



European Securities and
Markets Authority

TRV Statistical Annex

ESMA Report on Trends, Risks and Vulnerabilities

No. 2, 2019



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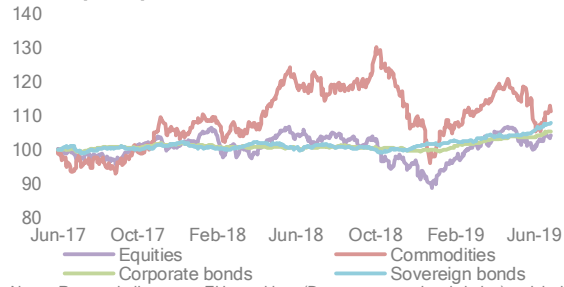
Statistics

Securities markets

Market environment

A.1

Market price performance



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). 01/06/2017=100.
Sources: Refinitiv Datastream, ESMA.

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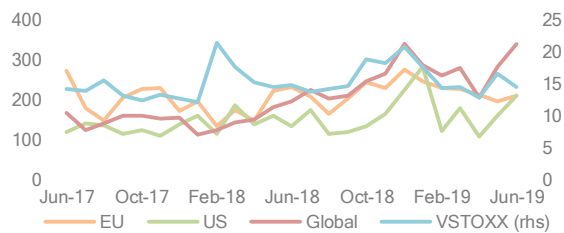
Market volatilities



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.

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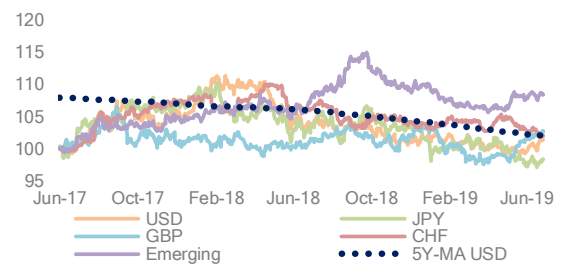
Economic policy uncertainty



Note: Economic Policy Uncertainty Index (EPU), developed by Baker et al. (www.policyuncertainty.com), based on the frequency of articles in EU 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.

A.4

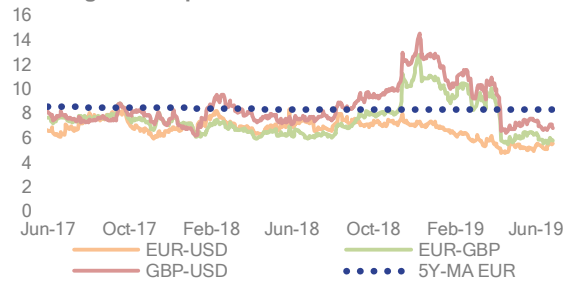
EUR exchange rates



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. 03/04/2017=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.

A.5

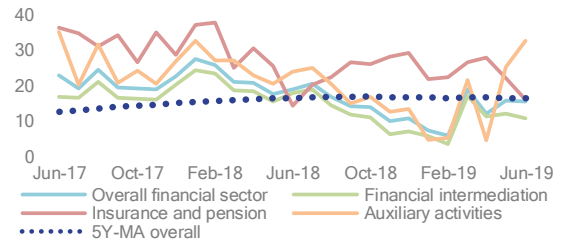
Exchange rate implied volatilities



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

A.6

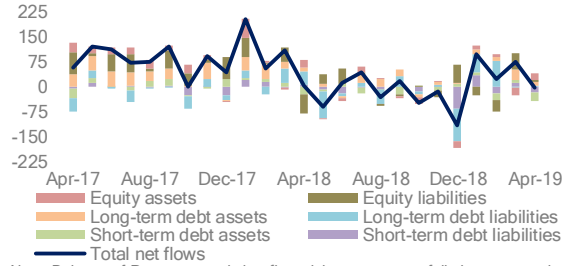
Market confidence



Note: European Commission survey of EU financial services sector and subsectors (NACE Rev.2 64, 65, 66). Confidence indicators are averages of the net balance of responses to questions on development of the business situation over the past three months, evolution of demand over the past three months and expectation of demand over the next three months, in % of answers received.
Sources: European Commission, ESMA.

A.7

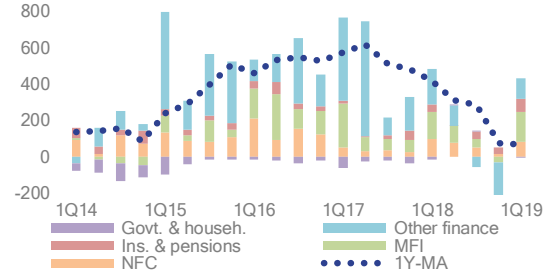
Portfolio investment flows by asset class



Note: Balance of Payments statistics, financial accounts, portfolio investments by asset class. Assets=net purchases (net sales) of non-EA securities by EA investors. Liabilities=net sales (net purchases) of EA securities by non-EA investors. Total net flows=net outflows (inflows) from (into) the EA. EUR bn. Sources: ECB, ESMA.

A.8

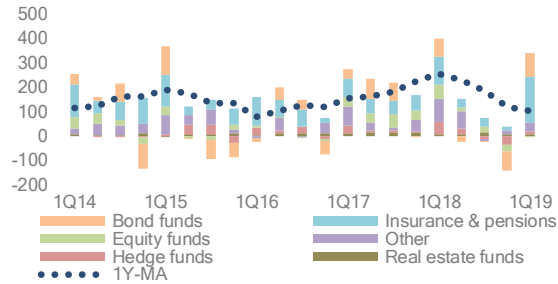
Investment flows by resident sector



Note: Quarterly Sector Accounts. Investment flows by resident sector in equity (excluding investment fund shares) and debt securities, EUR bn. 1Y-MA=one-year moving average of all investment flows. Sources: ECB, ESMA.

A.9

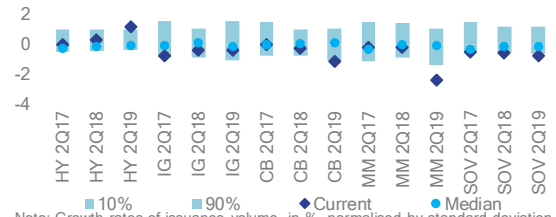
Institutional investment flows



Note: EA institutional investment flows by type of investor, EUR bn. Other=financial vehicle corporations, mixed funds, other funds. 1Y-MA=one-year moving average of all investment flows. Sources: ECB, ESMA.

A.10

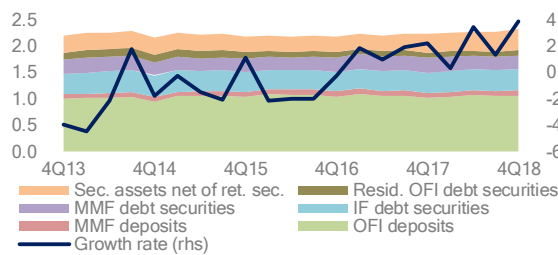
Debt issuance



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.

A.11

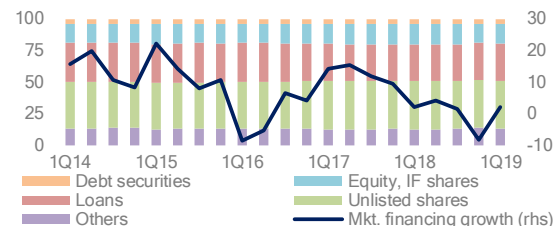
Non-bank wholesale funding



Note: Amount of wholesale funding provided by Euro area non-banks, EUR tn, and growth rate (rhs), in %. Resid. OFI reflects the difference between the total financial sector and the known sub-sectors within the statistical financial accounts (i.e. assets from banking sector, insurances, pension funds, financial vehicle corporations, investment funds and money market funds). Sources: ECB, ESMA.

A.12

Market financing

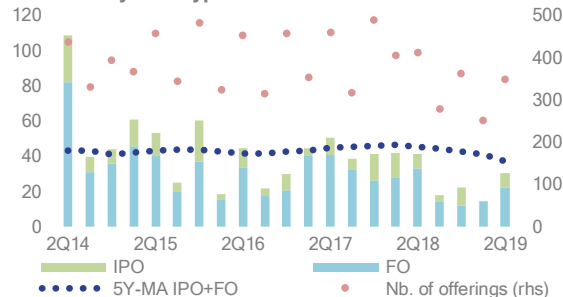


Note: Quarterly Sector Accounts. Liabilities of non-financial corporations (NFC), by debt type as a share of total liabilities. Others include: financial derivatives and employee stock options; insurance, pensions and standardised guarantee schemes; trade credits and advances of NFC; other accounts receivable/payable. Mkt. financing growth (rhs)= annual growth in debt securities and equity and investment fund (IF) shares, right axis, in %. Sources: ECB, ESMA.

Equity markets

A.13

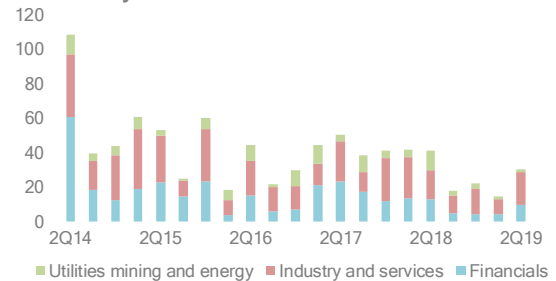
Issuance by deal type



Note: EU equity issuance by type, EUR bn, and number of equity offerings. 5Y-MA=five-year moving average of the total value of equity offerings. Sources: Refinitiv EIKON, ESMA.

A.14

Issuance by sector



Note: EU equity issuance by sector, EUR bn. Financials includes banking & investment services, insurance, investment trusts and real estate. Sources: Refinitiv EIKON, ESMA.

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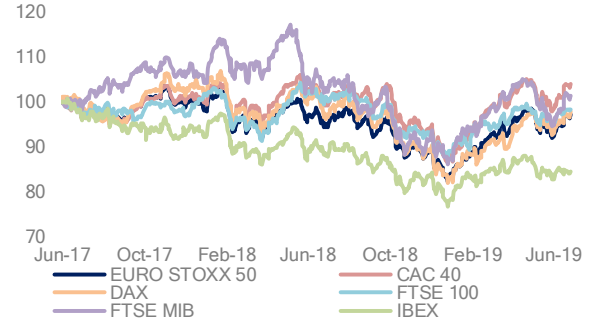
Price performance



Note: Datastream regional equity indices for the EU (in EUR), the US (in USD) and Japan (in JPY). 01/06/2017=100.
Sources: Refinitiv Datastream, ESMA.

A.16

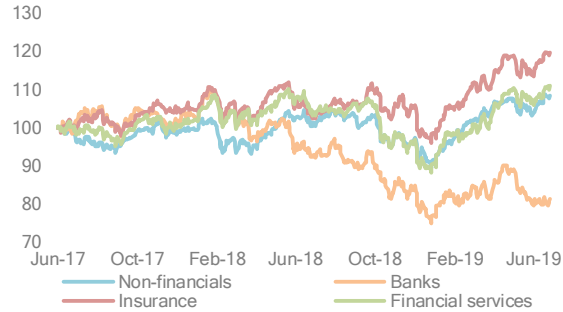
Price performance of national indices



Note: National equity indices from selected EU members. 01/06/2017=100.
Sources: Refinitiv Datastream, ESMA.

A.17

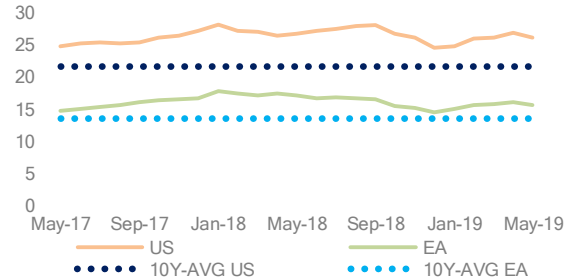
Equity prices by sector



Note: STOXX Europe 600 sectoral return indices. 01/06/2017=100.
Sources: Refinitiv Datastream, ESMA.

A.18

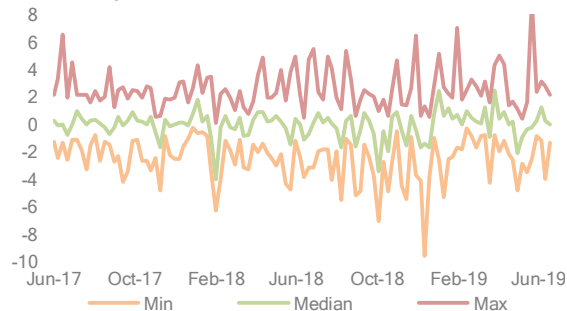
Price-earnings ratios



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: Thomson Reuters Datastream, ESMA.

A.19

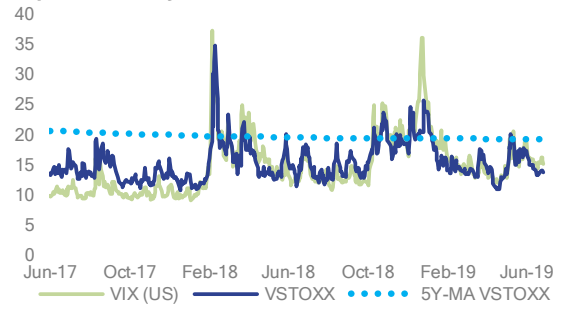
Return dispersion



Note: Dispersion of the weekly returns on the main equity indices in the EU.
Sources: Refinitiv Datastream, ESMA.

A.20

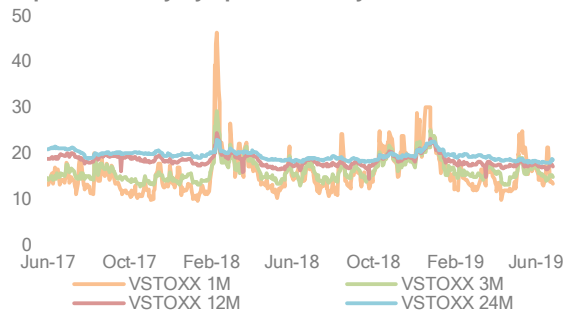
Implied volatility



Note: Implied volatility of EURO STOXX 50 (VSTOXX) and S&P 500 (VIX), in %.
Sources: Refinitiv Datastream, ESMA.

A.21

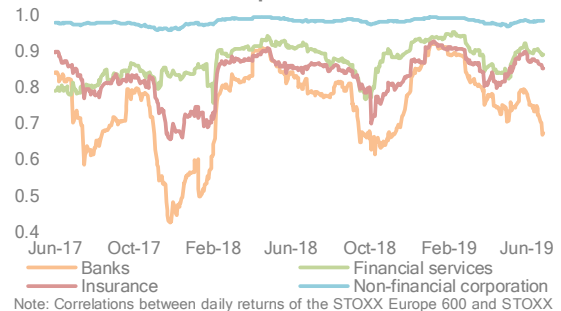
Implied volatility by option maturity



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

A.22

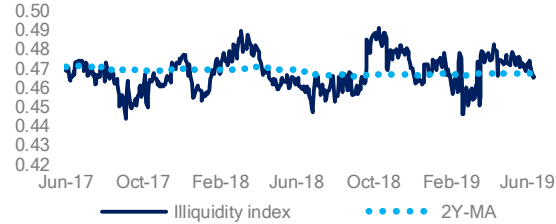
Correlation STOXX Europe 600 and sectoral indices



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.

A.23

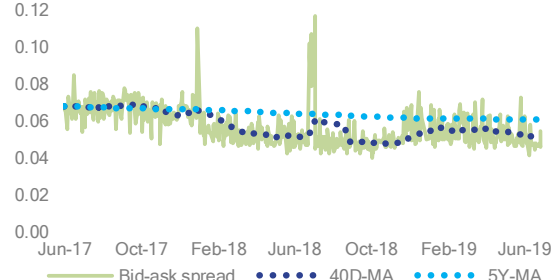
ESMA composite equity liquidity index



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: Thomson Reuters Datastream, ESMA.

A.24

Bid-ask spread

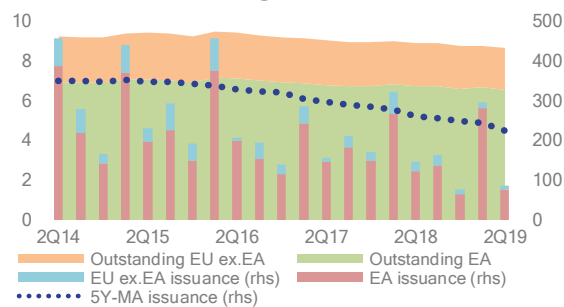


Note: Liquidity measure as median of the bid-ask price percentage difference for the current EU constituents of STOXX Europe Large 200, in %.
Sources: Refinitiv Datastream, ESMA.

Sovereign-bond markets

A.25

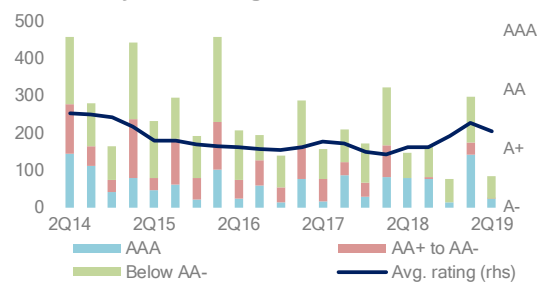
Issuance and outstanding



Note: Quarterly sovereign bond issuance in the EU (rhs), EUR bn, and outstanding amounts, EUR tn.
Sources: Refinitiv EIKON, ESMA.

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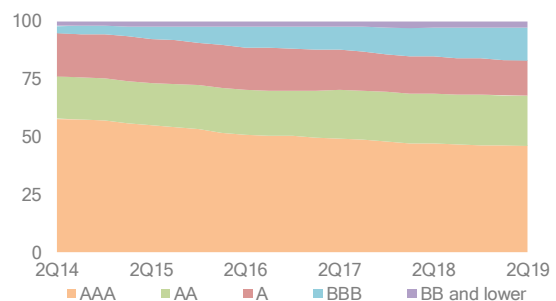
Issuance by credit rating



Note: Quarterly sovereign bond issuance in the EU by rating category, EUR bn. Avg. rating=weighted average rating computed as a one-year moving average of ratings converted into a numerical scale (AAA=1, AA+=2, etc.).
Sources: Refinitiv EIKON, ESMA.

