

# TRV

## Statistical Annex

ESMA Report on Trends, Risks and Vulnerabilities

No. 2, 2021

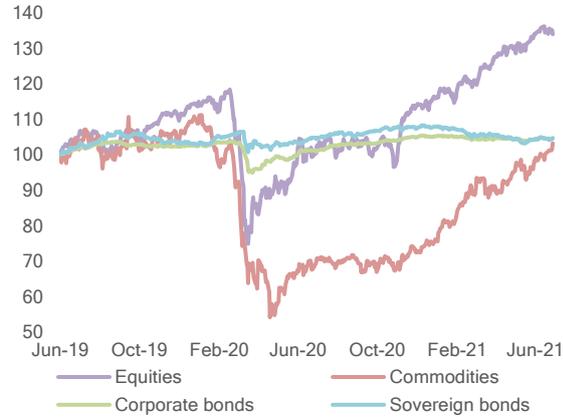


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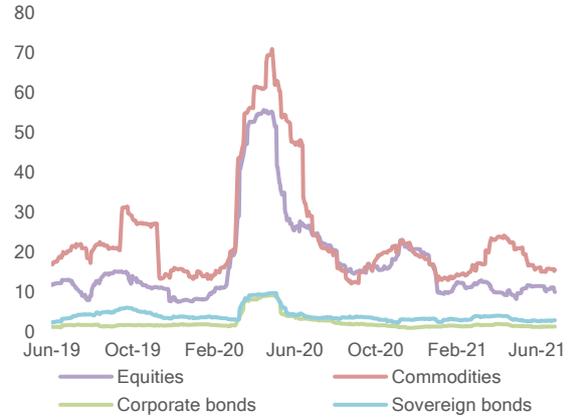
# Market environment

**A.1**  
**Market price performance**



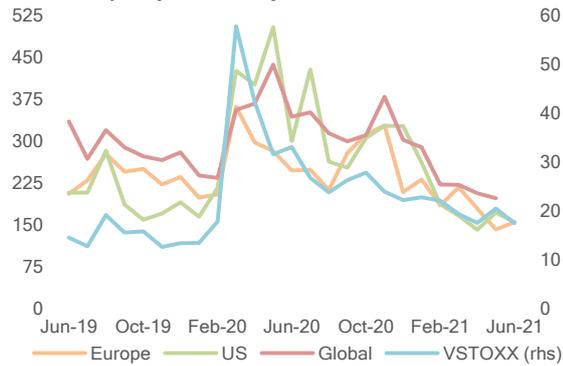
Note: Return indices on EA equities (Datastream regional index), global commodities (S&P GSCI) converted to EUR, EA corporate and sovereign bonds (iBoxx EUR, all maturities). 01/06/2019=100.  
Sources: Refinitiv Datastream, ESMA.

**A.2**  
**Market volatilities**



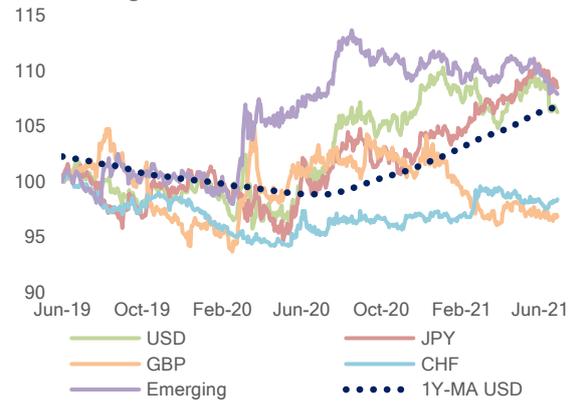
Note: Annualised 40D volatility of return indices on EA equities (Datastream regional index), global commodities (S&P GSCI) converted to EUR, EA corporate and sovereign bonds (iBoxx EUR, all maturities), in %.  
Sources: Refinitiv Datastream, ESMA.

**A.3**  
**Economic policy uncertainty**



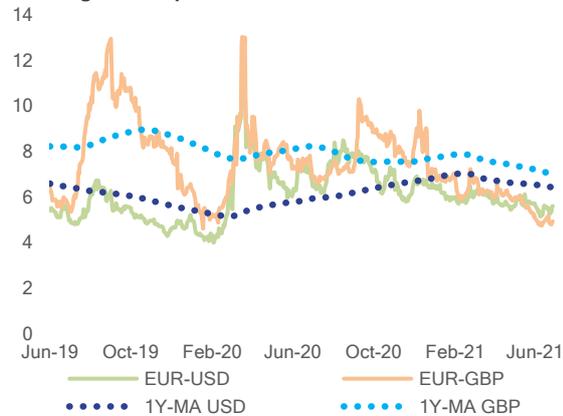
Note: Economic Policy Uncertainty Index (EPU), developed by Baker et al. (www.policyuncertainty.com), based on the frequency of articles in European newspapers that contain the following triple: "economic" or "economy", "uncertain" or "uncertainty" and one or more policy-relevant terms. Global aggregation 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.

**A.4**  
**EUR exchange rates**



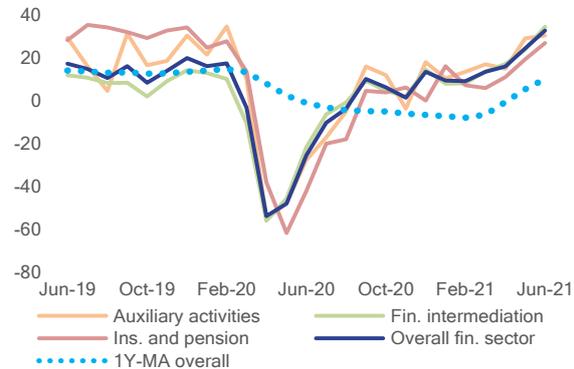
Note: Spot exchange rates to EUR. Emerging is an average of spot exchange rates for CNY, BRL, RUB, INR, MXN, IDR and TRY weighted by GDP as of start date year. 01/06/2019=100. Increases in value represent an appreciation of EUR. 1Y-MA USD=one-year moving average of the USD exchange rate.  
Sources: ECB, IMF, ESMA.

**A.5**  
**Exchange rate implied volatilities**



Note: Implied volatilities for 3M options on exchange rates, in %. 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.

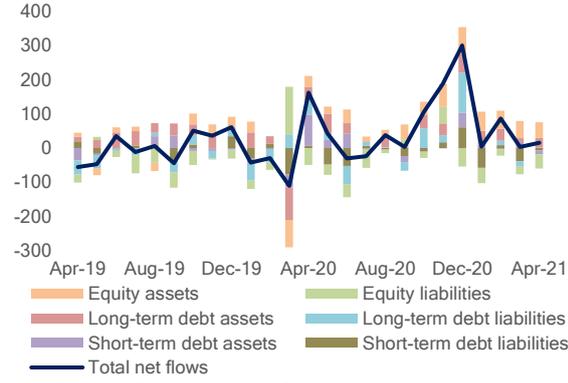
**A.6**  
**Market confidence**



Note: European Commission survey of EU27 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. Fin.=financial. Ins.=insurance.  
Sources: European Commission, ESMA.

**A.7**

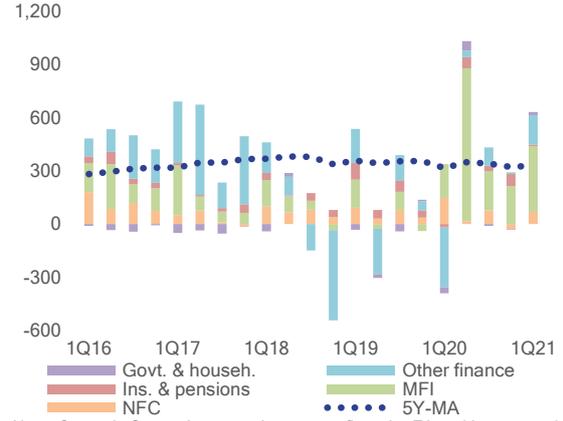
**Portfolio investment flows by asset class**



Note: Balance of Payments statistics, financial accounts, portfolio investments by asset class, EUR bn, 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.  
Sources: ECB, ESMA.

**A.8**

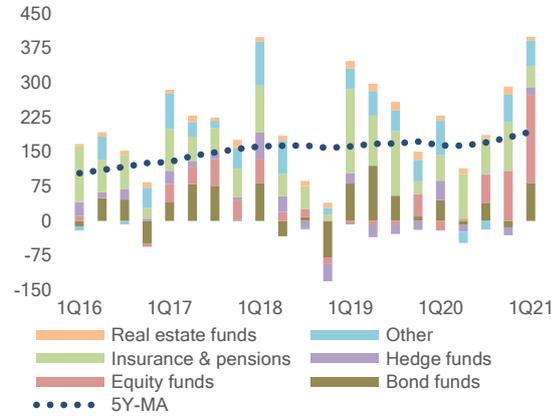
**Investment flows by resident sector**



Note: Quarterly Sector Accounts. Investment flows by EA resident sector in equity (excluding investment fund shares) and debt securities, EUR bn. 5Y-MA=five-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. 5Y-MA=five-year moving average of all investment flows.  
Sources: ECB, ESMA.

# Securities markets

## Equity markets

**A.10**

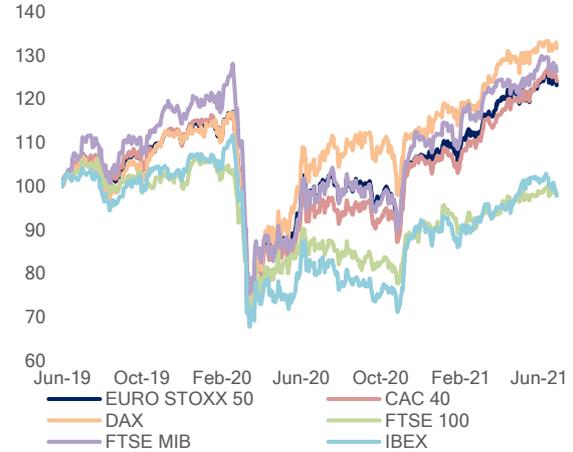
**Equity prices by sector**



Note: Datastream regional equity indices for the EA (in EUR), the US (in USD) and Japan (in JPY). 01/06/2019=100.  
Sources: Refinitiv Datastream, ESMA.

**A.11**

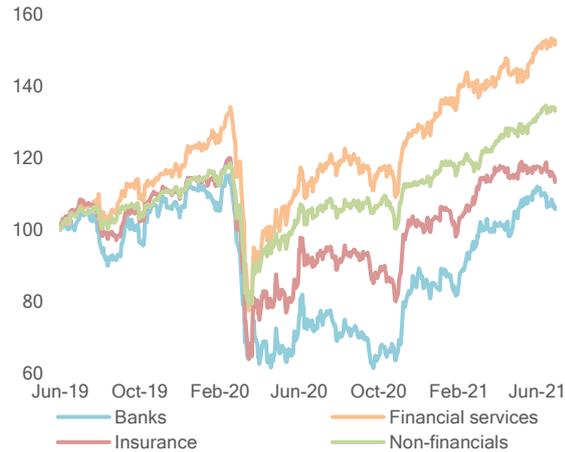
**Price performance of national indices**



Note: European equity indices. 01/06/2019=100.  
Sources: Refinitiv Datastream, ESMA.

**A.12**

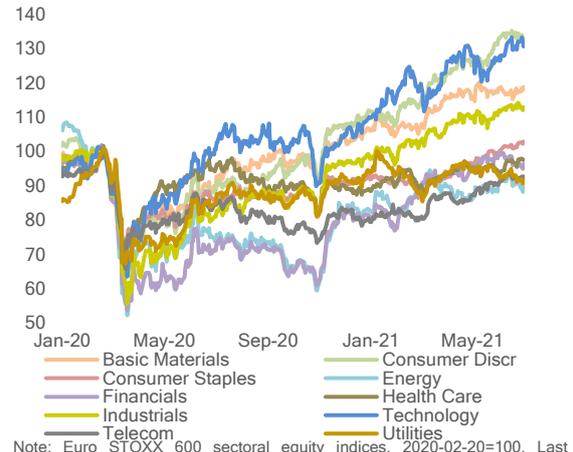
**Price performance**



Note: STOXX Europe 600 sectoral return indices. 01/06/2019=100.  
Sources: Refinitiv Datastream, ESMA.

**A.13**

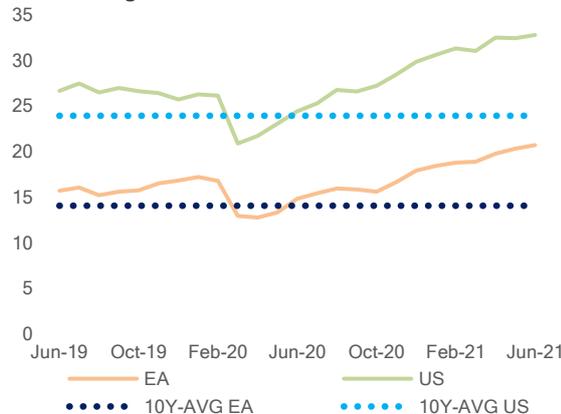
**Price performance of STOXX600 sectoral indices**



Note: Euro STOXX 600 sectoral equity indices. 2020-02-20=100. Last available date = 30/06/2021  
Sources: Refinitiv Datastream, ESMA.

**A.14**

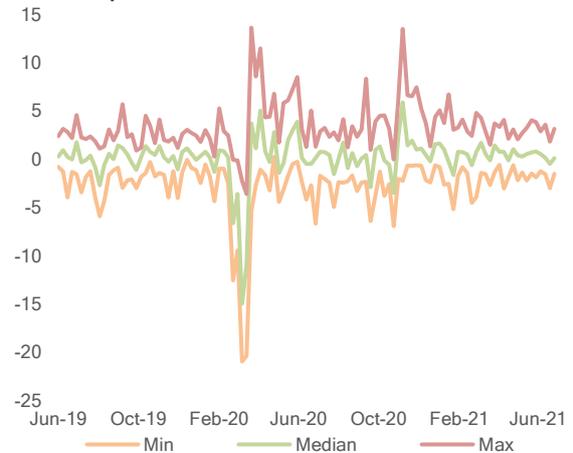
**Price-earnings ratios**



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: Refinitiv Datastream, ESMA.

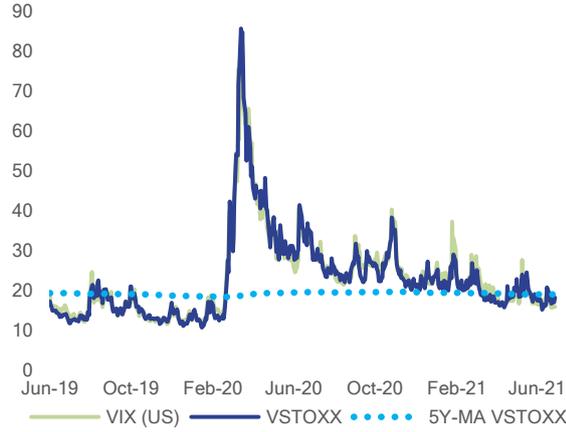
**A.15**

**Return dispersion**



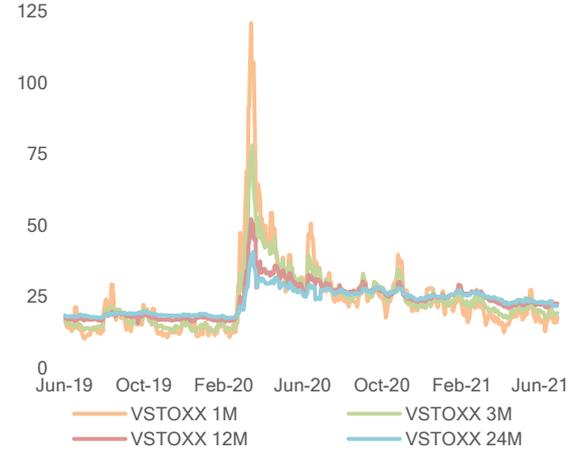
Note: Weekly return dispersion of the main equity indices in the EEA30.  
Sources: Refinitiv Datastream, ESMA.

**A.16**  
**Implied volatility**



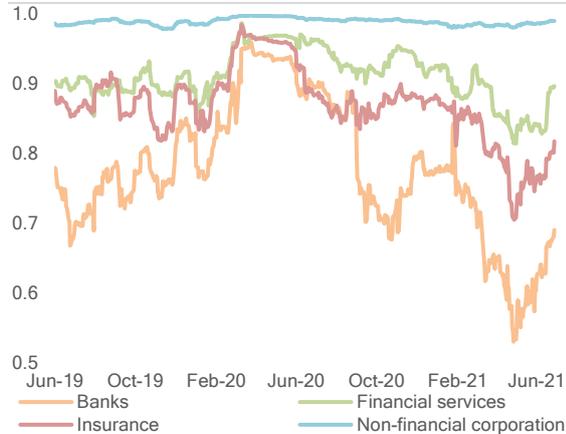
Note: Implied volatility of EURO STOXX 50 (VSTOXX) and S&P 500 (VIX), in %.  
Sources: Refinitiv Datastream, ESMA.

**A.17**  
**Implied volatility by option maturity**



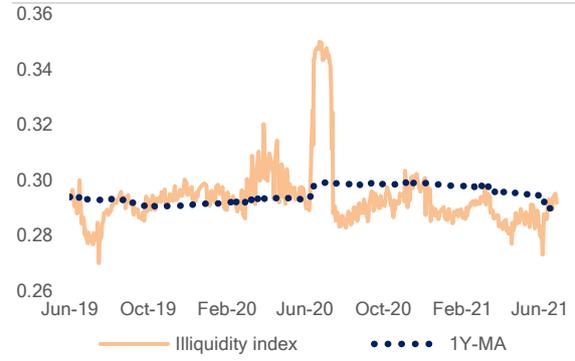
Note: EURO STOXX 50 implied volatilities, measured as price indices, in %.  
Sources: Refinitiv Datastream, ESMA.

**A.18**  
**Correlation STOXX Europe 600 and sectoral indices**



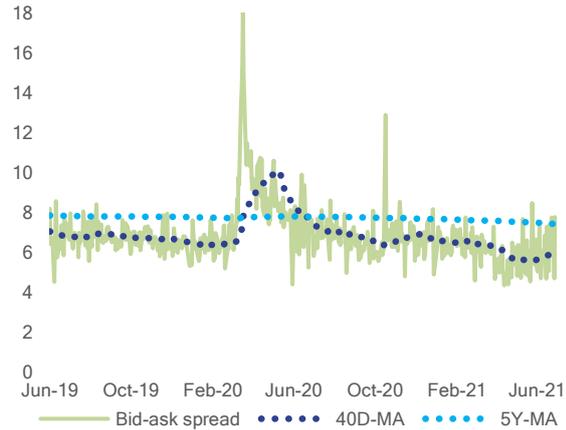
Note: Correlations between daily returns of the STOXX Europe 600 and STOXX Europe 600 sectoral indices. Calculated over 60-day rolling windows.  
Sources: Refinitiv Datastream, ESMA.

**A.19**  
**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: Refinitiv Datastream, ESMA.

**A.20**  
**Bid-ask spread**

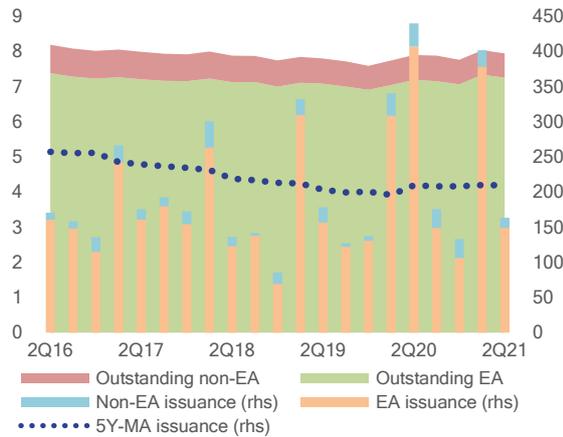


Note: Liquidity measure as median of the bid-ask price percentage difference for the current EEA30 constituents of STOXX Europe Large 200, in bps.  
Sources: Refinitiv Datastream, ESMA.

## Sovereign-bond markets

### A.21

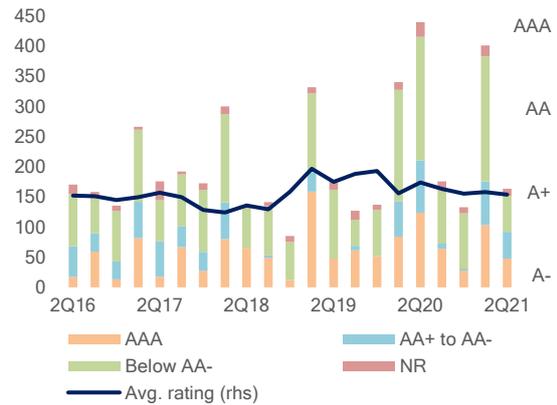
#### Issuance and outstanding



Note: Sovereign bond gross issuance in the EEA30 (rhs), EUR bn, and outstanding amounts, EUR tn. Maturities < 12 months are excluded. Sources: Refinitiv EIKON, ESMA.

### A.22

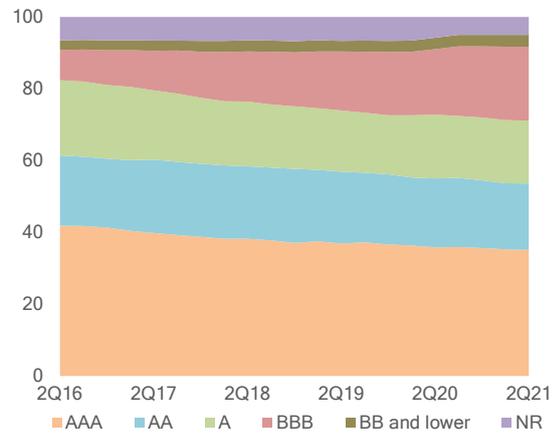
#### Issuance by credit rating



Note: Sovereign bond gross issuance in the EEA30 by rating bucket, EUR bn. Avg. rating=weighted average rating computed as a one-year moving average of ratings converted to a numerical scale (AAA=1, AA+=2, etc.) excluding non-rated bonds. Maturities < 12 months are excluded. Sources: Refinitiv EIKON, ESMA.

### A.23

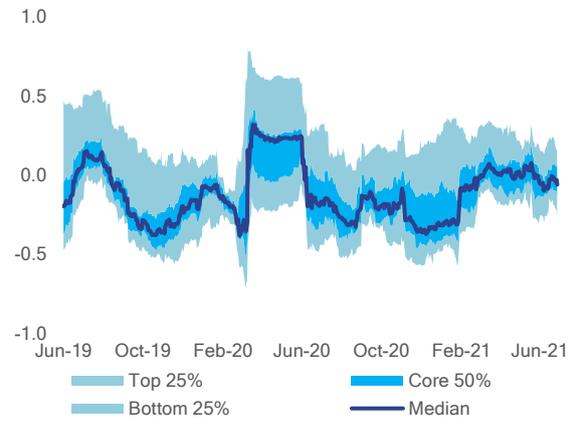
#### Rating distribution



Note: Outstanding amount of sovereign bonds in the EEA30 as of issuance date by rating category, in % of the total. Maturities < 12 months are excluded. Sources: Refinitiv EIKON, ESMA.

### A.24

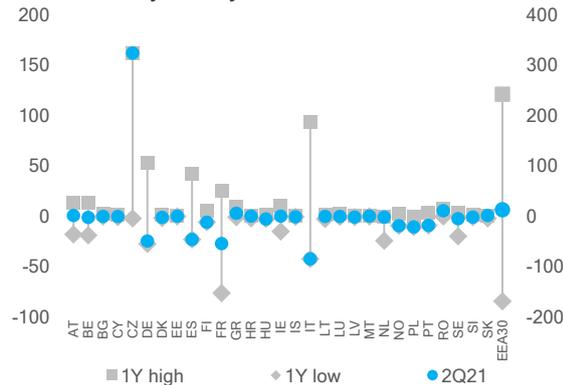
#### Equity-sovereign bond correlation dispersion



Note: Dispersion of the correlation between daily returns of national equity indices and national sovereign debt return index, for 16 countries in the EU27, over a 60-day rolling window. Sources: Refinitiv Datastream, ESMA.

### A.25

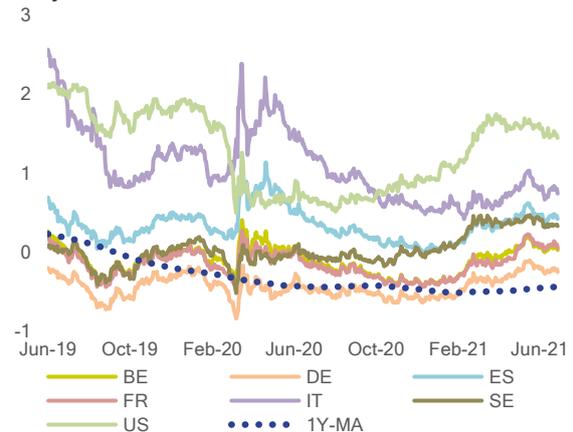
#### Net issuance by country



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. All maturities are included. Sources: Refinitiv EIKON, ESMA.

