European Securities and Markets Authority

RD

ESMA Risk Dashboard

14 May 2020

ESMA Risk Dashboard
No. 1, 2020

ISBN 978-92-95202-19-1, DOI 10.2856/824070, ISSN 25998749, EK-AC-18-001-EN-N

European Securities and Markets Authority (ESMA)
Risk Analysis and Economics Department
201-203 rue de Bercy
FR–75012 Paris
risk.analysis@esma.europa.eu

ESMA risk assessment

Risk summary

The Covid-19 pandemic, in combination with the valuation risks to which we had alerted in ESMA's previous risk assessments, led to massive equity market corrections in 1Q20. We provided an RD up-date on 2 April to inform about the new risk landscape. Since this risk up-date, markets have seen a remarkable rebound, not least in light of massive public policy interventions in the EU and elsewhere. As the market environment remains fragile, we maintain our risk assessment: Going forward, we see a prolonged period of risk to institutional and retail investors of further – possibly significant – market corrections and see very high risks across the whole of the ESMA remit. To what extent these risks will further materialise will critically depend on two drivers: the economic impact of the pandemic, and any occurrence of additional external events in an already fragile global environment. The impact on EU corporates and their credit quality, and on credit institutions are of particular concern, as are growing corporate and public indebtedness, as well as the sustainability of the recent market rebound.

ESMA remit	Level	Outlook
Overall ESMA remit	■	→
Securities markets	■	→
Infrastructures and services	■	→
Asset management	■	→
Consumers	■	↗

Risk categories	Level	Outlook
Liquidity	■	→
Market	■	→
Contagion	■	↗
Credit	■	↗
Operational	■	↗

Risk drivers	Outlook
Macroeconomic environment	↑
Interest-rate environment	→
Sovereign and private debt markets	↗
Infrastructure disruptions	↗
Political and event risks	↑

Note: Assessment of the main risks by risk segments for markets under ESMA's remit since the last assessment, and outlook for the forthcoming quarter. Assessment of the main risks by risk categories and sources for markets under ESMA's remit since the last assessment, and outlook for the forthcoming quarter. Risk assessment based on categorisation of the European Supervisory Authorities (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 and 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.

Market assessment

Overall ESMA remit: In light of the COVID-19 pandemic and its impact on the EU economy and financial markets in 1Q20, ESMA assesses the risks in its overall remit, the securities markets, infrastructures and in asset management as very high for the time being. The same applies to liquidity and market risks, and we expect a rise in operational, credit, contagion and consumer risks.

Securities markets: Equity prices saw a major price correction, with peak-to-trough falls (-33% for Eurostoxx) and volatility levels (above 100% for Eurostoxx 1M implied volatility – R.35) comparable to the Global Financial Crisis. In light of massive public policy interventions in the EU and elsewhere, including fiscal, monetary and regulatory relief measures, market conditions have partially improved since end-March. Still, EU equities remain 25% below the pre-crisis levels (40% for EU banks). EU sovereign markets started to show signs of growing fragmentation, with a peak in spreads at 146bps on average for EU member's ten-year yields (R.43), before decreasing after ECB interventions mid-March. Corporate bond spreads jumped (R.45), although they remained far below the levels reached in 2008 or in 2012. Overall market conditions improved slightly towards the end of the quarter. To support transparency, ESMA on 16 March lowered the reporting threshold of net short positions on shares to 0.1%.[1] Several Member States also imposed short or long-term short-selling bans (AT, BE, FR, GR, IT, ES).

Infrastructures and services: Trading volumes surged to all-time highs and circuit breakers (CBs) were triggered extensively (R.52). No major disruption occurred at EU trading venues or CCPs. Individual cases of clearing member defaults occurred at an US CCP and a commodity clearinghouse in Poland, not registered as an EU CCP. Some initial margin model parameters were updated to respond to the higher volatility. In application of the CCP risk management frameworks, initial and variation margins increased significantly, including intra-day margins calls. EU CSDs were also put under stress with settlement fails at high levels in March across asset classes (e.g. jumping for equities to around 12%, R.7), amid heavily increased settlement volumes and overall turnover. Fails were reported to be mainly caused by operational rather than liquidity issues and were usually resolved within one to five days. The proportion of fails receded while still remaining above pre-crisis levels. In addition to COVID-19 related turbulences, Brexit remains a source of risk. In the area of central clearing, 78% of non-UK EEA counterparties clearing their derivative positions are doing so at UK CCPs (based on notional amounts outstanding, as of 10 January 2020). For CSDs, as of January 2020, 16% of transactions are settled at a UK CSD.

[1] https://www.esma.europa.eu/sites/default/files/library/esma71-99-1291_pr_ssr_measure_march_2020.pdf

Asset management: The asset management industry experienced turbulences with ETFs showing signs of price dislocation and massive outflows, together with UCITS and MMFs. Performance decreased across asset classes in line with market valuations. Suspensions also increased around mid-March amid general signs of low fund liquidity. Low market liquidity proved particularly challenging for high-yield, real estate and money market funds, impeding the valuation and rebalancing of portfolios. Outflows and liquidity conditions stabilised towards the end of the quarter across asset classes. Rotation from equity to bond funds came to a halt in 1Q20, with both EU equity and bond funds recording inflows during the first half of 1Q20 and outflows during the COVID-19 market turbulences.

Retail investors: Investor sentiment plunged in March after having picked-up in December 2019 from previous lows. In the UCITS universe, retail investors focus mainly on equity and bonds (over 90% of total retail investment in UCITS) as opposed to money market funds or UCITS with alternative strategies. The shift from actively to passively managed funds continued, with shares of passive equity UCITS and ETFs continuing to grow, to 11% and 18% respectively at the end of 2019, up from 10% and 15% in 2018.

Risk drivers

Macroeconomic environment: Macroeconomic forecasts have been revised downwards continuously during 1Q20 as the economic impact of the COVID-19 pandemic unfolded. Latest forecasts[2] predict a severe recession worldwide with the EU being particularly affected. Governments and central banks have responded with massive fiscal and monetary policy measures. Size and length of the recession will depend on the duration of the pandemic as well as the effectiveness of the policy measures. Price developments and volatility on commodity markets, in particular on oil markets, will potentially weigh on market sentiment and on overall economic conditions.

Interest-rate environment: Central bank policy rates remained globally at low levels in 1Q20. Central banks provided further massive support as the COVID-19 situation evolved. The pandemic and its economic effects should be expected to spur uncertainty in the time to come. Low for long interest rates affect bank margins, put a strain on insurers and pensions and could fuel search for yield behaviours.

Sovereign and private debt markets: Public financing needs are predicted to rise in light of the COVID-19 fiscal policy responses. In January, several member states issued long term-debt, with issuances being oversubscribed. Net debt issuance was close to zero in 1Q20, starting to rise compared to several quarters of negative debt issuance in the EU before (-EUR 130 bn in 4Q19). Sovereign yields peaked during the third week of March only to come back to lower levels after the ECB announcements. On corporate bond markets, yields and spreads rose sharply, reaching a plateau after the ECB announcements, remaining at high levels after that. This reflects increased credit risk and potential future credit rating downgrades. Liquidity on public and private debt markets worsened significantly across indicators. Although not a concern in the short run, debt sustainability issues could arise with the expected high levels of public and private debt that will come out of the current crisis.

Infrastructure disruptions: Despite the surge in activity and market movements that EU infrastructures had to cope with, no major disruption occurred in 1Q20. Circuit breakers were widely used, with a peak above 4400 in one week mid-March, against a long-run weekly average of 81 (R.36). Trading capacity was also tested with volumes reaching all-time highs (R.8). Finally, cyber-attack risks, cyber-related business disruption or data breaches remain among the most widely cited risk sources in the financial industry.

Political and event risk: While monetary and fiscal policy actions have been taken or are underway, uncertainty over the economic impact of COVID-19 is expected to translate into further volatile financial market conditions. In the EU, Brexit will remain on the agenda. Financial institutions should continue to prepare for the end of the UK's transition period, scheduled for 31 December 2020. Within this timeframe, negotiations are aimed at a framework for regulatory and supervisory cooperation, including equivalence assessments in various areas such as central clearing, central securities depositaries or admissions to trading. Recently, public statements made by the UK Government have given rise to concerns of a future divergence of UK policies from the EU. In the event that an agreement cannot be achieved before 1 January 2021 and the UK proceeds to end the transition period, similar cliff-edge risks that were previously expected in case of a "no-deal Brexit" may arise.