A.27

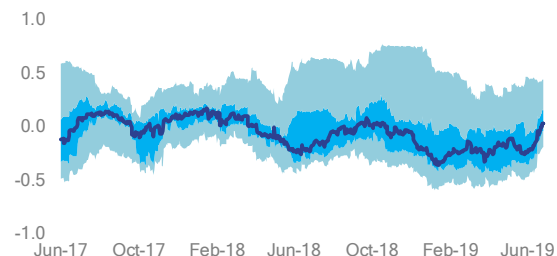
Rating distribution



Note: Outstanding amount of sovereign bonds in the EU as of issuance date by rating category, in % of the total.
Sources: Thomson Reuters EIKON, ESMA.

A.28

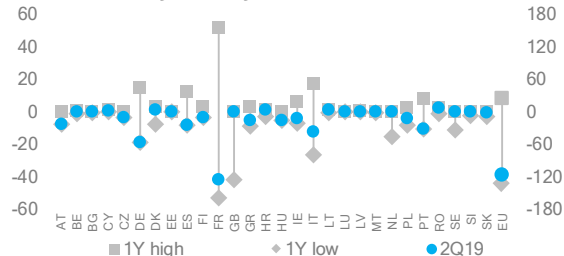
Equity-sovereign bond correlation dispersion



Note: Dispersion of the correlation between daily returns of national equity indices and national sovereign debt return index, for 17 countries in the EU, over 60D rolling windows.
Sources: Refinitiv Datastream, ESMA.

A.29

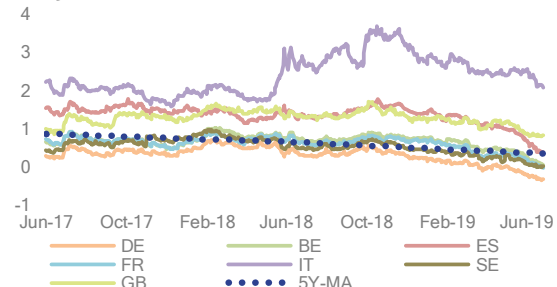
Net issuance by country



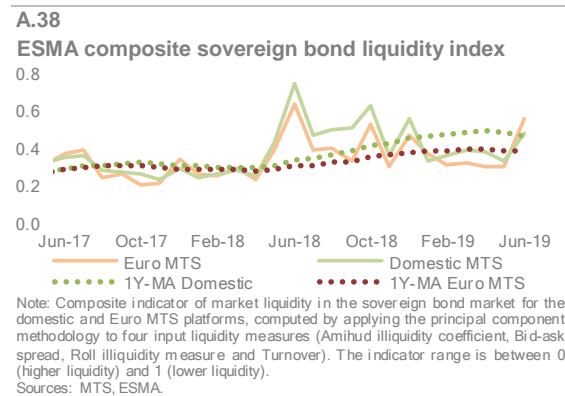
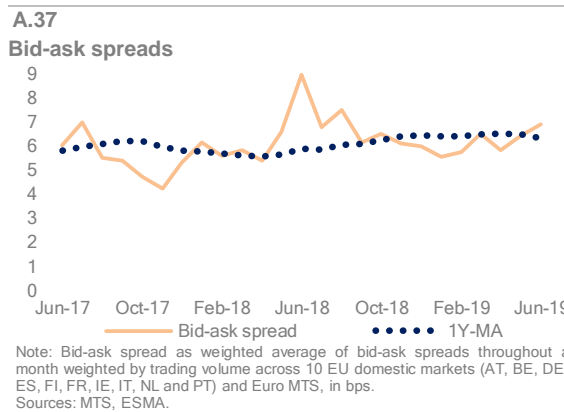
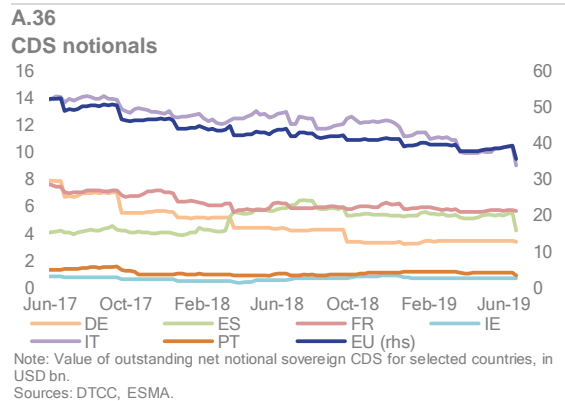
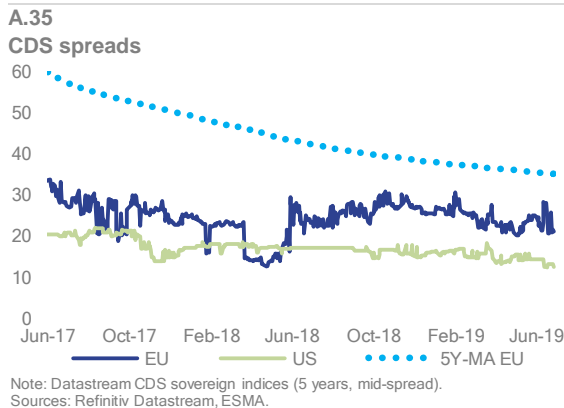
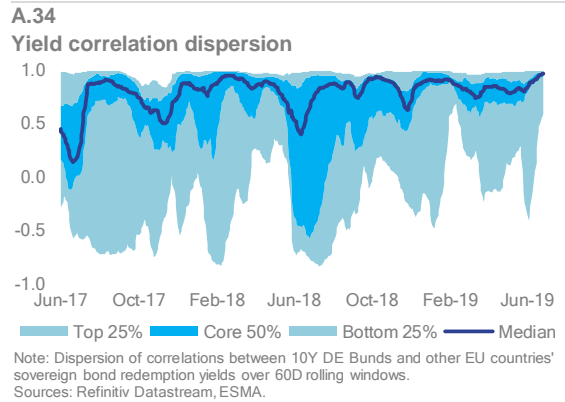
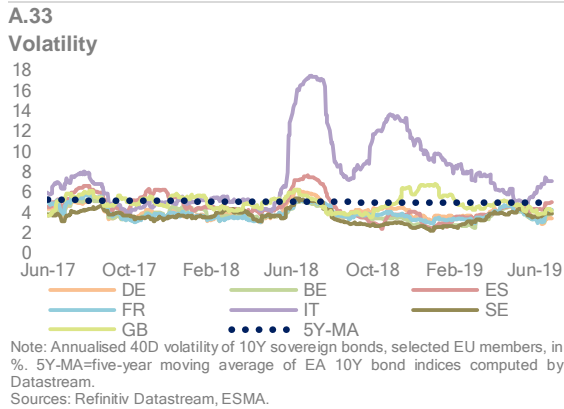
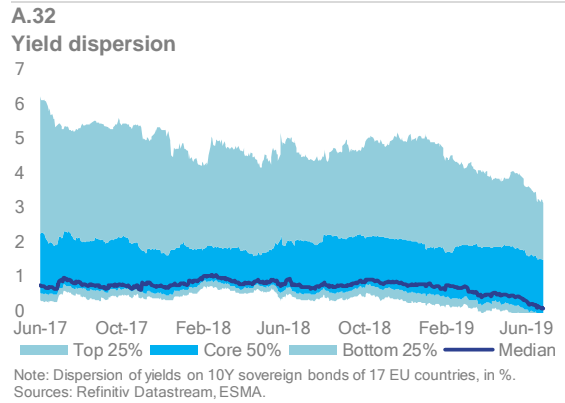
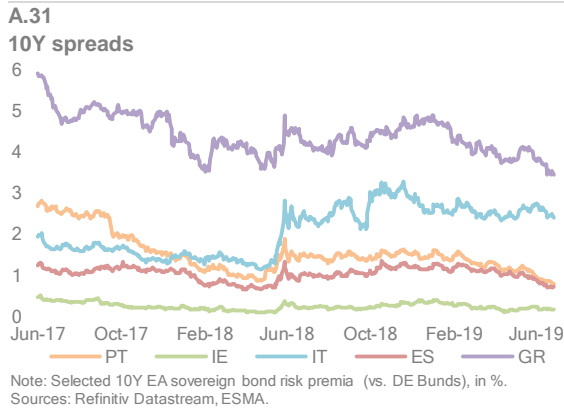
Note: Quarterly net issuance of EU sovereign debt by country, EUR bn. Net issuance calculated as the difference between new issuance over the quarter and outstanding debt maturing over the quarter. Highest and lowest quarterly net issuance in the past year are reported. EU total on right-hand scale.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

A.30

10Y yields

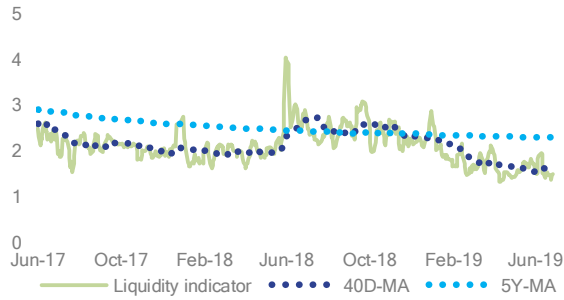


Note: Yields on 10Y sovereign bonds, selected EU members, in %. 5Y-MA=five-year moving average of EA 10Y bond indices computed by Datastream.
Sources: Refinitiv Datastream, ESMA.



A.39

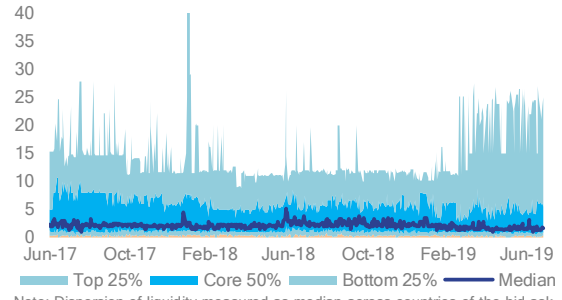
Liquidity



Note: Liquidity measured as median across countries of the bid-ask yields difference for 10Y sovereign bonds, in bps. 21 EU countries are included. Sources: Refinitiv EIKON, ESMA.

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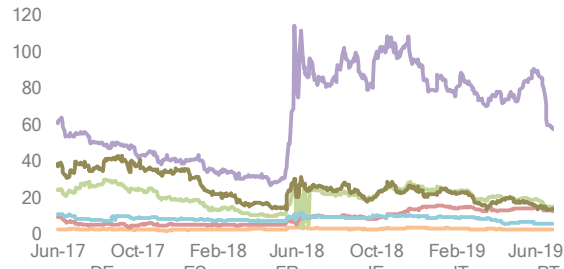
Liquidity dispersion



Note: Dispersion of liquidity measured as median across countries of the bid-ask yields difference for 10Y sovereign bonds, in bps. 21 EU countries are included. Sources: Refinitiv EIKON, ESMA.

A.41

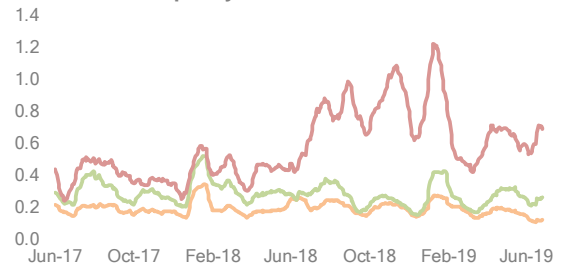
Redenomination risk



Note: Difference between 5Y CDS spreads under the 2014 ISDA definition (where debt redenomination is a credit event), and under the ISDA definition (where it is not), in bps. Sources: Refinitiv Datastream, ESMA.

A.42

Bond futures liquidity

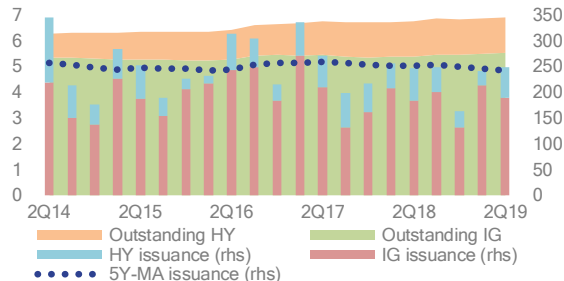


Note: One-month moving averages of the Hui-Heubel illiquidity indicator for selected 10Y sovereign bond futures, in %. Sources: Refinitiv Datastream, ESMA.

Corporate-bond markets

A.43

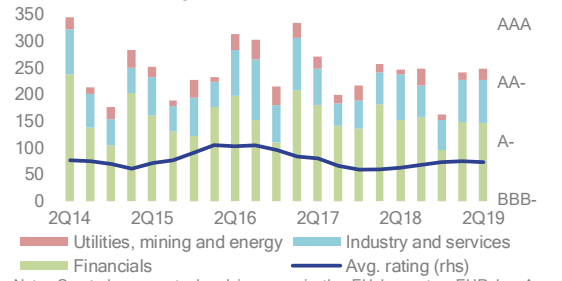
IG and HY bond issuance



Note: Quarterly investment-grade (rating >= BBB-) and high-yield (rating < BBB-) corporate bond issuance in the EU (rhs), EUR bn, and outstanding amounts, EUR tn. Sources: Refinitiv EIKON, ESMA.

A.44

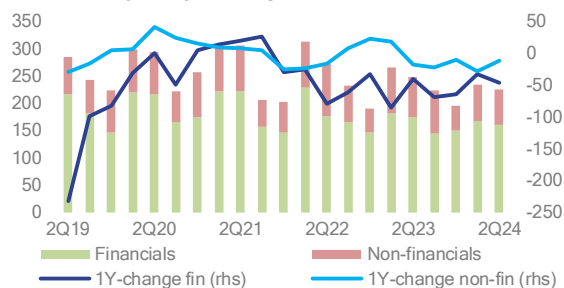
Bond issuance by sector



Note: Quarterly corporate bond issuance in the EU by sector, EUR bn. Avg. rating=weighted average rating computed as a one-year moving average of ratings converted into a numerical scale (AAA=1, AA+=2, etc.). Sources: Refinitiv EIKON, ESMA.

A.45

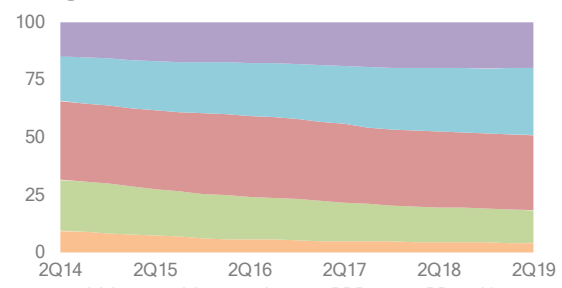
Debt redemption profile by sector



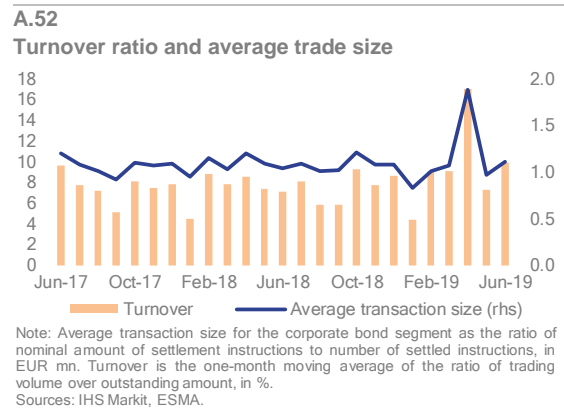
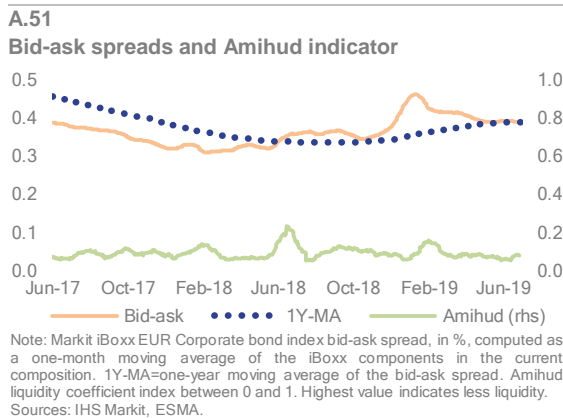
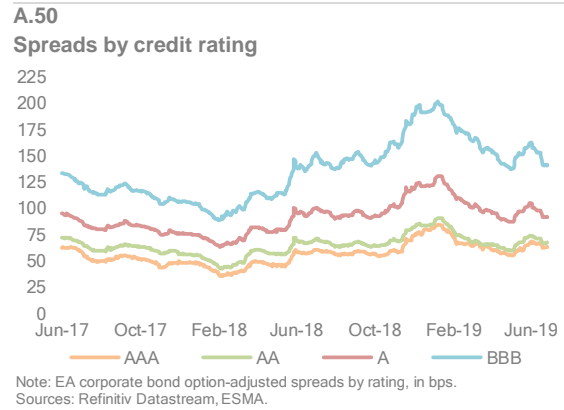
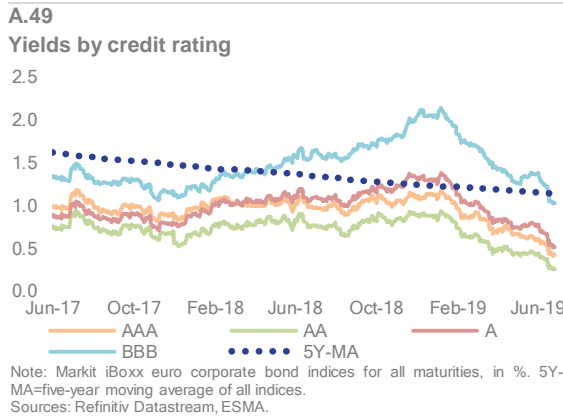
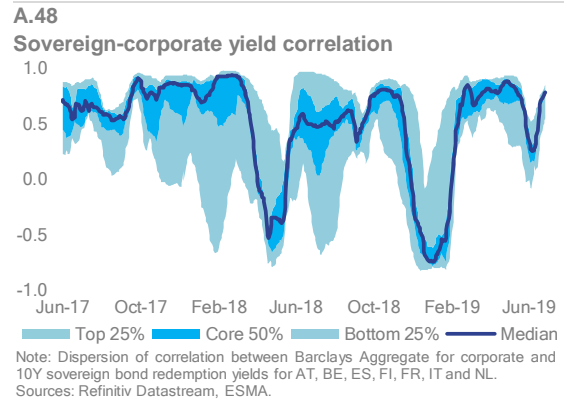
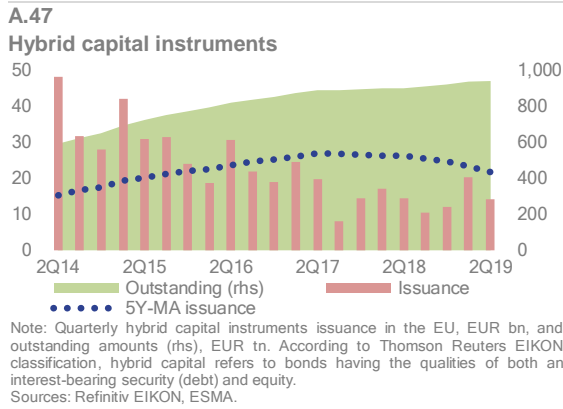
Note: Quarterly redemptions over 5Y-horizon by EU private financial and non-financial corporates, EUR bn. 1Y-change=difference between the sum of this year's (four last quarters) and last year's (8th to 5th last quarters) redemptions. Sources: Refinitiv EIKON, ESMA.