### A.26

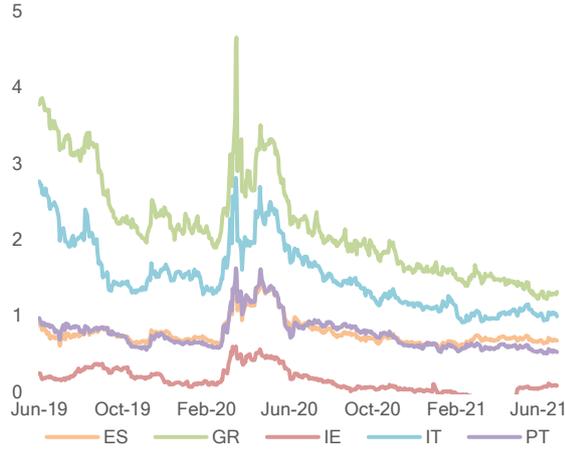
#### 10Y yields



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.

**A.27**

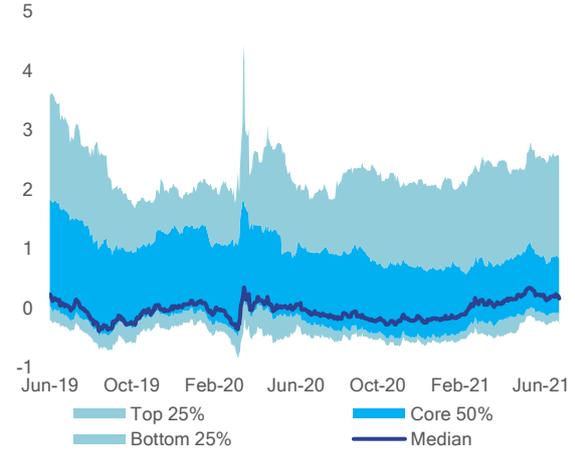
**10Y spreads**



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

**A.28**

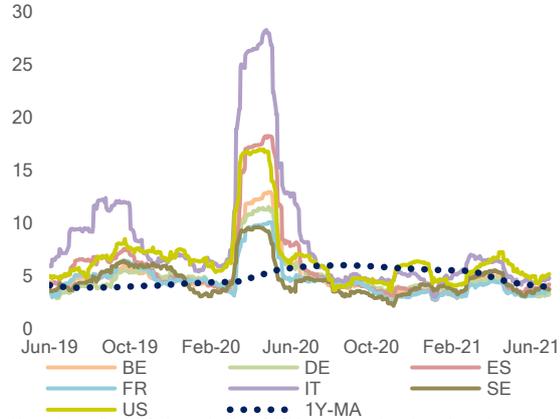
**Yield dispersion**



Note: Yield dispersion on 10Y sovereign bonds of 16 EU27 countries, in %.  
Sources: Refinitiv Datastream, ESMA.

**A.29**

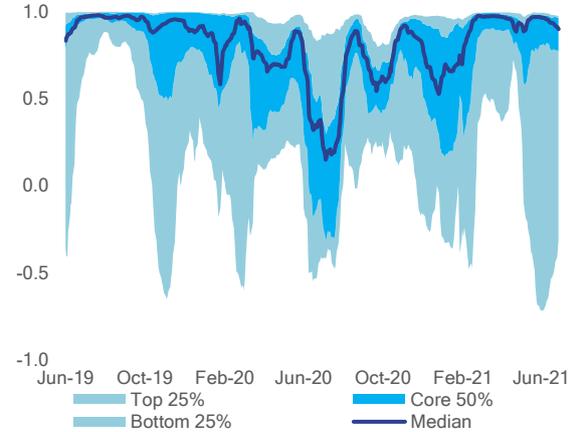
**Volatility**



Note: Annualised 40-day volatility of 10Y sovereign bonds, selected countries, in %. 1Y-MA=one-year moving average of EA 10Y bond indices computed by Datastream.  
Sources: Refinitiv Datastream, ESMA.

**A.30**

**Yield correlation dispersion**



Note: Dispersion of correlations between 10Y DE Bunds and 15 other EU27 countries' sovereign bond redemption yields over a 60-day rolling window.  
Sources: Refinitiv Datastream, ESMA.

**A.31**

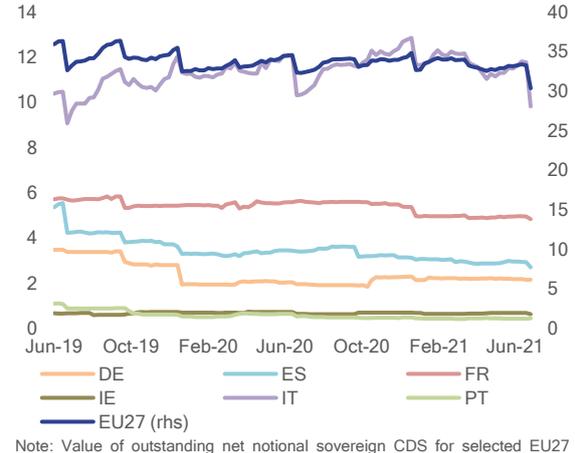
**CDS spreads**



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

**A.32**

**CDS notionals**



Note: Value of outstanding net notional sovereign CDS for selected EU27 countries, in USD bn.  
Sources: DTCC, ESMA.

**A.33**

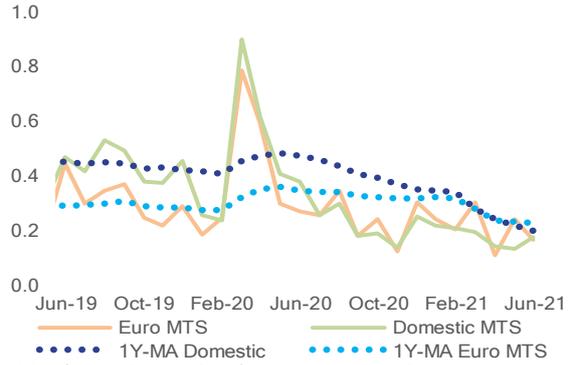
**Bid-ask spreads**



Note: Bid-ask spread as weighted average of bid-ask spreads throughout a month weighted by trading volume across 10 EU27 domestic markets (AT, BE, DE, ES, FI, FR, IE, IT, NL and PT) and Euro MTS, in EUR.  
Sources: MTS, ESMA.

**A.34**

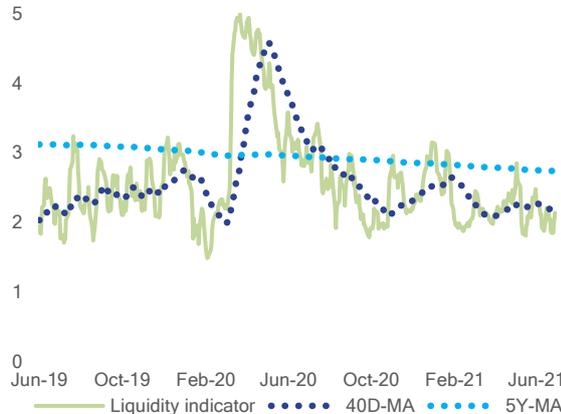
**ESMA composite sovereign bond liquidity index**



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.

**A.35**

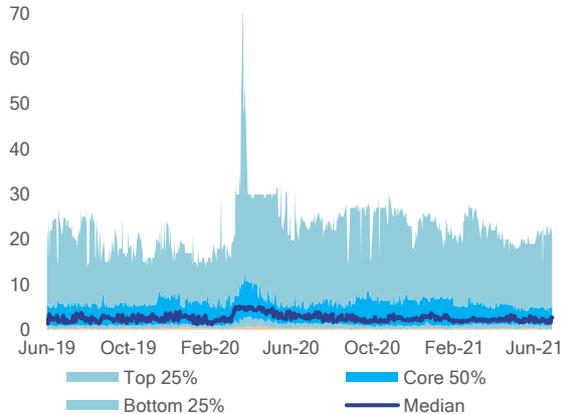
**Liquidity**



Note: Liquidity measured as median across countries of the bid-ask yields difference for 10Y sovereign bonds, in bps. Lower figures mean more liquidity and vice-versa. 22 EEA30 countries are included.  
Sources: Refinitiv EIKON, ESMA.

**A.36**

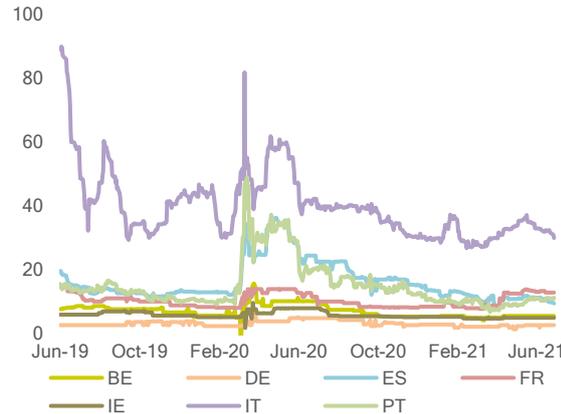
**Liquidity dispersion**



Note: Dispersion of liquidity measured as median across countries of the bid-ask yields difference for 10Y sovereign bonds, in bps. Lower figures mean more liquidity and vice-versa. 22 EEA30 countries are included.  
Sources: Refinitiv EIKON, ESMA.

**A.37**

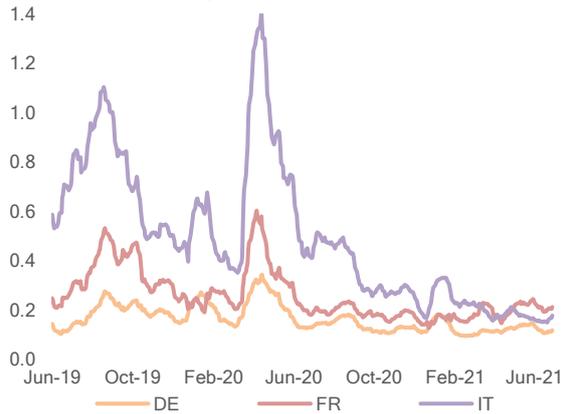
**Redenomination risk**



Note: Difference between 5Y CDS spreads under the 2014 ISDA definition (where debt redenomination is a credit event), and under the 2003 ISDA definition (where it is not), in bps.  
Sources: Refinitiv Datastream, ESMA.

**A.38**

**Bond futures liquidity**

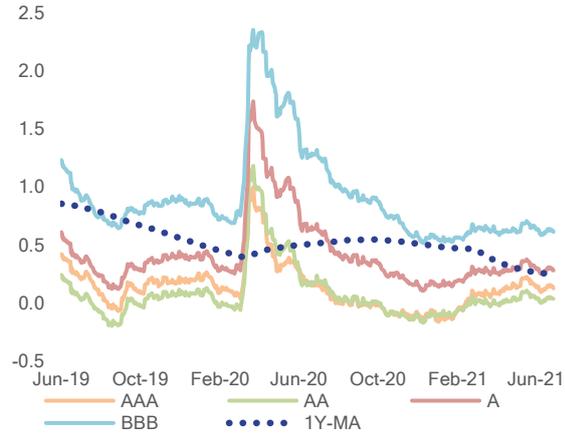


Note: One-month moving averages of the Hui-Heubel illiquidity indicator for selected 10Y sovereign bond futures, in %. Lower figures mean more liquidity and vice-versa.  
Sources: Refinitiv Datastream, ESMA.

## Corporate-bond markets

**A.39**

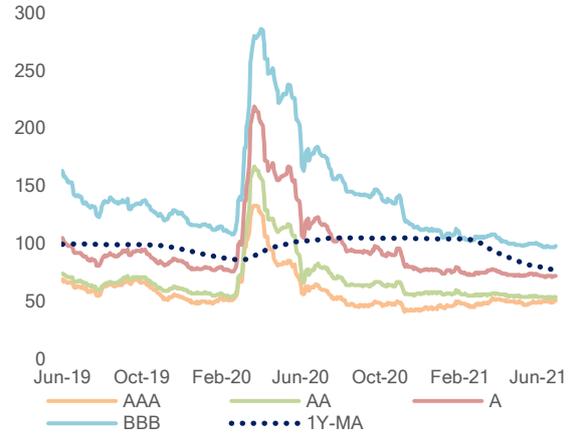
### Yields by credit rating



Note: ICE BofAML EA corporate bond redemption yields by rating, in %. 1Y-MA=one-year moving average of all indices. Sources: Refinitiv Datastream, ESMA.

**A.40**

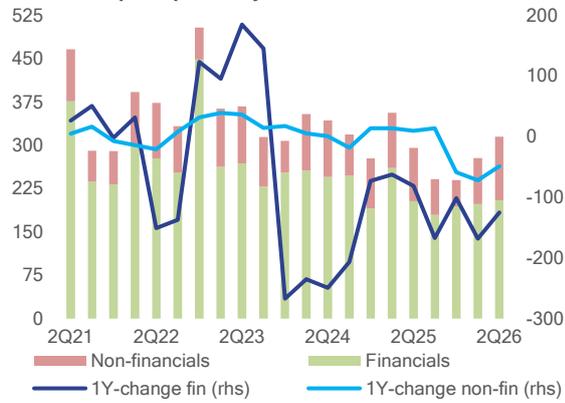
### Spreads by credit rating



Note: ICE BofAML EA corporate bond option-adjusted spreads by rating, in bps. 1Y-MA=one-year moving average of all indices. Sources: Refinitiv Datastream, ESMA.

**A.41**

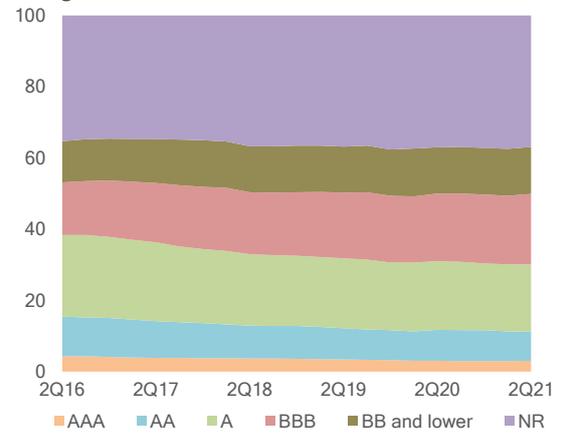
### Debt redemption profile by sector



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. Maturities < 12 months are excluded. Sources: Refinitiv EIKON, ESMA.

**A.42**

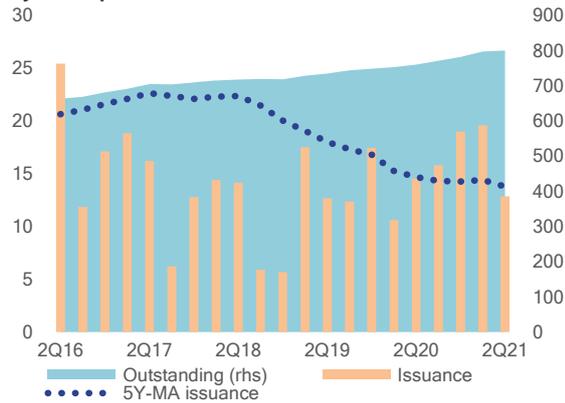
### Rating distribution



Note: Outstanding amount of corporate bonds in the EEA30 as of issuance date by rating category, in % of the total. Maturities < 12 months are excluded. Sources: Refinitiv EIKON, ESMA.

**A.43**

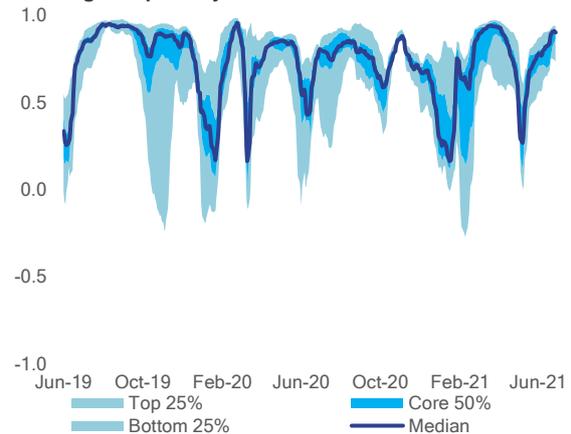
### Hybrid capital instruments



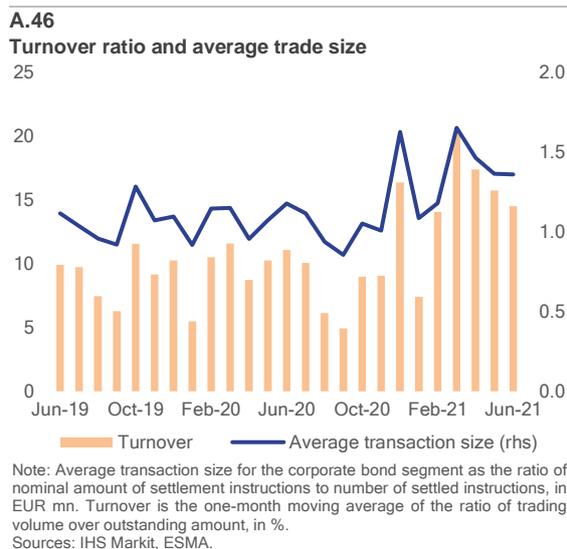
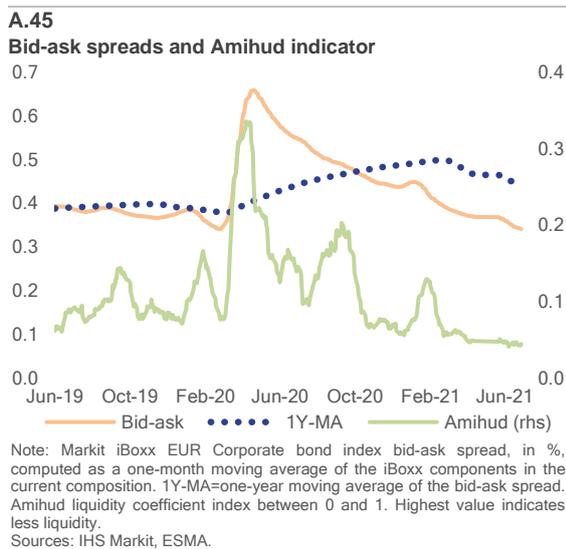
Note: Hybrid capital instruments gross issuance in the EEA30, EUR bn, and outstanding amounts (rhs), EUR tn. Maturities < 12 months are excluded. According to Refinitiv EIKON classification, hybrid capital refers to bonds having the qualities of both an interest-bearing security (debt) and equity. Sources: Refinitiv EIKON, ESMA.

**A.44**

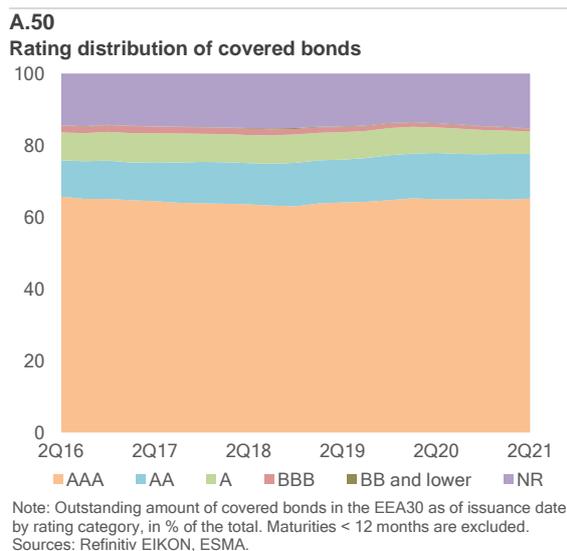
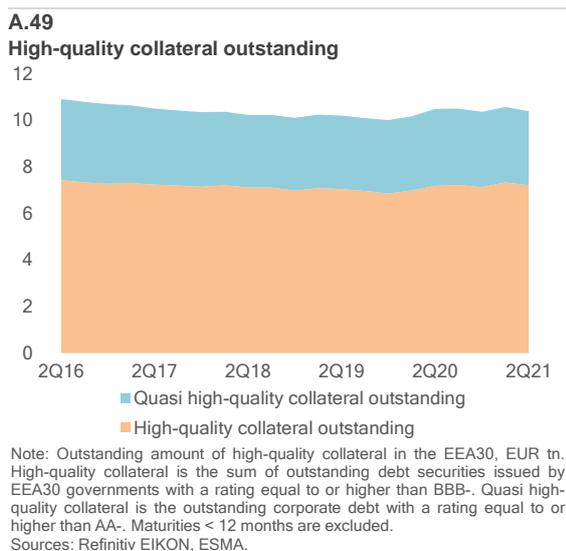
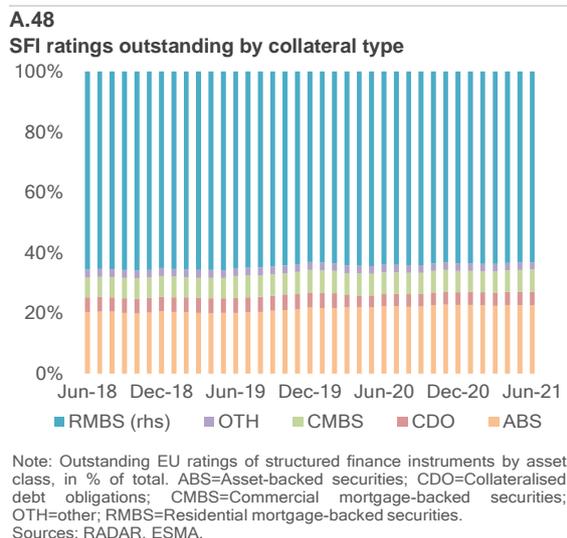
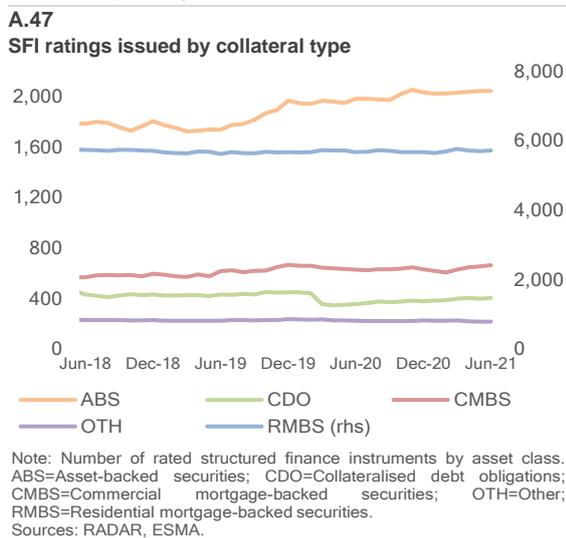
### Sovereign-corporate yield correlation



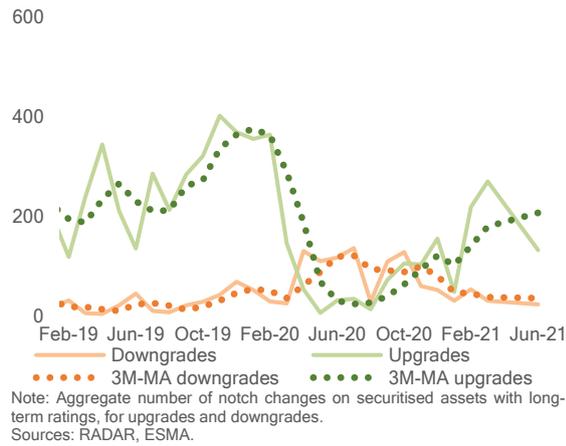
Note: Dispersion of correlation between Barclays Aggregate for corporate and 10Y sovereign bond redemption yields for AT, BE, ES, FI, FR, IT and NL. Sources: Refinitiv Datastream, ESMA.