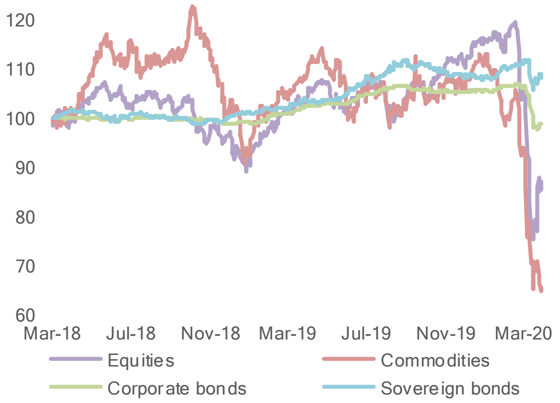
[2] IMF World Economic Outlook, Chapter 1, April 2020

Key indicators

Markets

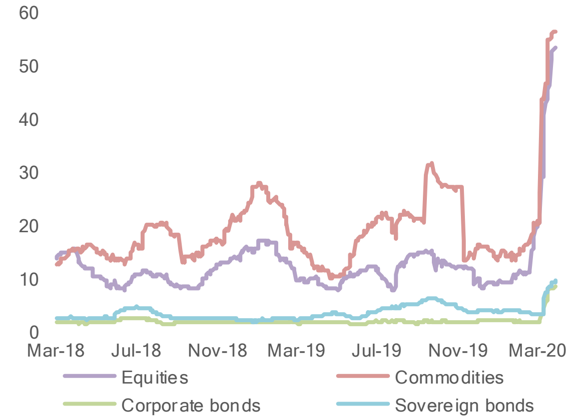
Securities markets

R.1
Market performance
Biggest drop for Equities and commodities



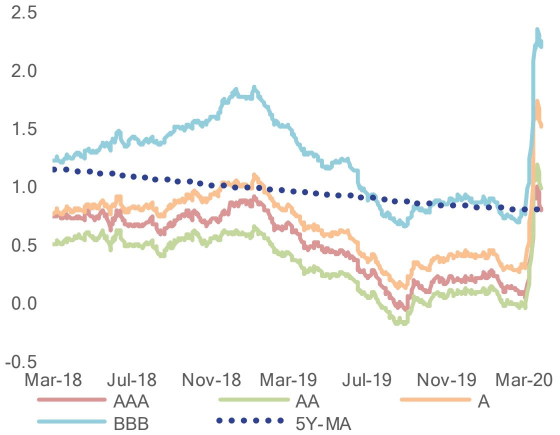
Note: Return indices on EU equities (Datastream regional index), global commodities (S&P GSCI) converted to EUR, EA corporate and sovereign bonds (iBoxx EUR, all maturities). 01/02/2018=100.
Sources: Refinitiv Datastream, ESMA.

R.2
Market volatilities
Volatilities at 2008 levels



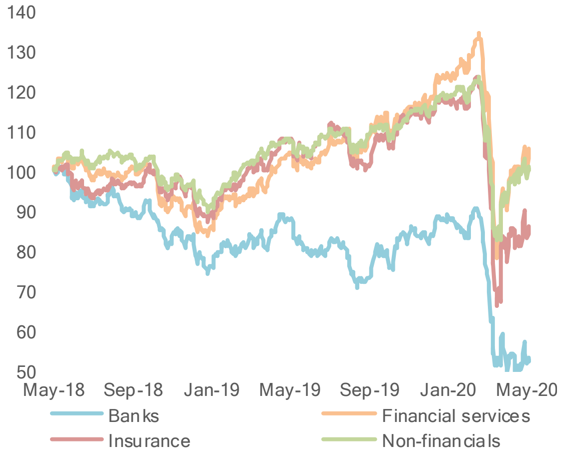
Note: Annualised 40D volatility of return indices on EU equities (Datastream regional index), global commodities (S&P GSCI) converted to EUR, EA corporate and sovereign bonds (iBoxx EUR, all maturities), in %.
Sources: Refinitiv Datastream, ESMA.

R.3
Corporate bond yields by ratings
Sharp parallel increase across ratings



Note: : ICE BofAML EA corporate bond redemption yields by rating, in %. 5Y-MA=five-year moving average of all indices.
Sources: Refinitiv Datastream, ESMA.

R.4
Equity prices
Rebound for all sectors but banks



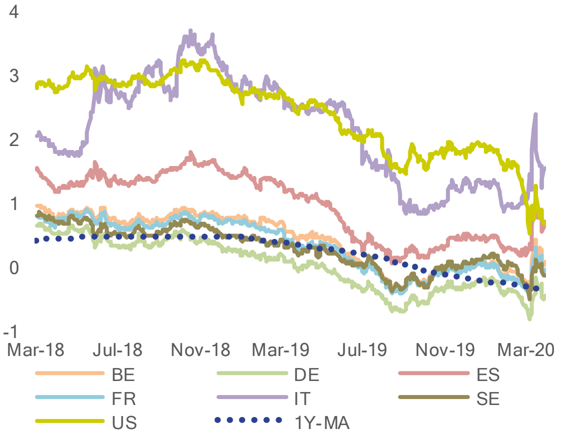
Note: STOXX Europe 600 sectoral return indices. 01/04/2018=100.
Sources: Refinitiv Datastream, ESMA.

R.5

R.6

Sovereign 10Y yields

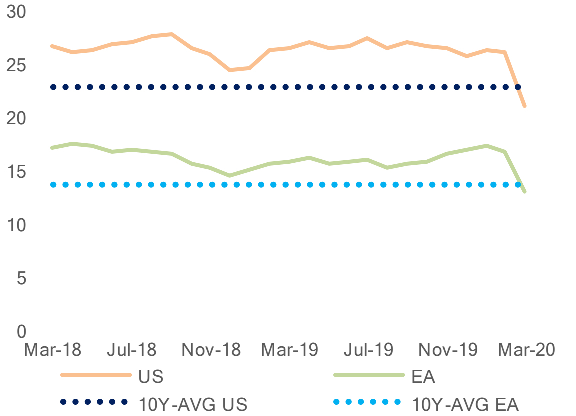
Mid-March peak, then back to lower levels



Note: Yields on 10Y sovereign bonds, selected countries, in %. 1Y-MA=one-year moving average of EA 10Y bond indices computed by Datastream.
Sources: Refinitiv Datastream, ESMA.

Price earning ratios

Drop to 10Y averages with market correction



Note: Price-earning ratios based on average inflation-adjusted earnings from the previous 10 years (cyclically adjusted price-earning ratios). Averages computed from the most recent data point up to 10 years before.
Sources: Refinitiv Datastream, ESMA.

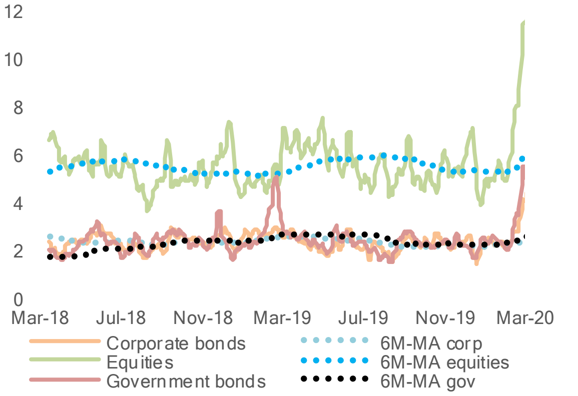
Markets

Infrastructures and services

R.7

Settlement fails

Massive impact of market turbulences

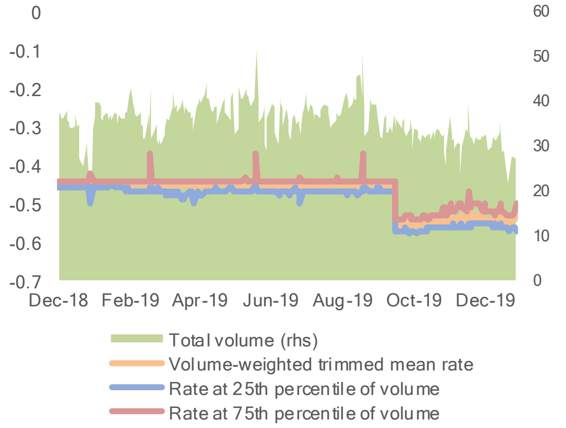


Note: Share of failed settlement instructions in the EU27, in % of value, one-week moving averages. Jump in December 2018 due to a single transaction of EUR 500 bn instructed on 10 December with settlement requested on the same day, which was finally cancelled on 18 December.
Sources: National Competent Authorities, ESMA.