A.46

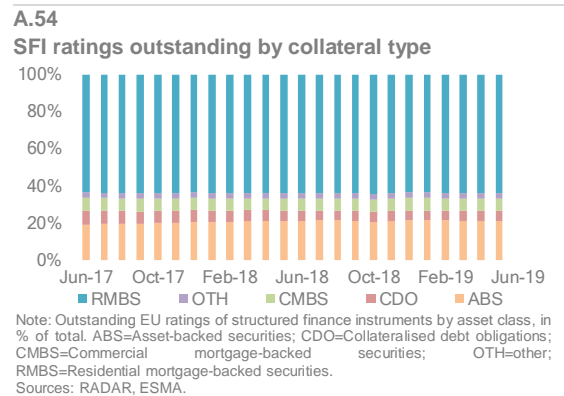
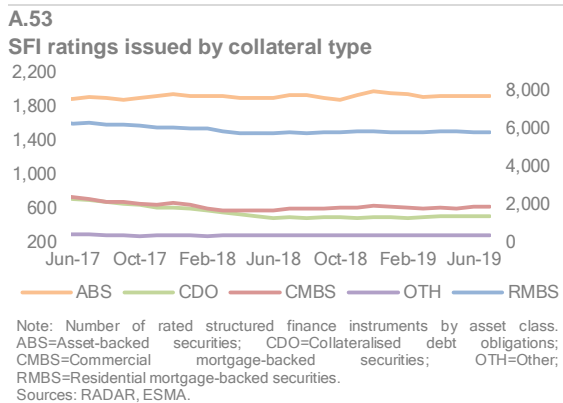
Rating distribution



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

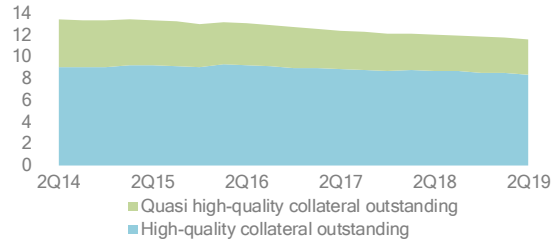


Credit quality



A.55

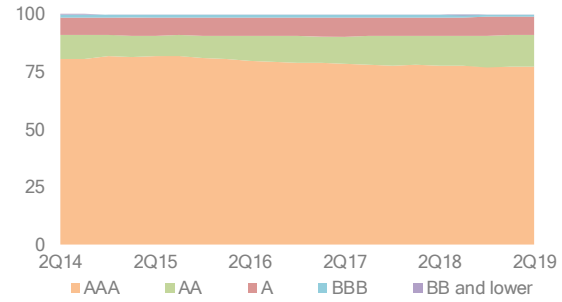
High-quality collateral outstanding



Note: Outstanding amount of high-quality collateral in the EU, EUR tn. High-quality collateral is the sum of outstanding debt securities issued by EU governments with a rating equal to or higher than BBB-. Quasi high-quality collateral is the outstanding corporate debt with a rating equal to or higher than AA-.
Sources: Thomson Reuters EIKON, ESMA.

A.56

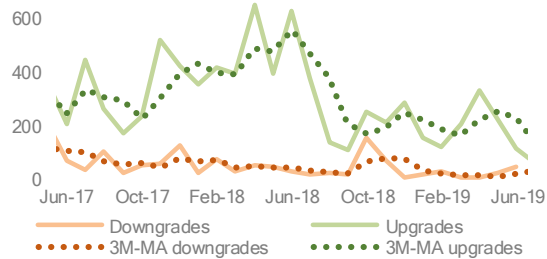
Rating distribution of covered bonds



Note: Outstanding amount of covered bonds in the EU as of issuance date by rating category, in % of the total.
Sources: Thomson Reuters EIKON, ESMA.

A.57

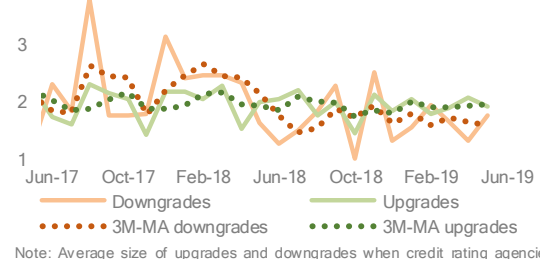
SFI rating changes



Note: Number of rating changes on securitised assets.
Sources: RADAR, ESMA.

A.58

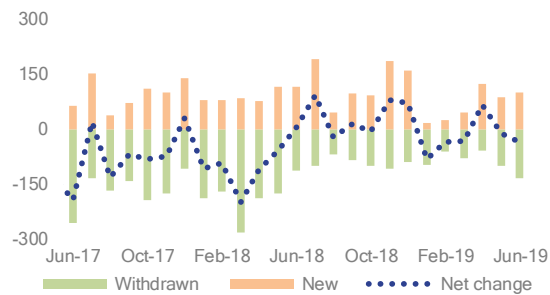
Size of SFI rating changes



Note: Average size of upgrades and downgrades when credit rating agencies took rating actions on securitised assets, number of buckets traversed.
Sources: RADAR, ESMA.

A.59

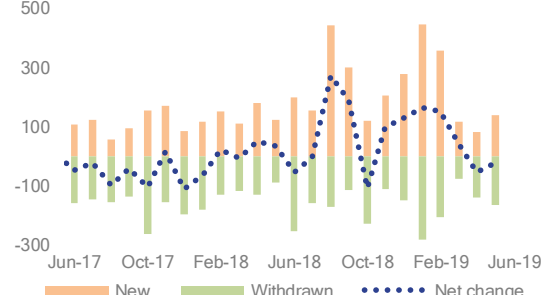
Change in outstanding SFI ratings



Note: Number of withdrawn and new ratings for structured finance instruments.
Sources: RADAR, ESMA.

A.60

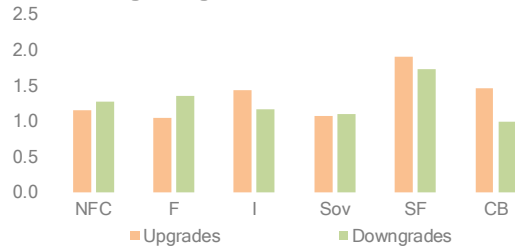
Change in outstanding covered bond ratings



Note: Number of withdrawn and new ratings for covered bonds.
Sources: RADAR, ESMA.

A.61

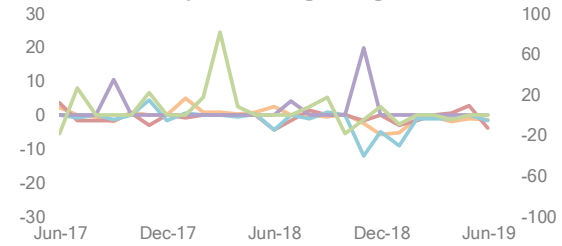
Size of rating changes



Note: Average size of upgrades and downgrades, excluding CERVED and ICAP, by asset class for 1H19, in number of notches. NFC=non financials, F=financials, I=insurance, Sov=sovereign, SF=structured finance, CB=covered bonds.
Sources: RADAR, ESMA.

A.62

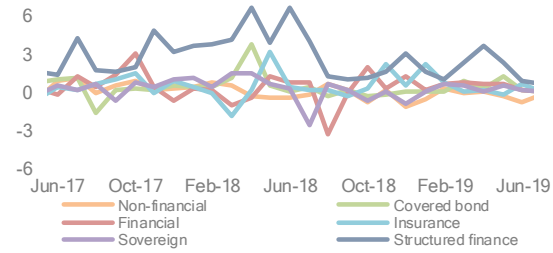
Non-financial corporate rating changes



Note: Number of upgrades minus downgrades of non-financial corporate issuers for ES, GR, IE, IT and PT, in % of outstanding ratings. Ratings from Fitch Ratings, Moody's and S&P's.
Sources: RADAR, ESMA.

A.63

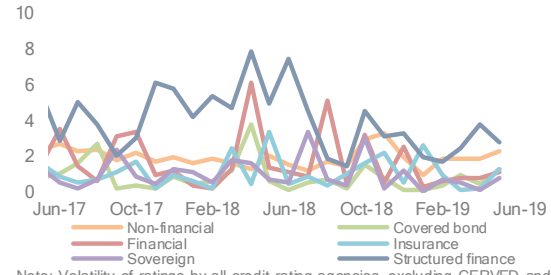
Rating drift



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.

A.64

Rating volatility

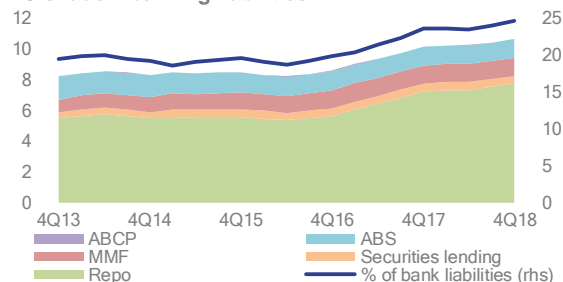


Note: Volatility of ratings by all credit rating agencies, excluding CERVED and ICAP, by asset class computed as number of rating changes over number of outstanding ratings. Sources: RADAR, ESMA.

Market-based credit intermediation

A.65

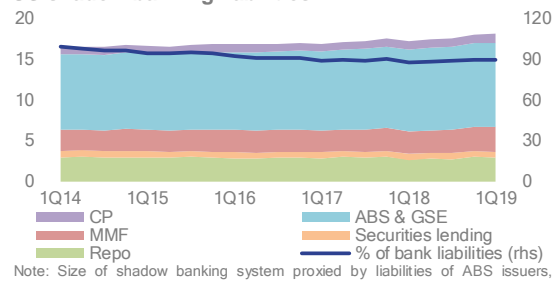
EU shadow banking liabilities



Note: Size of shadow banking system proxied by amounts of ABS and ABCP outstanding, size of the EU repo market and EU securities on loan (collateralised with cash), and liabilities of MMF, in EUR tn. In % of bank liabilities on rhs. Sources: ECB, AFME, ICMA, Markit Securities Finance, ESMA.

A.66

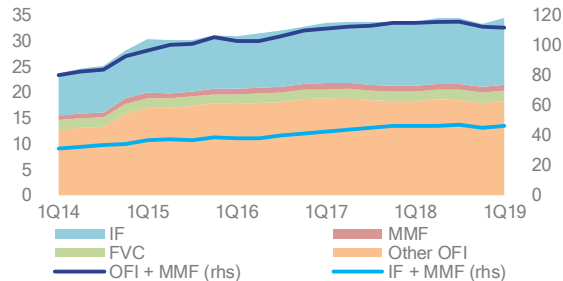
US shadow banking liabilities



Note: Size of shadow banking system proxied by liabilities of ABS issuers, government-sponsored enterprise (GSE) and pool securities, open commercial paper (CP), size of the US repo and securities lending (collateralised with cash) markets, and liabilities of MMF, in USD tn. In % of bank liabilities on rhs. Sources: Federal Reserve Flow of Funds, Refinitiv Datastream, ESMA.

A.67

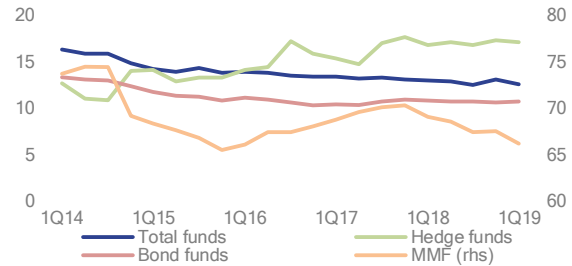
MMFs and other financial institutions



Note: Total assets for EA MMF and other financial institutions (OFI): investment funds (IF), financial vehicle corporations (FVC), Other OFI estimated with ECB Quarterly Sector Accounts, in EUR tn. In % of bank assets on rhs. Sources: ECB, ESMA.

A.68

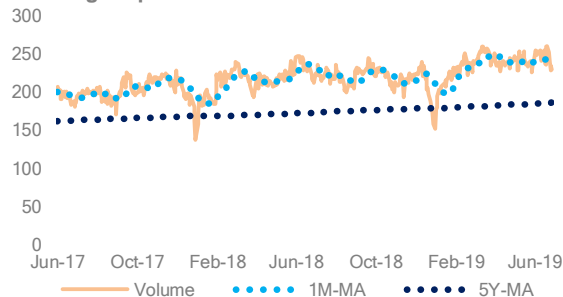
Financial market interconnectedness



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, MMF and other non-MMF investment funds. Sources: ECB, ESMA.

A.69

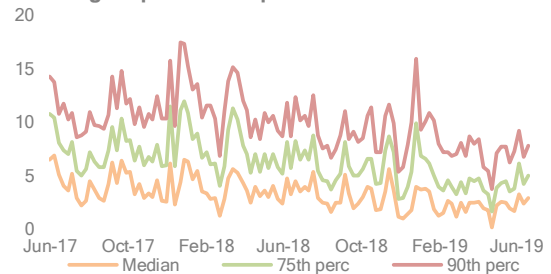
Sovereign repo volumes



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

A.70

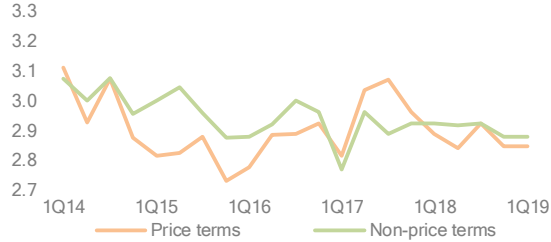
Sovereign repo market specialness



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.

A.71

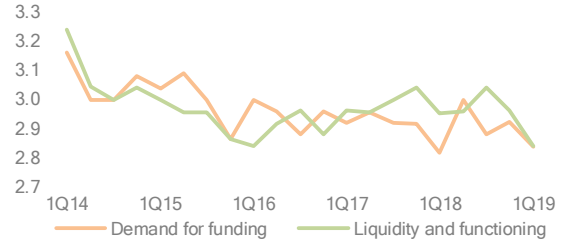
Credit terms in SFT and OTC derivatives



Note: Weighted average of responses to the question: "Over the past three months, how have terms offered as reflected across the entire spectrum of securities financing and OTC derivatives transaction types changed?" 1=tightened considerably, 2=tightened somewhat, 3=remained basically unchanged, 4=eased somewhat, and 5=eased considerably. Sources: ECB, ESMA.

A.72

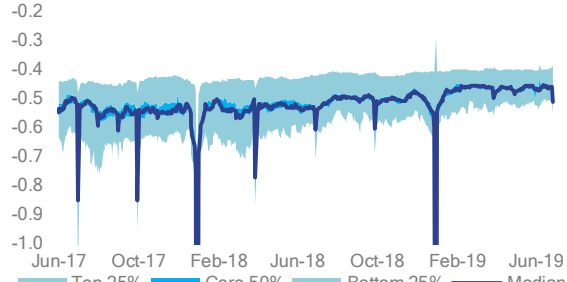
Securities financing conditions



Note: Weighted average of responses to the questions "Over the past three months, how has demand for funding/how have liquidity and functioning for all collateral types changed?" 1=decreased/deteriorated considerably, 2=decreased/deteriorated somewhat, 3=remained basically unchanged, 4=increased/improved somewhat, and 5=increased/improved considerably. Sources: ECB, ESMA.

A.73

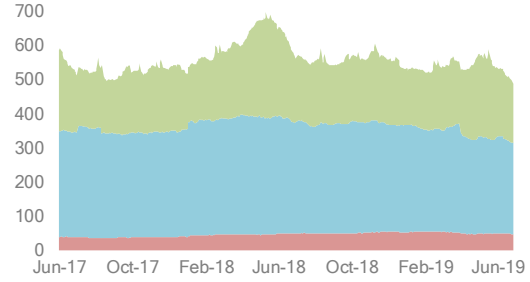
Sovereign repo dispersion



Note: Dispersion of the volume-weighted average of the fixed-rate index value of seven sovereign EUR repo markets (AT, BE, DE, FI, FR, IT and NL), in %. Sources: RepoFunds Rate, ESMA.

A.74

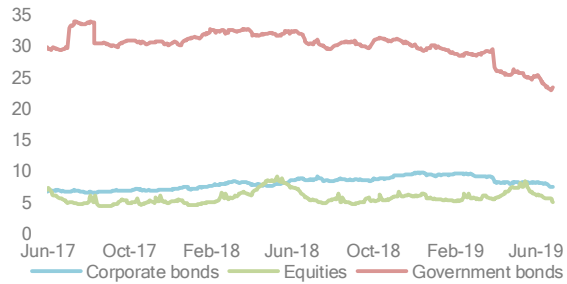
Securities lending by instrument type



Note: Total value of European securities on loan, EUR bn. Sources: Markit Securities Finance, ESMA.

A.75

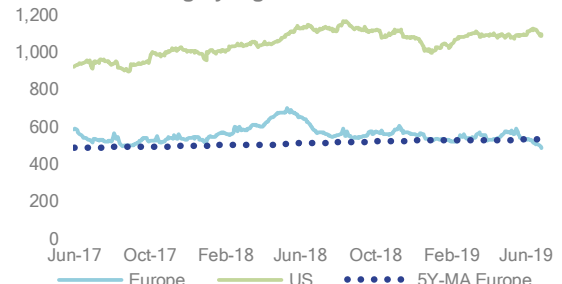
Securities utilisation rate



Note: European securities lending utilisation rate, computed as outstanding value of securities on loan over outstanding total lendable value, in %. Corporate bonds comprise EUR-denominated bonds only. Sources: Markit Securities Finance, ESMA.