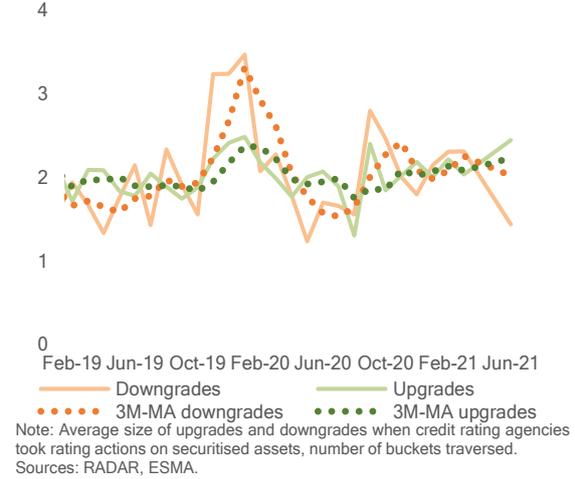
**Credit quality**



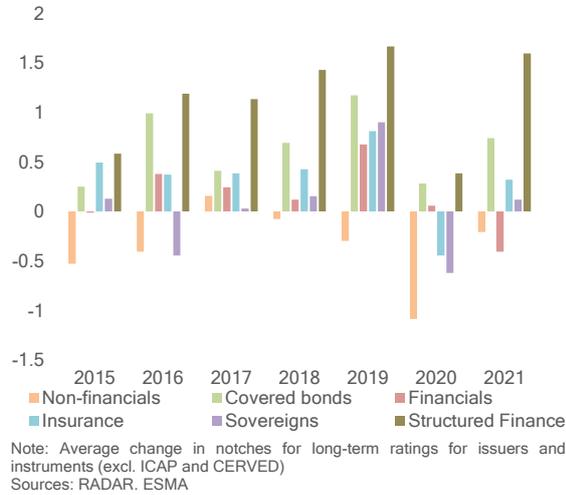
**A.51**  
**SFI rating changes**



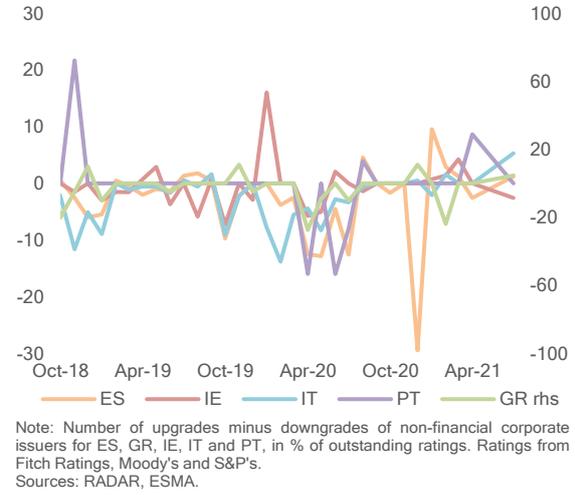
**A.52**  
**Size of SFI rating changes**



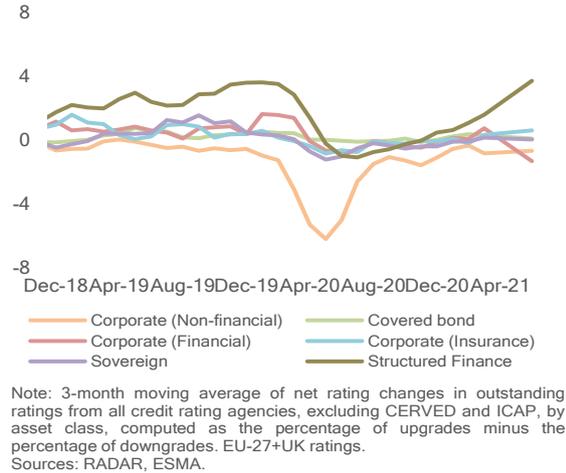
**A.53**  
**Size of rating changes**



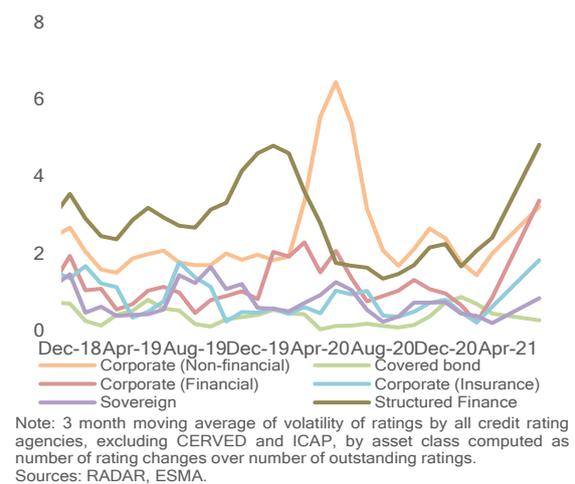
**A.54**  
**Non-financial corporate rating changes**



**A.55**  
**Ratings drift**



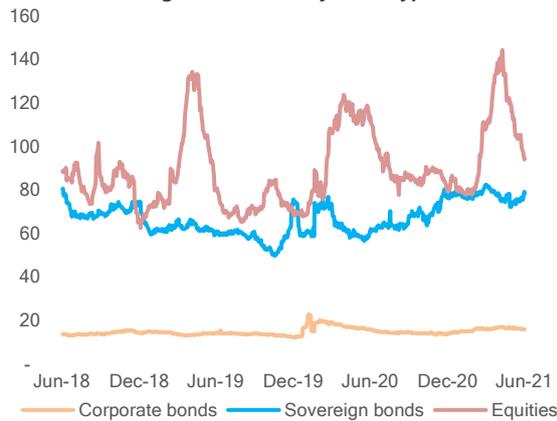
**A.56**  
**Ratings volatility**



## Securities lending

**A.57**

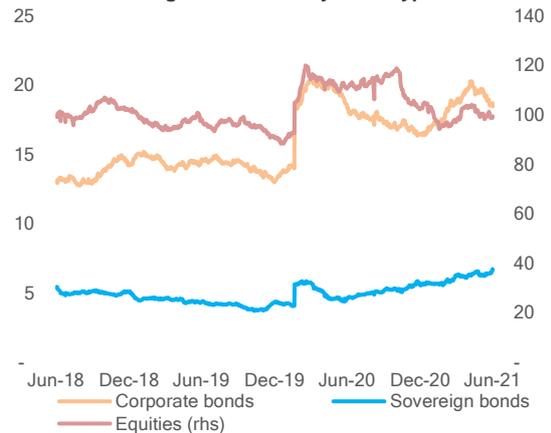
**Securities lending market value by asset type**



Note: value on loan of securities issued in the EEA by asset class, in EUR bn. Sources: FIS Astec, Quandl, ESMA.

**A.58**

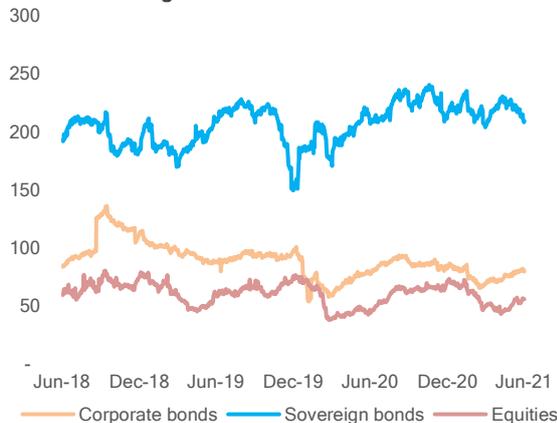
**Securities lending transactions by asset type**



Note: number of daily transactions, in thousands, in securities lending markets for securities issued in the EEA. Sources: FIS Astec, Quandl, ESMA.

**A.59**

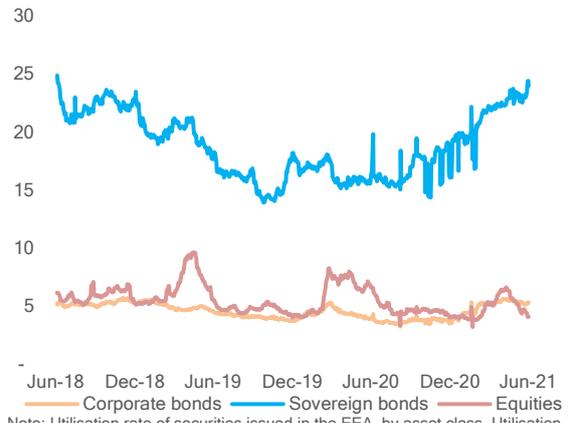
**Securities lending contract tenure**



Note: average tenure of loans for securities issued in the EEA, by asset class. Tenure is measured in days and weighted by the market value of the loan. Sources: FIS Astec, Quandl, ESMA.

**A.60**

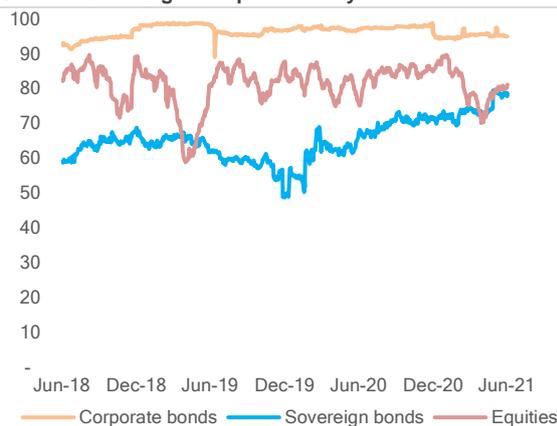
**Securities utilisation rate**



Note: Utilisation rate of securities issued in the EEA, by asset class. Utilisation rate in percent: the ratio of the market value of securities lent over the market value of securities available for lending. Sources: FIS Astec, Quandl, ESMA.

**A.61**

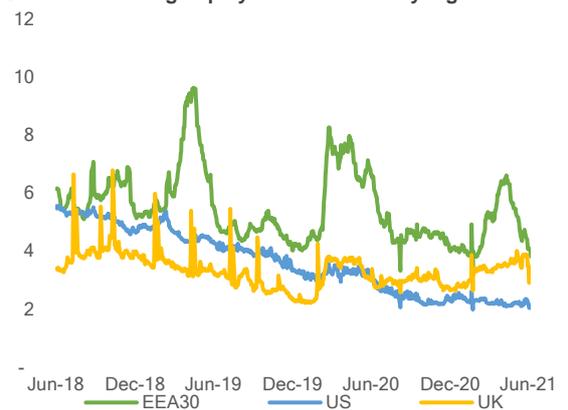
**Securities lending with open maturity**



Note: value of open-ended lending over total lending by asset class, in percentage. Sources: FIS Astec, Quandl, ESMA.

**A.62**

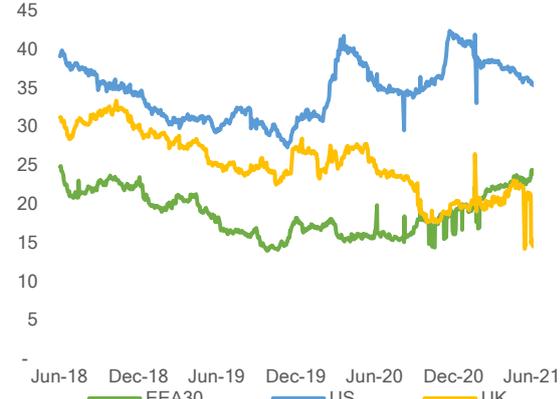
**Securities lending: equity utilisation rate by region**



Note: Utilisation rate of equities issued in EEA countries, in the US and in the UK. Utilisation rate in percent: the ratio of the market value of securities lent over the market value of securities available for lending. Sources: FIS Astec, Quandl, ESMA.

**A.63**

**Securities lending: sovereign utilisation rate by region**



Note: Utilisation rate of sovereign bonds issued in EEA countries, in the US and in the UK. Utilisation rate in percent: the ratio of the market value of securities lent over the market value of securities available for lending. Sources: FIS Astec, Quandl, ESMA.

**Short selling**

**A.64**

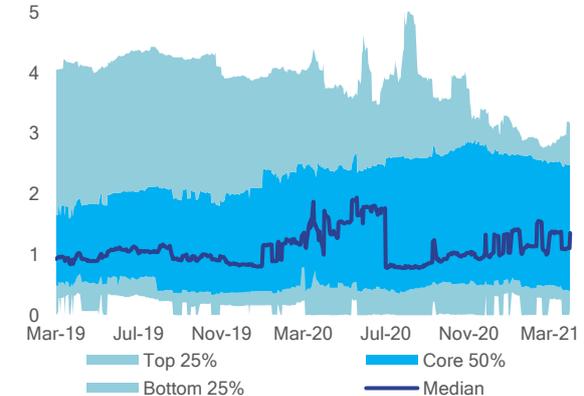
**Value of net short positions in EU shares**



Note: Market value of net short selling positions as percentage of total market value in the EEA30. Number of shares part of a main national index on which short positions were reported by NCAs under the Short Selling Regulation. Partially or fully missing data for the following countries: GR, IT, LT, NL, RO and SE. Sources: NCAs, Refinitiv Datastream, ESMA.

**A.65**

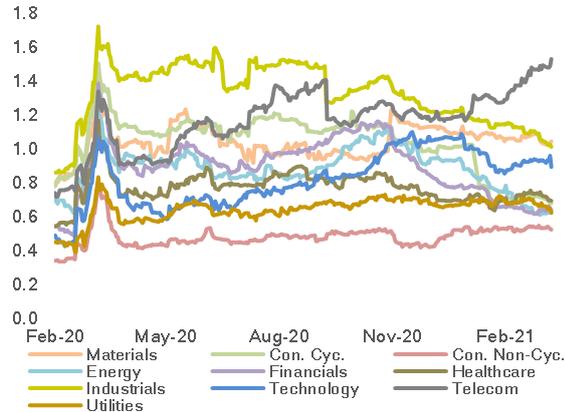
**Dispersion of net short positions in EU shares**



Note: Dispersion of net short selling positions by country in the EEA30 as percentage of market value of those positions relative to each country's blue-chip index market value. Partially or fully missing data for the following countries: GR, IT, LT, NL, RO and SE. Sources: NCAs, Refinitiv Datastream, ESMA.

**A.66**

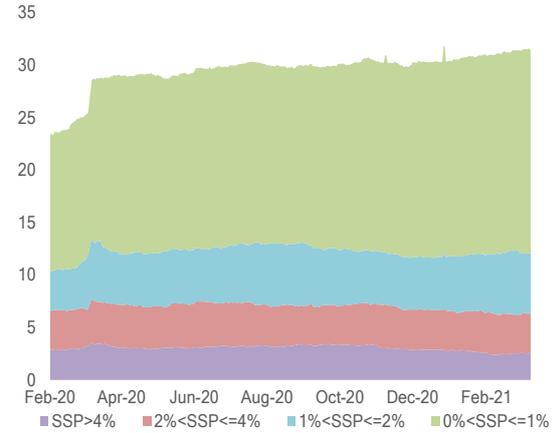
**Value of net short positions in EU shares by sector**



Note: Net short selling positions on blue-chip shares reported by NCAs under Article 5 of SSR as % of total market value of shares listed on a EU Regulated Market by sector. Applied market value for reference as of 10-Feb-20. Sources: FIRDS, NCAs, Refinitiv EIKON, ESMA.

**A.67**

**Number of shares by level of NSP**



Note: Number of shares for which net short selling positions have been reported by NCAs under Article 5 of SSR as % of total number of shares listed on a EU Regulated Market. Sources: FIRDS, NCAs, ESMA.

**A.68**  
**Net short positions in industrial shares and equity prices**



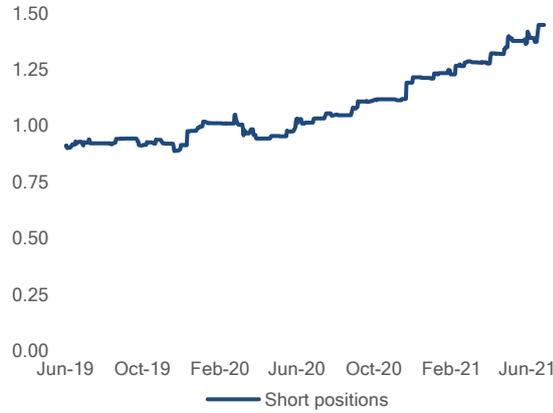
Note: Market value of net short selling positions in EA financial shares as percentage of market value of EA financial sectoral indice. 01/03/2019=100. Partially or fully missing data for the following countries: GR, IT, LT and NL. Sources: NCAs, Refinitiv Datastream, ESMA.

**A.69**  
**Net short positions in financial shares and equity prices**



Note: Market value of net short selling positions in EA industrial shares as percentage of market value of EA industrial sectoral indice. 01/03/2019=100. Partially or fully missing data for the following countries: GR, IT, LT and NL. Sources: NCAs, Refinitiv Datastream, ESMA.

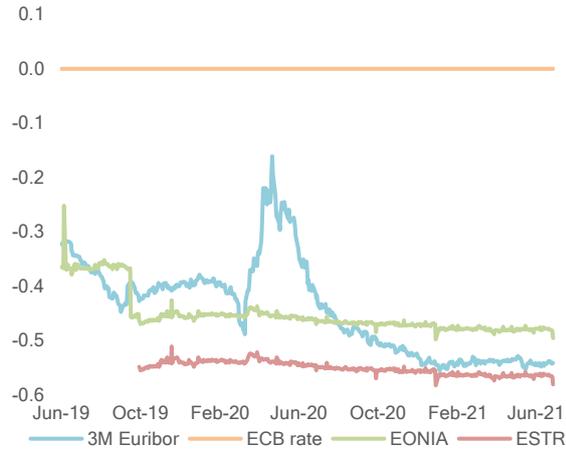
**A.70**  
**Value of net short positions in EU sovereign debt**



Note: Duration-adjusted net short selling positions held in EEA30 sovereign debt, EUR tn. Partially or fully missing data for the following countries: GR, IT, LT, NL, RO and SE. Sources: NCAs, ESMA.

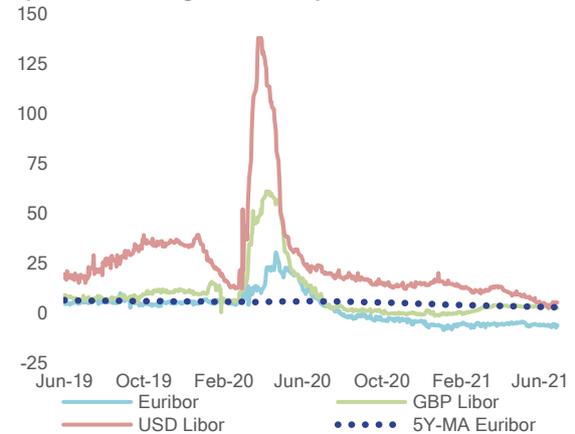
**Money markets**

**A.71**  
**Interest rates**



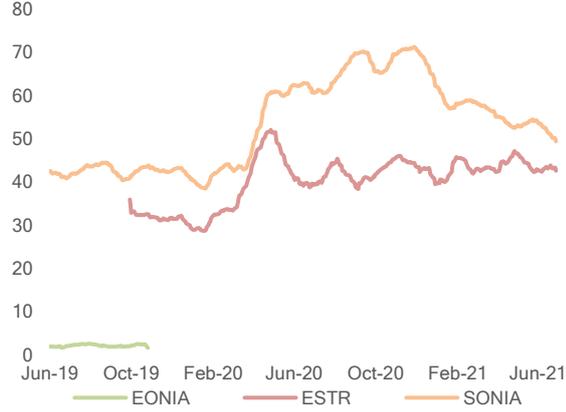
Note: Money market rates, in %. Sources: Refinitiv Datastream, ESMA.

**A.72**  
**Spreads to overnight index swap**



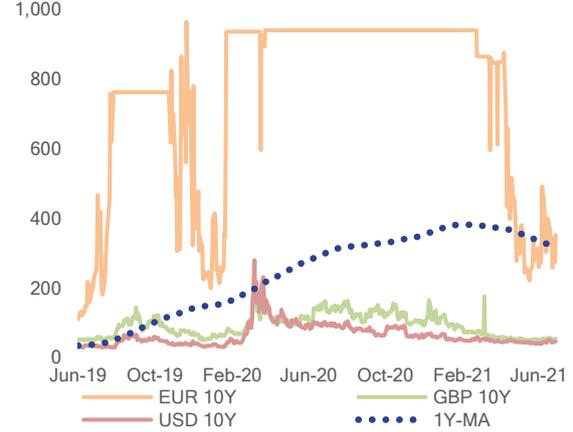
Note: Spreads between 3M interbank rates and 3M overnight index swap, in bps. Sources: Refinitiv Datastream, ESMA.

**A.73**  
**Interbank overnight activity**



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

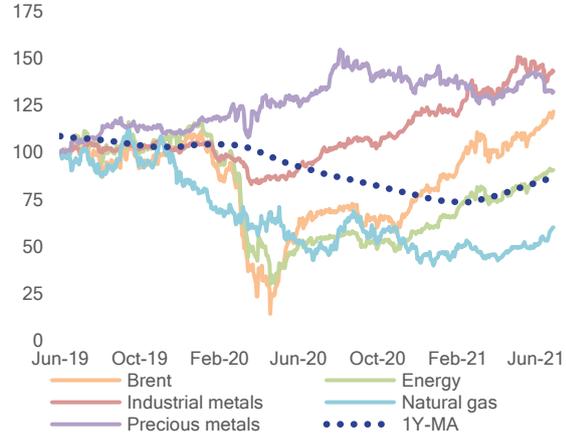
**A.74**  
**EONIA forwards**



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.

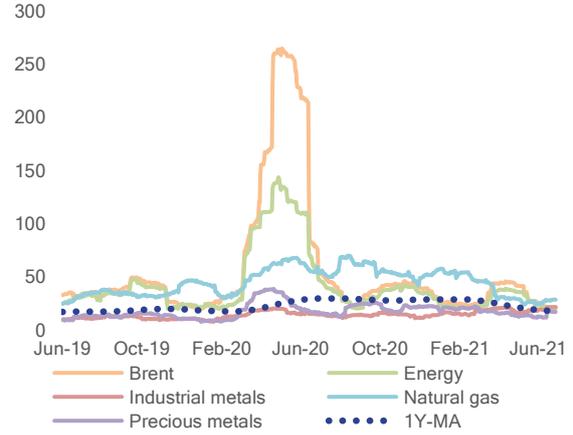
**Commodity markets**

**A.75**  
**Prices**



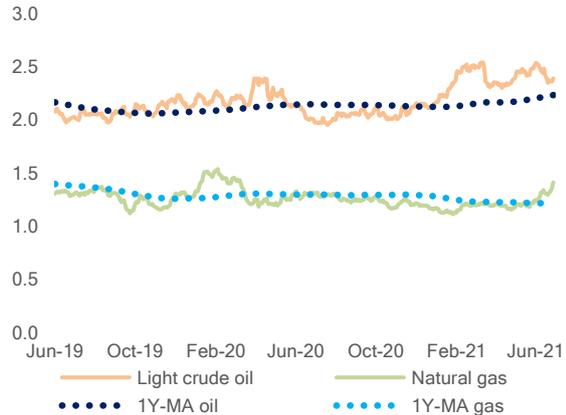
Note: S&P GSCI commodity indices and Brent price. 01/06/2019=100. 1Y-MA=one-year moving average computed using S&P GSCI.  
Sources: Refinitiv Datastream, ESMA.

**A.76**  
**Volatility**



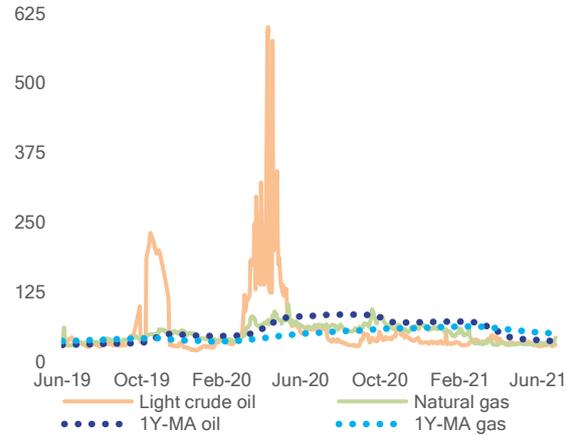
Note: Annualised 40-day volatility of S&P GSCI commodity indices and Brent price, in %. 1Y-MA=one-year moving average computed using S&P GSCI.  
Sources: Refinitiv Datastream, ESMA.

**A.77**  
**Open interest**



Note: Continuous future open interests on number of barrels, in million of contracts. 1Y-MA oil (gas)=one-year moving average of light crude oil futures (natural gas futures).  
Sources: Refinitiv Datastream, ESMA.

**A.78**  
**Implied volatility**

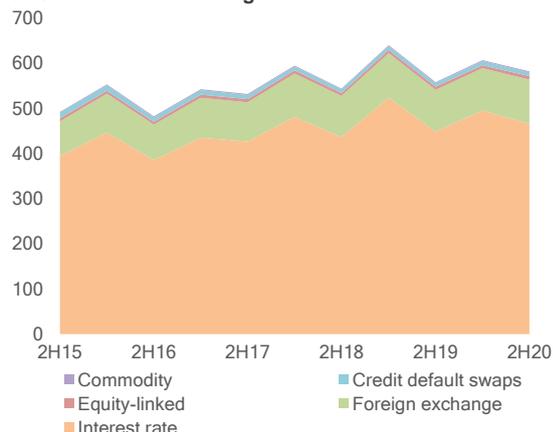


Note: One-month implied volatility of at-the-money options, in %. 1Y-MA oil (gas)=one-year moving average of light crude oil (natural gas).  
Sources: Refinitiv Datastream, ESMA.