R.8

€STR rate and volumes

Transition going smoothly



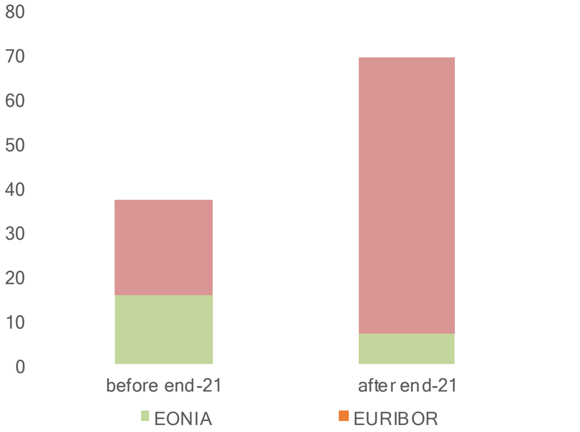
Note: €STR rate at 50th, 75th and 25th percentile of the volume (in % lhs) and volumes (in EUR tn).
Sources: Refinitv Datastream, ECB, ESMA.

R.9

R.10

IRS referencing EONIA and Euribor by maturity

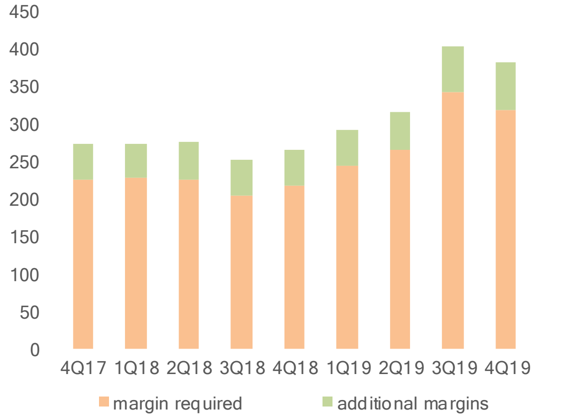
Still significant amounts outstanding



Note: Gross notional amount of IRS outstanding referencing EONIA and EURIBOR by maturities in the EU. As of 27 March 2020, in EUR tn.
Sources: TRs, ESMA.

Initial Margins held at EU CCPs

Increase in margins as of 3Q19

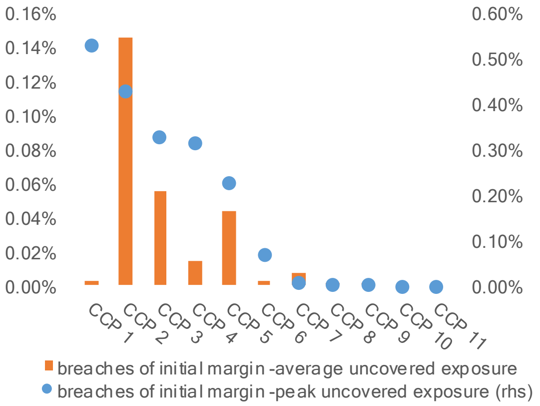


Note: Initial margin required as well as additional margin posted by EU CCP, in EUR bn.
Sources: Clarus Financial Technology, CPMI-IOSCO PQD, ESMA.

R.11

CCP Margin breaches

Below 1% in 4Q19



Note: Average and maximum margin breach size over the past 12 month for EU CCPs reporting, as a percentage of the total margin held. as of 31 December 2019.
Sources: Clarus Financial Technology, PQD, ESMA.

Markets

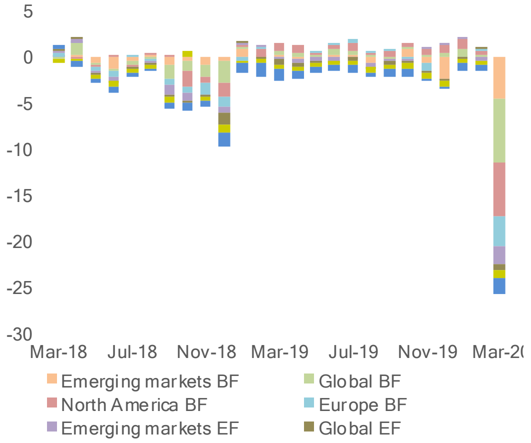
Asset management

R.12

R.13

Global investment funds

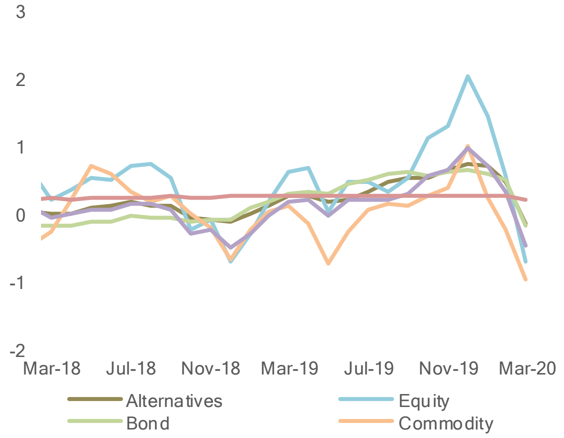
Outflows across types and regional focus



Note: Bond and equity funds (BF and EF) flows over time by regional investment focus, in % of NAV.
Sources: REFINITIV Lipper, ESMA.

Fund performance

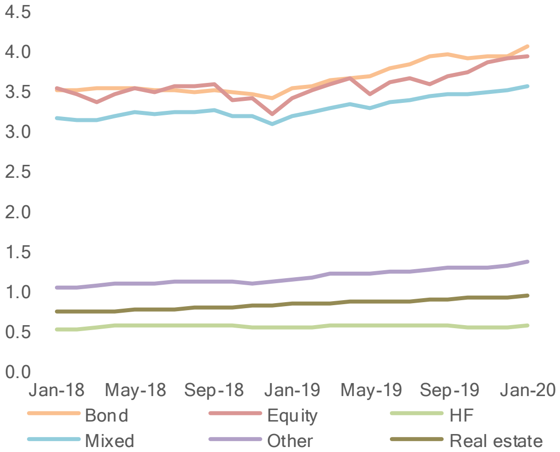
Negative across asset classes



Note: EU-domiciled investment funds' annual average monthly returns, asset weighted, in %.
Sources: Thomson Reuters Lipper, ESMA.

R.14
Assets by fund type

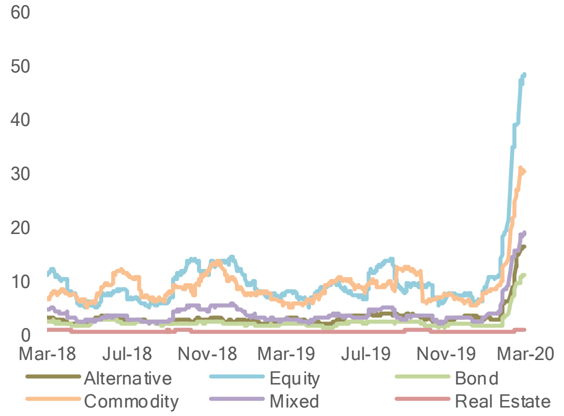
Growing fund industry



Note: AuM of EA funds by fund type, EUR tn. HF=Hedge funds.
Sources: ECB, ESMA.