A.76

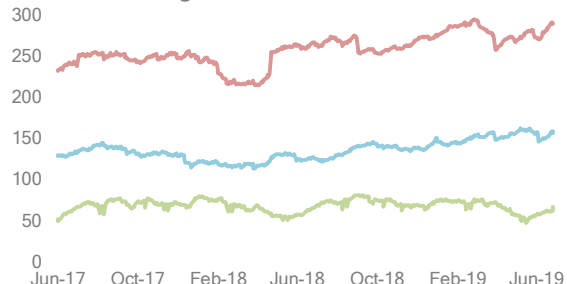
Securities lending by region



Note: Total value of European and US securities on loan, EUR bn. 5Y-MA Europe=five-year moving average for European securities. Sources: Markit Securities Finance, ESMA.

A.77

Securities lending contract tenure



Note: Average European securities lending contract tenure, in days. Source: Markit Securities Finance, ESMA.

A.78

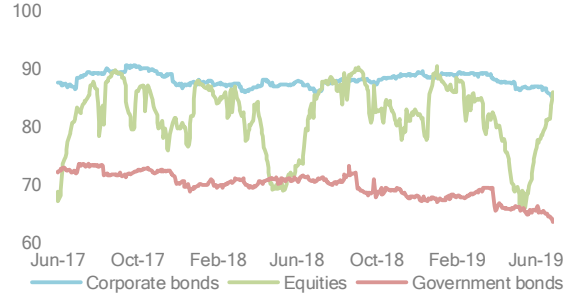
Securities lending against cash collateral



Note: Ratio of European securities on loan collateralised with cash over total securities on loan, outstanding values, in %. Source: Markit Securities Finance, ESMA.

A.79

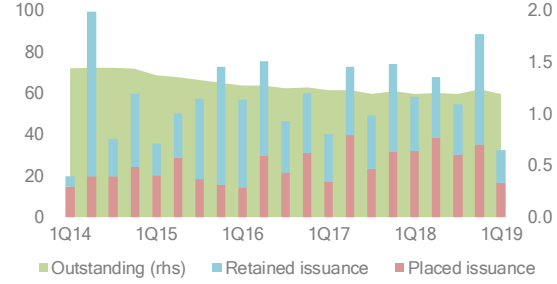
Securities lending with open maturity



Note: Ratio of European securities on loan at open maturity over total securities on loan, outstanding values, in %.
Sources: Markit Securities Finance, ESMA.

A.80

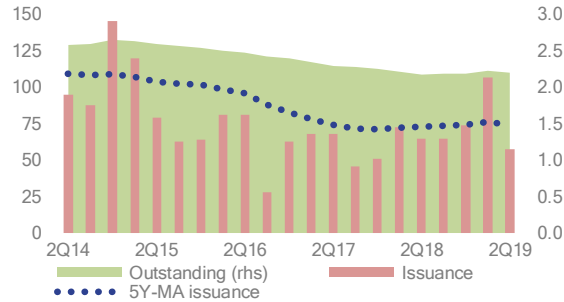
Securitised product issuance and outstanding



Note: Issuance, EUR bn, and outstanding amount, EUR tn, of securitised products in Europe, retained and placed.
Sources: AFME, ESMA.

A.81

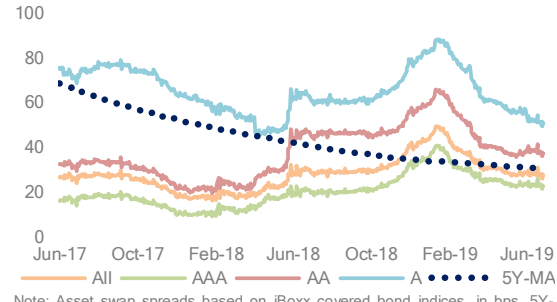
Covered bond issuance and outstanding



Note: Quarterly covered bond issuance in the EU, EUR bn, and outstanding amounts (rhs), EUR tn.
Sources: Refinitiv EIKON, ESMA.

A.82

Covered bond spreads

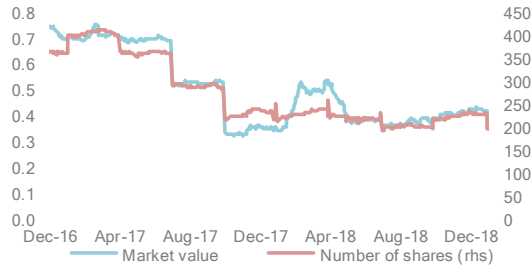


Note: Asset swap spreads based on iBoxx covered bond indices, in bps. 5Y-MA=five-year moving average of all bonds.
Sources: Refinitiv Datastream, ESMA.

Short selling

A.83

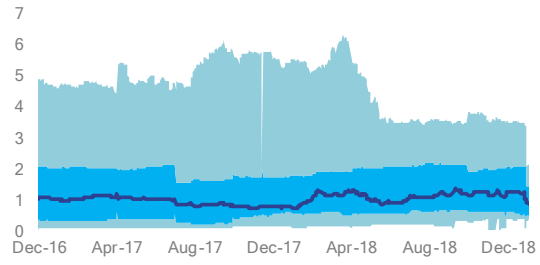
Value of net short positions in EU shares



Note: Market value of short selling positions as percentage of total market value in the EU. Number of shares part of a main national index on which short positions were reported by NCAs under the EU Short Selling Regulation (rhs).
Sources: National Competent Authorities, Thomson Reuters Datastream, ESMA.

A.84

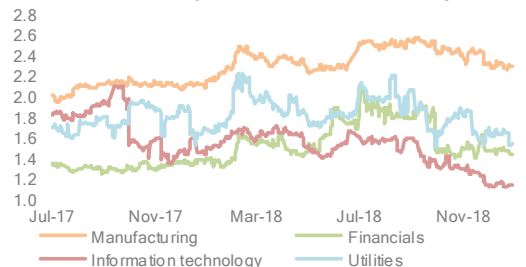
Dispersion of net short positions in EU shares



Note: Dispersion of net short positions by country as percentage of market value of those positions relative to each country's blue-chip index market value.
Sources: National Competent Authorities, Thomson Reuters Datastream, ESMA.

A.85

Value of net short positions in EU shares by sector



Note: Average of net short positions in EU shares for manufacturing, financial and information technology and utilities, in % of issued share capital.
Sources: National Competent Authorities, ESMA.

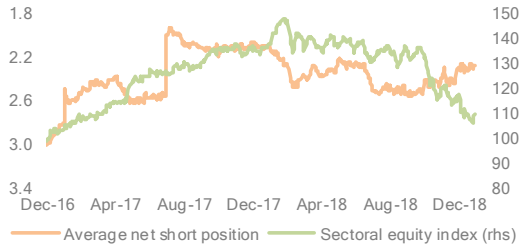
A.86

Value of net short positions in EU sovereign debt



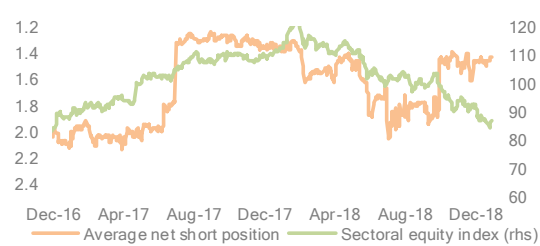
Note: Duration-adjusted short positions held on sovereigns in the EU, EUR tn.
Sources: National Competent Authorities, ESMA.

A.87
Net short positions in industrial shares and equity prices



Note: Average of net short positions in EU manufacturing shares, in % of issued share capital (left axis, inverted), and EU industrials equity benchmark (right axis), indexed 01/06/2015=100.
 Sources: Thomson Reuters Eikon, National Competent Authorities, ESMA.

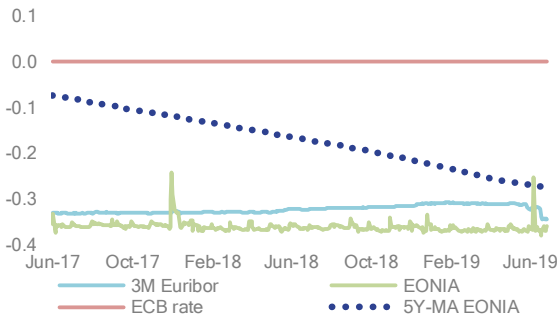
A.88
Net short positions in financial shares and equity prices



Note: Average of net short positions in EU financial shares, in % of issued share capital (left axis, inverted), and EU financials equity benchmark (right axis), indexed 01/06/2015=100.
 Sources: Thomson Reuters Eikon, National Competent Authorities, ESMA.

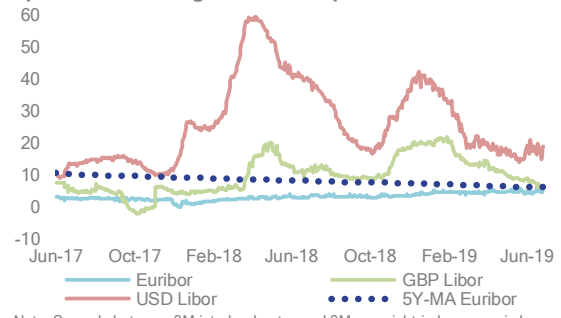
Money markets

A.89
Interest rates



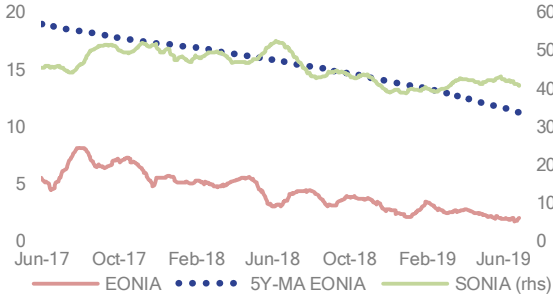
Note: Money market rates, in %.
 Sources: Refinitiv Datastream, ESMA.

A.90
Spreads to overnight index swap



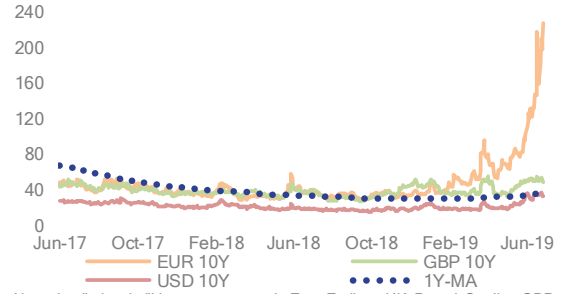
Note: Spreads between 3M interbank rates and 3M overnight index swap, in bps.
 Sources: Refinitiv Datastream, ESMA.

A.91
Interbank overnight activity



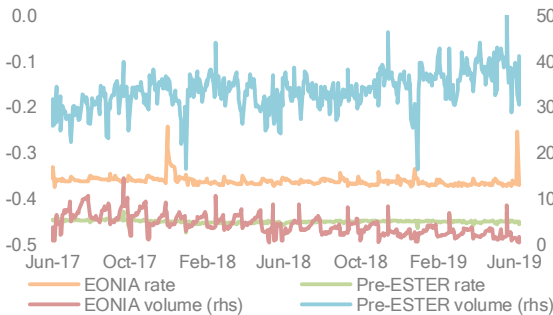
Note: 1M-MA of daily lending volumes on Euro Overnight Index Average (EONIA), EUR bn, and Sterling Overnight Index Average (SONIA), GBP bn.
 Sources: ECB, Refinitiv EIKON, ESMA.

A.92
Implied volatilities



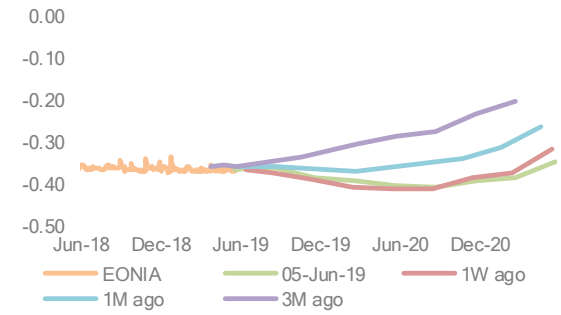
Note: Implied volatilities on one-month Euro-Euribor, UK Pound Sterling-GBP Libor and US Dollar-USD Libor swaptions measured as price indices, in %.
 Sources: Refinitiv EIKON, ESMA.

A.93
Euro short-term rates



Note: Money market rates, in %, and volumes, in EUR bn.
 Sources: Refinitiv Datastream, ESMA.

A.94
EONIA forwards

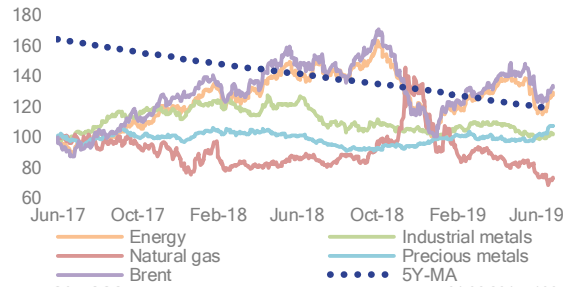


Note: Euro overnight index swap forwards, in %.
 Sources: Thomson Reuters Datastream, ESMA.

Commodity markets

A.95

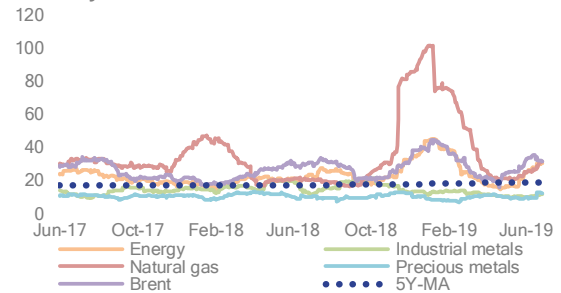
Prices



Note: S&P GSCI commodity indices and Brent price, indexed, 01/06/2017=100. 5Y-MA=five-year moving average computed using S&P GSCI. Indices denominated in USD.
Sources: Refinitiv Datastream, ESMA.

A.96

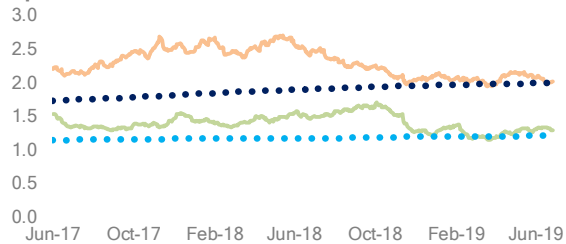
Volatility



Note: Annualised 40D volatility of S&P GSCI commodity indices and Brent price, in %. 5Y-MA=five-year moving average computed using S&P GSCI.
Sources: Refinitiv Datastream, ESMA.

A.97

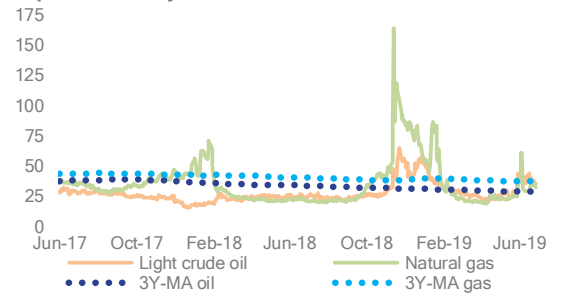
Open interest



Note: Continuous future open interests on number of barrels, in million of contracts. 5Y-MA oil (gas)= five-year moving average of light crude oil futures (natural gas futures).
Sources: Refinitiv Datastream, ESMA.

A.98

Implied volatility

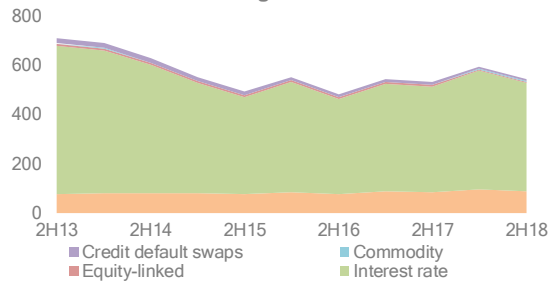


Note: One-month implied volatility of at-the-money options, in %. 3Y-MA oil (gas)= three-year moving average of light crude oil (natural gas).
Sources: Refinitiv Datastream, ESMA.

Derivatives markets

A.99

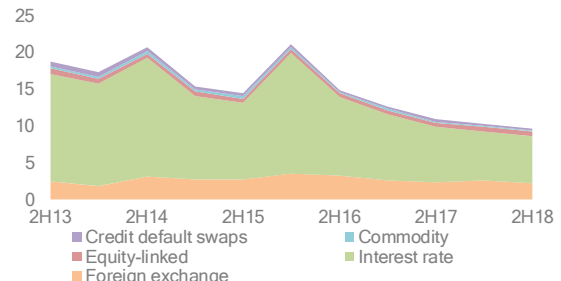
OTC notional outstanding



Note: Gross notional amounts of outstanding OTC derivatives by product category, USD tn.
Sources: Bank for International Settlements, ESMA.

A.100

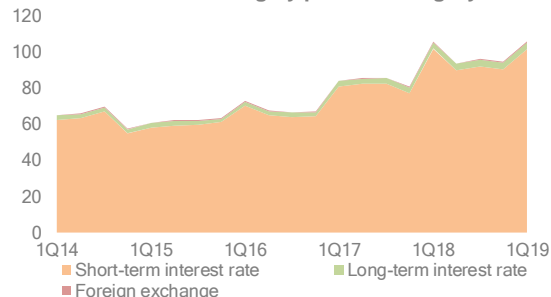
OTC market value



Note: Gross market values of outstanding OTC derivatives by category, USD tn. Gross market values represent the cost of replacing all open contracts at the prevailing market prices.
Sources: Bank for International Settlements, ESMA.

A.101

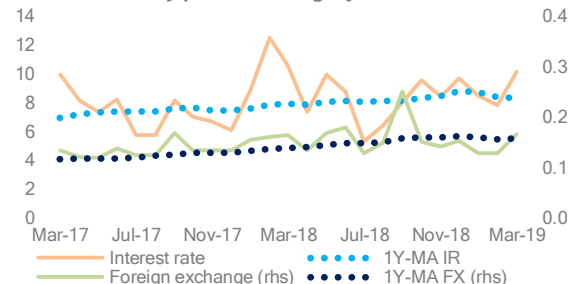
ETD notional outstanding by product category



Note: Open interest in exchange-traded derivatives by product category, in USD tn.
Sources: Bank for International Settlements, ESMA.