## Derivatives markets

**A.79**

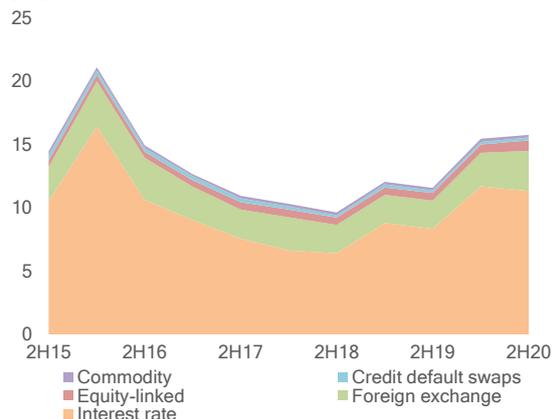
### OTC notional outstanding



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

**A.80**

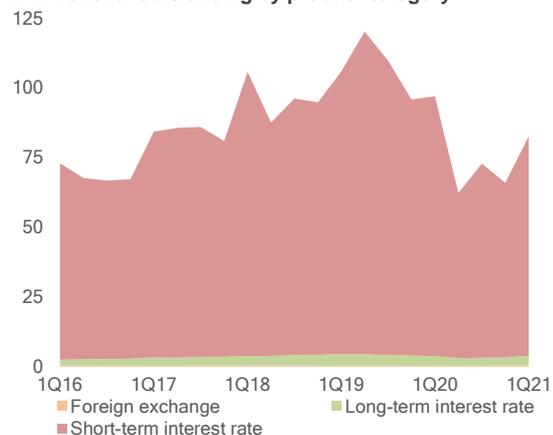
### OTC market value



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.81**

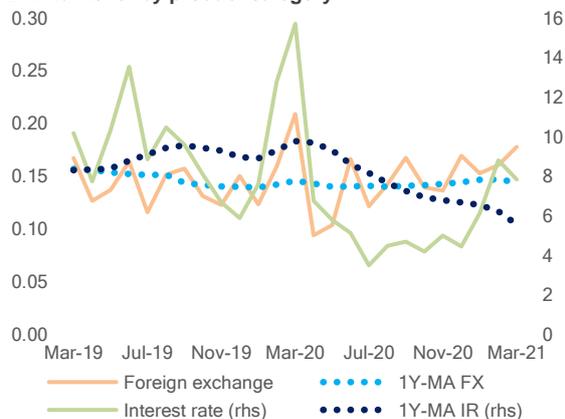
### ETD notional outstanding by product category



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

**A.82**

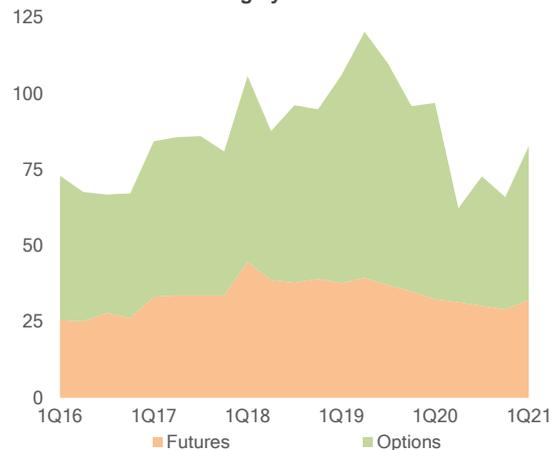
### ETD turnover by product category



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.83**

### 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.

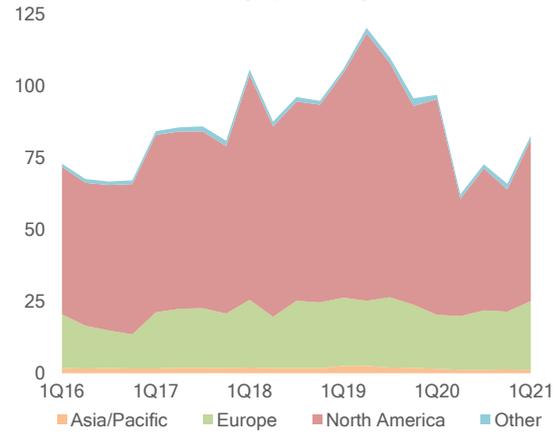
**A.84**

### ETD turnover by asset class



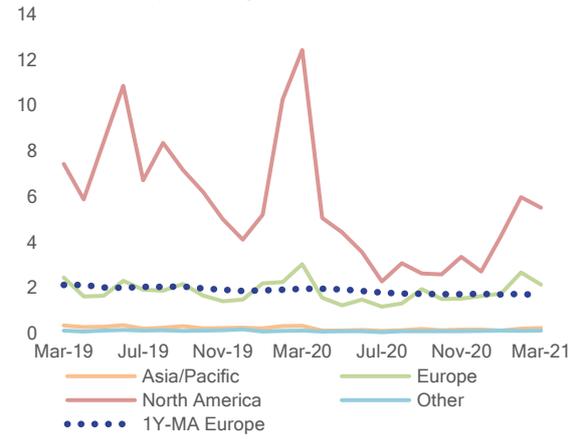
Note: Global average daily turnover in exchange-traded derivatives by asset class, in USD tn.  
Sources: Bank for International Settlements, ESMA.

**A.85**  
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.86**  
ETD turnover by exchange location



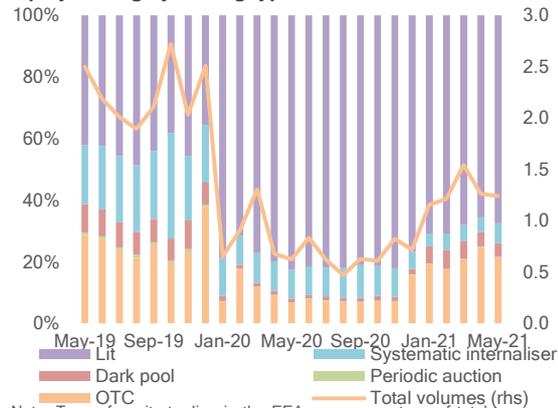
Note: Global average daily turnover in exchange-traded derivatives by exchange location, in USD tn. "Europe" as defined by BIS.  
Sources: Bank for International Settlements, ESMA.

# Infrastructures and services

## Trading venues and MiFID entities

**A.87**

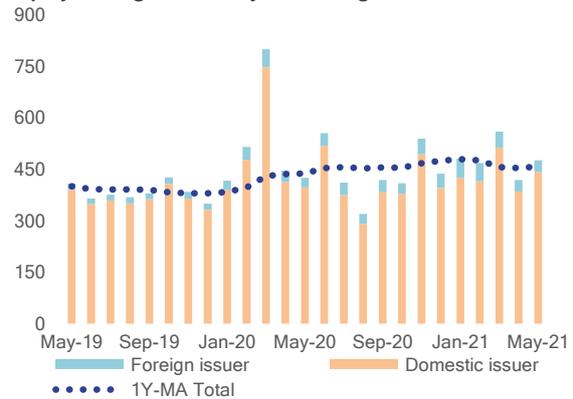
**Equity trading by trading type**



Note: Type of equity trading in the EEA as a percentage of total turnover. Total equity trading turnover in EUR trillion (right axis). Turnover volumes reported by UK TVs and SIs as well as OTC trading reported by UK APAs are included only until the end of 2019. Last available data point is May 2021. Sources: FIRDS, FITRS, ESMA

**A.88**

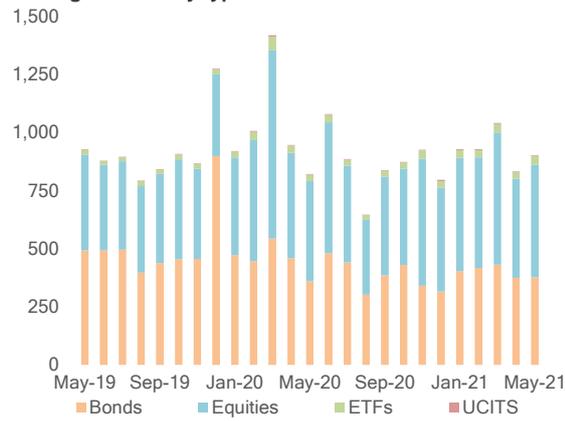
**Equity trading turnover by issuer origin**



Note: Monthly equity turnover on EEA30 trading venues by origin of the traded equity, in EUR bn. Data for Aquis Exchange, CBOE Europe Equities, Equiduct, London Stock Exchange and Turquoise are not reported. Foreign equities are issued in a country other than that of the trading venue. Sources: FESE, ESMA.

**A.89**

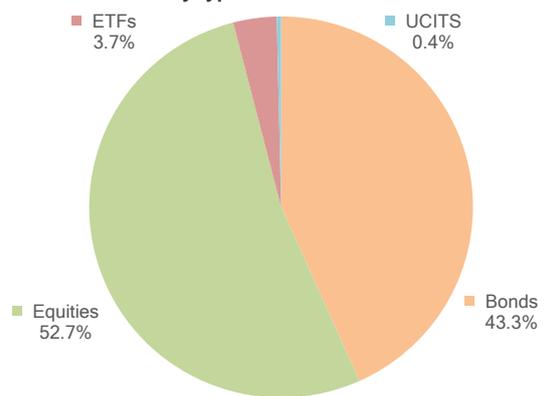
**Trading turnover by type of assets**



Note: Monthly turnover on EEA30 trading venues by type of assets, in EUR bn. Data for Aquis Exchange, CBOE Europe Equities, Equiduct, London Stock Exchange and Turquoise are not reported for bonds, ETFs and UCITS. Sources: FESE, ESMA.

**A.90**

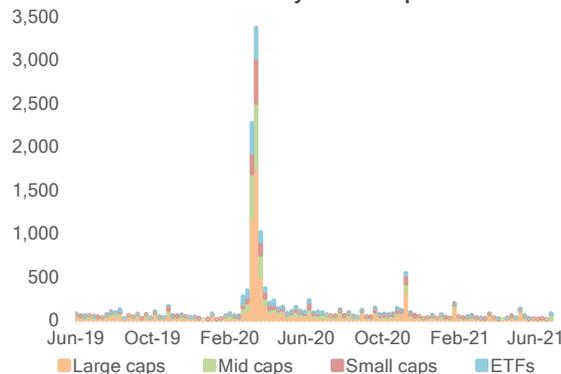
**Share of turnover by type of assets**



Note: Share of turnover on EEA30 trading venues by asset class, in % of total turnover over the reporting period. Data for Aquis Exchange, CBOE Europe Equities, Equiduct, London Stock Exchange and Turquoise are not reported for bonds, ETFs and UCITS. Sources: FESE, ESMA.

**A.91**

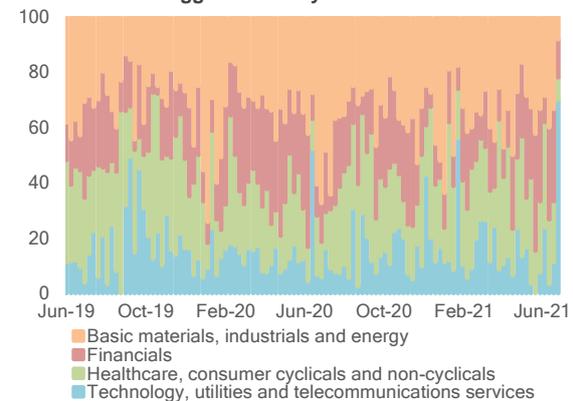
**Circuit-breaker occurrences by market capitalisation**



Note: Number of daily circuit-breaker trigger events by type of financial instrument and by market cap registered on 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.

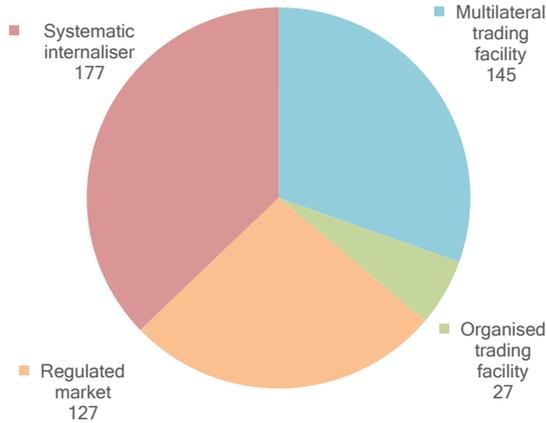
**A.92**

**Circuit-breaker-trigger events by sector**



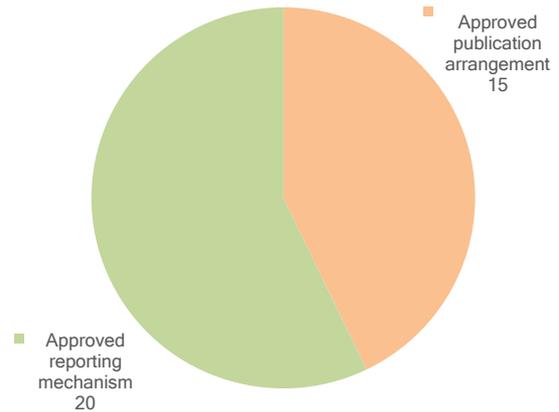
Note: Percentage of circuit-breaker trigger events by economic sector registered on 29 EEA30 trading venues for all constituents of the STOXX Europe Large/Mid/Small 200 and a large sample of ETFs tracking these indices or some of their subindices. Results displayed as weekly aggregates. Sources: Morningstar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

**A.93**  
Number of trading venues and systematic internalisers



Note: Number of trading venues registered under MiFID II/MiFIR by EEA30 National Competent Authorities as notified to ESMA, by type.  
Sources: ESMA Registers.

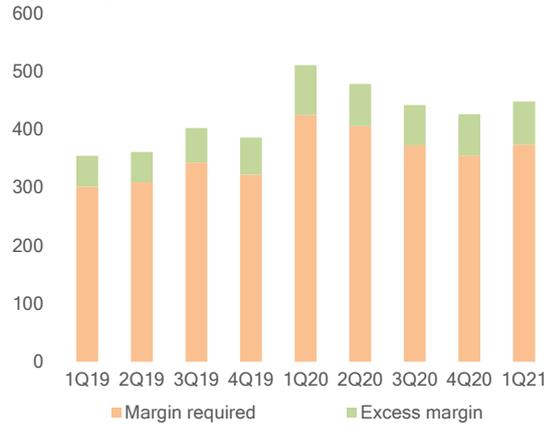
**A.94**  
Data reporting services providers



Note: Number of data reporting services providers registered under MiFID II/MiFIR by EEA30 National Competent Authorities as notified to ESMA, by type.  
Sources: ESMA Registers.

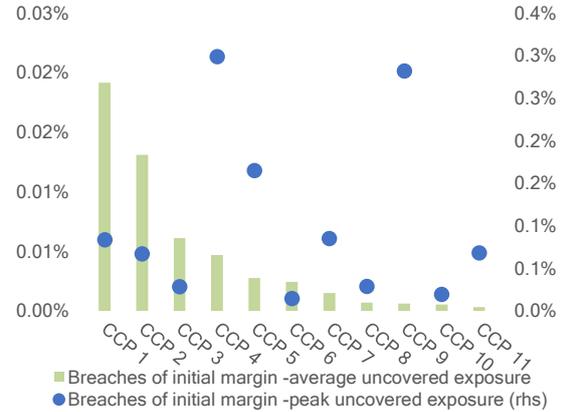
**Central counterparties**

**A.95**  
Initial Margins held at EU and UK CCPs



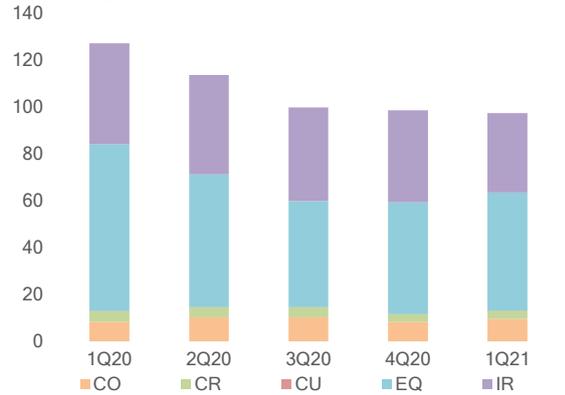
Note: Initial margin required as well as additional margin posted by EU and UK CCPs, in EUR bn.  
Sources: Clarus Financial Technology, CPMI-IOSCO PQD, ESMA.

**A.96**  
Margin breaches



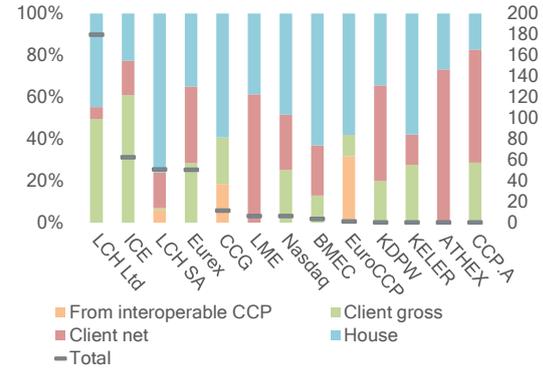
Note: Average and maximum margin breach size over the past 12 month at selected EU CCPs, as a percentage of the total margin held, as of 31 December 2020.  
Sources: Clarus Financial Technology, PQD, ESMA.

**A.97**  
Initial margins held at EU CCPs by asset class



Note: Outstanding amounts of initial margin required and excess collateral received by EU27 and UK CCPs for derivatives (CCP.A, CC&G, European Central Counterparty N.V and KDPW data missing). in EUR bn. 1Q21 = 2 April 2021.  
Sources: TRs, ESMA.

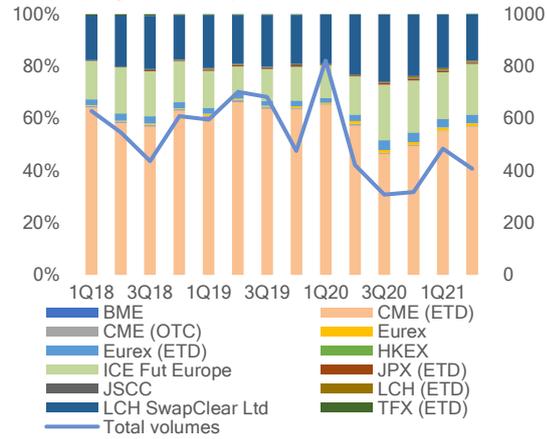
**A.98**  
IM held by EU and UK CCPs



Note: Total initial margin required, split by house accounts (participants positions on their own account), client gross (when initial margin for the positions of indirect participants must be provided for each indirect participant's own position) and client net (when positions are netted within a group of clients), in %. Total amounts in EUR bn (rhs), as of 31 March 2021.  
Sources: Clarus Financial Technology, CPMI-IOSCO PQD, ESMA.

**A.99**

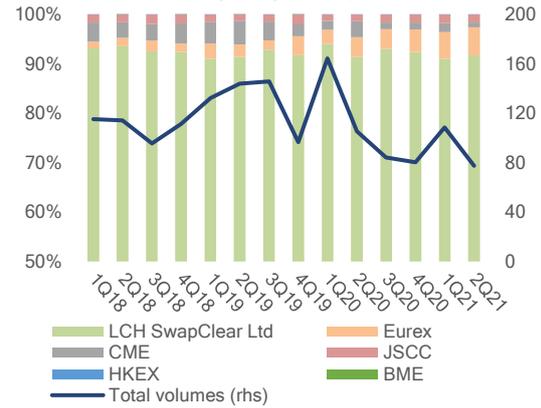
**IRD clearing volumes by CCP**



Note: Quarterly notional volumes cleared for OTC and ETD IRDs in EUR, USD, JPY or GBP, in %. Total volumes in EUR tn.  
Sources: Clarus Financial Technology, ESMA.

**A.100**

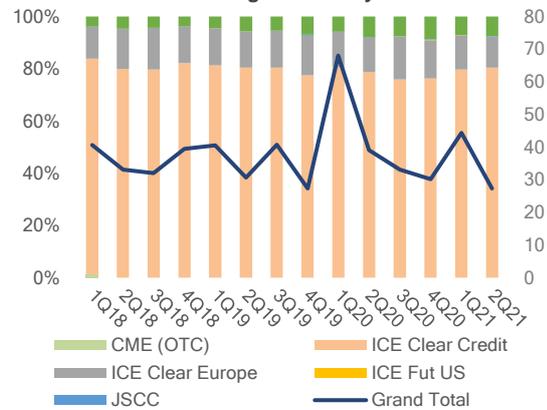
**IRD subject to clearing obligation by CCP**



Note: Market share on OTC central clearing of basis swaps, fixed-to-float swaps, forward rate agreements and overnight indexed swaps in EUR, USD, JPY or GBP, in %. Quarterly notional volumes cleared, in EUR tn (rh axis).  
Sources: Clarus Financial Technology, ESMA.

**A.101**

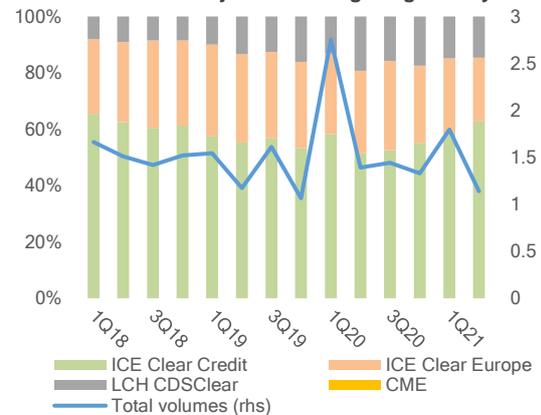
**Credit derivatives clearing volumes by CCP**



Note: Quarterly notional volumes cleared for CDS, CDX and CDX futures & swaptions in EUR, USD, JPY or GBP, in %. Total volumes in EUR tn.  
Sources: Clarus Financial Technology, ESMA.

**A.102**

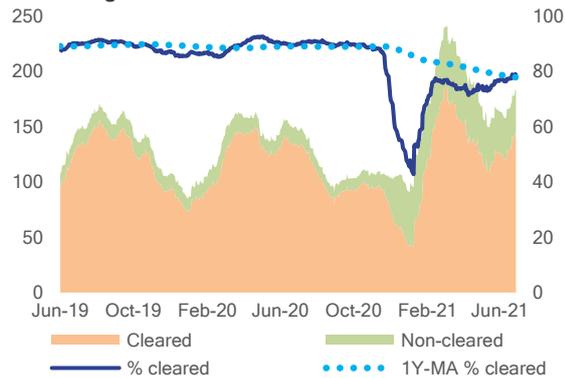
**Credit derivatives subject to clearing obligation by CCP**



Note: Market share of OTC central clearing of iTraxx Europe and iTraxx Crossover, in %. Quarterly notional volumes cleared, in EUR trillion (right axis).  
Sources: Clarus Financial Technology, ESMA.

**A.103**

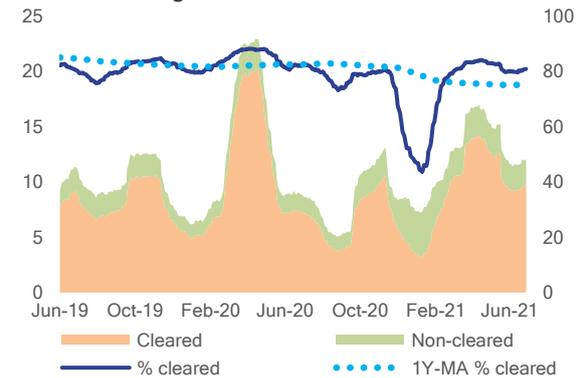
**IRD trading volumes**



Note: Daily trading volumes for EU27-currency-denominated IRD products. Products include IRS, basis swaps, FRA, inflation swaps, OIS. 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.

**A.104**

**CDS index trading volumes**

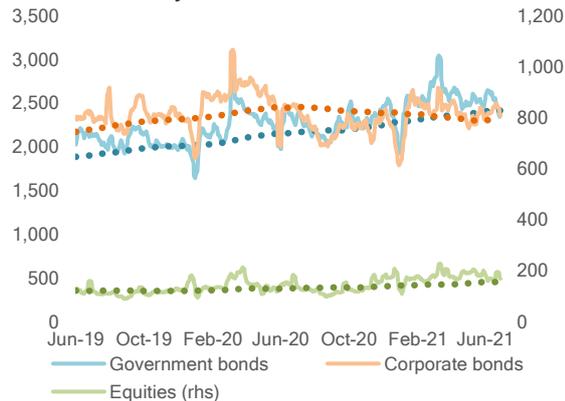


Note: Daily trading volumes for the main EUR CDS indices including Itraxx Europe, Itraxx Europe Crossover, Itraxx Europe Senior Financials. 40-day moving average notional, USD bn. ISDA SwapsInfo data are based on publicly available data from DTCC Trade Repository LLC and Bloomberg Swap Data Repository.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

## Central securities depositories

### A.105

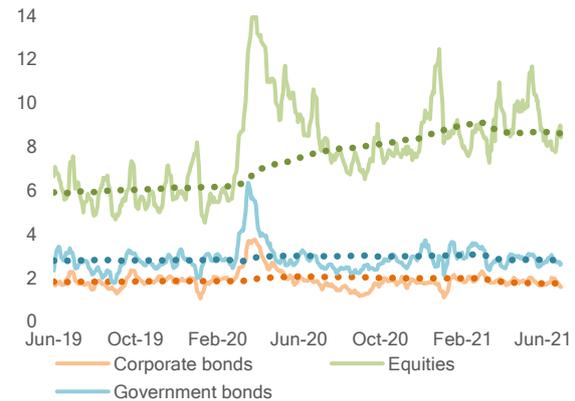
#### Settlement activity



Note: Total value of settlement instructions in the EEA30 as reported by NCAs, in EUR bn, one-week moving averages. Missing data for some CSDs prior to mid-March 2020. Dotted lines represent one-year moving averages of the respective asset classes.  
Sources: NCAs, ESMA.