R.15
Rate of return volatilities by fund type

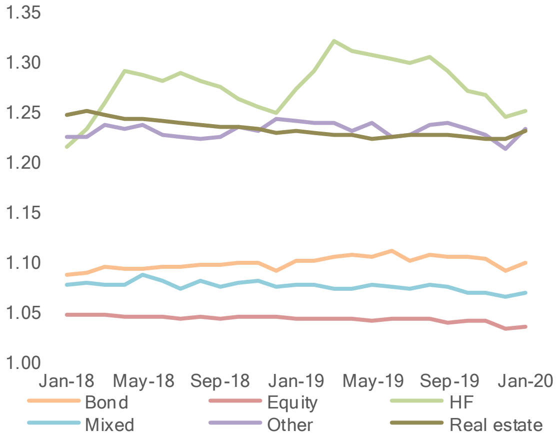
Jump in volatilities



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

R.16
Leverage by fund type

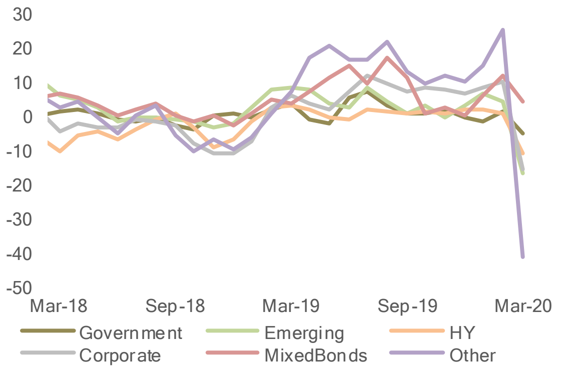
Reduced leverage for HF in 2019



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

R.17
EU bond fund net flows

Outflows for all types of bond funds



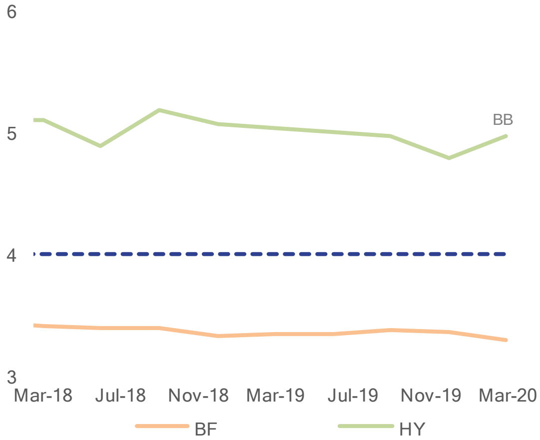
Note: Two-month cumulative net flows for bond funds, EUR bn. Funds investing in corporate and government bonds that qualify for another category are only reported once e.g. funds investing in emerging government bonds reported as Emerging; funds investing in HY corporate bonds reported as HY).
Sources: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

R.18

R.19

Bond funds credit risks

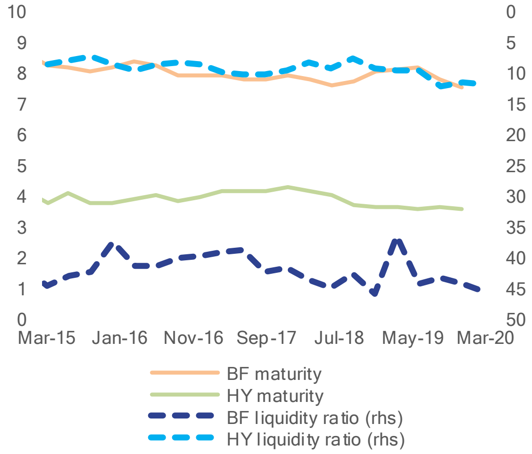
Lower credit quality for HY



Note: Average credit quality (S&P ratings; 1= AAA; 4= BBB; 10 = D).
Sources: Thomson Reuters Lipper, ESMA.

Bond funds' maturity and liquidity profile

Stable maturity, lower liquidity

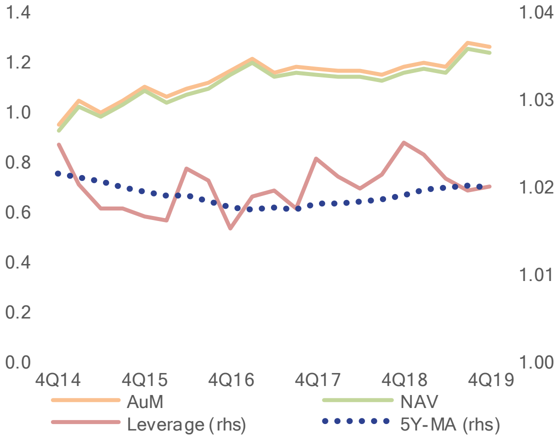


Note: Effective average maturity of fund assets in years; ESMA liquidity ratio (rhs, in reverse order).
Sources: Thomson Reuters Lipper, ESMA.

R.20

MMF assets and leverage

Increasing size, but lower leverage in 2019

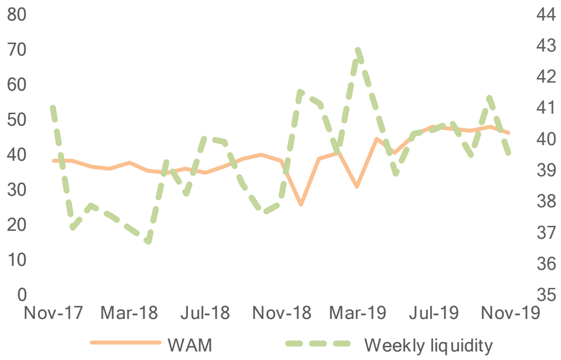


Note: NAV and AuM of EA MMFs, EUR tn. Leverage computed as the AuM/NAV ratio. 5Y-MA lev=five-year moving average for the leverage ratio.
Sources: ECB, ESMA.

R.21

MMF liquidity and maturity

Oscillating liquidity

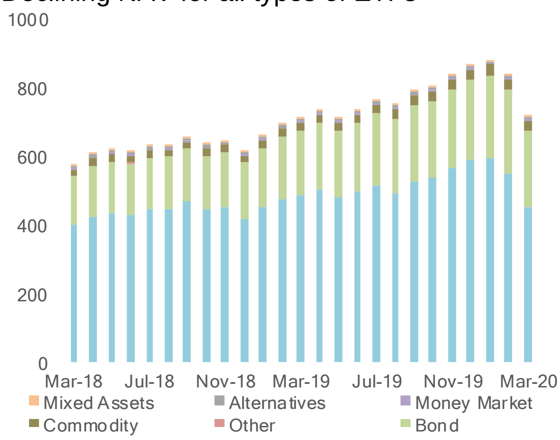


Note: Weighted average maturity (WAM) of EU prime MMFs, in days. Aggregation carried out by weighting individual MMFs' WAM by AuM. Weekly liquidity includes all assets maturing within 5 days, shares by AAA MMFs, securities issued by highly rated sovereigns, supranational or government agencies or with a maturity of less than one year, in % of total assets. Aggregation carried out using individual MMF data weighted by AuM.
Sources: Fitch Ratings, ESMA.

R.22

ETF NAV by asset type

Declining NAV for all types of ETFs

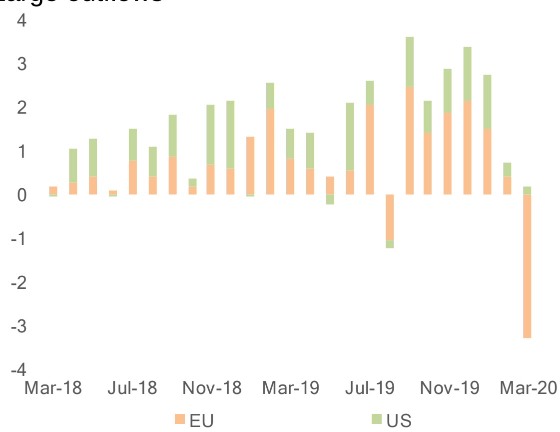


Note: NAV of EU ETFs by asset type, EUR bn.
Sources: Refinitiv Lipper, ESMA.