A.102

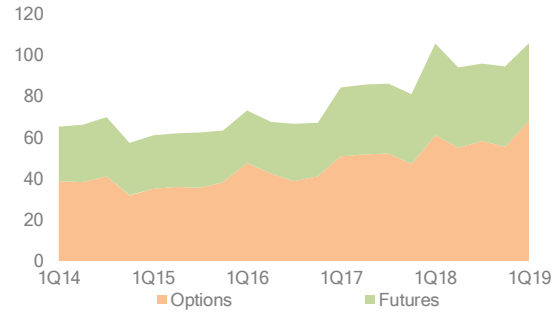
ETD turnover by product category



Note: Global average daily turnover in exchange-traded derivatives by product category, in USD tn. 1Y-MA IR=one-year moving average for interest rate, 1Y-MA FX=one-year moving average for foreign exchange.
Sources: Bank for International Settlements, ESMA.

A.103

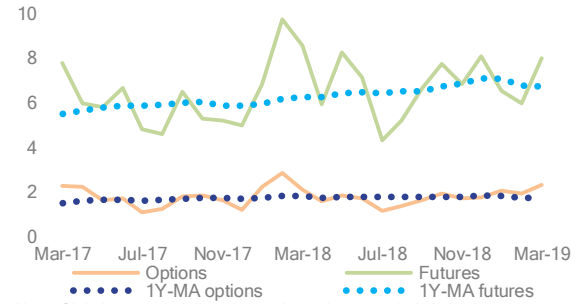
ETD notional outstanding by asset class



Note: Open interest in exchange-traded derivatives by asset class, in USD tn.
Sources: Bank for International Settlements, ESMA.

A.104

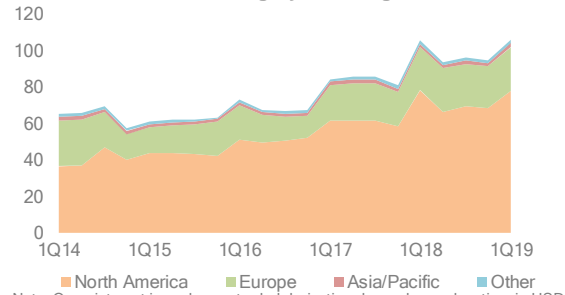
ETD turnover by asset class



Note: Global average daily turnover in exchange-traded derivatives by asset class, in USD tn.
Sources: Bank for International Settlements, ESMA.

A.105

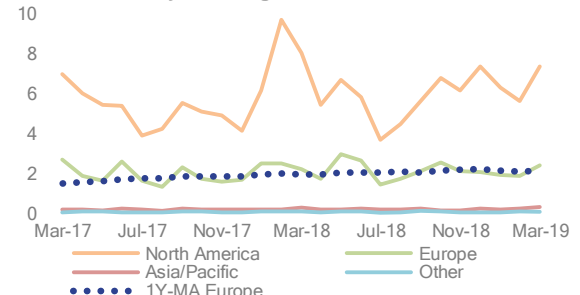
ETD notional outstanding by exchange location



Note: Open interest in exchange-traded derivatives by exchange location, in USD tn.
Sources: Bank for International Settlements, ESMA.

A.106

ETD turnover by exchange location



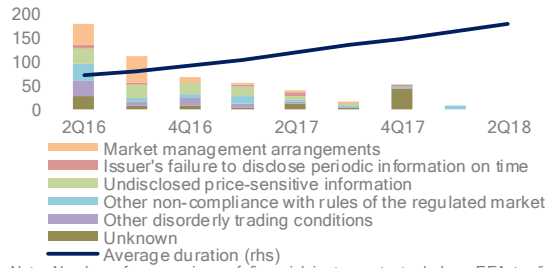
Note: Global average daily turnover in exchange-traded derivatives by exchange location, in USD tn. "Europe" as defined by BIS.
Sources: Bank for International Settlements, ESMA.

Infrastructures and services

Trading venues and MiFID entities

A.107

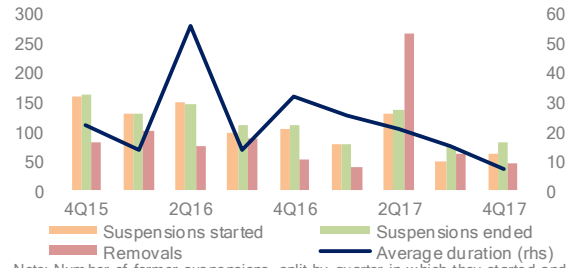
Ongoing trading suspensions by rationale



Note: Number of suspensions of financial instruments traded on EEA trading venues ongoing at the end of the reporting period, grouped by quarter during which they started and by rationale. Average duration, in years, computed as the mean of the difference between the end-of-quarter date and the start date. Sources: ESMA Registers.

A.108

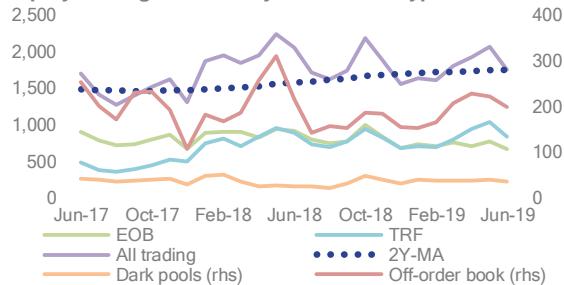
Trading suspensions – lifecycle and removal



Note: Number of former suspensions, split by quarter in which they started and ended, and removals of financial instruments traded on EEA trading venues. Average duration of former suspensions, in days, computed as the mean of the difference between the end-of-quarter date and the start date. Sources: ESMA Registers.

A.109

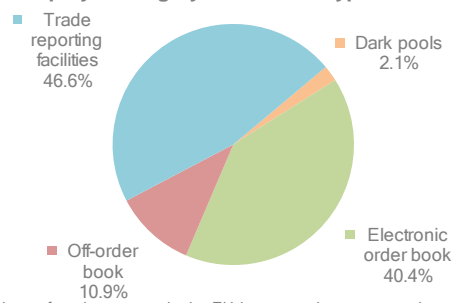
Equity trading turnover by transaction type



Note: Monthly equity turnover in the EU by transaction type, EUR bn. 2Y-MA=two-year moving average of all trading, EOB=electronic order book, TRF=trade reporting facilities. Sources: FESE, ESMA.

A.110

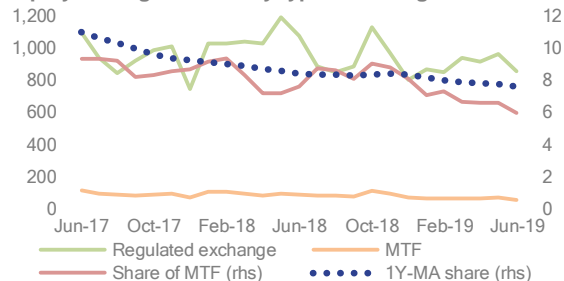
Share of equity trading by transaction type



Note: Share of equity turnover in the EU by transaction type over the reporting period, in % of total. Sources: FESE, ESMA.

A.111

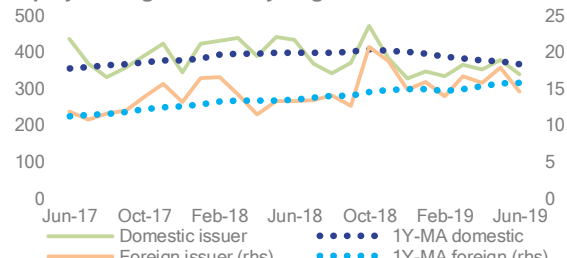
Equity trading turnover by type of trading venue



Note: Monthly equity turnover by type of EU trading venue, in EUR bn. Trading on multilateral trading facilities (MTF) as % of total trading on the right axis. 1Y-MA share=one-year moving average share of MTFs. Sources: FESE, ESMA.

A.112

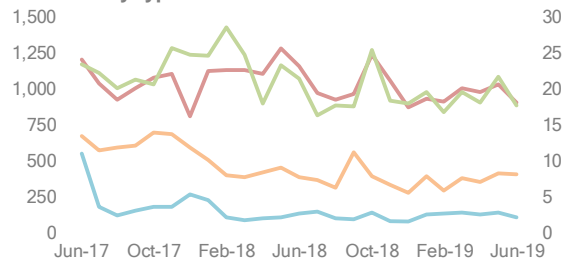
Equity trading turnover by origin of issuer



Note: Monthly equity turnover on EU trading venues by origin of the traded equity, in EUR bn. Data for London Stock Exchange, Equiduct and BATS Chi-X Europe are not reported. Foreign equities are issued in a country other than that of the trading venue. Sources: FESE, ESMA.

A.113

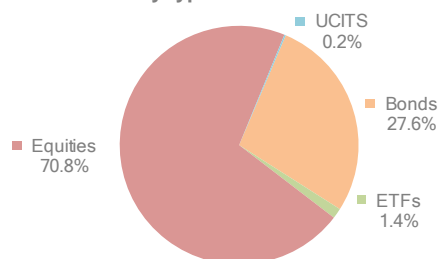
Turnover by type of assets



Note: Monthly turnover on EU trading venues by type of assets, in EUR bn. Data for Aquis Exchange, BATS Chi-x Europe, Equiduct, London Stock Exchange, TOM MTF and Turquoise are not reported for bonds, ETFs and UCITS. Sources: FESE, ESMA.

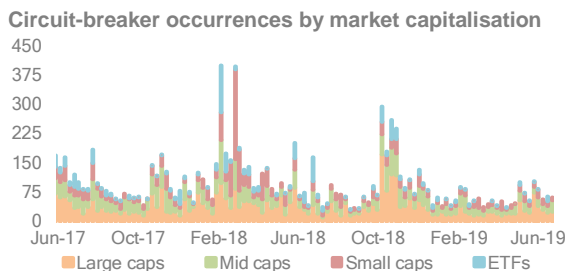
A.114

Share of turnover by type of assets



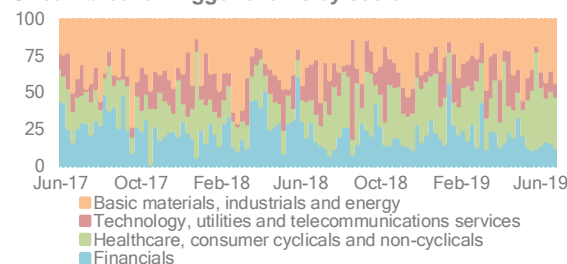
Note: Share of turnover on EU trading venues by asset class, in % of total turnover over the reporting period. Data for Aquis Exchange, BATS Chi-x Europe, Equiduct, London Stock Exchange, TOM MTF and Turquoise are not reported for bonds, ETFs and UCITS. Sources: FESE, ESMA.

A.115
Circuit-breaker occurrences by market capitalisation



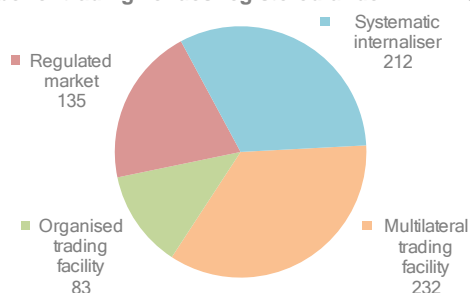
Note: Number of daily circuit-breaker trigger events by type of financial instrument and by market cap registered on 34 EEA trading venues for all constituents of the STOXX Europe Large/Mid/Small 200 and a large sample of ETFs tracking these indices or some of their subindices. Results displayed as weekly aggregates.
Sources: Morningstar Real-Time Data, ESMA.

A.116
Circuit-breaker-trigger events by sector



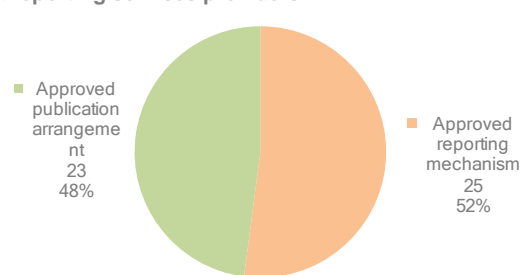
Note: Percentage of circuit-breaker trigger events by economic sector registered on 34 EEA trading venues for all constituents of the STOXX Europe Large/Mid/Small 200 and a large sample of ETFs tracking these indices or some of their subindices. Results displayed as weekly aggregates.
Sources: Morningstar Real-Time Data, ESMA.

A.117
Number of trading venues registered under MiFID II/MiFIR



Note: Number of trading venues registered under MiFID II/MiFIR by national competent authorities and notified to ESMA, by type.
Sources: ESMA Registers.

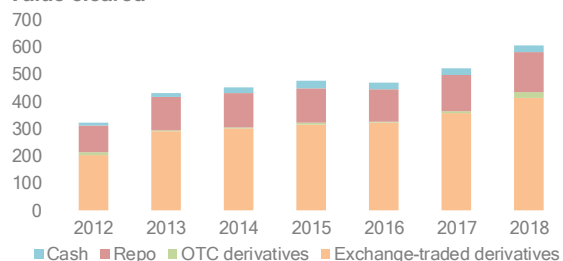
A.118
Data reporting services providers



Note: Number of data reporting services providers registered under MiFID II/MiFIR by national competent authorities and notified to ESMA, by type.
Sources: ESMA Registers.

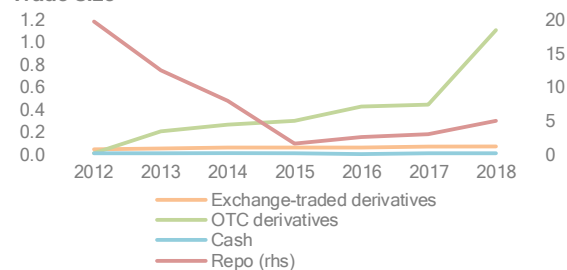
Central counterparties

A.119
Value cleared



Note: Volume of transactions cleared by reporting CCPs, for cash, repos, exchange-traded and OTC derivatives. LCH Ltd, although the largest CCP in terms of volume in the OTC segment, is not reported owing to uneven reporting during the period.
Sources: ECB, ESMA.

A.120
Trade size



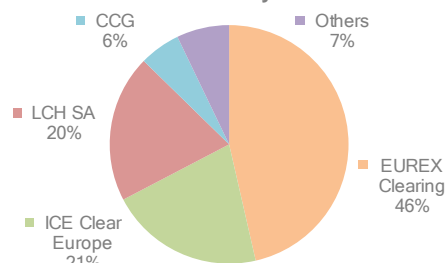
Note: Average size of transactions cleared by reporting CCPs, for cash, repos, non-OTC and OTC derivatives. Annual data, EUR mn. LCH Ltd, although the largest CCP in terms of volume in the OTC segment, is not reported owing to uneven reporting during the period.
Sources: ECB, ESMA.

A.121
OTC derivatives central clearing rates

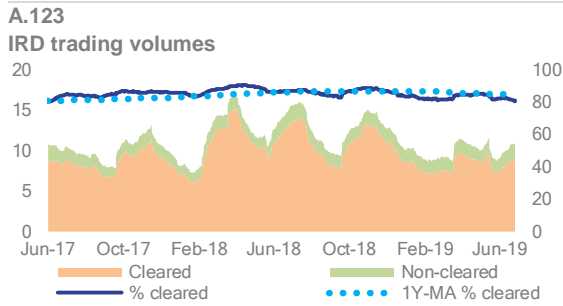


Note: Share of gross notional amount outstanding for credit derivatives (CD) and interest rate derivatives (IRD), in %.
Sources: TRs, ESMA.

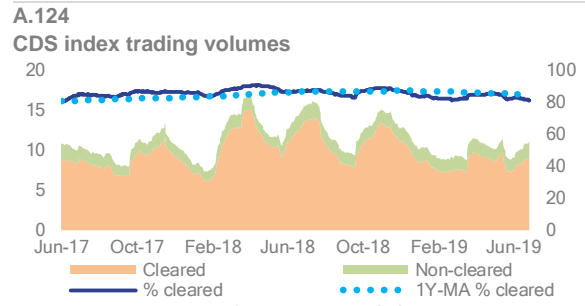
A.122
Share of transactions cleared by CCPs



Note: Share of volume of transactions cleared by reporting CCPs for cash, repos, non-OTC and OTC derivatives, 2017. LCH Ltd, although the largest CCP in terms of volume in the OTC segment, is not reported owing to uneven reporting during the period.
Sources: ECB, ESMA.

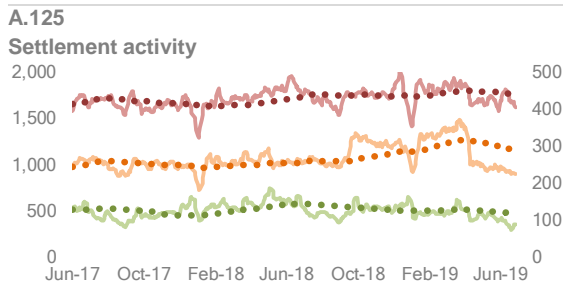


Note: Daily trading volumes for the main euro CDS indices including Itraxx Europe, Itraxx Europe Crossover, Itraxx Europe Senior Financials. 40-day moving average notional, USD bn. ISDA SwapsInfo data are based on publicly available data from DTCC Trade Repository LLC and Bloomberg Swap Data Repository. Sources: ISDA SwapsInfo, ESMA.

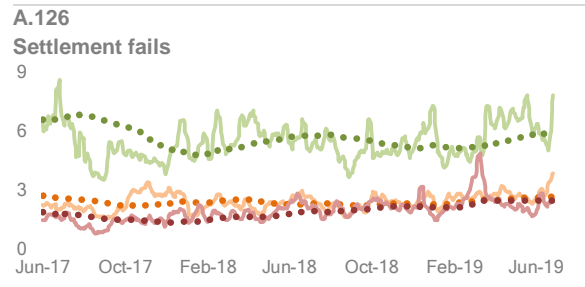


Note: Daily trading volumes for the main EUR CDS indices including Itraxx Europe, Itraxx Europe Crossover, Itraxx Europe Senior Financials. 40-day moving average notional, USD bn. ISDA SwapsInfo data are based on publicly available data from DTCC Trade Repository LLC and Bloomberg Swap Data Repository. Sources: ISDA SwapsInfo, ESMA.