### A.106

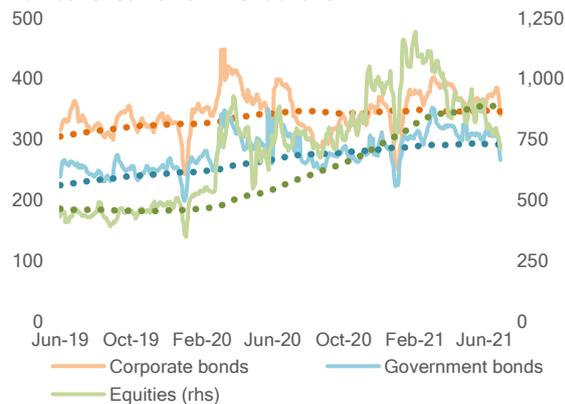
#### Settlement fails



Note: Share of failed settlement instructions in the EEA30, in % of value, one-week moving averages. Missing data for some CSDs prior to mid-March 2020. Dotted lines represent one-year moving averages of the respective asset classes.  
Sources: NCAs, ESMA.

### A.107

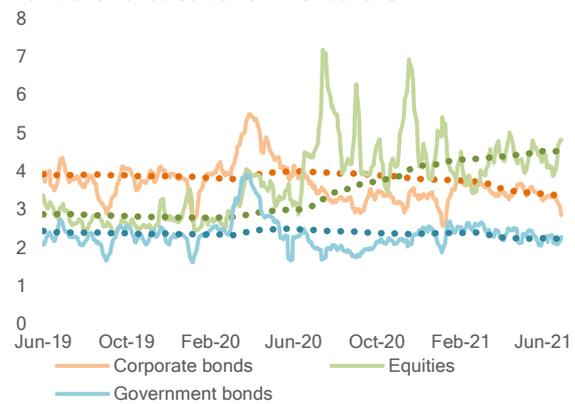
#### Number of settlement instructions



Note: Total number of settlement instructions in the EEA30 as reported by NCAs, in thousand, one-week moving averages. Missing data for some CSDs prior to mid-March 2020. Dotted lines represent one-year moving averages of the respective asset classes.  
Sources: NCAs, ESMA.

### A.108

#### Number of failed settlement instructions

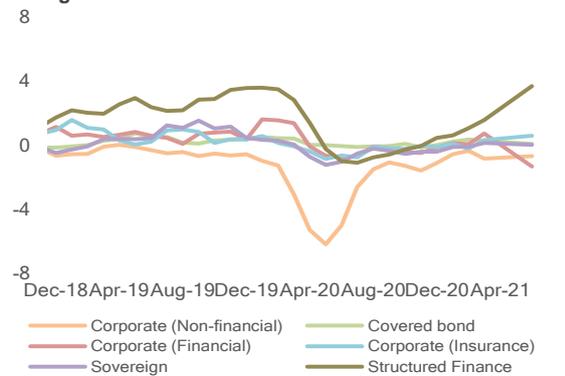


Note: Share of failed settlement instructions in the EEA30, in % of number of instructions, one-week moving averages. Missing data for some CSDs prior to mid-March 2020. Dotted lines represent one-year moving averages of the respective asset classes.  
Sources: NCAs, ESMA.

## Credit rating agencies

### A.109

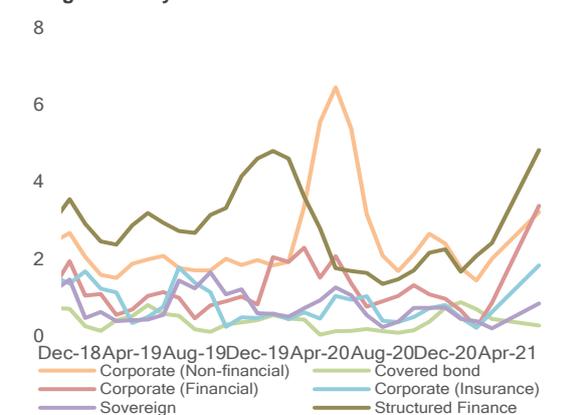
#### Ratings drift



Note: 3-month moving average of net rating changes in outstanding ratings from all credit rating agencies, excluding CERVED and ICAP, by asset class, computed as the percentage of upgrades minus the percentage of downgrades. EU-27+UK ratings.  
Sources: RADAR, ESMA.

### A.110

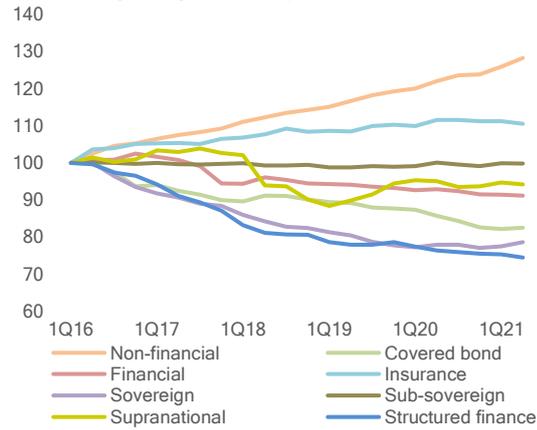
#### Ratings volatility



Note: 3 month moving average of 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.

**A.111**

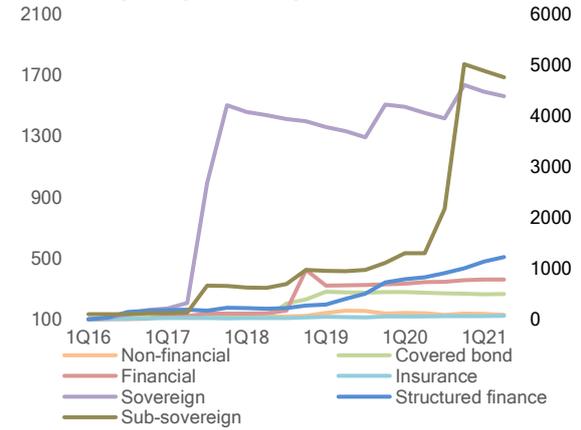
**Outstanding ratings issued by the top 3 CRAs**



Note: Evolution of outstanding ratings, indexed 1Q16=100. S&P, Moody's and Fitch.  
Sources: RADAR, ESMA.

**A.112**

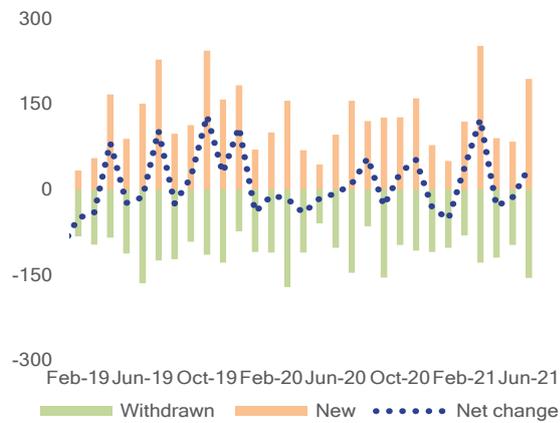
**Outstanding ratings excluding the top 3 CRAs**



Note: Evolution of outstanding ratings, indexed 1Q16=100. S&P, Moody's and Fitch. Sub-sovereign on rhs axis.  
Sources: RADAR, ESMA.

**A.113**

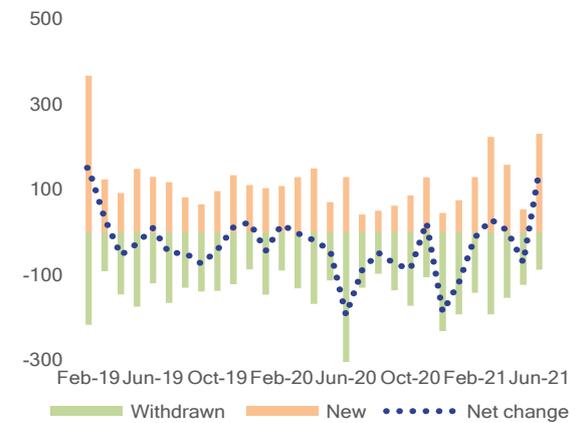
**Changes in outstanding structured finance ratings**



Note: Number of withdrawn and new ratings for structured finance instruments. EU-27+UK ratings.  
Sources: RADAR, ESMA.

**A.114**

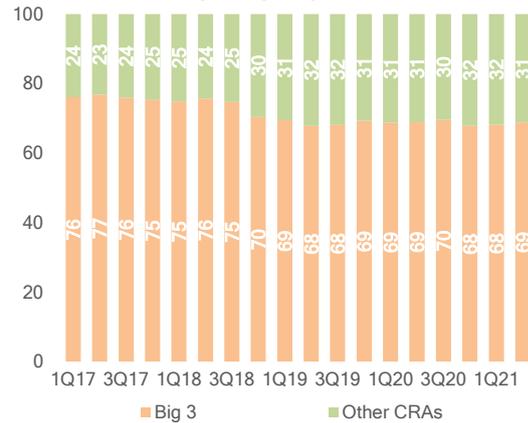
**Changes in outstanding covered bond ratings**



Note: Number of withdrawn and new ratings for structured finance instruments. EU-27+UK ratings.  
Sources: RADAR, ESMA.

**A.115**

**Share of outstanding ratings Big 3 CRAs vs. others**

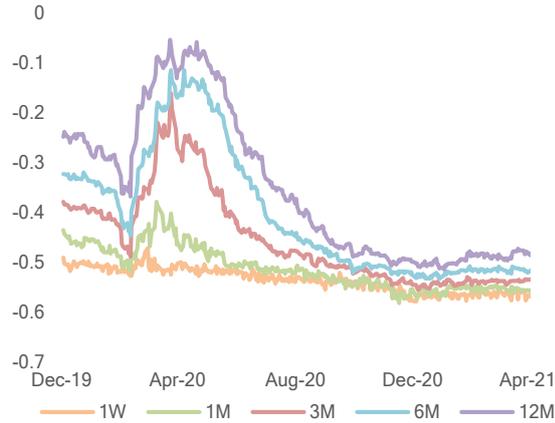


Note: Share of outstanding ratings from S&P, Moody's and Fitch, and ratings from all other CRAs, in %.  
Sources: RADAR, ESMA.

## Financial benchmarks

**A.116**

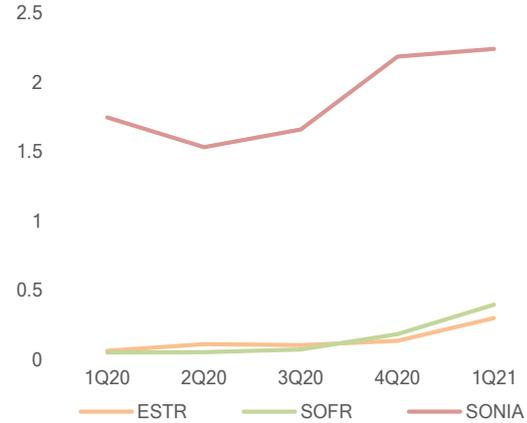
### EURIBOR rates



Note: EURIBOR across maturities.  
Sources: EMMI, ESMA.

**A.117**

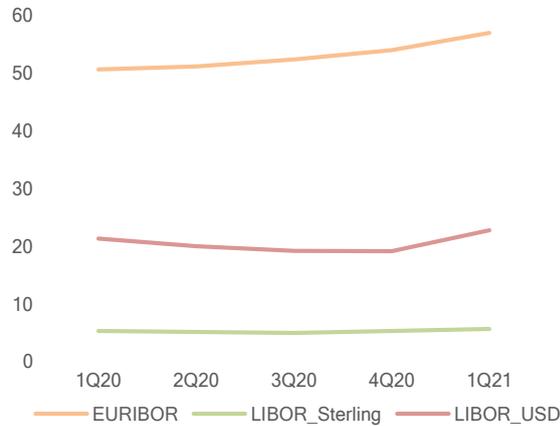
### IRs linked to new RFRs



Note: Gross notional amount of IRD outstanding referencing benchmarks, EUR tn. 1Q21 = 26-Mar-21.  
Sources: TRs, ESMA

**A.118**

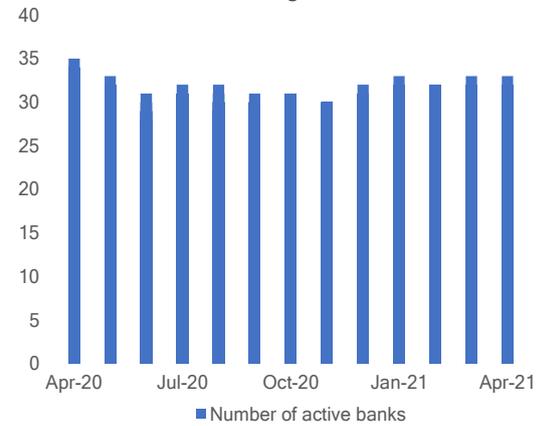
### IRDs linked to Euribor and Libor



Note: Gross notional amount of IRD outstanding referencing benchmarks, EUR tn. 1Q21 = 26-Mar-21.  
Sources: TRs, ESMA

**A.119**

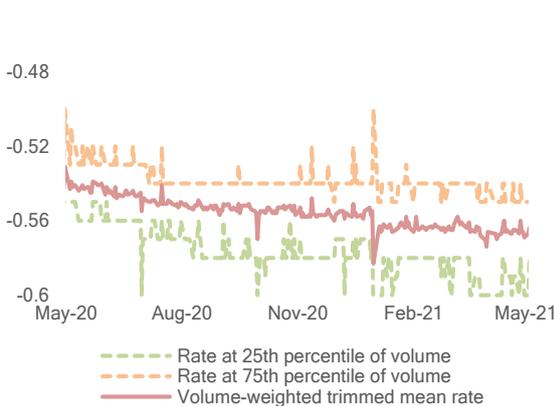
### Number of banks contributing to €STR



Note: Number of banks reporting transactions before trimming.  
Sources: ECB, ESMA.

**A.120**

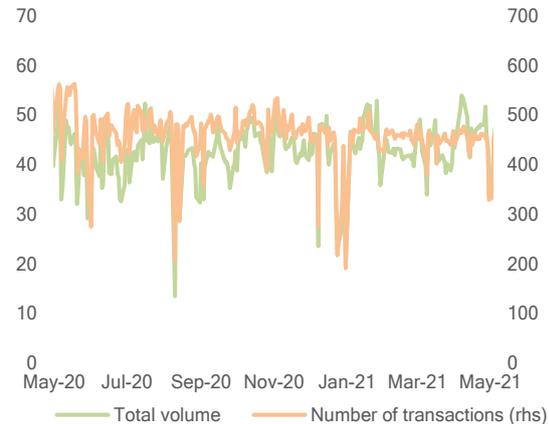
### €STR rate



Note: Rates at the 25th and 75th percentiles of total volumes as well as the trimmed one, after removing the top and bottom 25% and calculating the mean of the remaining 50% of the volume-weighted distribution of rates.  
Sources: ECB ESMA

**A.121**

### €STR volumes



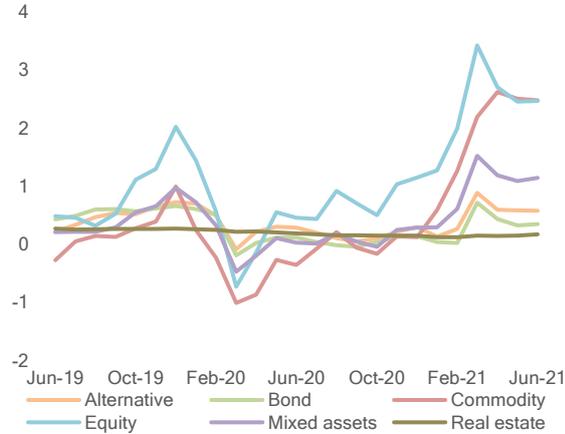
Note: Total nominal value of transactions before trimming, in EUR bn. Number of transactions before trimming.

# Asset management

## Fund industry

**A.122**

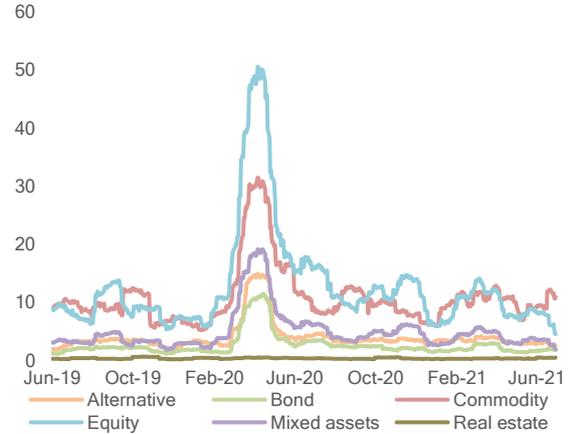
**Fund performance**



Note: EU27-domiciled investment fund annual average of monthly returns, asset-weighted, in %.  
Sources: Refinitiv Lipper, ESMA.

**A.123**

**Fund volatility**



Note: Annualised 40-day historical return volatility of EU27-domiciled investment funds, in %.  
Sources: Refinitiv Lipper, ESMA.

**A.124**

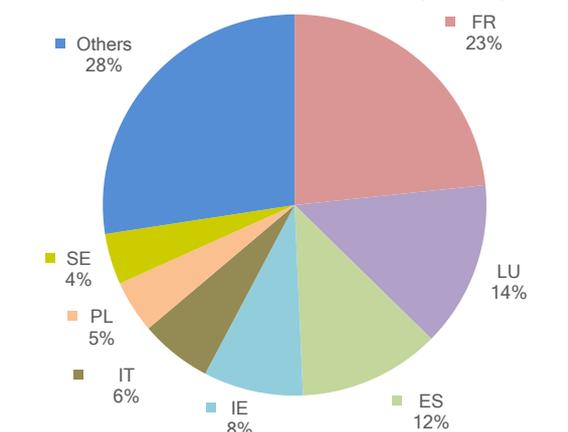
**Entities authorised under UCITS**



Note: Number of management companies authorised under the UCITS Directive by EEA30 National Competent Authorities as notified to ESMA. Newly authorised entities and withdrawn entities on the right axis.  
Sources: ESMA Registers.

**A.125**

**Share of entities authorised under UCITS by country**



Note: Number of management companies authorised under the UCITS Directive by EEA30 National Competent Authorities as notified to ESMA, in %.  
Sources: ESMA Registers.

**A.126**

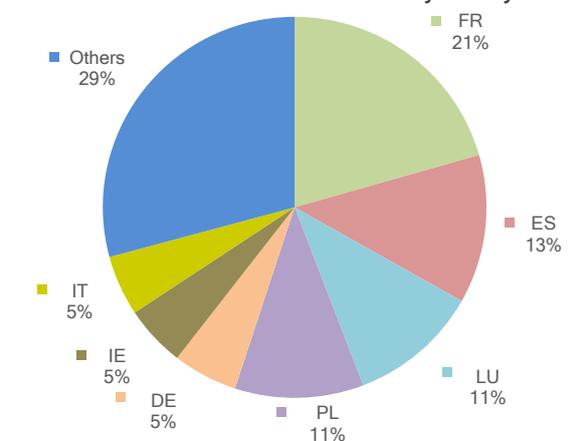
**Entities authorised under AIFMD**



Note: Number of managers authorised under AIFMD by EEA30 National Competent Authorities as notified to ESMA. Newly authorised entities and withdrawn entities on the right axis.  
Sources: ESMA Registers.

**A.127**

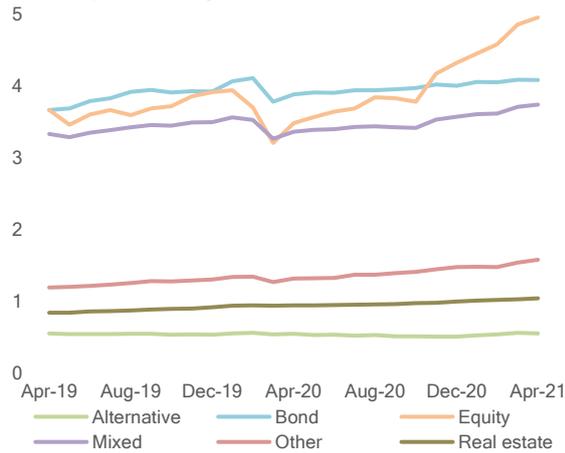
**Share of entities authorised under AIFMD by country**



Note: Number of managers authorised under AIFMD by EEA30 National Competent Authorities as notified to ESMA, in %.  
Sources: ESMA Registers.

**A.128**

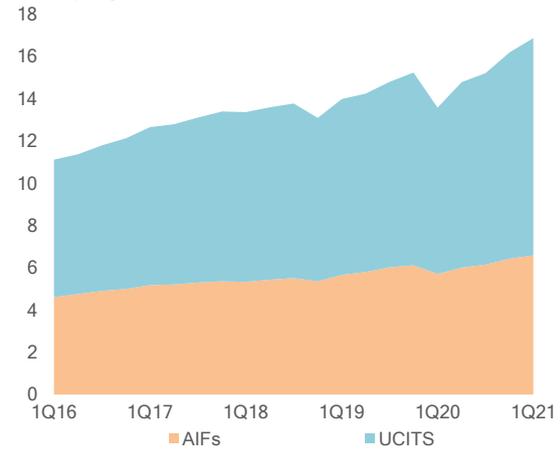
**Assets by market segment**



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

**A.129**

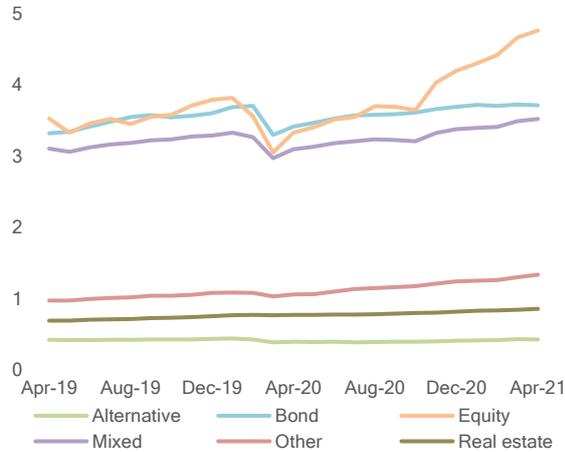
**NAV by legal form**



Note: NAV of EEA30 funds, EUR tn.  
Sources: EFAMA, ESMA.

**A.130**

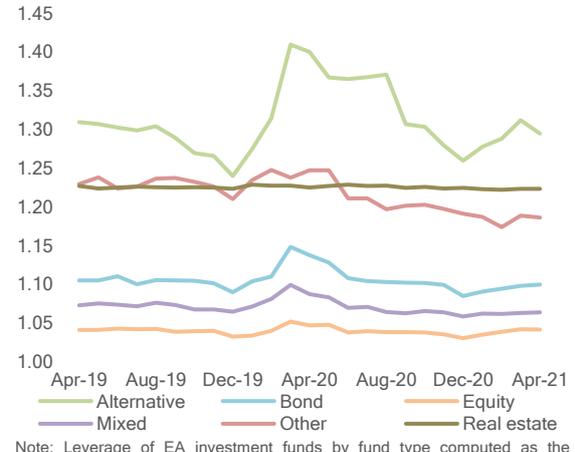
**NAV by fund market segment**



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

**A.131**

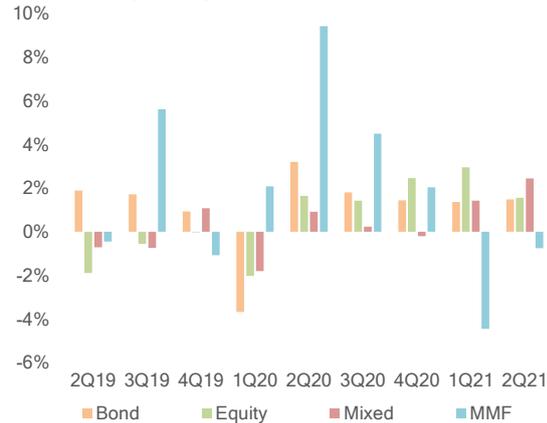
**Leverage by market segment**



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

**A.132**

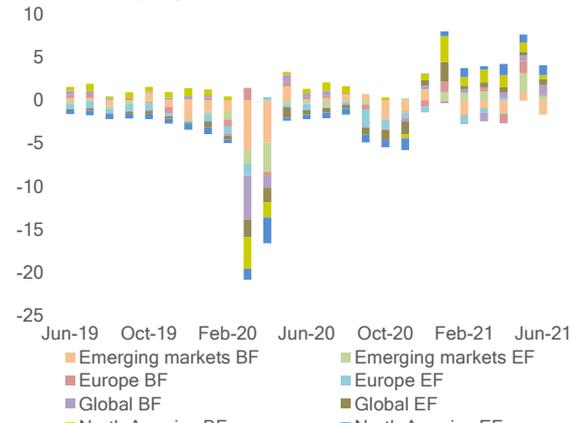
**Fund flows by fund type**



Note: EU-domiciled funds' quarterly flows, in % of NAV.  
Sources: Refinitiv Lipper, ESMA.