R.23

ETF net flows by domicile

Large outflows



Note: ETF net flows by domicile, in % of NAV.
Sources: Refinitiv Lipper, ESMA.

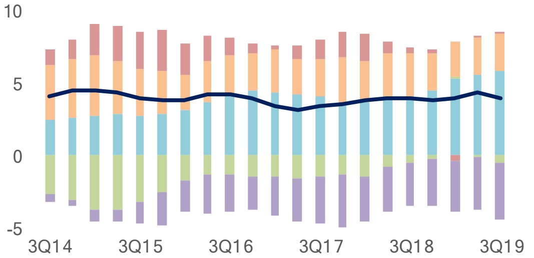
Markets

Consumers

R.24

EA households' net acquisition of financial assets

More currency, deposits and other financials

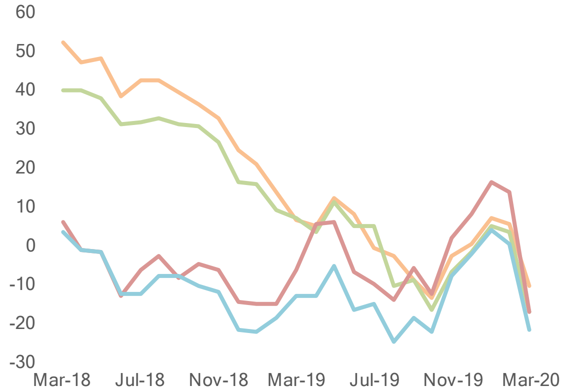


Note: Net acquisition of financial assets and net incurrence of liabilities for EA households as a share of their gross disposable income adjusted for changes in pension entitlements, based on a one-year rolling period, in %. IF shares=investment fund shares. Other financial assets=Insurance technical reserves, financial derivatives, loans granted and other accounts receivable. Net financial flows=Net household lending (positive values) or borrowing (negative values) to/from sectoral financial accounts. Liabilities multiplied by -1 to present as outflows.
Sources: ECB, ESMA.

R.25

Investor sentiment

Sentiment collapsed after recent pick-up

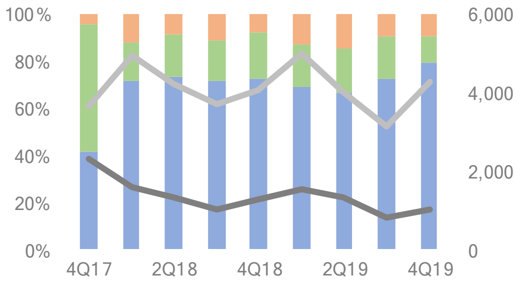


Note: Sentix Sentiment Indicators for the EA retail and institutional investors on a ten-year horizon. The zero benchmark is a risk-neutral position.
Sources: Refinitiv Datastream, ESMA.

R.26

Complaints by cause

Mainly execution of orders

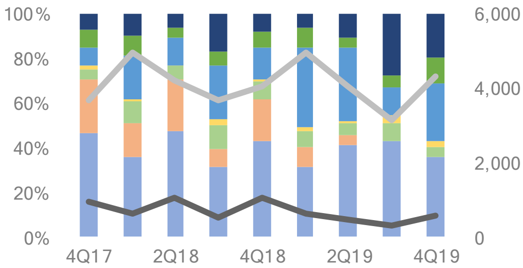


Note: Share of complaints received via firms by quarterly-reporting NCAs (n=17) associated with a given MiFID service (EO/IA/PM), excluding complaints with no such category recorded, %. 'Total including N/A'=number of complaints via this reporting channel including those with cause recorded as 'other' or 'N/A'. 'EO''=. execution or transmission of orders. 'IA'=.investment advice. 'PM'=portfolio management.

R.27

Complaints by financial instruments

Increase in complaints related to UCIT/AIFs



Note: Share of NCA complaints received via firms by quarterly-reporting NCAs (n=17) associated with a given financial instrument type, excluding complaints with financial instrument type recorded as 'other' or 'N/A', %. 'Total including N/A'=number of complaints via these reporting channels including those with instrument recorded as 'other' or 'N/A'. 'CFDs''=Contracts for Differences
Sources: ESMA complaints database

Risk categories

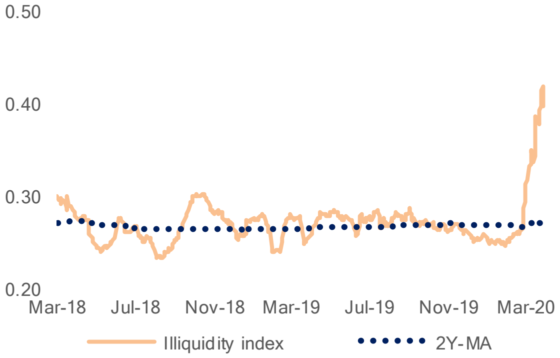
Liquidity risk

R.28

R.29

Composite equity liquidity index

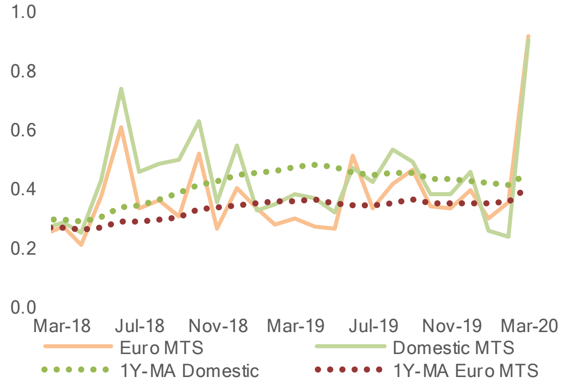
Liquidity dry-up in March



Note: Composite indicator of illiquidity in the equity market for the current STOXX Europe Large 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 and market efficiency coefficient). The indicator range is between 0 (higher liquidity) and 1 (lower liquidity).
Sources: Refinitiv Datastream, ESMA.

Composite sovereign bond liquidity index

Liquidity dry-up in March

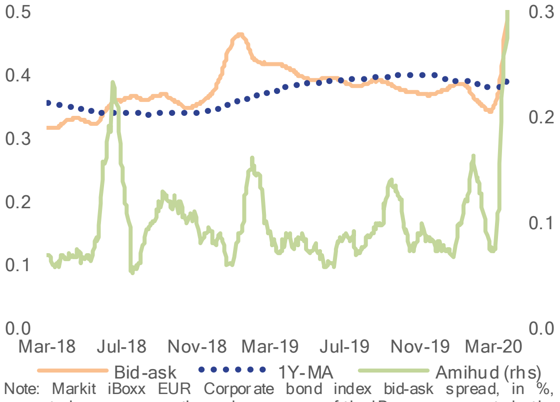


Note: Composite indicator of market liquidity in the sovereign bond market for the domestic and Euro MTS platforms, computed by applying the principal component methodology to four input liquidity measures (Amihud illiquidity coefficient, Bid-ask spread, Roll illiquidity measure and Turnover). The indicator range is between 0 (higher liquidity) and 1 (lower liquidity).
Sources: MTS, ESMA.

R.30

Corporate bond liquidity

Liquidity dry-up in March

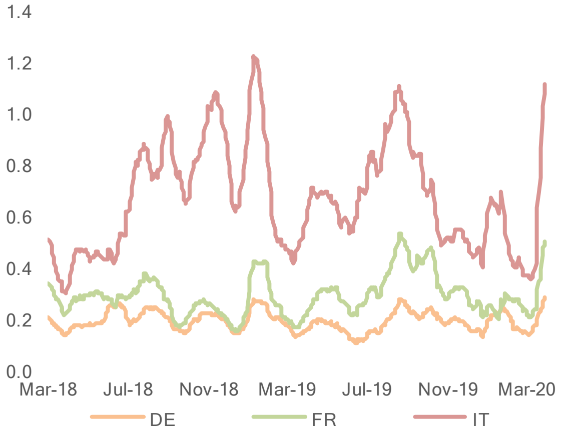


Note: Markit iBoxx EUR Corporate bond index bid-ask spread, in %, computed as a one-month moving average of the iBoxx components in the current composition. 1Y-MA=one-year moving average of the bid-ask spread. Amihud liquidity coefficient index between 0 and 1. Highest value indicates less liquidity.
Sources: IHS Markit, ESMA.