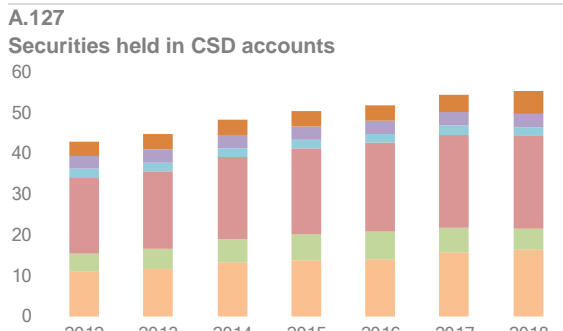
Central securities depositories



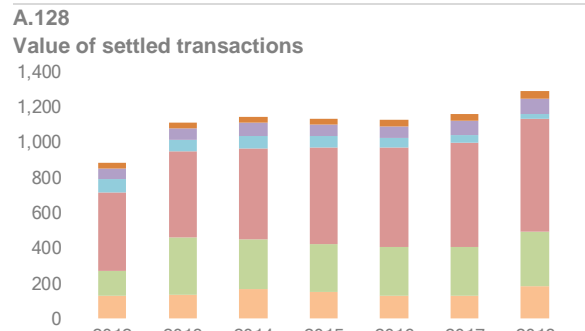
Note: Total value of settled transactions in the EU as reported by NCAs, in EUR bn, and six-month moving averages. Sources: National Competent Authorities, ESMA.



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

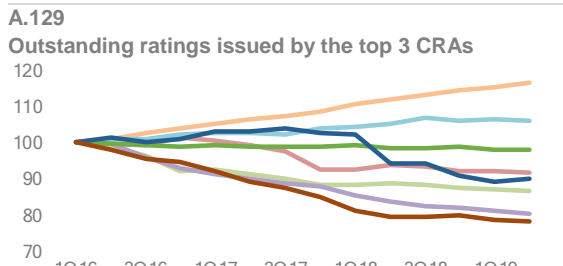


Note: Value of securities held by EU CSDs in accounts, EUR tn. Sources: ECB, ESMA.

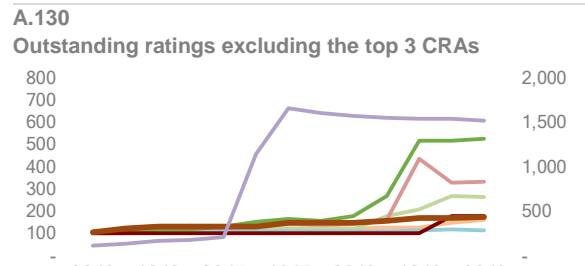


Note: Value of settlement instructions processed by EU CSDs, EUR tn. Sources: ECB, ESMA.

Credit rating agencies



Note: Evolution of outstanding ratings, indexed 3Q15=100. S&P, Moody's and Fitch. Sources: RADAR, ESMA.

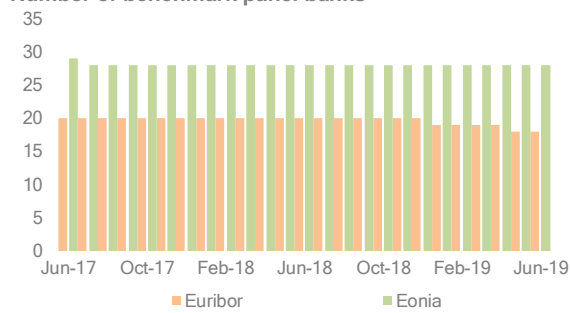


Note: Evolution of outstanding ratings, indexed 3Q15=100. All CRAs excluding S&P, Moody's and Fitch. Sovereign on right hand axis. Sources: RADAR, ESMA.

Financial benchmarks

A.131

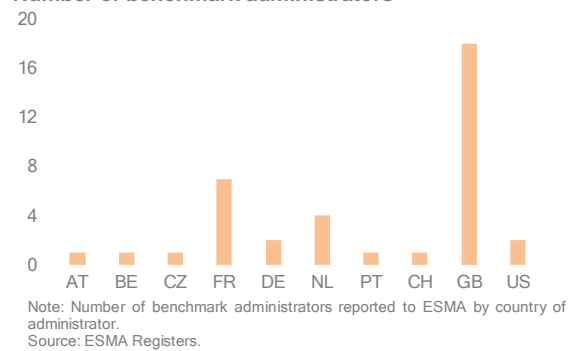
Number of benchmark panel banks



Note: Number of banks contributing to the Euribor and Eonia panels.
Sources: European Money Markets Institute, ESMA.

A.132

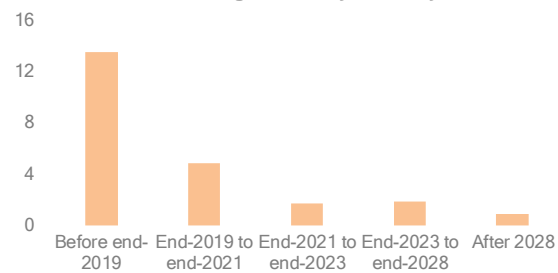
Number of benchmark administrators



Note: Number of benchmark administrators reported to ESMA by country of administrator.
Source: ESMA Registers.

A.133

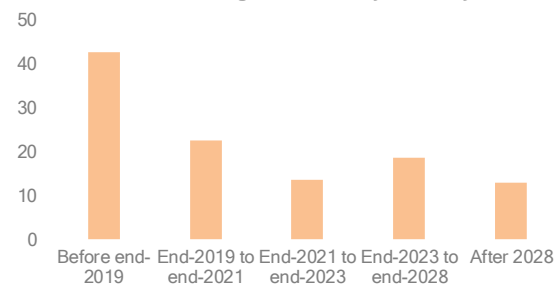
Derivatives referencing EONIA by maturity



Note: Gross notional amount of derivatives outstanding referencing EONIA by maturity date, as at end-March 2019, EUR trillion.
Sources: TRs, ESMA.

A.134

Derivatives referencing EURIBOR by maturity



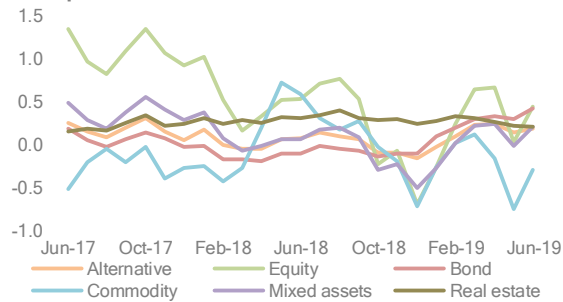
Note: Gross notional amount of derivatives outstanding referencing EURIBOR by maturity date, as at end-March 2019, EUR trillion.
Sources: TRs, ESMA.

Asset management

Fund industry

A.135

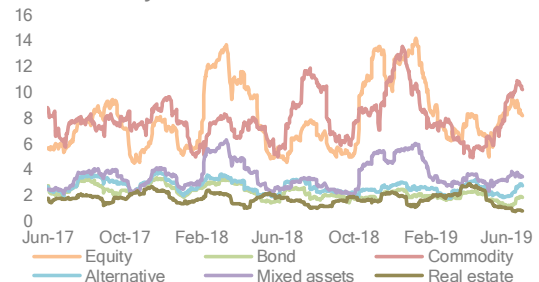
Fund performance



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

A.136

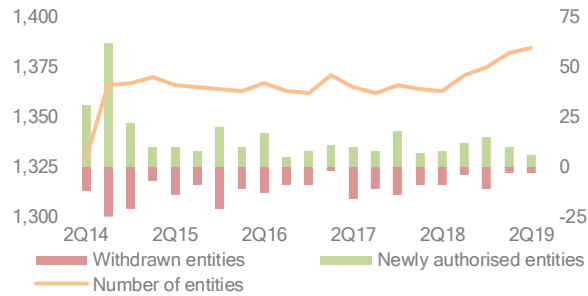
Fund volatility



Note: Annualised 40-day historical return volatility of EU-domiciled investment funds, in %.
Sources: Refinitiv Lipper, ESMA.

A.137

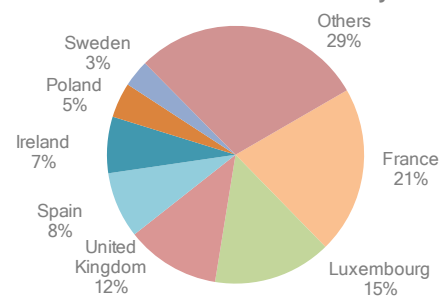
Entities authorised under UCITS



Note: Number of entities authorised under the UCITS Directive by national competent authorities of the Member States and notified to ESMA. Newly authorised entities and withdrawn entities on the right axis.
Sources: ESMA Registers.

A.138

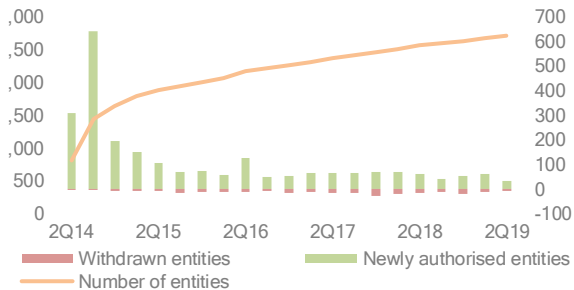
Share of entities authorised under UCITS by country



Note: Number of entities authorised under the UCITS Directive by national competent authorities and notified to ESMA, in %.
Sources: ESMA Registers.

A.139

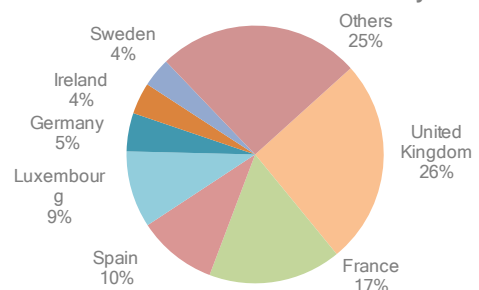
Entities authorised under AIFMD



Note: Number of entities authorised under AIFMD by national competent authorities of the Member States and notified to ESMA. Newly authorised entities and withdrawn entities on the right axis.
Sources: ESMA Registers.

A.140

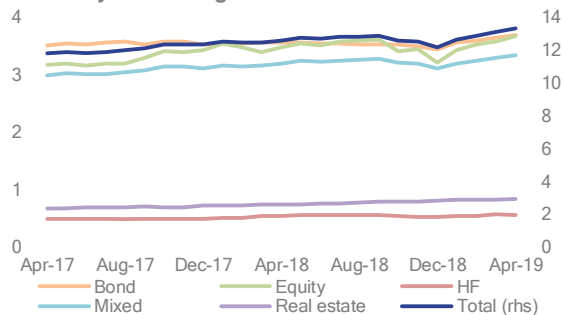
Share of entities authorised under AIFMD by country



Note: Number of entities authorised under AIFMD by national competent authorities and notified to ESMA, in %.
Sources: ESMA Registers.

A.141

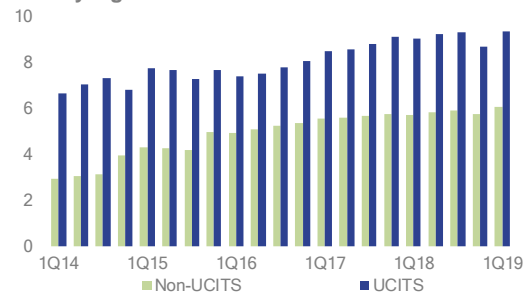
Assets by market segment



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

A.142

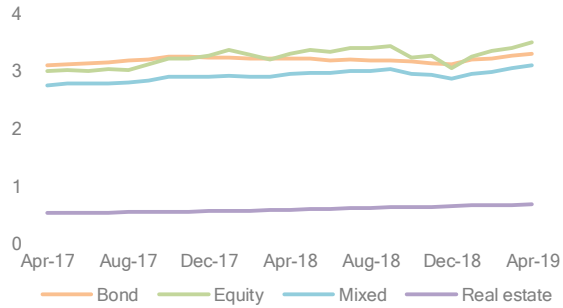
NAV by legal form



Note: NAV of EU fund industry, EUR tn. Quarterly data.
Sources: EFAMA, ESMA.

A.143

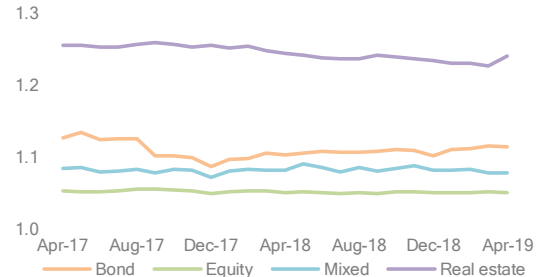
NAV by fund market segment



Note: EA investment funds' NAV by fund type, EUR tn.
Sources: ECB, ESMA.

A.144

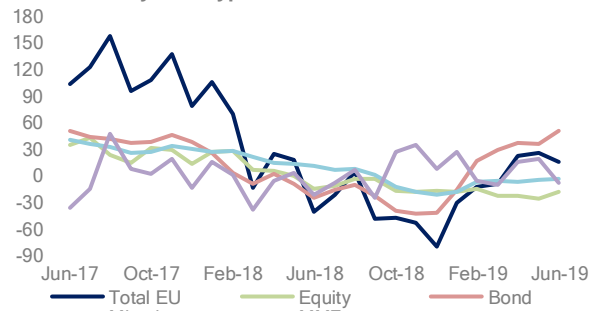
Leverage by market segment



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

A.145

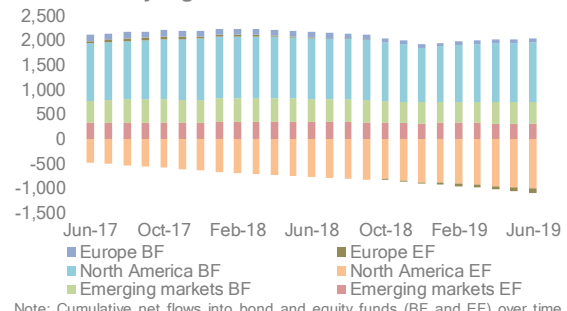
Fund flows by fund type



Note: EU-domiciled funds' two-month cumulative net flows, EUR bn.
Sources: Refinitiv Lipper, ESMA.

A.146

Fund flows by regional investment focus



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

A.147

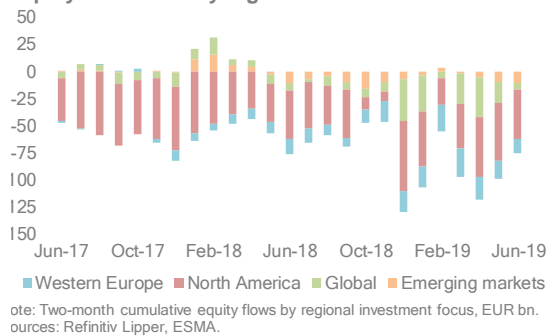
Bond fund flows by regional investment focus



Note: Two-month cumulative bond flows by regional investment focus, EUR bn.
Sources: Refinitiv Lipper, ESMA.

A.148

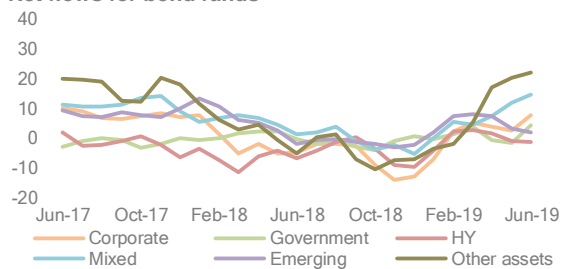
Equity fund flows by regional investment focus



Note: Two-month cumulative equity flows by regional investment focus, EUR bn.
Sources: Refinitiv Lipper, ESMA.

A.149

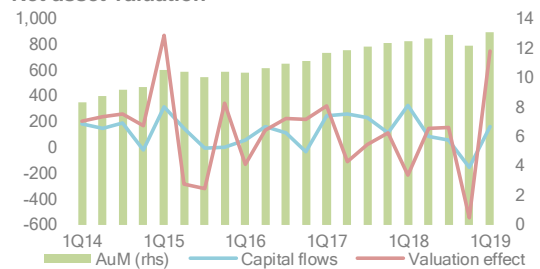
Net flows for bond funds



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 (e.g. funds investing in emerging government bonds reported as Emerging; funds investing in HY corporate bonds reported as HY).
Sources: Refinitiv Lipper, ESMA.

A.150

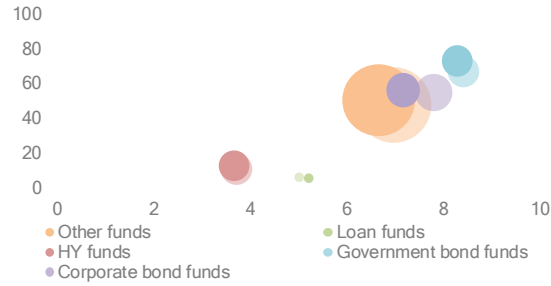
Net asset valuation



Note: Net valuation effect related to the AuM of EA investment funds, computed as the intraperiod change in AuM, net of flows received in the respective period. Capital flows and valuation effects in EUR bn. AuM expressed in EUR tn.
Sources: ECB, ESMA.

A.151

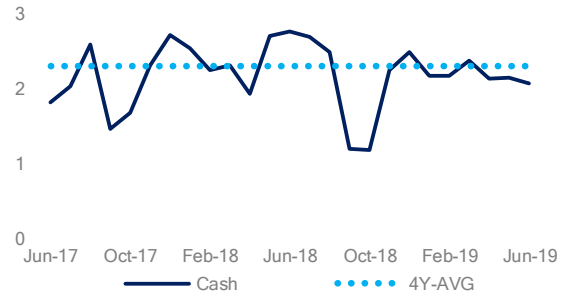
Liquidity risk profile of EU bond funds



Note: Fund type is reported according to the average liquidity ratio, in % (Y-axis), the effective average maturity of assets, in years (X-axis), and the size. Each series is reported for two years, i.e. 2017 (pale colours) and 2018 (dark colours). Sources: Refinitiv Lipper, ESMA.

A.152

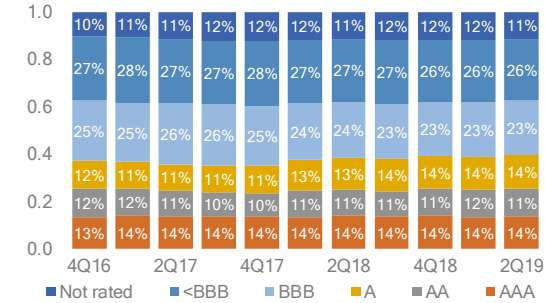
Cash as percentage of assets



Note: Cash held by EU corporate bond funds, in % of portfolio holdings. Short positions can have a negative value. Sources: Refinitiv Lipper, ESMA.

