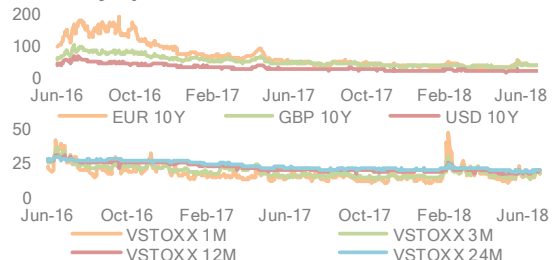
Equity prices Recovery until new drop in May



Note: STOXX Europe 600 equity total return indices. 01/03/2016=100.
Sources: Thomson Reuters Datastream, ESMA.

R.7

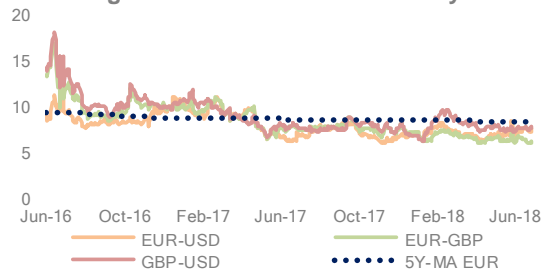
Financial instrument volatilities February spike, since returned to lower levels



Note: Top panel: implied volatilities on one-month Euro-Euribor, UK Pound Sterling-GBP Libor and US Dollar-USD Libor swaptions measured as price indices, in %; bottom panel: Euro Stoxx 50 implied volatilities, measured as price indices, in %.
Sources: Thomson Reuters EIKON, Thomson Reuters Datastream, ESMA.

R.8

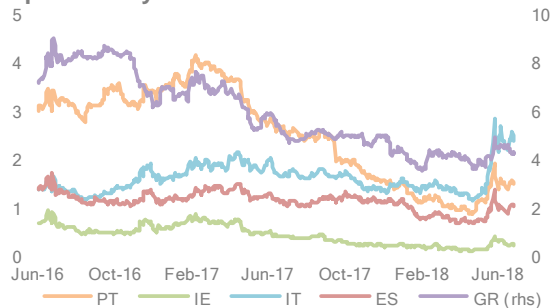
Exchange rate volatilities Returning to lower levels after February increase