R.31

Bond futures liquidity

Liquidity dry-up in March

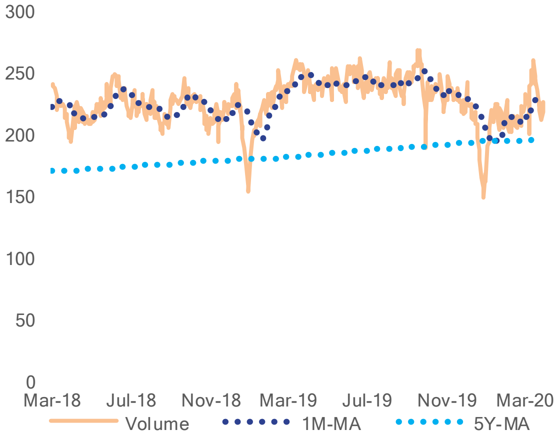


Note: One-month moving averages of the Hui-Heubel illiquidity indicator for selected 10Y sovereign bond futures, in %.
Sources: Refinitiv Datastream, ESMA.

R.32

Sovereign repo volumes

Slight increase in volumes

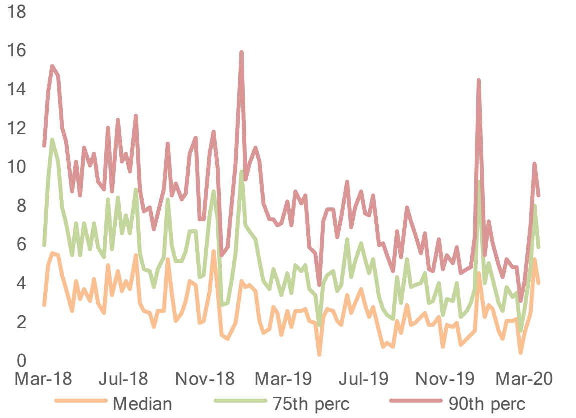


Note: Repo transaction volumes executed through CCPs in 7 sovereign EA repo markets (AT, BE, DE, FI, FR, IT and NL), EUR bn.
Sources: RepoFunds Rate, ESMA.

R.33

Repo market specialness

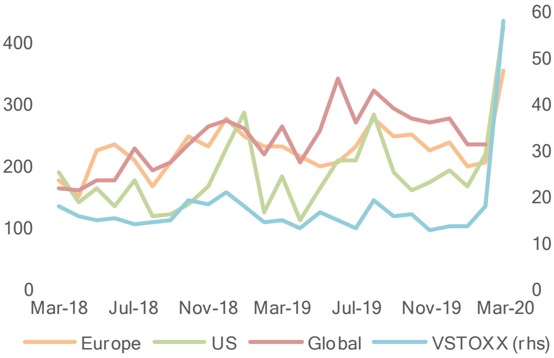
Spike in March, but still around usual levels



Note: Median, 75th and 90th percentile of weekly specialness, measured as the difference between general collateral and special collateral repo rates on government bonds in selected countries.
Sources: RepoFunds Rate, ESMA.

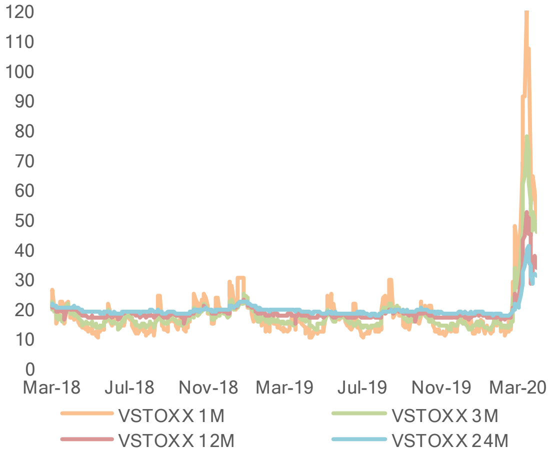
Risk categories
Market risk

R.34
Economic policy uncertainty
Surge in uncertainty



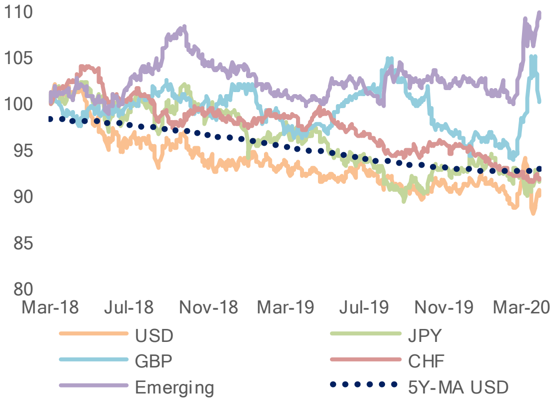
Note: Economic Policy Uncertainty Index (EPU), developed by Baker et al. (www.policyuncertainty.com), based on the frequency of articles in European newspapers that contain the following triple: "economic" or "economy", "uncertain" or "uncertainty" and one or more policy-relevant terms. Global aggregation based on PPP-adjusted GDP weights. Implied volatility of EURO STOXX 50 (VSTOXX), monthly average, on the right-hand side.
Sources: Baker, Bloom, and Davis 2015; Refinitiv Datastream, ESMA.

R.35
Financial instrument volatilities
Peaked above 100% for 1M VSTOXX



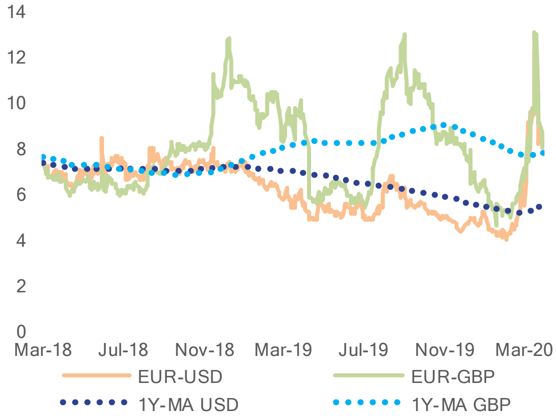
Note: EURO STOXX 50 implied volatilities, measured as price indices, in %.
Sources: Refinitiv Datastream, ESMA.

R.36
Exchange rates
Large depreciation for GBP and emergings



Note: Spot exchange rates to Euro. Emerging is a weighted average (2016 GDP) of spot exchange rates for CNY, BRL, RUB, INR, MXN, IDR and TRY. 01/12/2017=100. Increases in value represent an appreciation of EUR. 5Y-MA USD=five-year moving average of the USD exchange rate.
Sources: ECB, IMF, ESMA.

R.37
Exchange rate volatilities
Higher volatilities



Note: Implied volatilities for 3M options on exchange rates, in %. 1Y-MA USD (resp. 1Y-MA GBP) is the one-year moving average of the implied volatility for 3M options on EUR-USD (resp. EUR-GBP) exchange rate.
Sources: Refinitiv EIKON, ESMA.

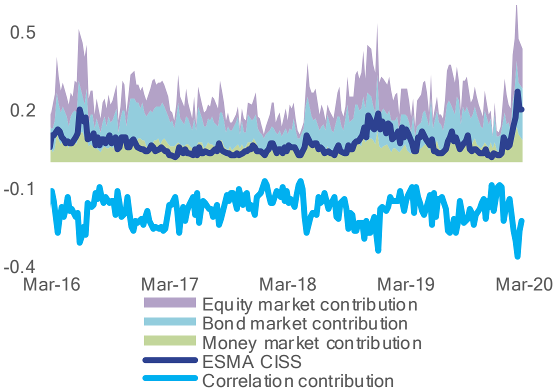
Risk categories
Contagion risk

R.38

R.39

Composite systemic stress indicator

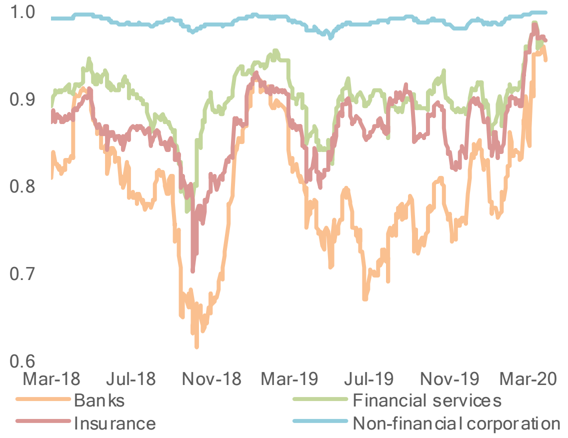
At levels unseen since 2012



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.