**A.133**

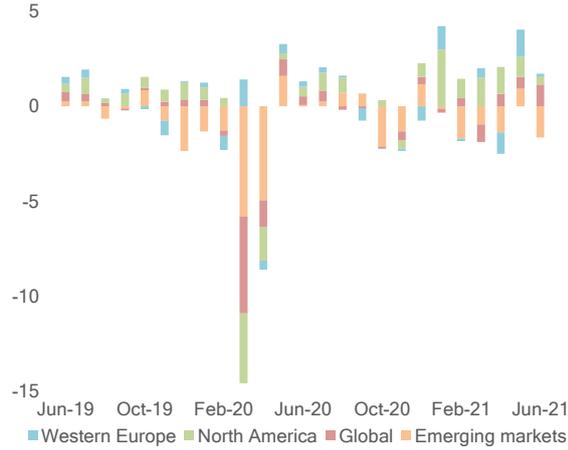
**Fund flows by regional investment focus**



Note: EU27 bond and equity fund net flows (BF and EF) by regional investment focus, in % of NAV.  
Sources: Refinitiv Lipper, ESMA.

**A.134**

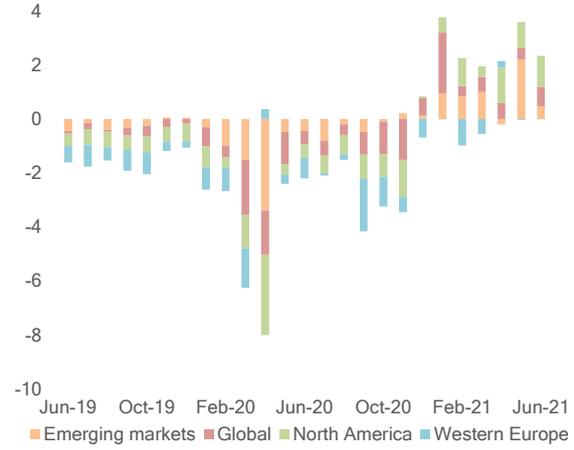
**Bond fund flows by regional investment focus**



Note: EU27 bond fund net flows by regional investment focus, in % of NAV. Sources: Refinitiv Lipper, ESMA.

**A.135**

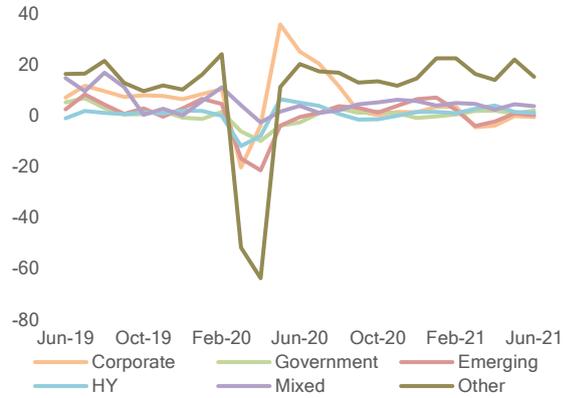
**Equity fund flows by regional investment focus**



Note: EU27 equity fund net flows by regional investment focus, in % of NAV. Sources: Refinitiv Lipper, ESMA.

**A.136**

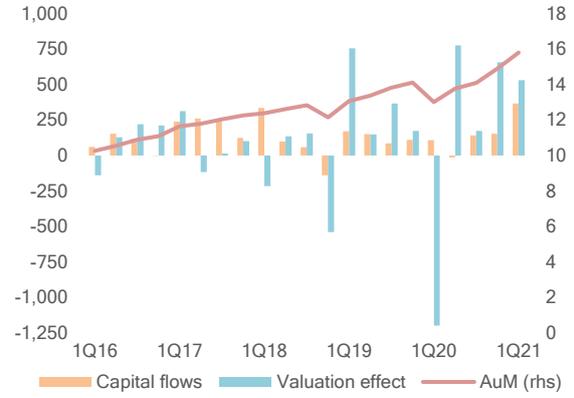
**Net flows for bond funds**



Note: Two-month cumulative net flows for EU27 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: Refinitiv Lipper, ESMA.

**A.137**

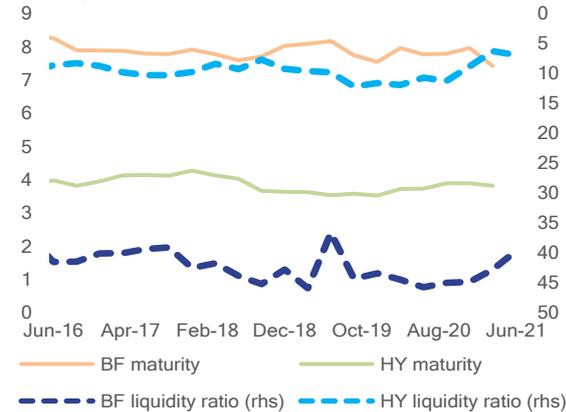
**Net asset valuation**



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 tn. AuM expressed in EUR bn. Sources: ECB, ESMA.

**A.138**

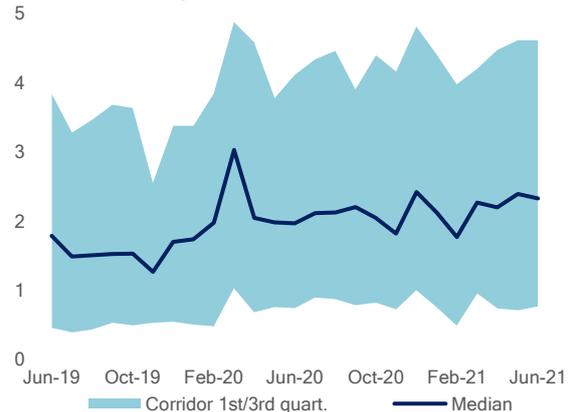
**Liquidity risk profile of EU bond funds**



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

**A.139**

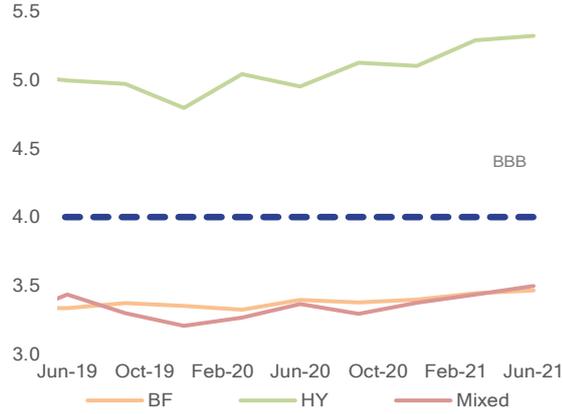
**Cash as percentage of assets**



Note: Median and difference between the 1st and 3rd quartiles of the value of cash held by EU27 corporate bond funds, in % of portfolio holdings. Short positions can have a negative value. Sources: Refinitiv Lipper, ESMA.

**A.140**

**Credit quality of bond funds' assets**



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

**A.141**

**Maturity of EU bond funds' assets**

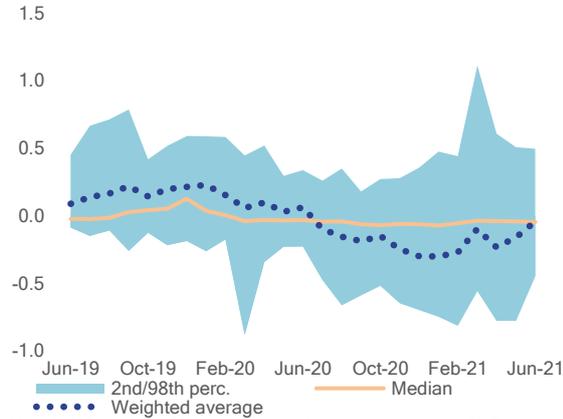


Note: Weighted average effective maturity of EU bond funds' assets, data in years.  
Sources: Thomson Reuters Lipper, ESMA

**Money market funds**

**A.142**

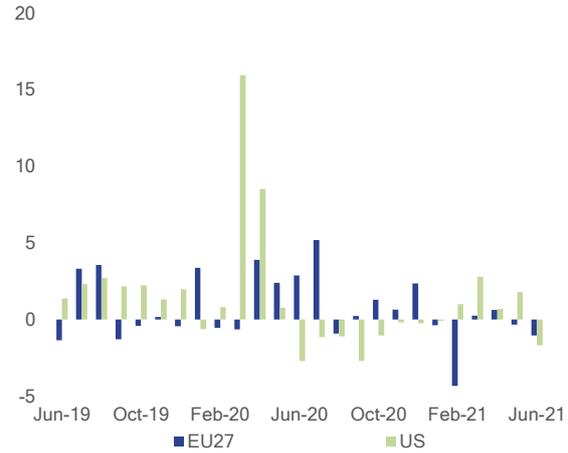
**MMF performance**



Note: EU27-domiciled MMF average yearly returns by month, 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.143**

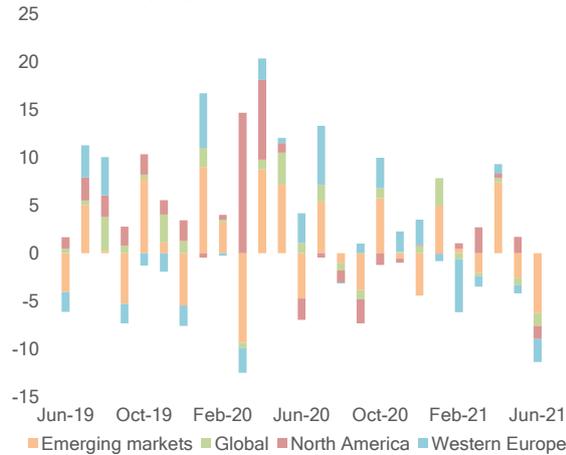
**MMF flows by domicile**



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

**A.144**

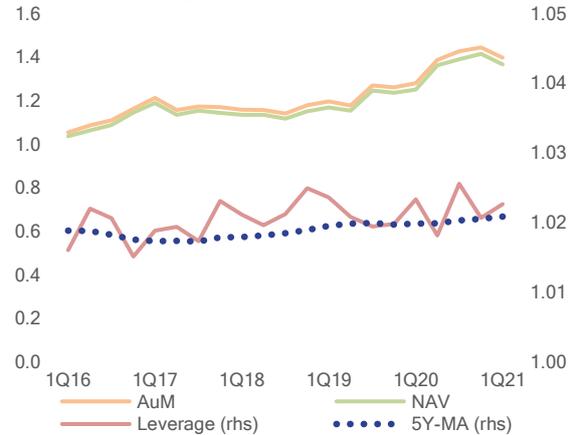
**MMF flows by geographical focus**



Note: EU27 MMF net flows by geographical focus, in % of NAV.  
Sources: Refinitiv Lipper, ESMA.

**A.145**

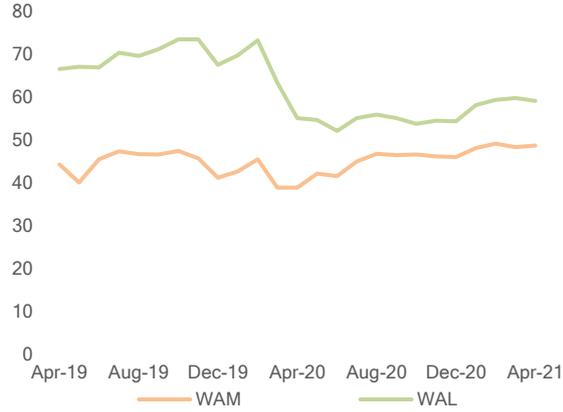
**Assets and leverage**



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

**A.146**

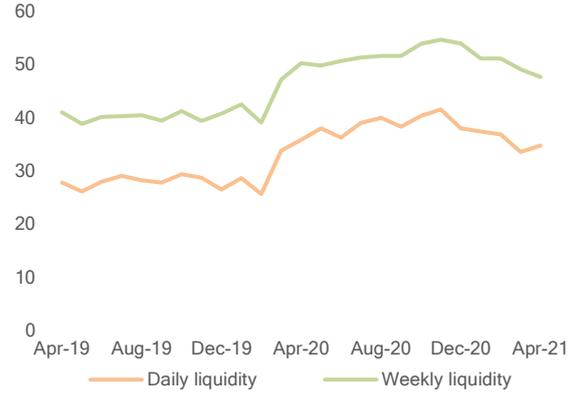
**MMF maturity**



Note: Weighted average maturity (WAM) and weighted average life (WAL) of Europe-domiciled MMFs, in days. Aggregation carried out by weighting individual MMFs' WAM and WAL by AuM.  
Sources: Fitch Ratings, ESMA.

**A.147**

**MMF liquidity**

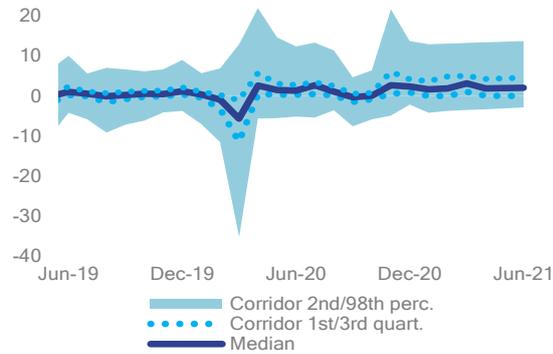


Note: Daily and weekly liquidity includes all assets maturing overnight and shares by AAA MMFs, securities issued by highly rated sovereigns with a maturity of less than one year, in % of total assets. Aggregation carried out using individual Europe-domiciled MMF data weighted by AuM.  
Sources: Fitch Ratings, ESMA.

**Alternative funds**

**A.148**

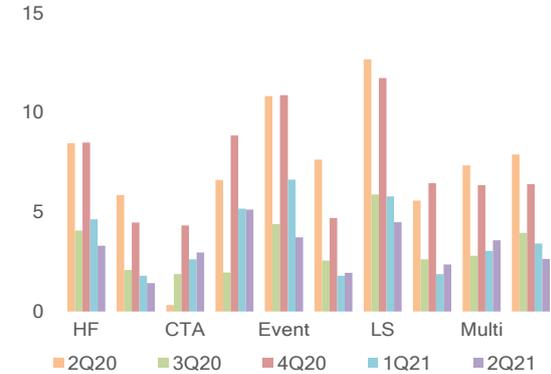
**Hedge fund returns**



Note: EU-domiciled hedge funds' monthly returns, %. The graph shows the returns' median, the difference between the returns corresponding to the 98th and 25th percentiles (light blue corridor) and the difference between the returns corresponding to the 1st and 3rd quartiles (dotted line corridor).  
Sources: Lipper Tass, ESMA.

**A.149**

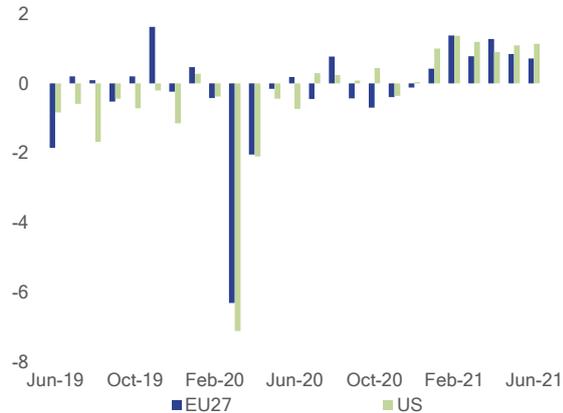
**Hedge fund performance by strategy**



Note: Growth of EU27 alternative fund performance indices by strategy: hedge fund index (Total), arbitrage (Arb), commodity trading advisor (CTA), distressed debt, event driven, fixed income (FI), long/short equity (LS), macro, multi-strategy, relative value (RV), in %.  
Sources: Eurekahedge, ESMA.

**A.150**

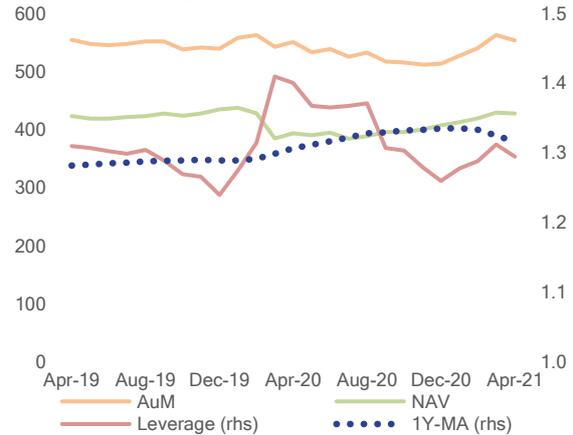
**Fund flows by domicile**



Note: Alternative mutual fund net flows by domicile, in % of NAV. Data on alternative mutual funds represent only a subset of the entire alternative fund industry.  
Sources: Refinitiv Lipper, ESMA.

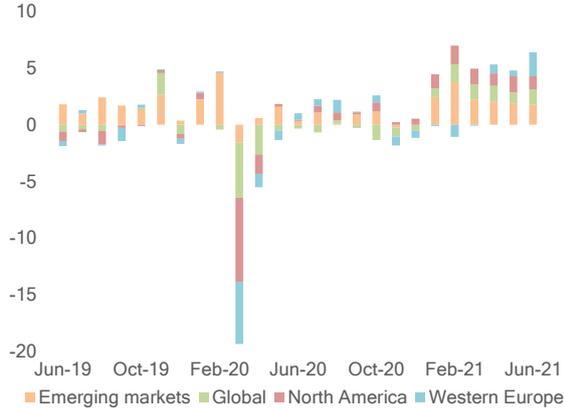
**A.151**

**Assets and leverage**



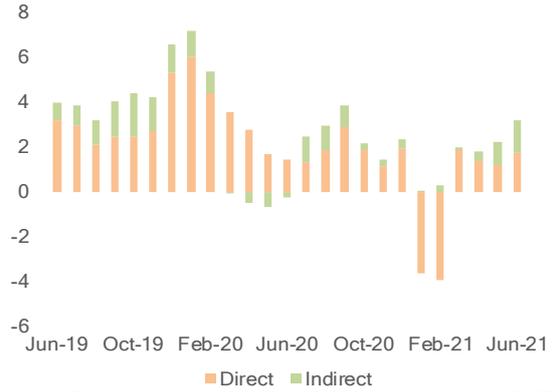
Note: NAV and AuM of EA alternative funds, EUR bn. Leverage computed as the AuM/NAV ratio. 1Y-MA=one-year moving average for the leverage ratio.  
Sources: ECB, ESMA.

**A.152**  
Alternative fund flows by geographical focus



Note: EU27-domiciled alternative mutual funds net flows by geographical investment focus, in % of NAV. Data on alternative mutual funds represent only a subset of the entire alternative fund industry.  
Sources: Refinitiv Lipper, ESMA.

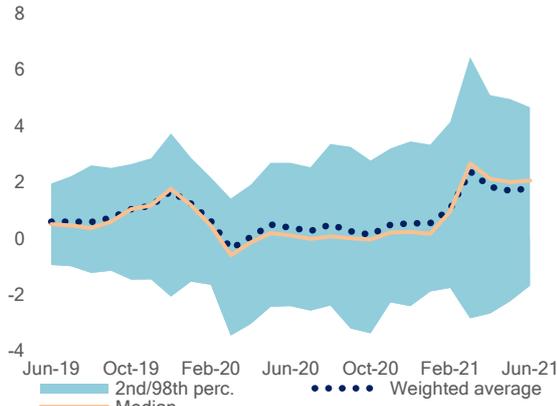
**A.153**  
Direct and indirect property fund flows



Note: Two-month cumulative flows for direct and indirect EU27-domiciled property funds. Indirect property funds invest in securities of real estate companies, including Real Estate Investment Trusts (REITs), in EUR bn.  
Sources: Morningstar, ESMA.

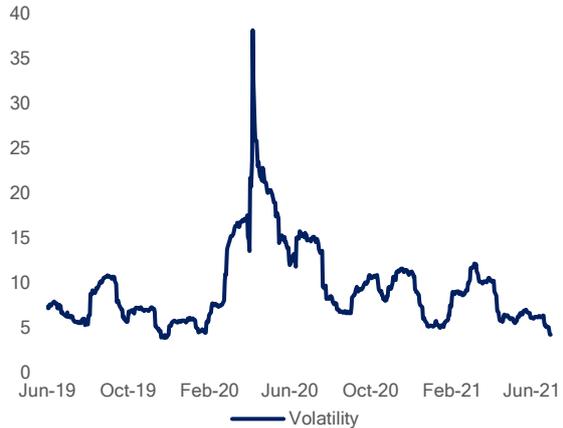
**Exchange-traded funds**

**A.154**  
Returns



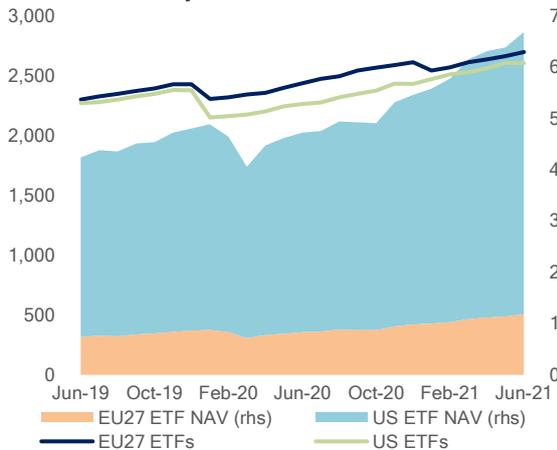
Note: Average yearly returns by month of EU27-domiciled ETFs, in %. The graph shows the median and average asset-weighted returns and the difference between the returns corresponding to the 98<sup>th</sup> and 2<sup>nd</sup> percentile.  
Sources: Refinitiv Lipper, ESMA.

**A.155**  
Volatility



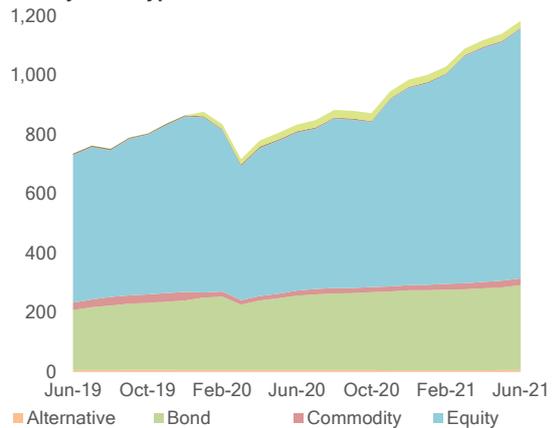
Note: Annualised 40-day historical return volatility of EU27-domiciled ETFs, in %.  
Sources: Refinitiv Lipper, ESMA.

**A.156**  
NAV and number by domicile



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

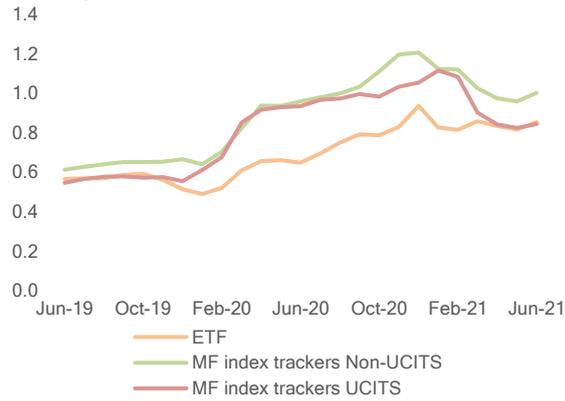
**A.157**  
NAV by asset type



Note: NAV of EU27 ETFs by asset type, EUR bn.  
Sources: Refinitiv Lipper, ESMA.