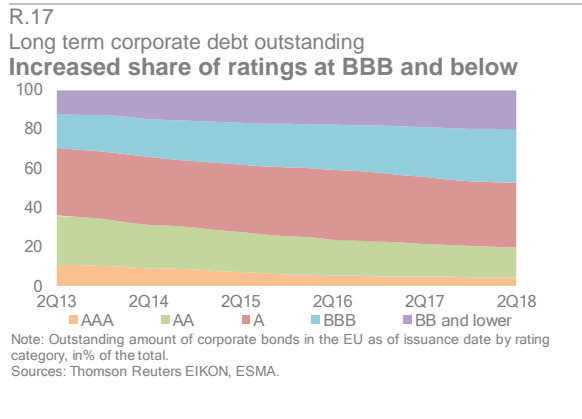
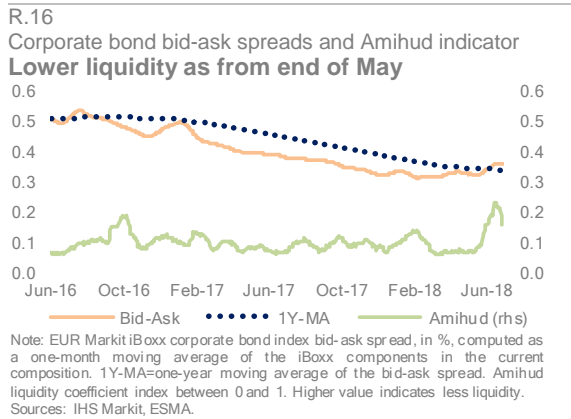
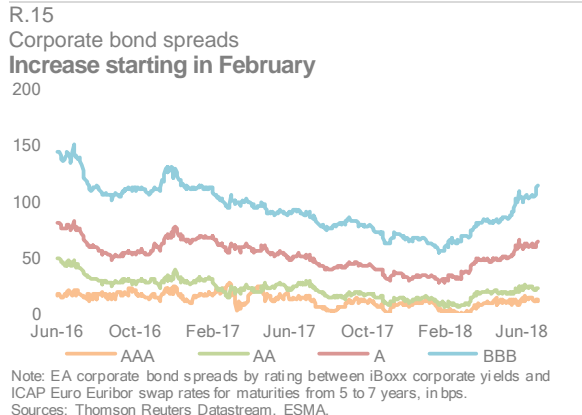
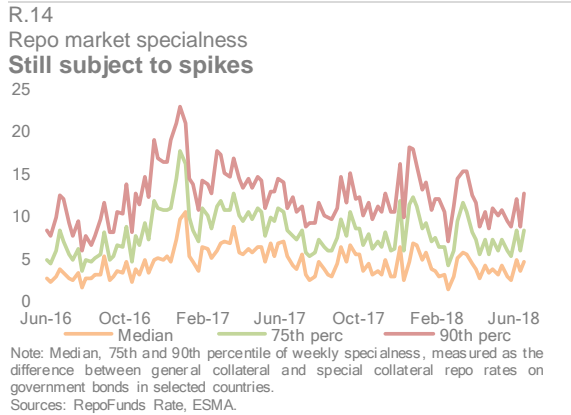
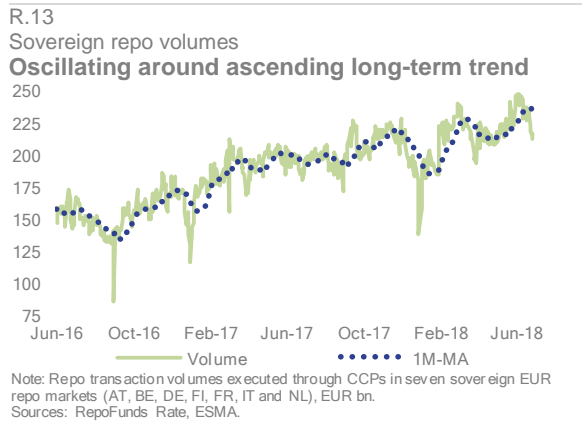
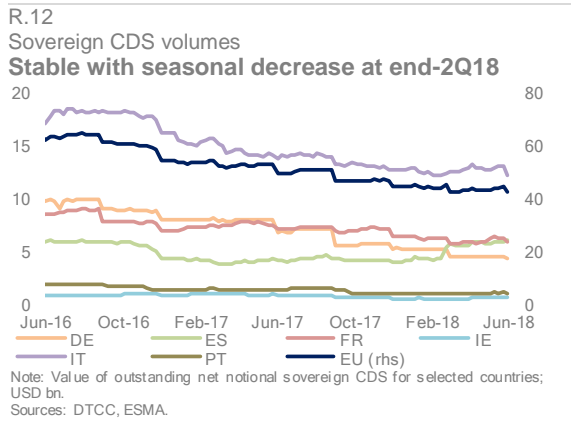
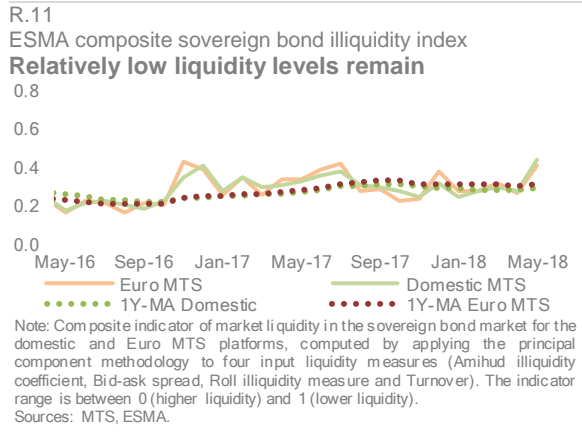
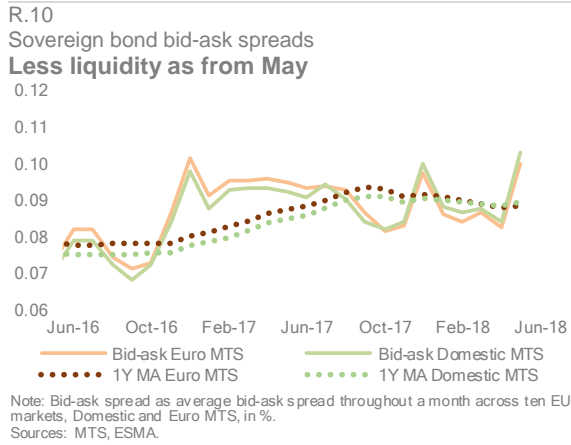
Note: Implied volatilities for 3M options on exchange rates. 5Y-MA EUR is the five-year moving average of the implied volatility for 3M options on EUR-USD exchange rate.
Sources: Thomson Reuters EIKON, ESMA.