A.153

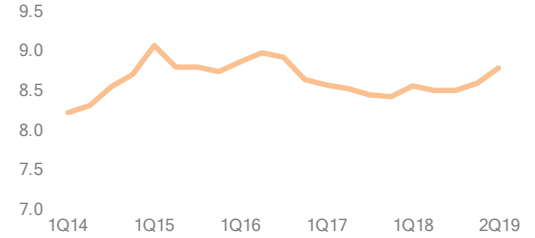
Credit quality of bond funds' assets



Note: Ratings of bonds held by EU bond funds, data in % of total assets. Sources: Thomson Reuters Lipper, ESMA and Standard & Poor's.

A.154

Maturity of EU bond funds' assets

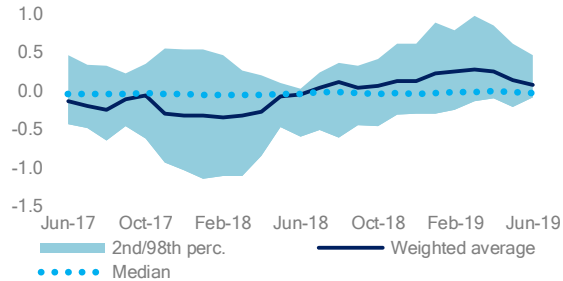


Note: Weighted average effective maturity of EU bond funds' assets, data in years. Sources: Thomson Reuters Lipper, ESMA

Money market funds

A.155

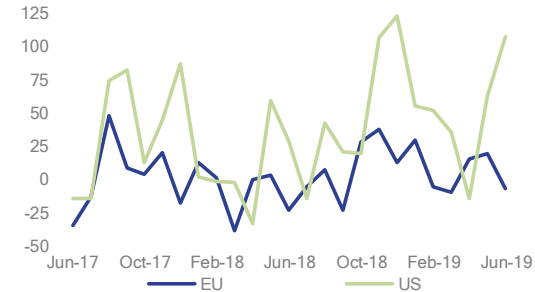
MMF performance



Note: EU-domiciled MMFs' average yearly returns by month, asset-weighted, in %. The graph shows the median and average asset-weighted returns and the difference between the returns corresponding to the 98th and 2nd percentile. Sources: Refinitiv Lipper, ESMA.

A.156

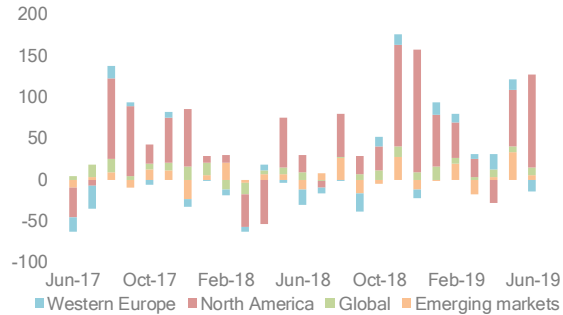
MMF flows by domicile



Note: MMF two-month cumulative net flows by domicile, EUR bn. Sources: Refinitiv Lipper, ESMA.

A.157

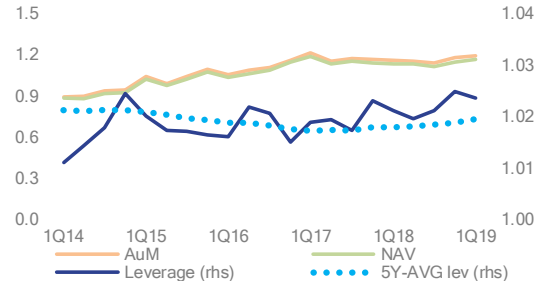
MMF flows by geographical focus



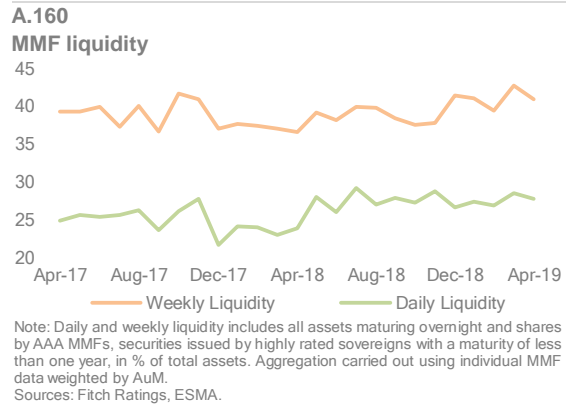
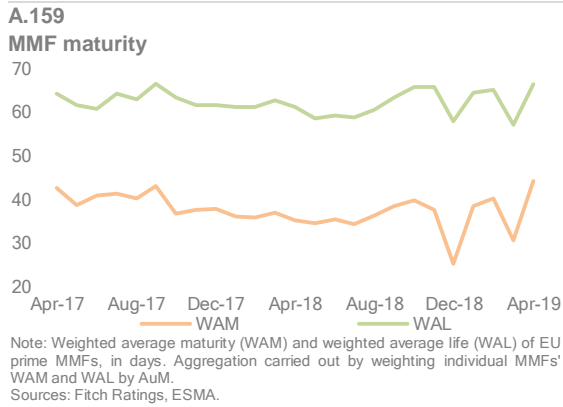
Note: MMF two-month cumulative net flows by geographical focus, EUR bn. Sources: Refinitiv Lipper, ESMA.

A.158

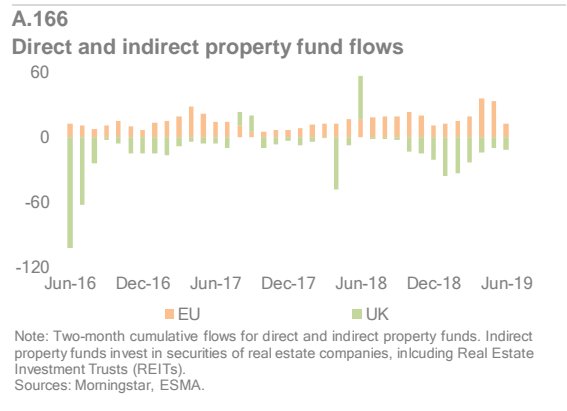
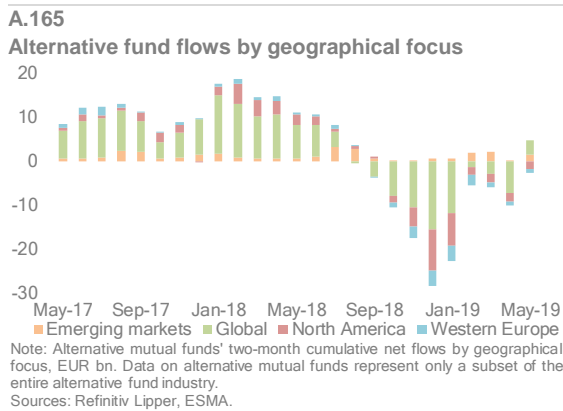
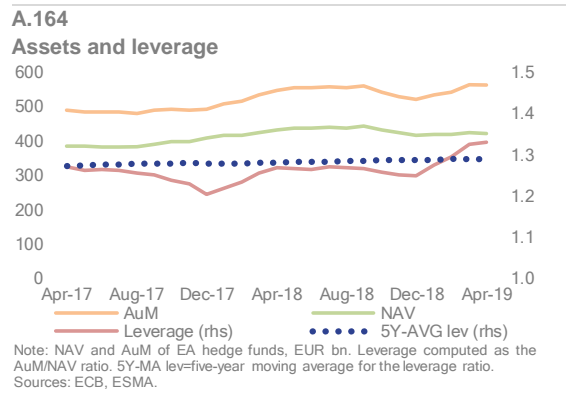
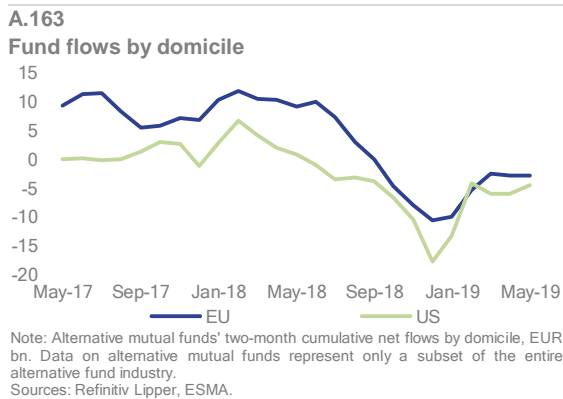
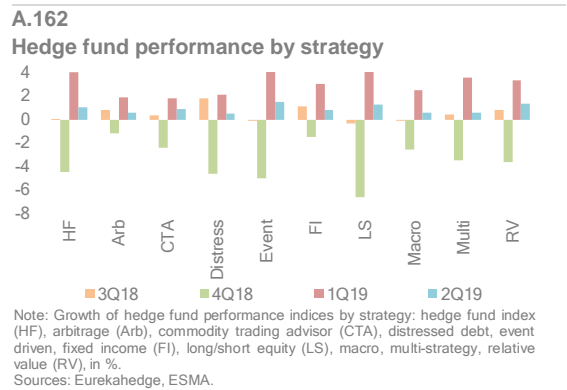
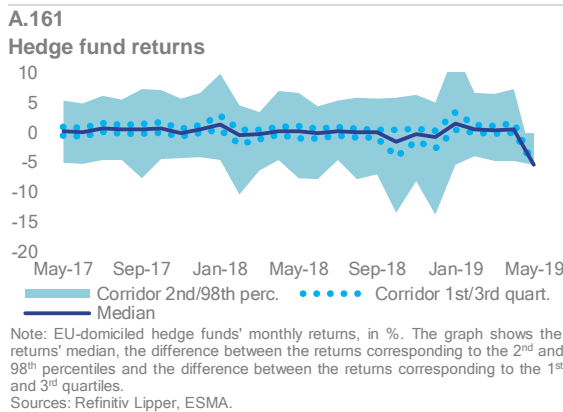
Assets and leverage



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.



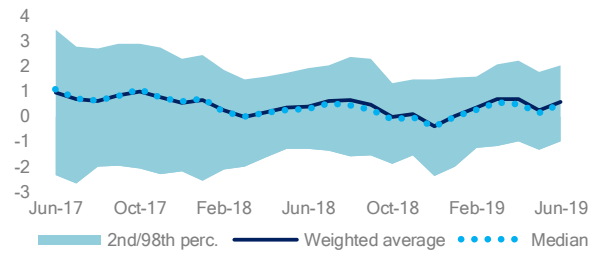
Alternative funds



Exchange-traded funds

A.167

Returns



Note: EU-domiciled ETFs' average yearly returns by month, asset-weighted, in %. The graph shows the median and average asset-weighted returns and the difference between the returns corresponding to the 98th and 2nd percentile. Sources: Refinitiv Lipper, ESMA.

A.168

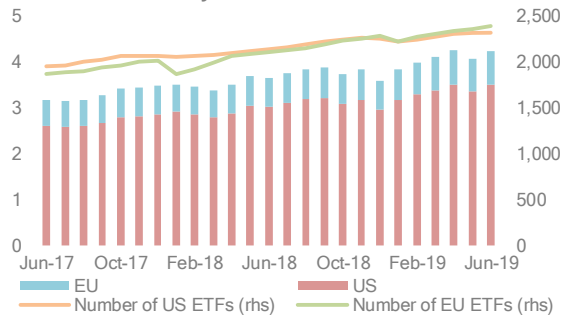
Volatility



Note: Annualised 40-day historical return volatility of EU-domiciled ETFs, in %. Sources: Refinitiv Lipper, ESMA.

A.169

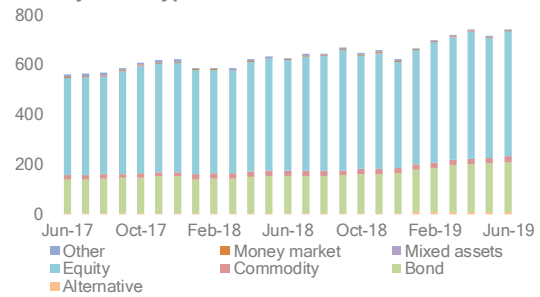
NAV and number by domicile



Note: NAV of ETFs, EUR tn, and number of ETFs. Sources: Refinitiv Lipper, ESMA.

A.170

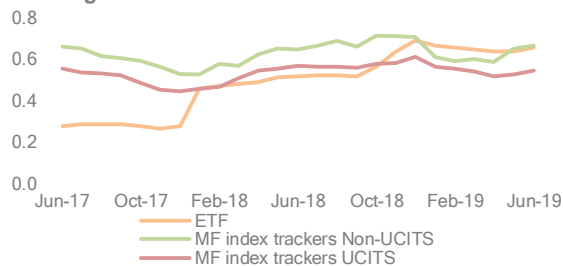
NAV by asset type



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

A.171

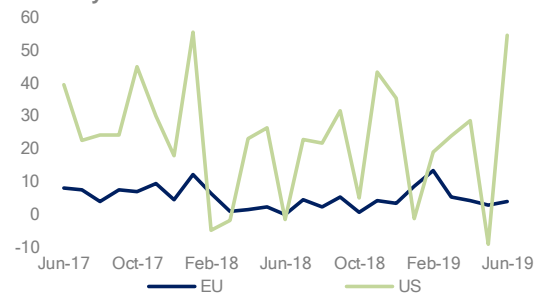
Tracking error



Note: Tracking error defined as standard deviation of mutual fund excess returns compared with benchmark. The graph shows the tracking error for ETFs and mutual funds both UCITS and non-UCITS. Yearly standard deviation reported on monthly frequency. End-of-month data. Sources: Refinitiv Lipper, ESMA.

A.172

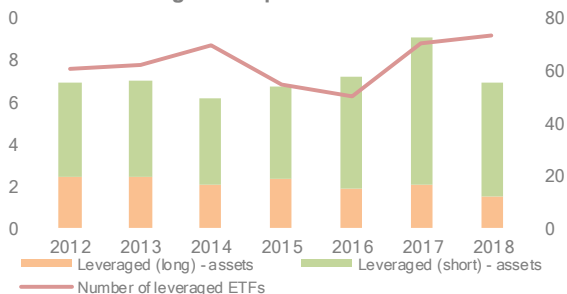
Flows by domicile



Note: ETF net flows by domicile, EUR bn. Sources: Refinitiv Lipper, ESMA.

A.173

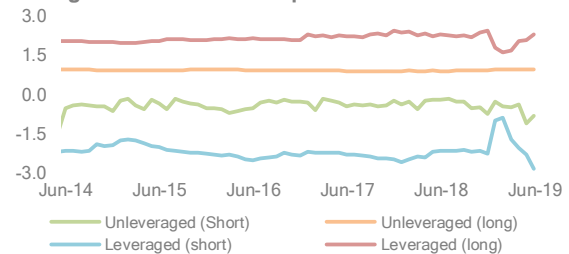
Assets of leveraged European ETFs



Note: Total assets of leveraged long and leveraged short ETFs with primary listings in Europe, in EUR bn and total number of products (rhs), in thousand. Sources: ETFGI, ESMA.

A.174

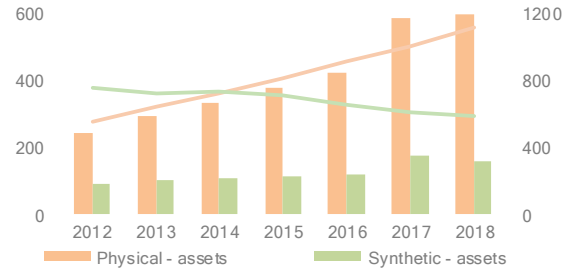
Average beta values for European ETFs



Note: Leveraged ETFs are self-reported. The annual average monthly beta is measured as the volatility of a fund return in comparison to its benchmark. An unleveraged ETF replicating its benchmark will typically have a beta close to 1.0. Sources: Refinitiv Lipper, ESMA.

A.175

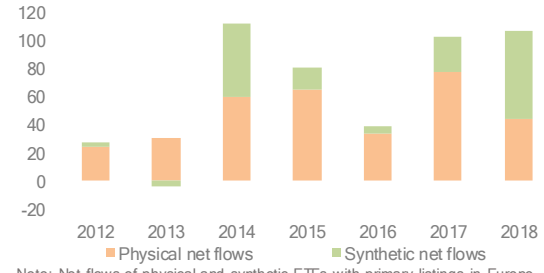
Assets of European ETFs by replication method



Note: Total assets of physical and synthetic ETFs with primary listings in Europe, in EUR bn and total number of products (rhs).
Sources: ETFGI, ESMA

A.176

Flows into European ETFs by replication method



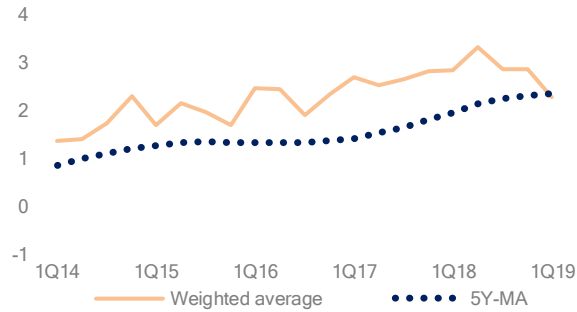
Note: Net flows of physical and synthetic ETFs with primary listings in Europe, in EUR bn.
Sources: ETFGI, ESMA

Retail investors

Investment resources available to households

A.177

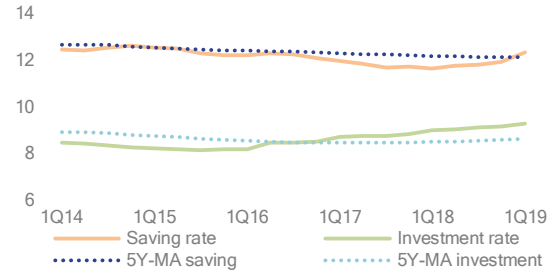
Disposable income



Note: Annualised growth rate of weighted-average gross disposable income for 11 countries (AT, BE, DE, ES, FI, FR, IE, IT, NL, PT and SI), in %.
Sources: Eurostat, Refinitiv Datastream, ESMA.