Sectoral equity indices correlation

Increased correlation as all sectors plunged

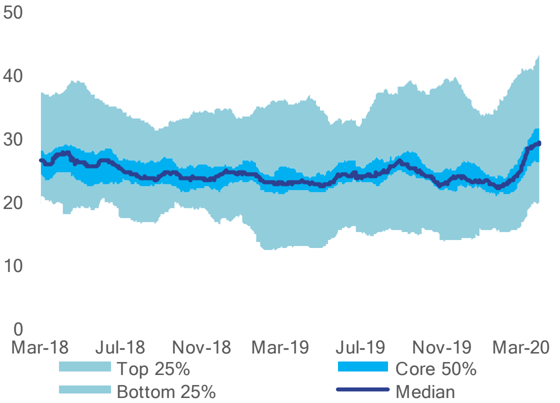


Note: Correlations between daily returns of the STOXX Europe 600 and STOXX Europe 600 sectoral indices. Calculated over 60D rolling windows.
Sources: Refinitiv Datastream, ESMA.

R.40

Equity market concentration

Increased concentration

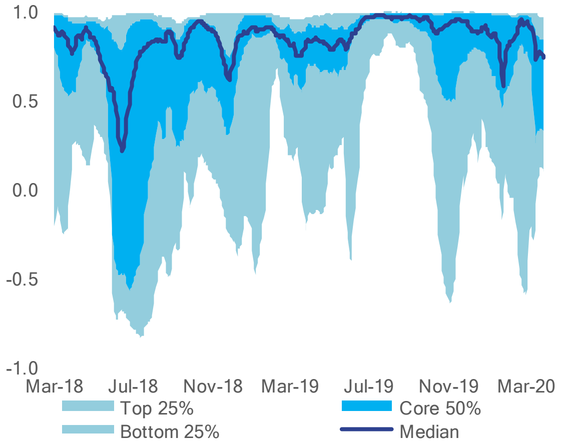


Note: Concentration of notional value of equity trading by national indices computed as a 1M-MA of the Herfindahl-Hirschman Index, in %. Cboe indices included are AT 20, BE 20, DE 30, DK 25, ES 35, FI 25, FR 40, IE 20, IT 40, NL 25, PT 20, SE 30.
Sources: Cboe, ESMA.

R.41

Dispersion in sovereign yield correlation

Yield correlation close to 1 in March

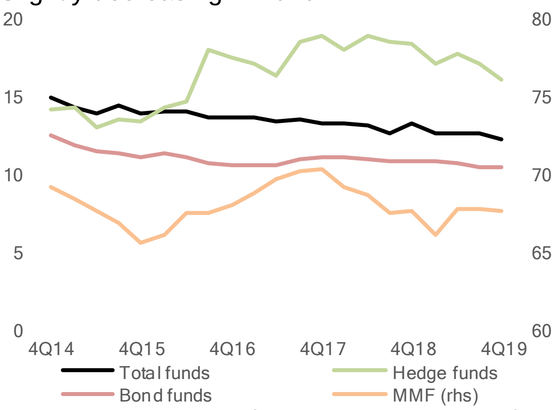


Note: Dispersion of correlations between 10Y DE Bunds and other EU27 countries' sovereign bond redemption yields over 60D rolling windows.
Sources: Refinitiv Datastream, ESMA.

R.42

Financial market interconnectedness

Slightly decreasing in 2019

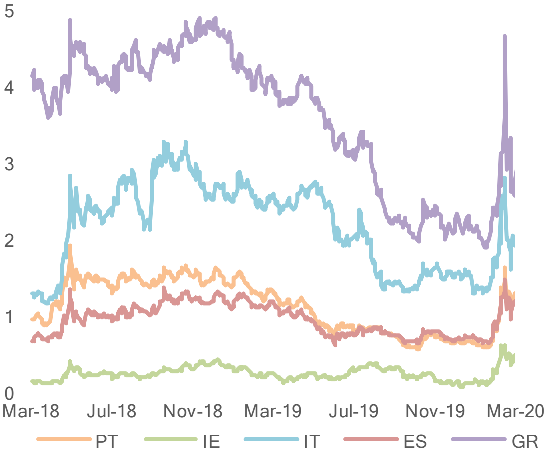


Note: Loan and debt securities vis-à-vis MFI counterparts, as a share of total assets. EA investment funds and MMF, in %. Total funds includes: bond funds, equity funds, mixed funds, real estate funds, hedge funds, MMFs and other non-MMF investment funds.
Sources: ECB, ESMA.

Risk categories

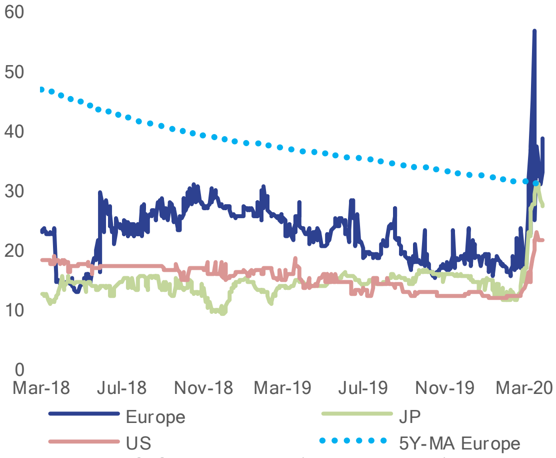
Credit risk

R.43
Sovereign risk premia
Peak in mid-March before ECB intervention



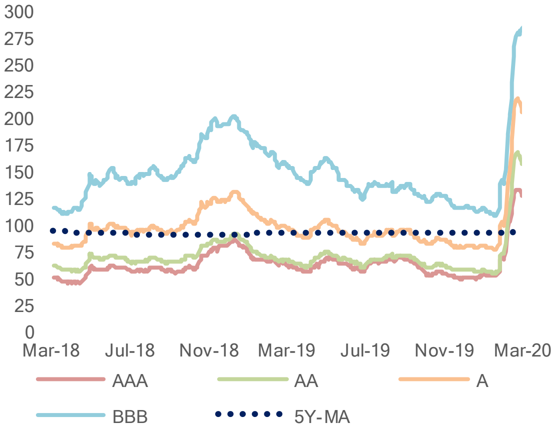
Note: Selected 10Y EA sovereign bond risk premia (vs. DE Bunds), in %.
Sources: Refinitiv Datastream, ESMA.

R.44
Sovereign CDS spreads
Higher spreads, especially in the EU



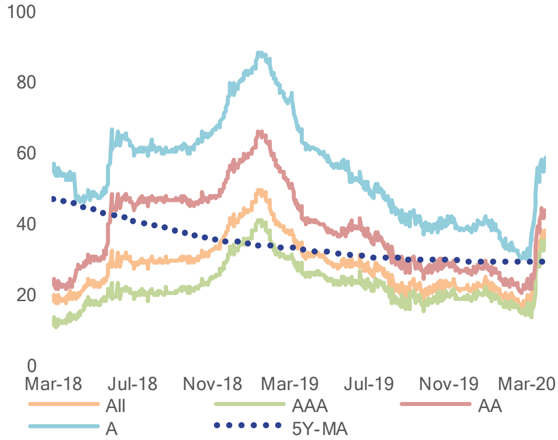
Note: Datastream CDS sovereign indices (5 years, mid-spread), in bps.
Sources: Refinitiv Datastream, ESMA.

R.45
Corporate bond spreads
At multi-year highs



Note: ICE BofAML EA corporate bond option-adjusted spreads by rating, in bps. 5Y-MA=five-year moving average of all indices.
Sources: Refinitiv Datastream, ESMA.