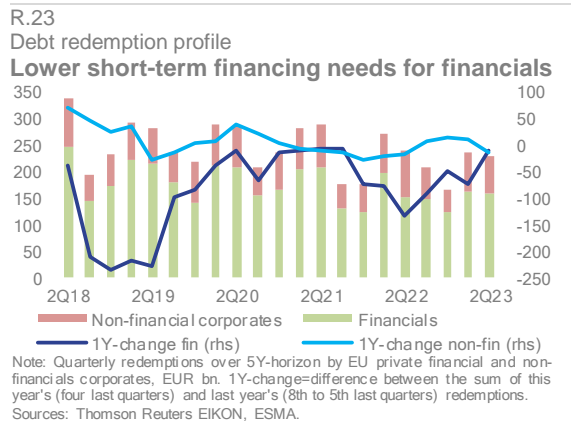
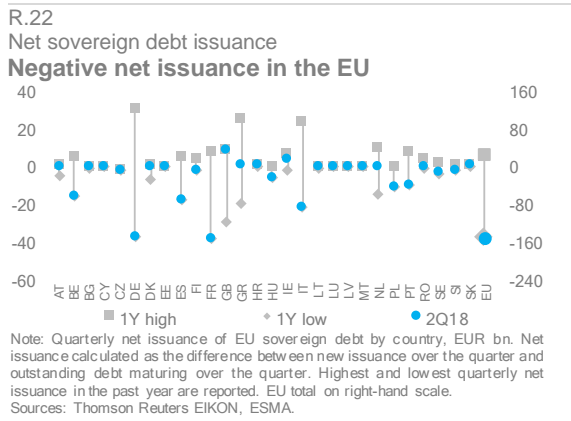
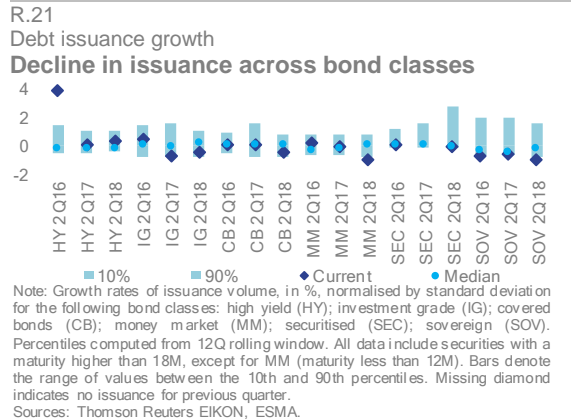
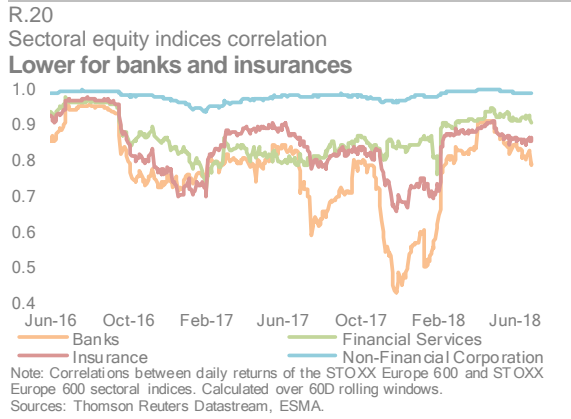
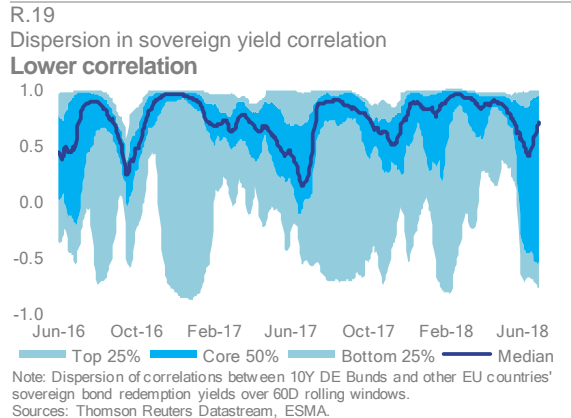
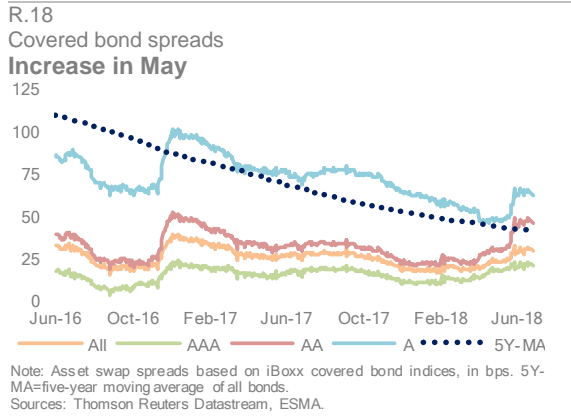
R.9