**A.158**

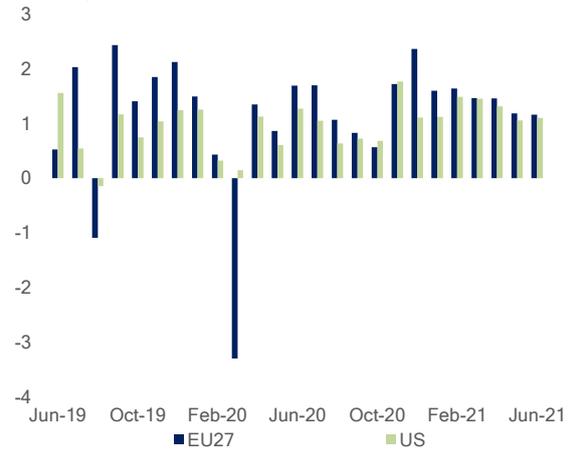
**Tracking error**



Note: Tracking error defined as standard deviation of mutual fund excess returns compared with benchmark. The graph shows the tracking error for EU27 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.159**

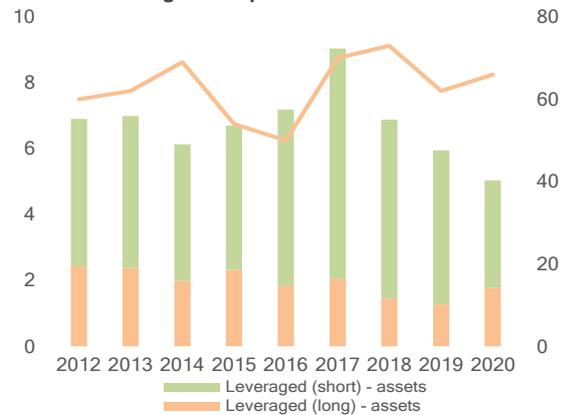
**Flows by domicile**



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

**A.160**

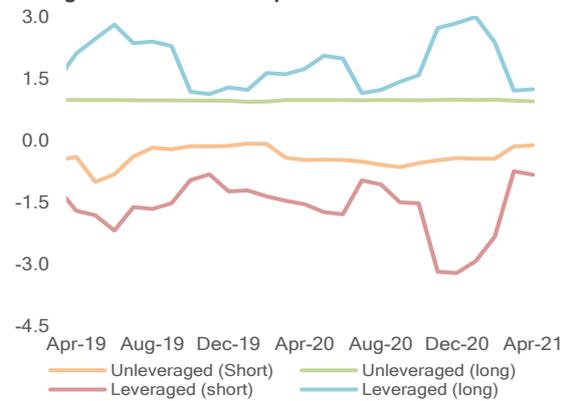
**Assets of leveraged European ETFs**



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.161**

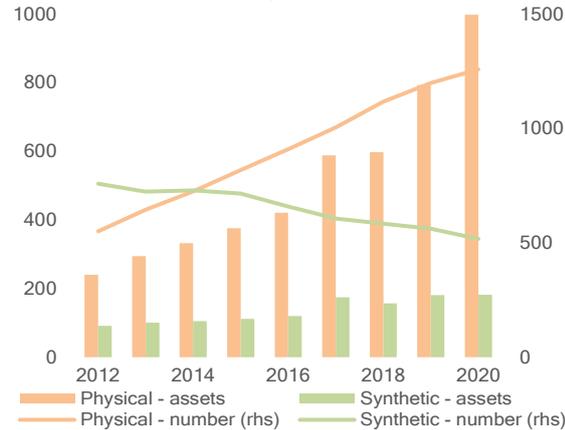
**Average beta values for European ETFs**



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.162**

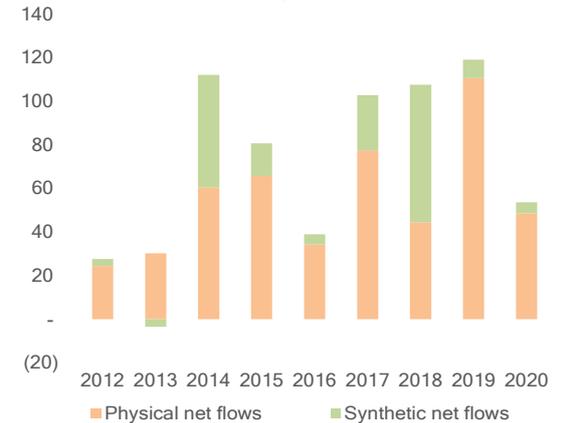
**Assets of European ETFs by replication method**



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.163**

**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.

# Consumers

## Investment resources available to households

A.164

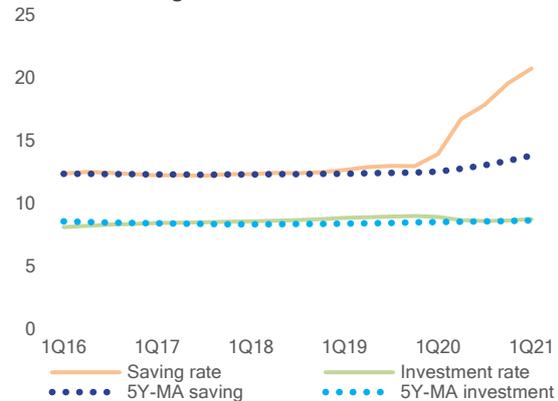
Disposable income



Note: Annualised growth rate of household gross disposable income adjusted for changes in pension entitlements for EU27 countries, in %. 5Y-MA=five-year moving average of the growth rate.  
Sources: Eurostat, ESMA.

A.165

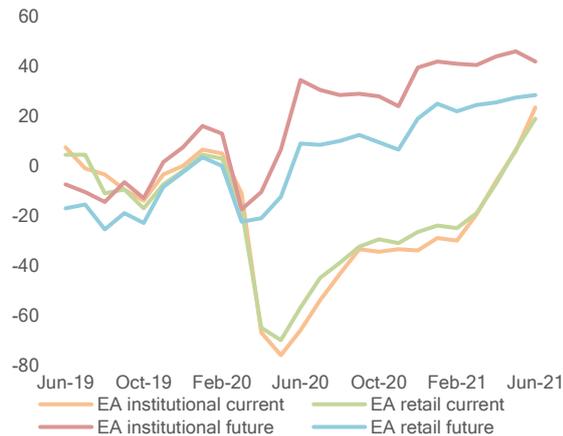
Household saving and investment rates



Note: EA household annual saving and investment rates, based on four-quarter cumulated transactions, in %. 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.166

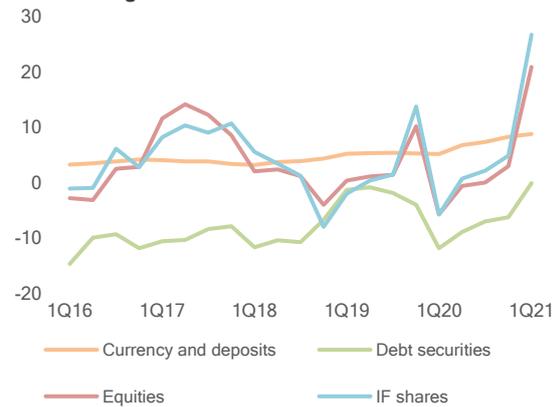
Investor sentiment



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.

A.167

Annualised growth rates in financial assets



Note: Average annualised growth rates of financial asset classes held by EU27 households, in %. IF shares=investment fund shares. Ins.=insurance companies, Other assets=other accounts receivable/payable.  
Sources: ECB, ESMA.

## Asset allocation by retail investors

A.168

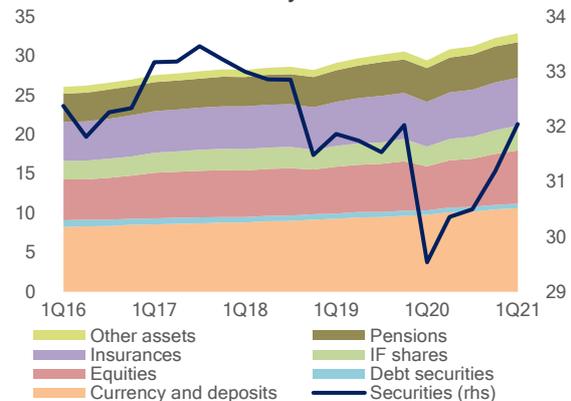
Household assets to liabilities ratio



Note: Financial assets and liabilities of EU27 households, EUR tn. Assets/liabilities ratio in %.  
Sources: ECB, ESMA.

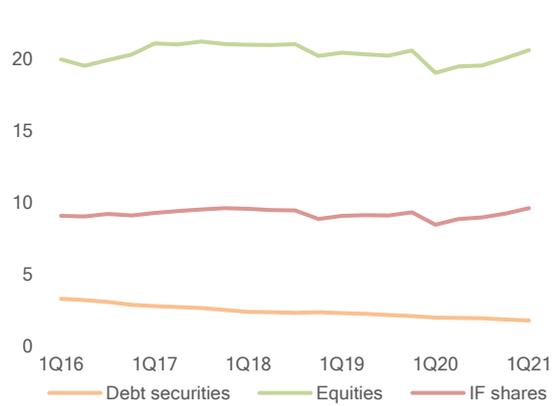
A.169

Household financial assets by class



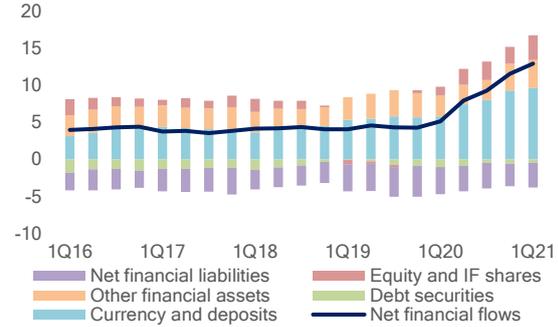
Note: Financial assets of EU27 households, EUR tn, and share of securities investments (debt securities, equities and IF shares) in total, in %. IF shares=investment fund shares. Other financial assets=Insurance technical reserves, financial derivatives, loans granted and other accounts receivable.  
Sources: ECB, ESMA.

**A.170**  
Share of securities investments in household assets



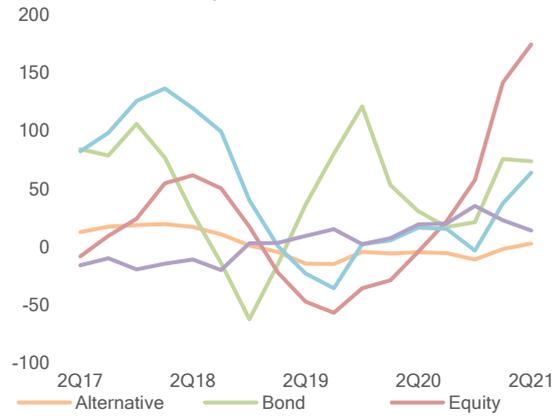
Note: Share of debt securities, equities and IF shares into the financial assets of EU27 households, in %. IF shares=investment fund shares.  
Sources: ECB, ESMA.

**A.171**  
Net financial asset flows



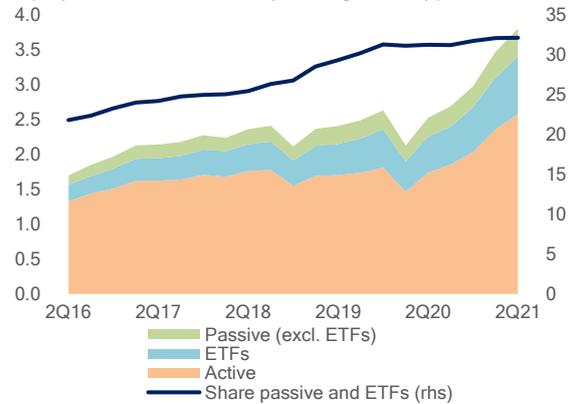
Note: Net acquisition of financial assets and net incurrence of liabilities for EA households as a share of their gross disposable income adjusted for changes in pension entitlements, based on a one-year rolling period, in %. IF shares=investment fund shares. Other financial assets=Insurance technical 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.

**A.172**  
EU UCITS net flows by asset class



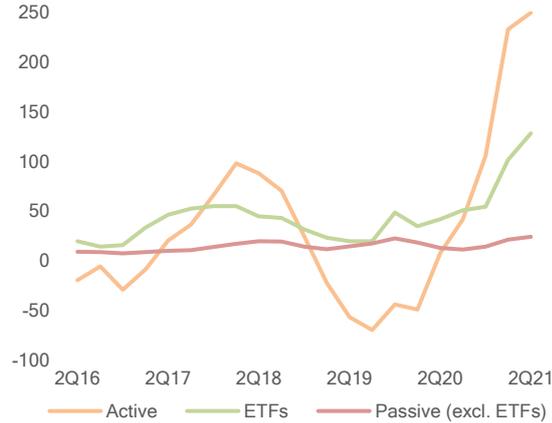
Note: EU27 UCITS annual net flows, retail investors only, at quarterly frequency by asset class, EUR bn.  
Sources: Refinitiv Lipper, ESMA.

**A.173**  
Equity UCITS market size by management type



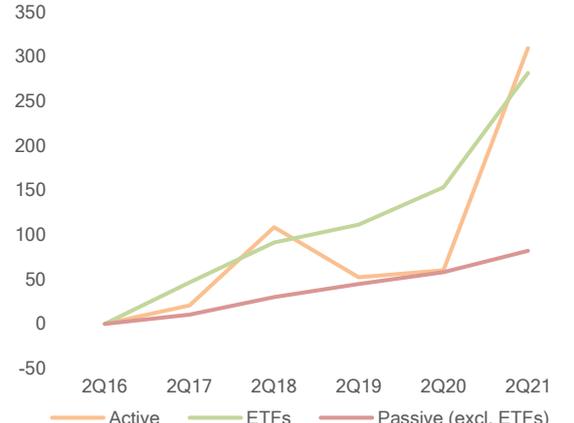
Note: EU27 equity UCITS market size, retail and institutional investors, by management type. All observations for which information on fund value, performance, net flows, subscription and redemption fees are available, in EUR tn. Share of passive and ETFs, in %.  
Sources: Refinitiv Lipper, ESMA.

**A.174**  
Equity UCITS net flows by management type



Note: EU27 equity UCITS annual net flows from retail and institutional investors at quarterly frequency by management type, EUR bn.  
Sources: Refinitiv Lipper, ESMA.

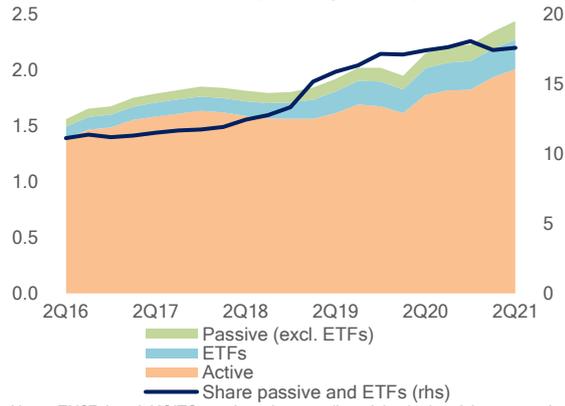
**A.175**  
Equity UCITS cumulative net flows



Note: EU27 equity UCITS cumulative annual net flows from retail and institutional investors by management type, EUR bn. Indexed with 1Q16=0.  
Sources: Refinitiv Lipper, ESMA.

**A.176**

**Bond UCITS market size by management type**



Note: EU27 bond UCITS market size, retail and institutional investors, by management type. All observations for which information on fund value, performance, net flows, subscription and redemption fees are available, in EUR bn. Share of passive and ETFs, in %.  
Sources: Refinitiv Lipper, ESMA.

**A.177**

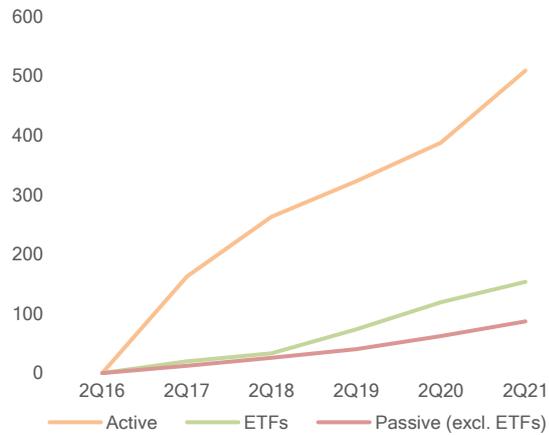
**Bond UCITS net flows by management type**



Note: EU27 bond UCITS annual net flows from retail and institutional investors at quarterly frequency by management type, EUR bn.  
Sources: Refinitiv Lipper, ESMA.

**A.178**

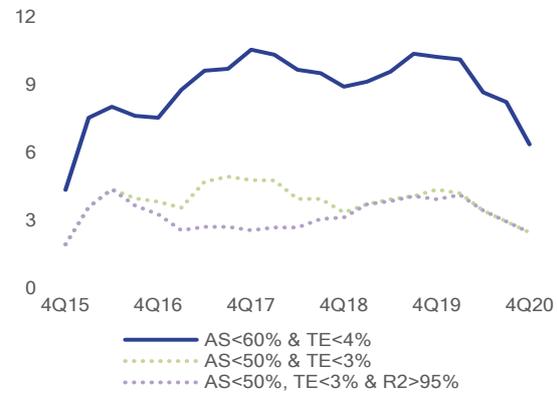
**Bond UCITS cumulative net flows**



Note: EU27 bond UCITS cumulative annual net flows from retail and institutional investors by management type, EUR bn. Indexed with 1Q16=0.  
Sources: Refinitiv Lipper, ESMA.

**A.179**

**Closet Index Indicator**



Note: EU active equity UCITS share of potential closet index (CI) within our sample. Share of total, %. Potential CI based on three criteria: Active Share (AS) < 60% and Tracking Error (TE) < 4%; AS < 50% and TE < 3%; AS < 50% and TE < 3% and R-squared (R2) > 95%.  
Sources: Morningstar Direct, ESMA.

## Costs and performance

**A.180**

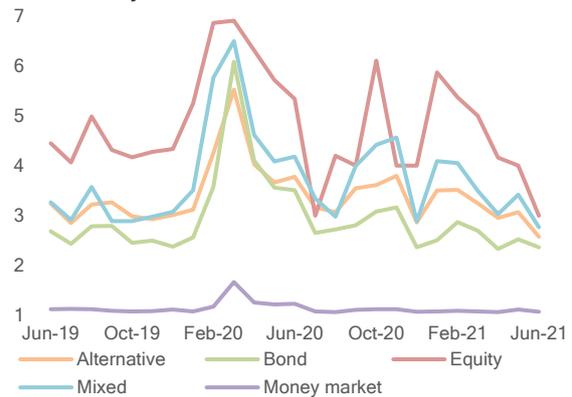
**Portfolio returns**



Note: One-year moving average of the monthly gross returns of a stylised household portfolio, in %. Asset weights, computed using National Financial Accounts by Institutional Sectors, are 36% for collective investment schemes, 39% for deposits, 22% for shares and 3% for debt securities. 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.

**A.181**

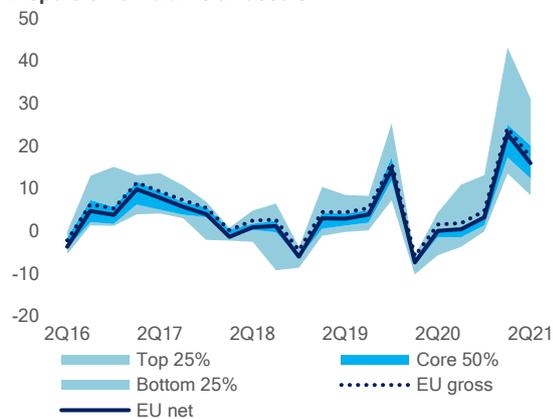
**Retail fund synthetic risk and reward indicator**



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

**A.182**

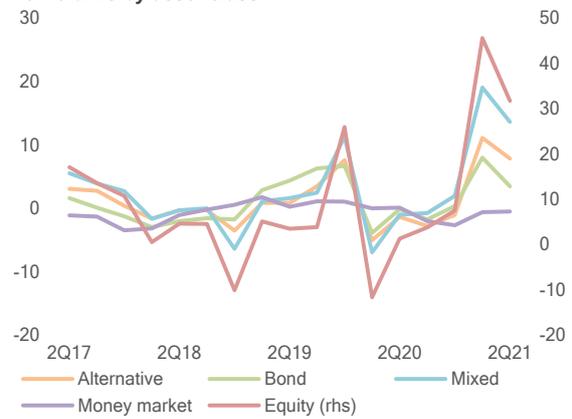
**Dispersion of returns all assets**



Note: Dispersion of EU27 UCITS net performances, retail investors only, adjusted for total expense ratio and load fees, in %. Distribution represents selected EU27 markets.  
Sources: Refinitiv Lipper, ESMA.

**A.183**

**Net returns by asset class**



Note Evolution of net annual performance (net of ongoing costs (TER), subscription and redemption fees) of EU27 UCITS, retail investors only, by asset class, in %.  
Sources: Refinitiv Lipper, ESMA.

**A.184**

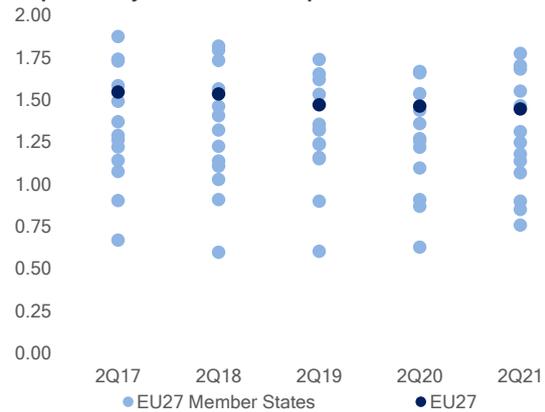
**UCITS total cost dispersion by asset class**



Note: Dispersion of total costs (ongoing costs, subscription and redemption fees) of EU27 UCITS, retail investors only, computed as the difference between gross and net returns per asset class, in %.  
Sources: Refinitiv Lipper, ESMA.

**A.185**

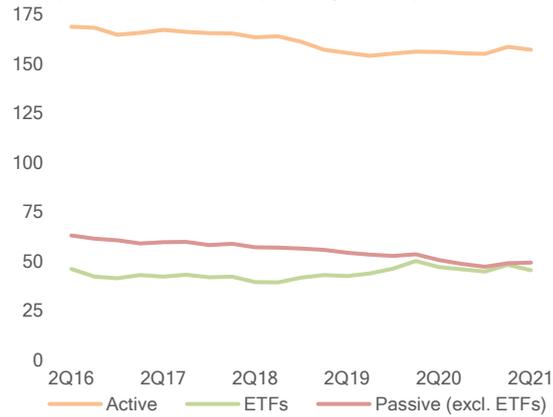
**Dispersion by absolute cost impact**



Note: Dispersion of total costs (ongoing costs, subscription and redemption fees) of EU27 UCITS, retail investors only, computed as the difference between gross and net returns for selected EU27 Member State, in %.  
Sources: Refinitiv Lipper, ESMA.

**A.186**

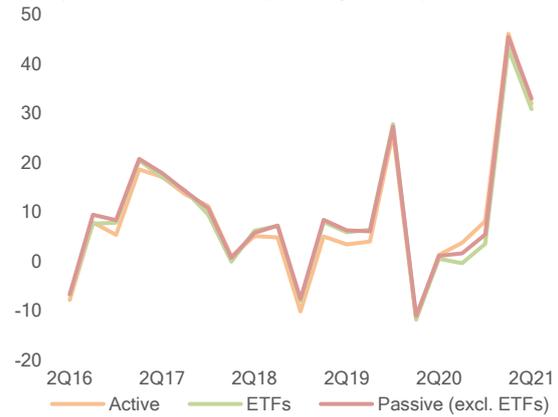
**Equity UCITS total costs by management type**



Note: Evolution of total costs (ongoing costs (TER), subscription and redemption fees) of EU27 equity UCITS, retail and institutional investors, by management type, in bps.  
Sources: Refinitiv Lipper, ESMA.

**A.187**

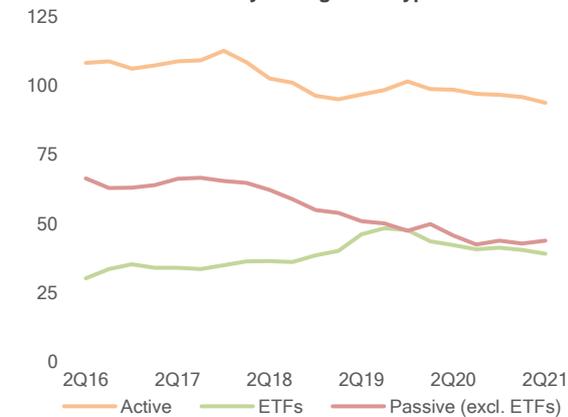
**Equity UCITS net returns by management type**



Note: Evolution of net annual performance (net of ongoing costs (TER), subscription and redemption fees) of EU27 equity UCITS, retail and institutional investors, by management type, in %.  
Sources: Refinitiv Lipper, ESMA.