R.46
Covered bond spreads
At multi-year highs



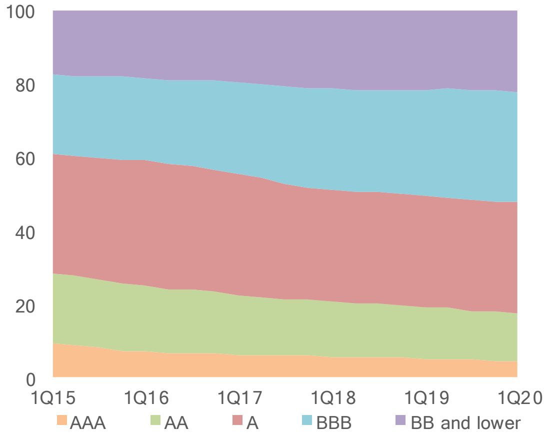
Note: Asset swap spreads based on iBoxx covered bond indices, in bps. 5Y-MA=five-year moving average of all bonds.
Sources: Refinitiv Datastream, ESMA.

R.47

R.48

Long term corporate debt outstanding

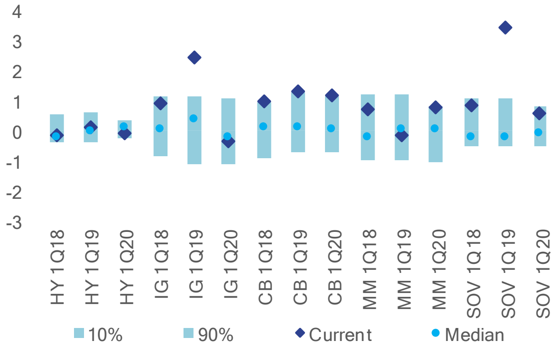
Increasing share of BBB and lower



Note: Outstanding amount of corporate bonds in the EEA30 as of issuance date by rating category, in% of the total.
Sources: Refinitiv EIKON, ESMA.

Debt issuance growth

Higher CB and sovereign issuance

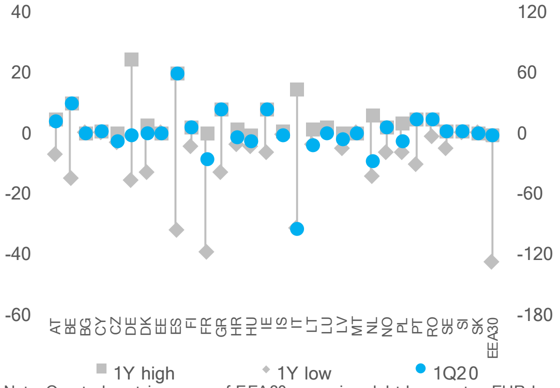


Note: Growth rates of issuance volume, in %, normalised by standard deviation for the following bond classes: high yield (HY), investment grade (IG), covered bond (CB), money market (MM), sovereign (SOV). Percentiles computed from 12Q rolling window. All data include securities with a maturity higher than 18M, except for MM (maturity less than 12M). Bars denote the range of values between the 10th and 90th percentiles. Missing diamond indicates no issuance for previous quarter.
Sources: Refinitiv EIKON, ESMA.

R.49

Net sovereign debt issuance

Net issuance positive in some countries

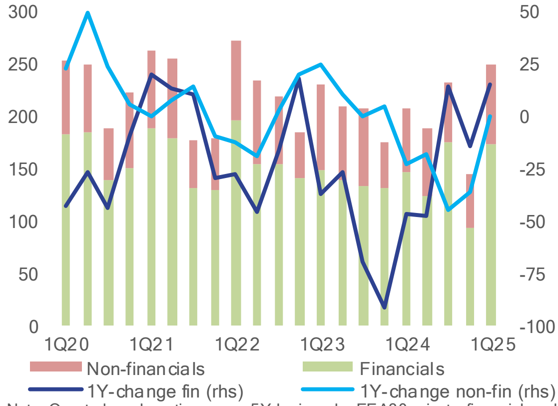


Note: Quarterly net issuance of EEA30 sovereign debt by country, EUR bn. Net issuance calculated as the difference between new issuance over the quarter and outstanding debt maturing over the quarter. Highest and lowest quarterly net issuance in the past year are reported. EEA30 total on right-hand scale.
Sources: Refinitiv EIKON, ESMA.

R.50

Debt redemption profile

Increased short-term financing needs



Note: Quarterly redemptions over 5Y-horizon by EEA30 private financial and non-financial corporates, EUR bn. 1Y-change=difference between the sum of this year's (four last quarters) and last year's (8th to 5th last quarters) redemptions.
Sources: Refinitiv EIKON, ESMA.

Risk categories

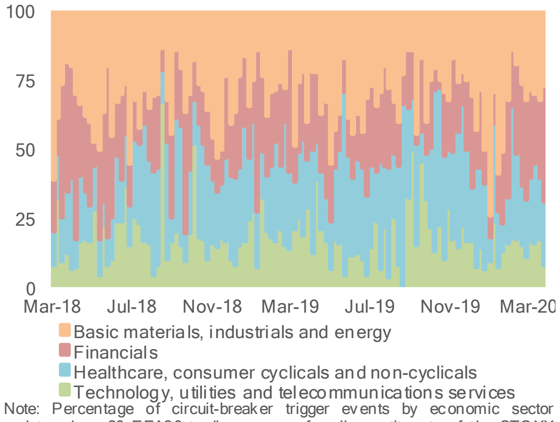
Operational risk

R.51

R.52

Circuit-breaker trigger events by sector

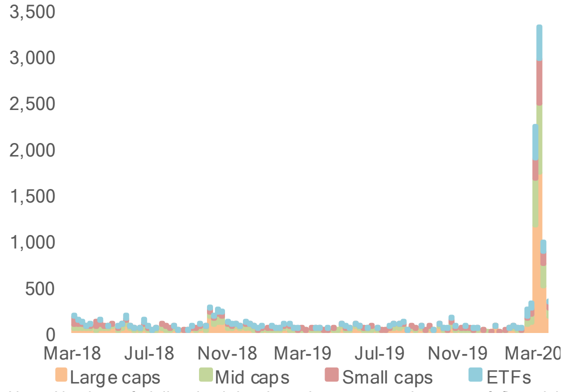
Higher share of financials



Note: Percentage of circuit-breaker trigger events by economic sector registered on 29 EEA30 trading venues for all constituents of the STOXX Europe Large/Mid/Small 200 and a large sample of ETFs tracking these indices or some of their subindices. Results displayed as weekly aggregates.
Sources: Morningstar Real-Time Data, ESMA.

Circuit-breaker trigger events by market capitalisation

Wide usage of circuit breakers

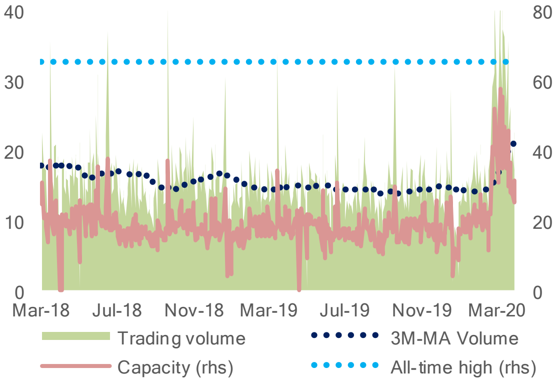


Note: Number of daily circuit-breaker trigger events by type of financial instrument and by market cap registered on 29 EEA30 trading venues for all constituents of the STOXX Europe Large/Mid/Small 200 and a large sample of ETFs tracking these indices or some of their subindices. Results displayed as weekly aggregates.
Sources: Morningstar Real-Time Data, ESMA.

R.53

Trading system capacity proxy

Trading volumes at all-time highs



Note: Daily and 3M-MA of trading volumes of 29 EEA30 trading venues for all constituents of the STOXX Europe Large/Mid/Small 200 and a large sample of ETFs tracking these indices or some of their subindices, in 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 Real-Time Data, ESMA.

European Securities and
Markets Authority