Sovereign risk premia Spike in May across countries



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





Investors

R.24

Risk summary

Risk level

Risk change from 1Q18

Outlook for 3Q18



Risk drivers

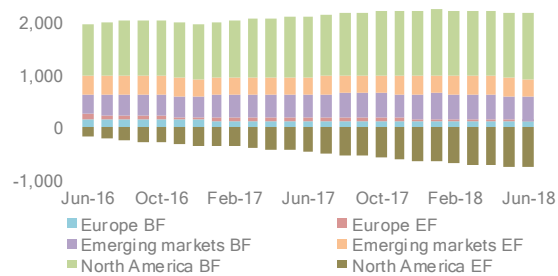
- Asset re-valuation and risk re-assessment
- Correlation in asset prices
- Risky market practices: VCs, ICOs

Note: Assessment of main risk categories for markets under ESMA remit since past quarter, and outlook for forthcoming 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 judgment.

R.25

Cumulative global investment fund

Outflows from most fund categories in 2Q18

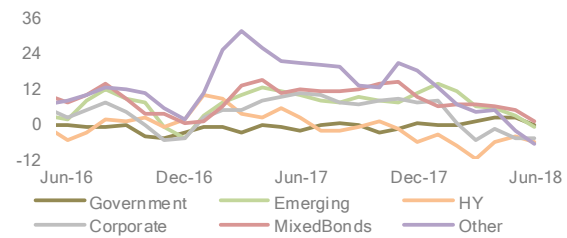


Note: Cumulative net flows into bond and equity funds (BF and EF) over time since 2004 by regional investment focus, EUR bn. Sources: Thomson Reuters Lipper, ESMA.

R.26

EU bond fund net flows

Net outflows for HY and corporate bond funds

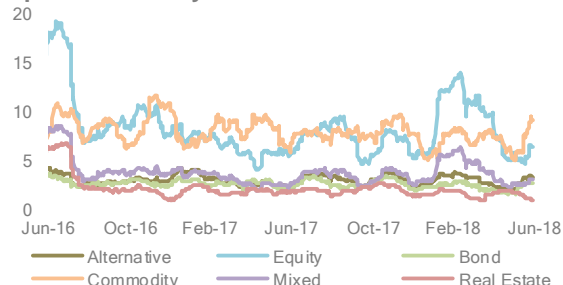


Note: Two-month cumulative net flows for bond funds, EUR bn. Funds investing in corporate and government bonds that qualify for another category are only reported once, e.g. funds investing in emerging government bonds reported as Emerging; funds investing in HY corporate bonds reported as HY). Sources: Thomson Reuters Lipper, ESMA.