A.178

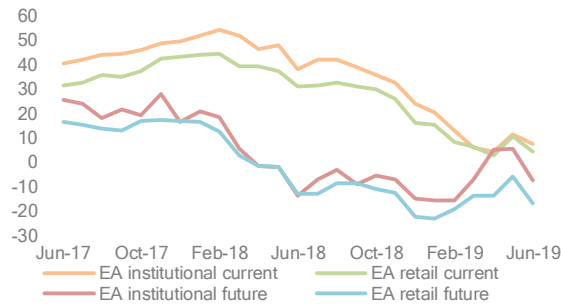
Household saving and investment rates



Note: Household annual saving and investment rates, based on four-quarter cumulated transactions, %. 5Y-MA saving=five-year moving average of the saving rate. 5Y-MA investment=five-year moving average of the investment rate.
Sources: ECB, ESMA

A.179

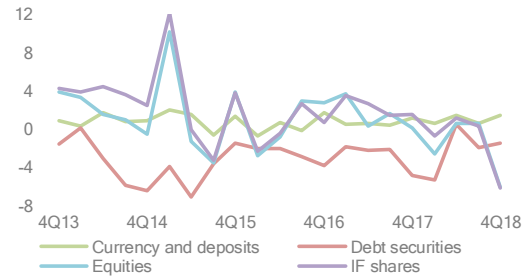
Investor sentiment



Note: Sentix Sentiment Indicators for Euro Area private and current institutional investors on a 10Y horizon. The zero benchmark is a risk-neutral position.
Sources: Refinitiv Datastream, ESMA.

A.180

Growth rates in financial assets

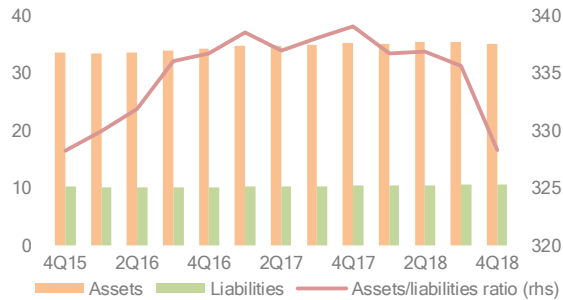


Note: Quarterly asset growth rates by type of investment, %. IF shares=investment fund shares.
Sources: Eurostat, ESMA.

Asset allocation by retail investors

A.181

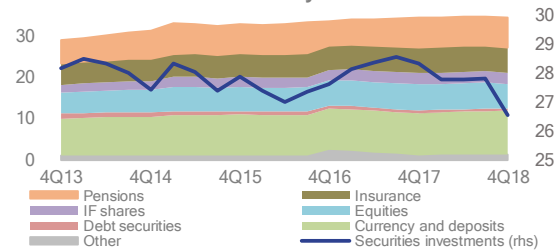
Household assets to liabilities ratio



Note: EU households' financial assets and liabilities, EUR tn. Assets/liabilities ratio in %.
Sources: ECB, ESMA.

A.182

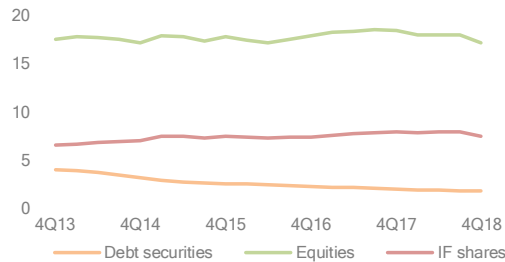
Household financial assets by class



Note: Financial assets of EU households, EUR tn, and growth in debt securities, equity and IF shares held by EU households, right-hand axis, %. IF shares=investment fund shares; Insurance=Nonlife insurance reserves, provisions for calls under standardised guarantees, life insurance and annuities. Other=Other accounts receivable/payable and derivatives.
Sources: Eurostat, ESMA.

A.183

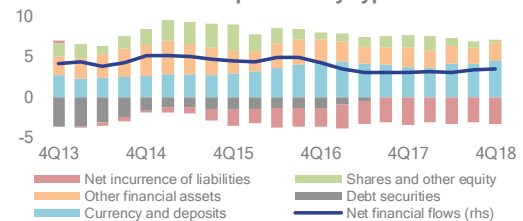
Share of securities investments in household assets



Note: Debt securities, equity and IF shares as a share of total household financial assets, %. IF shares=investment fund shares.
Sources: Eurostat, ESMA

A.184

Net financial asset acquisition by type

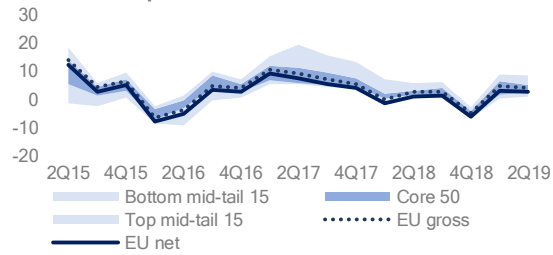


Note: Net incurrence of liabilities and net financial flows for households in the euro area, % of disposable income. Other Financial Assets=Insurance technical reserves, financial derivatives, loans granted and other accounts receivable; Net financial flows=Net household lending (positive values) or borrowing (negative values) to/from sectoral financial accounts.
Sources: Eurostat, ESMA.

Costs and performance

A.185

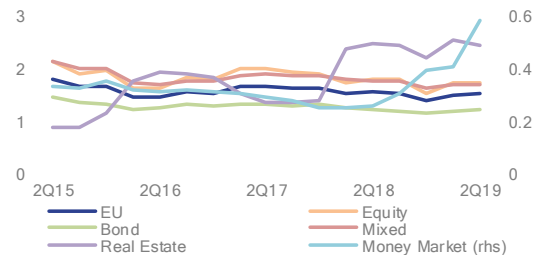
Net return dispersion



Note: Net returns of UCITS, retail investors, adjusted for total expense ratio and load fees, in %. Distribution represents selected EU markets. Top mid-tail 15=distribution between the 75th and 90th percentile. Bottom mid-tail 15=distribution between the 10th and 25th percentile.
Sources: Refinitiv Lipper, ESMA.

A.186

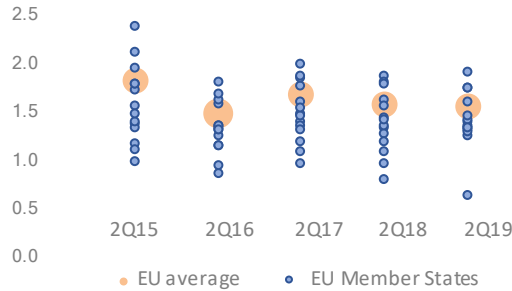
Absolute costs



Note: Total costs (ongoing costs, subscription and redemption fees) of UCITS funds, computed as the difference between gross and net returns, retail investors, %.
Sources: Refinitiv Lipper, ESMA.

A.187

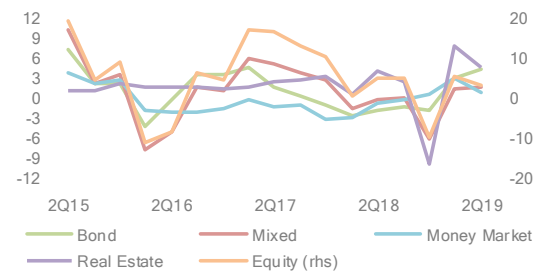
Dispersion in the absolute cost impact



Note: Dispersion of total costs (ongoing costs, subscription and redemption fees) of UCITS funds, computed as the difference between gross and net returns, retail investors, %.
Sources: Refinitiv Lipper, ESMA.

A.188

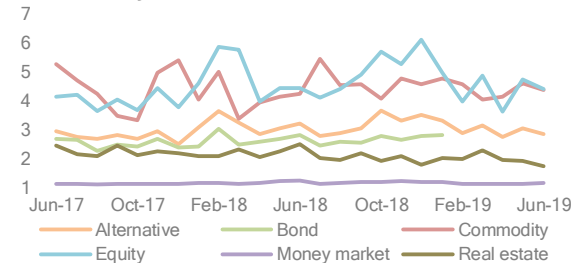
Net returns by asset class



Note: Evolution of Net Returns for UCITS funds, by assets class. Results for Equity, Bond, Mixed Assets and Money Market.
Sources: Refinitiv Lipper, ESMA.

A.189

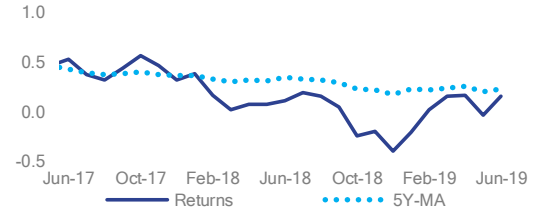
Retail fund synthetic risk and reward indicator



Note: The calculated synthetic risk and reward indicator (SSRI) is based on ESMA SSRI 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: Refinitiv Lipper, ESMA.

A.190

Portfolio returns

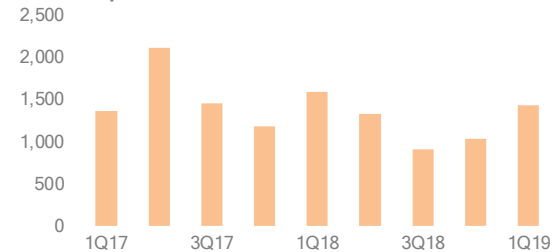


Note: Annual average gross returns for a stylised household portfolio, in %. Asset weights, computed using ECB Financial Accounts by Institutional Sectors, are 37% for collective investment schemes (of which 12% mutual funds and 25% insurance and pension funds), 31% for deposits, 22% for equity, 7% debt securities and 3% for other assets. Costs, fees and other charges incurred for buying, holding or selling these instruments are not taken into account.
Sources: Refinitiv Datastream, Refinitiv Lipper, ECB, ESMA.

Complaints

A.191

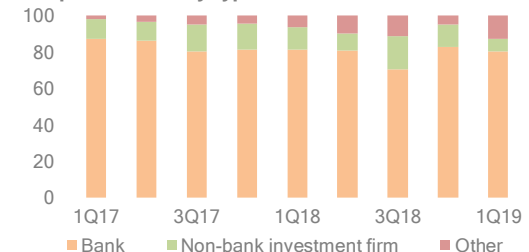
Total complaints



Note: Complaints reported directly to 17 NCAs: AT, BG, CY, CZ, DE, DK, EE, ES, HR, HU, IT, LT, LU, MT, PT, RO, SI, total volume estimated by summing highest total among reporting channels for each NCA.
Sources: ESMA complaints database.

A.192

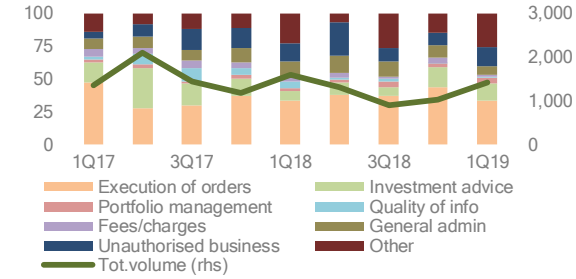
Complaints data by type of firm



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. % of total volume by type of firm involved.
Source: ESMA complaints database

A.193

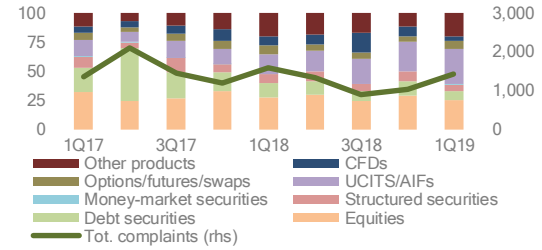
Complaints data by cause



Note: Complaints reported directly to 17 NCAs: AT, BG, CY, CZ, DE, DK, EE, ES, 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. Source: ESMA complaints database

A.194

Complaints data by instrument



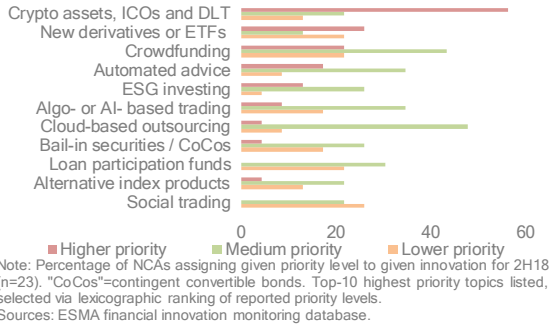
Note: Complaints reported directly to 17 NCAs: AT, BG, CY, CZ, DE, DK, EE, ES, HR, HU, IT, LT, LU, MT, PT, RO, SI. Line shows total number of these complaints. Bars show % of total volume by type of financial instrument. CFDs=Contracts for Differences. Source: ESMA complaints database.

Products and innovation

Financial innovation

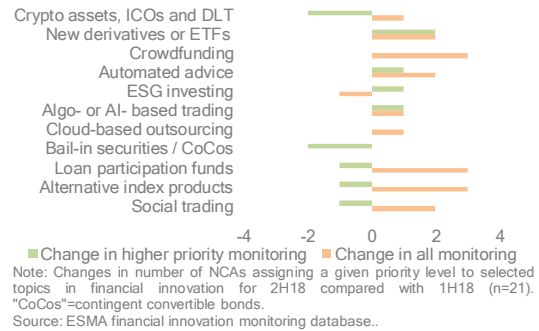
A.195

Monitoring of financial innovation by NCAs



A.196

Changes in NCA innovation monitoring



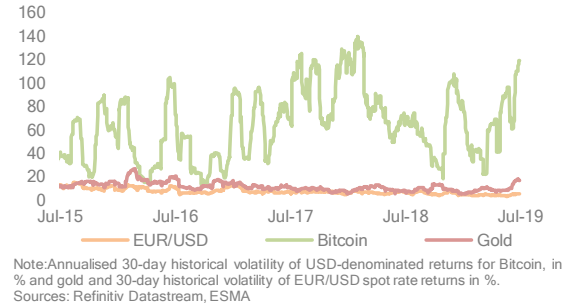
A.197

Crypto-Asset prices



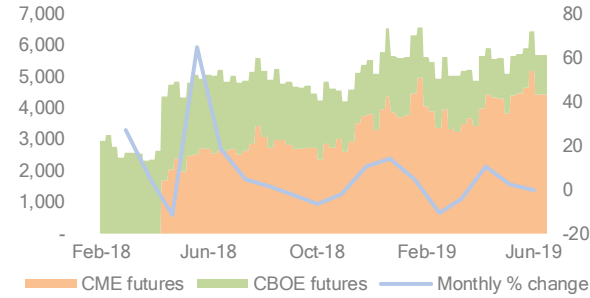
A.198

Crypto-Asset price volatility



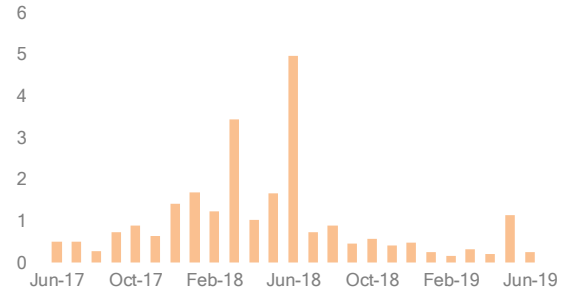
A.199

Bitcoin futures market



A.200

ICO issuances



Sustainable finance

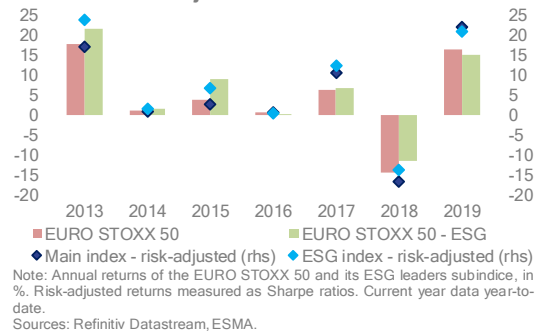
A.201

ESG share price performance by region



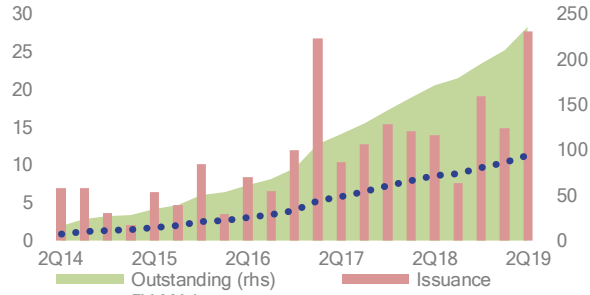
A.202

ESG index risk-adjusted returns



A.203

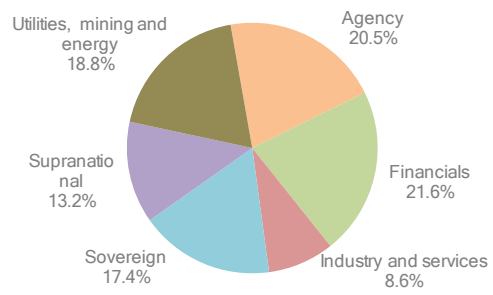
Green bond issuance



Note: Quarterly issuance and outstanding amount of green bonds from EU-domiciled issuers (including sovereign and supranational issuers), EUR bn. Sources: Refinitiv EIKON, ESMA.

A.204

Green bonds outstanding by sector



Note: Share of green bonds outstanding from EU-domiciled issuers, by issuer parent sector. Sources: Refinitiv EIKON, ESMA.

A.205

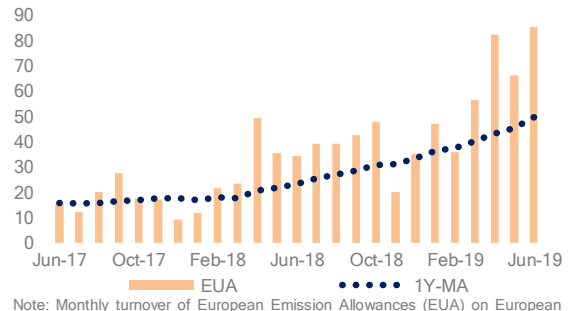
Emission allowance prices



Note: Daily settlement price of European Emission Allowances (EUA) on European Energy Exchange spot market, in EUR/tCO2. Sources: Refinitiv Datastream, ESMA.

A.206

Emission allowance turnover



Note: Monthly turnover of European Emission Allowances (EUA) on European Energy Exchange, in EUR mn. Sources: Refinitiv Datastream, ESMA.



European Securities and
Markets Authority