R.27

RoR volatilities by fund type

Spike in volatility for commodities

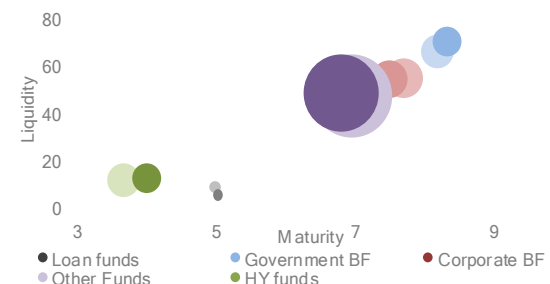


Note: Annualised 40D historical return volatility of EU-domiciled mutual funds, in %. Sources: Thomson Reuters Lipper, ESMA.

R.28

Liquidity risk profile of EU bond funds

Stable liquidity and mixed maturity changes

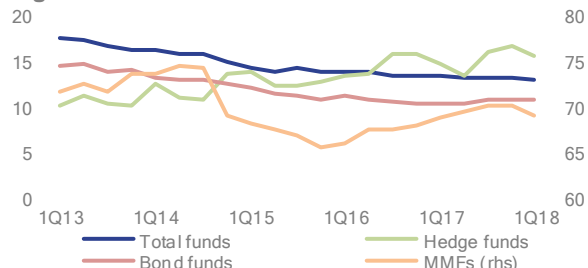


Note: Fund type is reported according to their average liquidity ratio, as a percentage (Y-axis), the effective average maturity of their assets (X-axis) and their size. Each series is reported for 2 years, i.e. 2017 (bright colours) and 2018 (dark colours). Sources: Thomson Reuters Lipper, ESMA.

R.29

Financial market interconnectedness

High for HFs

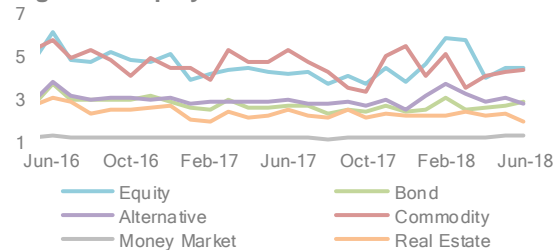


Note: Loan and debt securities vis-à-vis MFI counterparts, as a share of total assets. EA investment funds and MMFs, in %. Total funds includes: bond funds, equity funds, mixed funds, real estate funds, hedge funds, MMFs and other non-MMF investment funds. Sources: ECB, ESMA.

R.30

Retail fund synthetic risk and reward indicator

Higher for equity funds



Note: The calculated Synthetic Risk and Reward Indicator is based on ESMA SRRRI 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.

Infrastructures and services

R.31

Risk summary

Risk level

Risk change from 1Q18

Outlook for 3Q18



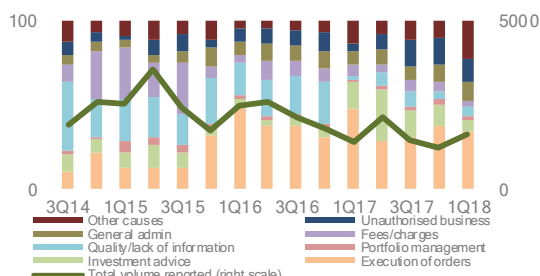
Risk drivers

- Operational risks, incl. cyber and Brexit-related risks
- Conduct risk, incl. intentional or accidental behaviour by individuals, market abuse
- Systemic relevance, interconnectedness between infrastructures or financial activities, system substitutability

Note: Assessment of main risk categories for markets under ESMA remit since past quarter, and outlook for forthcoming 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 judgment.

R.32

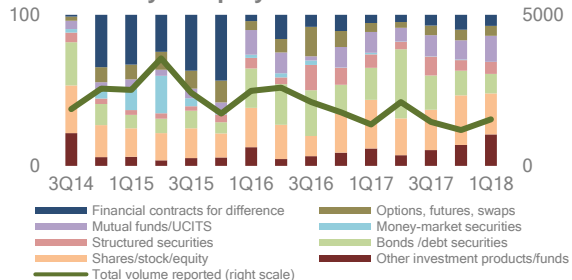
Complaints indicator by rationale Increase in volumes in 2Q18



Note: Complaints reported directly to 18 NCAs: AT, BG, CY, CZ, DE, DK, EE, ES, FI, HR, HU, IT, LT, LU, MT, PT, RO, SI. Line shows total volume of these complaints. Bars show % of total volume by cause. Data collected by NCAs. Sources: ESMA complaints database

R.33

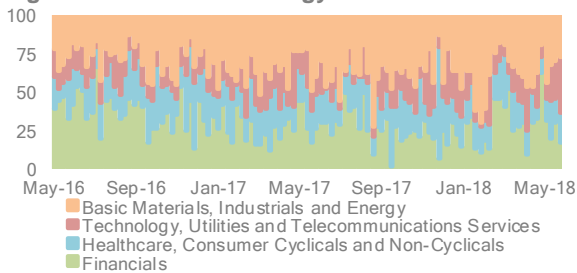
Complaints indicator by instrument Related mainly to equity and bond instruments



Note: Complaints reported directly to 18 NCAs: AT, BG, CY, CZ, DE, DK, EE, ES, FI, HR, HU, IT, LT, LU, MT, PT, RO, SI. Line shows total number of these complaints. Bars show % of total volume by type of financial instrument. Source: ESMA complaints database

R.34

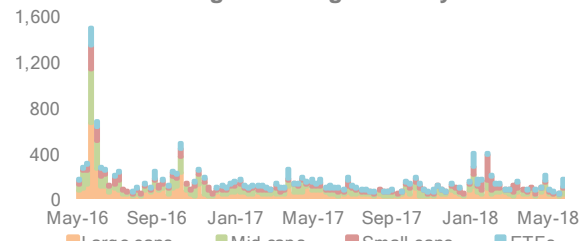
Circuit-breaker-trigger events by sector Higher share for Technology



Note: Percentage of circuit-breaker-trigger events by economic sector. Results displayed as weekly aggregates. The analysis is based on a sample of 10,000 securities, including all constituents of the STOXX Europe 200 Large/Mid/Sm all caps and a large sample of ETFs tracking the STOXX index or sub-index. Sources: Morningstar Real-Time Data, ESMA.

R.35

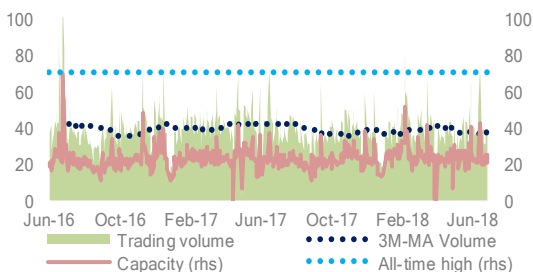
Circuit-breaker occurrences by market capitalisation CBs four times higher during February turbulence



Note: Number of daily circuit-breaker-trigger events by type of financial instrument and by market cap. Results displayed as weekly aggregates. The analysis is based on a sample of 10,000 securities, including all constituents of the STOXX Europe 200 Large/Mid/Small caps and a large sample of ETFs tracking the STOXX index or sub-index. Sources: Morningstar Real-Time Data, ESMA.

R.36

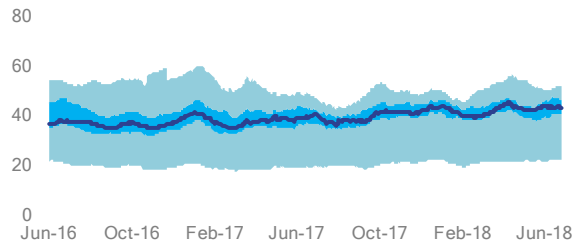
Trading system capacity proxy Volumes at 25% of capacity on average



Note: Daily and three-month moving average trading volume registered on 36 EU trading venues, EUR bn. Capacity computed as the average across trading venues of the ratio of daily trading volume over maximum volume observed since 31/03/2016, in %. Sources: Morningstar Realtime, ESMA.

R.37

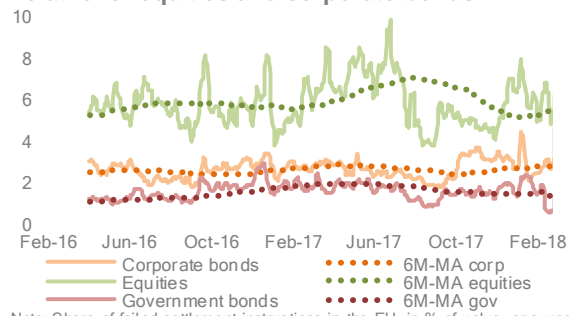
Equity market concentration Stable level of concentration



Note: Concentration of notional value of equity trading by national indices computed as a 1M-MA of the Herfindahl-Hirschman Index, in %. Indices included are FTSE 100, CAC 40, DAX, FTSE MIB, IBEX35, AEX, OMXS30, BEL20, OMXC20, OMXH25, PSI20, ATX. Sources: BATS, ESMA.

R.38

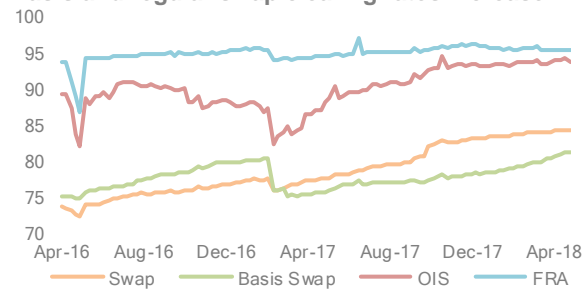
Settlement fails
Volatile for equities and corporate bonds



Note: Share of failed settlement instructions in the EU, in % of value, one-week moving averages.
Sources: National Competent Authorities, ESMA.

R.39

IRS CCP clearing
Basis and regular swap clearing rates increase



Note: OTC interest rate derivatives cleared by CCPs captured by Dealer vs. CCP positions, in % of total notional amount. Spikes due to short-term movements in non-cleared positions.
Sources: DTCC, ESMA.

R.40

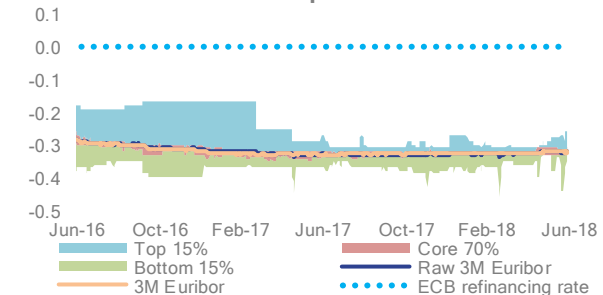
Difference between the Euribor and the maximum contribution
Return to low levels after end-of-the-year spike



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.
Sources: European Money Markets Institute, ESMA.

R.41

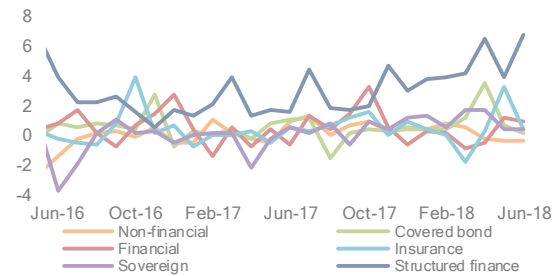
Euribor – Dispersion of submission levels
Low and stable overall dispersion



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: European Money Markets Institute, ESMA.

R.42

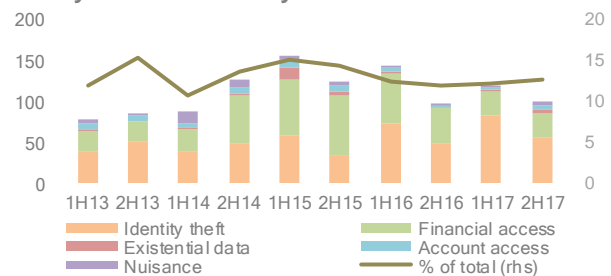
Rating changes
Positive for structured finance instruments



Note: Net change in ratings from all credit rating agencies, excluding CERVED and ICAP, by asset class computed as a percentage number of upgrades minus percentage number of downgrades over number of outstanding ratings.
Sources: RADAR, ESMA.

R.43

Financial services data breaches
Mostly related to identity thefts



Note: Estimated number of data breaches, financial services only, worldwide, by type. Breaches in financial services sector as % of total data breaches across all sectors (secondary axis). Both series as reported by the Gemalto Breach Level Index. The underlying data were gathered by Gemalto from publicly available reports of information breaches.
Sources: Gemalto Breach Level Index, ESMA.