**A.188**

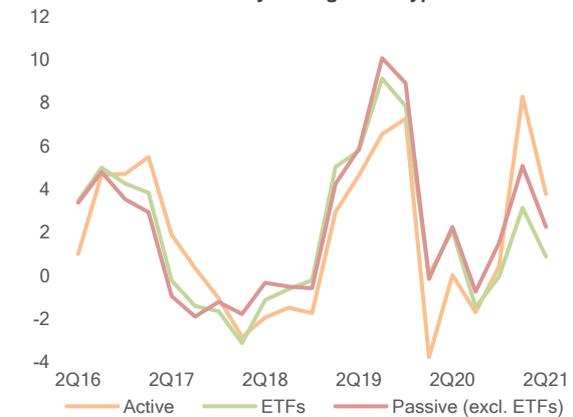
**Bond UCITS total costs by management type**



Note: Evolution of total costs (ongoing costs (TER), subscription and redemption fees) of EU27 bond UCITS, retail and institutional investors, by management type, in bps.  
Sources: Refinitiv Lipper, ESMA.

**A.189**

**Bond UCITS net returns by management type**



Note: Evolution of net annual performance (net of ongoing costs (TER), subscription and redemption fees) of EU27 bond UCITS, retail and institutional investors, by management type, in %.  
Sources: Refinitiv Lipper, ESMA.

## Complaints

### A.190

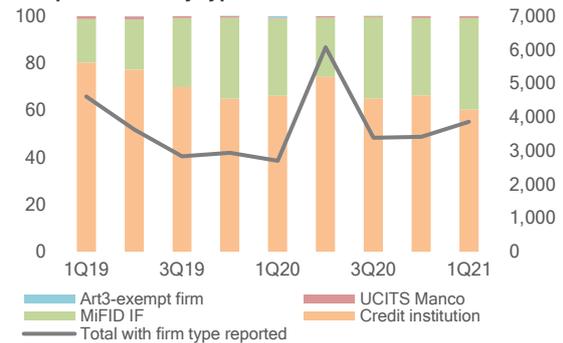
#### Total complaints



Note: Number of complaints recorded by quarterly-reporting NCAs (n=14) via given reporting channels. "NCA"=Reports lodged directly by consumers with NCAs. "Firms"=Complaints recorded by NCAs via firms. "Average total"=average total number from 4Q18 to 4Q20. Sources: ESMA complaints database

### A.191

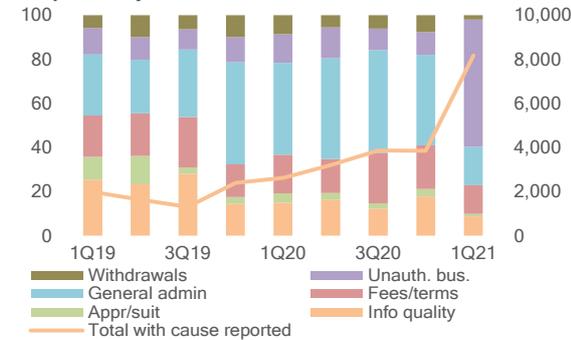
#### Complaints data by type of firm



Note: Share of complaints for quarterly-reporting NCAs (n=14) received direct from consumers and via firms by type of firm involved, excluding complaints with firm type recorded, %. "Total with firm type reported"=Number of complaints via these reporting channels excluding those with no firm type recorded. "MiFID IF"=MiFID investment firm. "UCITS Manco"=UCITS management company. "Art3-exempt firm"=Firm exempt under Article 3 of MiFID. Sources: ESMA complaints database

### A.192

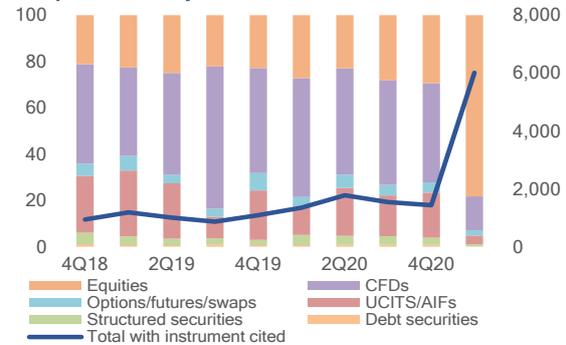
#### Complaints by cause



Note: Share of complaints for quarterly-reporting NCAs (n=14) received direct from consumers and via firms by underlying cause, excluding complaints with no cause recorded, %. "Unauth. bus."=Unauthorised business. "Appr/suit"=Appropriateness or suitability assessment. "Info quality"=Quality or lack of information. "Total with cause reported"=Number of complaints via these reporting channels including those with none of the listed causes recorded. Sources: ESMA complaints database

### A.193

#### Complaints data by instrument



Note: Share of complaints from quarterly-reporting NCAs (n=14) received direct from consumer and via firms by type of financial instrument, where none of the instruments listed was reported. "Total with instrument cited"=number of complaints via these reporting channels excluding those with instrument type not reported or reported as "other" or "N/A". "Total complaints"=number of complaints via these reporting channel whether or not further categorisation possible. "CFDs"=Contracts for Differences. Sources: ESMA complaints database

### A.194

#### Complaints by MiFID II category



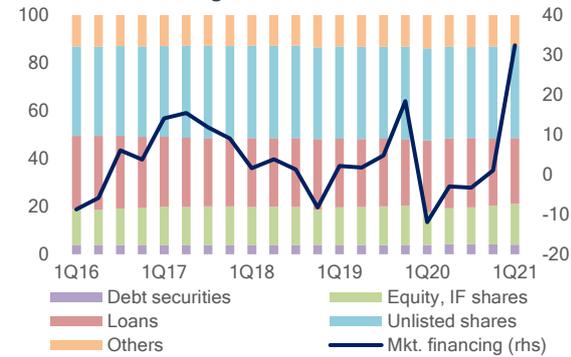
Note: Share of complaints for quarterly-reporting NCAs (n=14) received direct from consumers and via firms recorded as associated with a given MiFID service, excluding complaints with no such category recorded, all reporting channels, %. "Total with MiFID service reported"=Total complaints received via these reporting channels recorded as associated with a MiFID service.

# Market based finance

## Capital markets financing

A.195

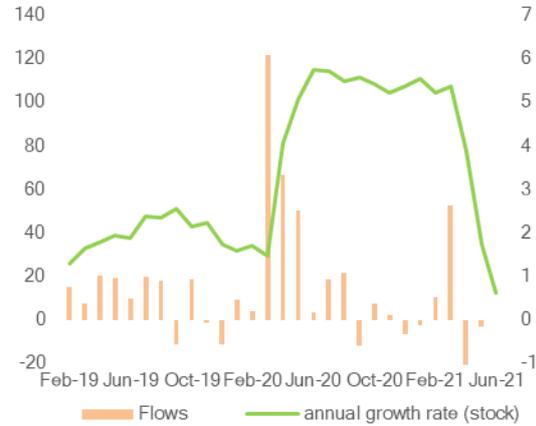
Total market financing



Note: Liabilities of EA 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 (rhs)= annual growth rate in debt securities, equity and investment fund (IF) shares, in %.  
Sources: ECB, ESMA.

A.196

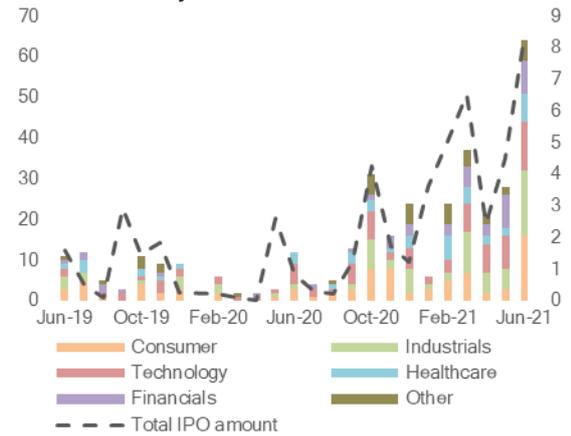
Loans vis-à-vis EA NFCs



Note: Loans vis-a-vis euro area NFC reported by MFI in the euro area. Financial transactions, EUR bn (lhs) and annual growth rate of stock% (rhs).  
Sources: ECB, ESMA.

A.197

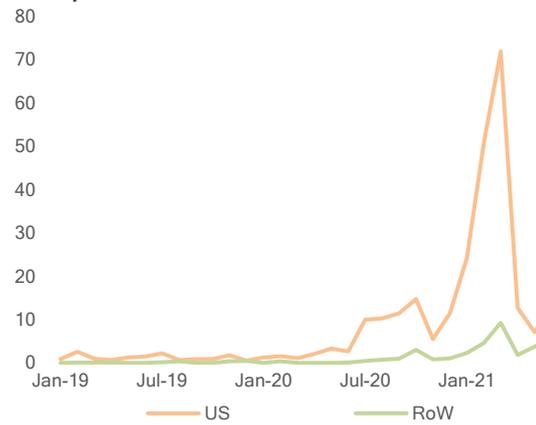
Number of IPOs by sector



Note: Number of IPOs by economic sector (lhs) and total amount of IPOs, in bn (rhs).  
Sources: Refinitiv Eikon, ESMA.

A.198

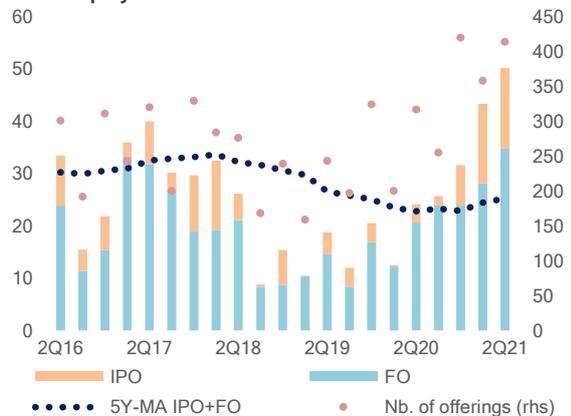
SPAC proceeds



Note: SPAC proceeds in EUR bn.  
Sources: Refinitiv EIKON, ESMA.

A.199

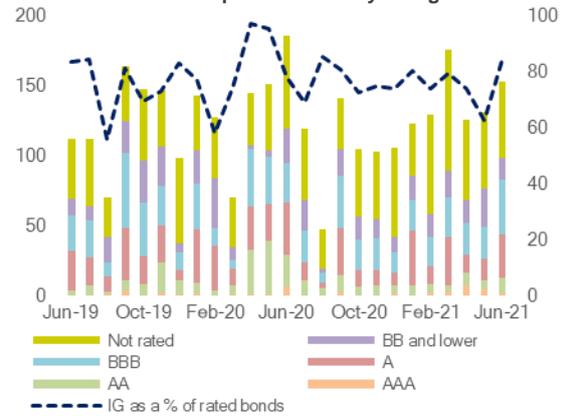
Gross equity issuance



Note: Equity gross issuance in the EEA30 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.200

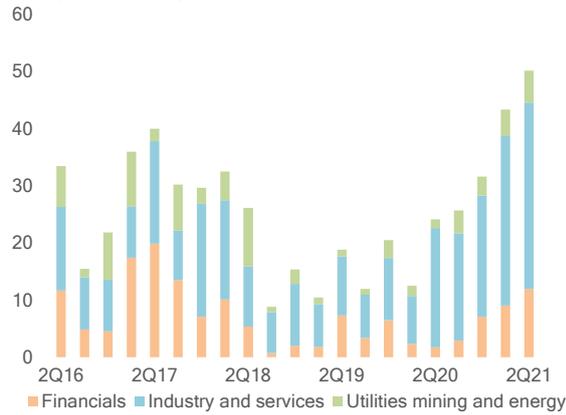
Gross issuance of corporate bonds by rating



Note: Monthly gross long-term corporate bond issuance by rating in the EEA30, in EUR bn (lhs), and share of IG issuance with respect to rated bonds, in % (rhs).  
Sources: Refinitiv Eikon, ESMA.

**A.201**

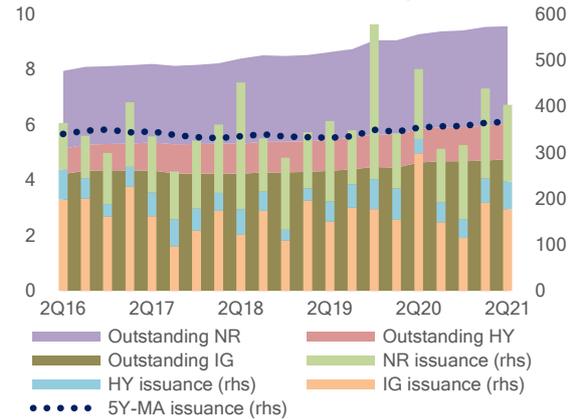
**Equity issuance by sector**



Note: Equity gross issuance in the EEA30 by sector, EUR bn. Financials includes banking & investment services, insurance, investment trusts and real estate.  
Sources: Refinitiv EIKON, ESMA.

**A.202**

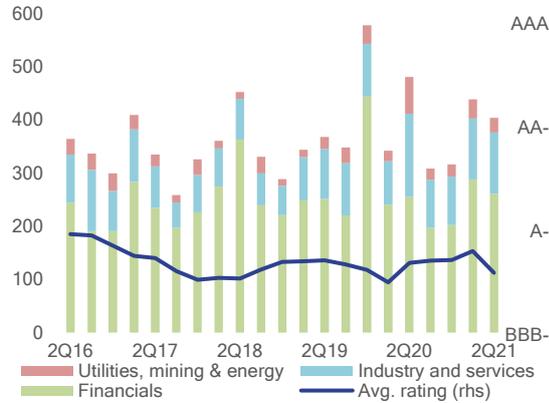
**Corporate bond issuance and outstanding**



Note: Quarterly investment-grade (rating  $\geq$  BBB-), high-yield (rating  $<$  BBB-) and non-rated corporate bond gross issuance in the EEA30 (rhs), EUR bn, and outstanding amounts, EUR tn. Maturities  $<$  12 months are excluded.  
Sources: Refinitiv EIKON, ESMA.

**A.203**

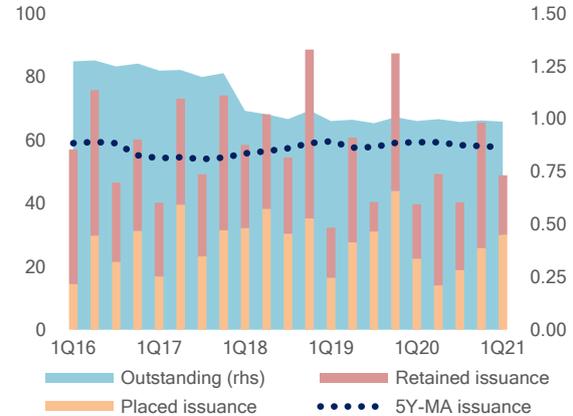
**Corporate bond issuance by sector**



Note: Corporate bond gross issuance in the EEA30 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.). Maturities  $<$  12 months are excluded.  
Sources: Refinitiv EIKON, ESMA.

**A.204**

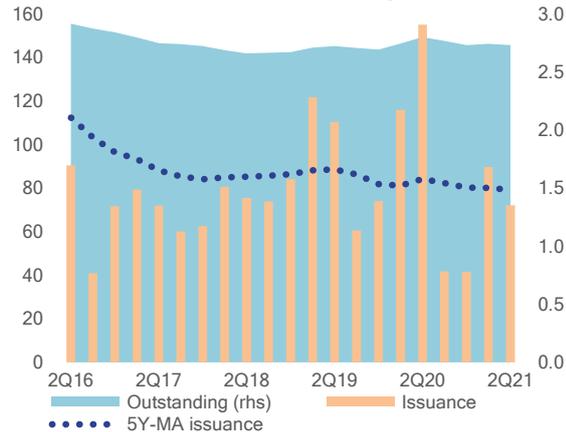
**Securitised products issuance and outstanding**



Note: Retained and placed securitised products gross issuance in Europe, EUR bn, and outstanding amounts (rhs), EUR tn. Data includes ABS, CDO, MBS, SME, WBS.  
Sources: AFME, ESMA.

**A.205**

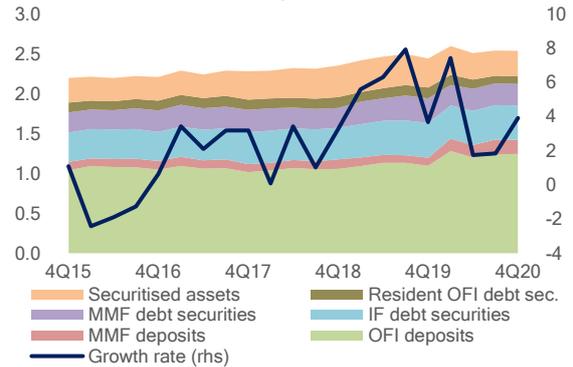
**Covered bond issuance and outstanding**



Note: Covered bond gross issuance in the EEA30, EUR bn, and outstanding amounts (rhs), EUR tn. Maturities  $<$  12 months are excluded.  
Sources: Refinitiv EIKON, ESMA.

**A.206**

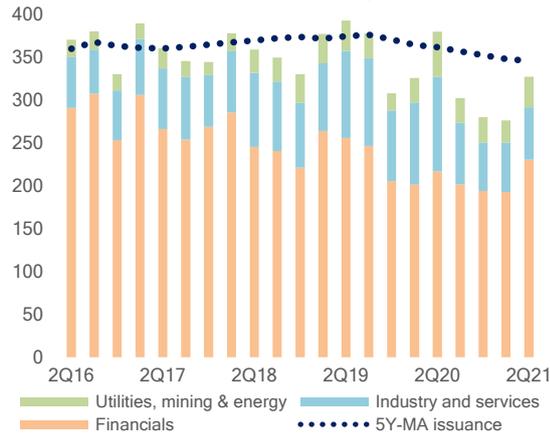
**Non-bank wholesale funding**



Note: Amount of wholesale funding provided by EA non-banks, EUR tn, and growth rate (rhs), in %. Securitised assets are net of retained securitisations. Resident 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.207**

**Short-term corporate debt issuance by sector**

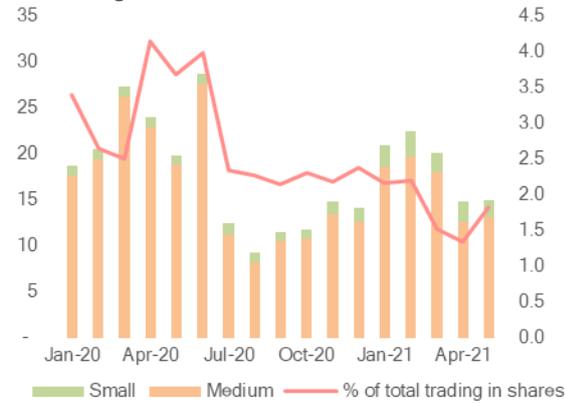


Note: Short-term corporate debt gross issuance in the EEA30 by sector, EUR bn. Short-term=Maturities < 12 months. Sources: Refinitiv EIKON, ESMA.

**SMEs**

**A.208**

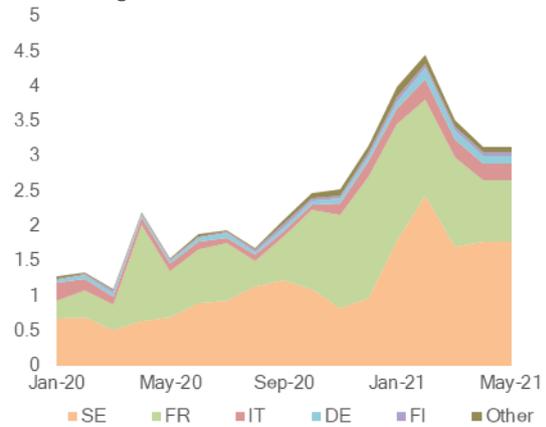
**SME trading volumes**



Note: Monthly trading volumes on EEA30 venues of SME shares, EUR bn (lhs), and % share of total trading in shares (rhs). 'Small'=(0,20mn), 'Medium'=(20mn,200mn). Based on share market capitalisation in 2020. Sources: FIRDS, FITRS, ESMA.

**A.209**

**SME trading volumes on Growth Markets**

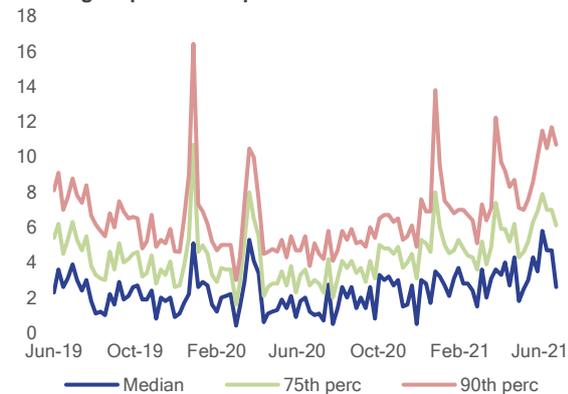


Note: SME trading volumes on GMs by segment MIC domicile, in EUR bn. Sources: FIRDS, FITRS, ESMA.

**Market-based credit intermediation**

**A.210**

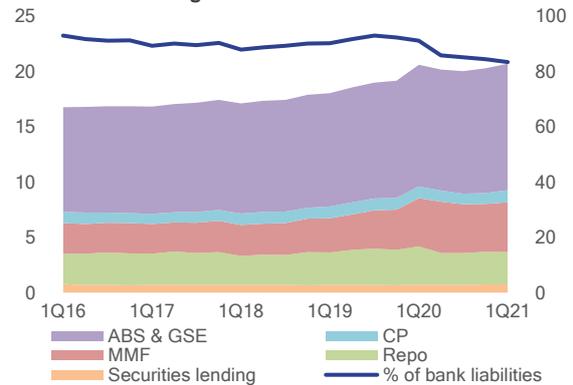
**Sovereign repo market specialness**



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 nine EUR repo markets (AT, BE, DE, ES, FI, FR, IT, NL and PT). Sources: CME Group Benchmark Administration Limited, ESMA.

**A.211**

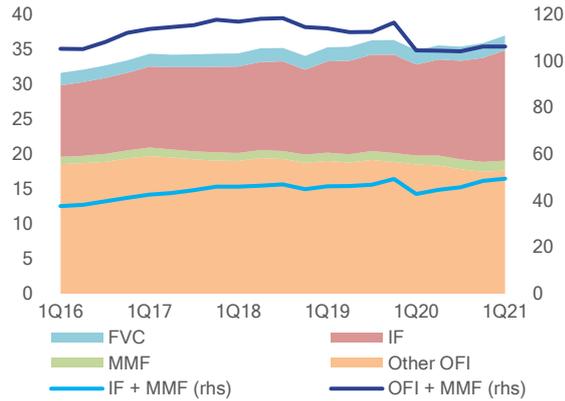
**US shadow banking liabilities**



Note: Size of the US 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 MMFs, in USD tn. Expressed in % of bank liabilities on rhs. Sources: Refinitiv Datastream, ESMA.

**A.212**

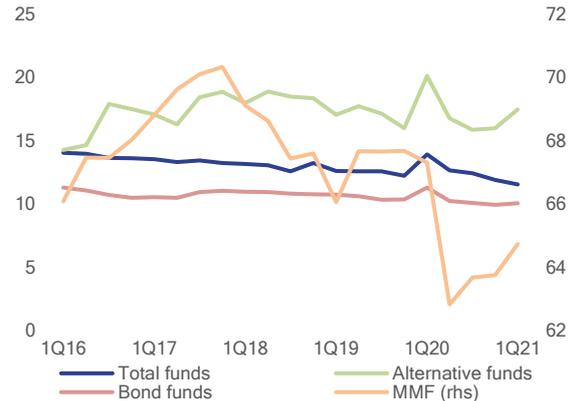
**MMFs and other financial institutions**



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

**A.213**

**Financial market interconnectedness**



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

**A.214**

**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 EUR-denominated instruments in 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.215**

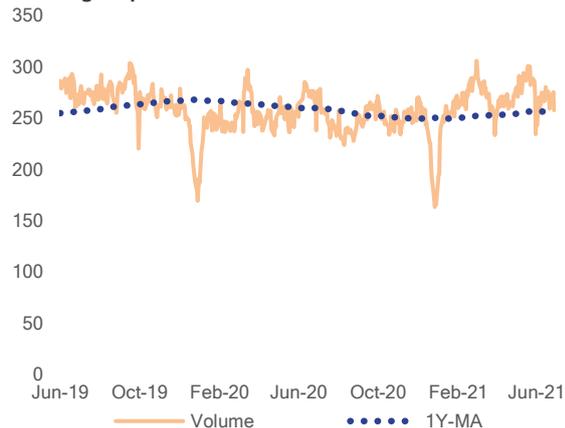
**Securities financing conditions**



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 EUR-denominated 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.216**

**Sovereign repo market turnover**



Note: Repo transaction volumes executed through CCPs in nine sovereign EUR repo markets (AT, BE, DE, ES, FI, FR, IT, NL and PT), EUR bn.  
Sources: CME Group Benchmark Administration Limited, ESMA.

# Sustainable finance

## ESG investing

**A.217**

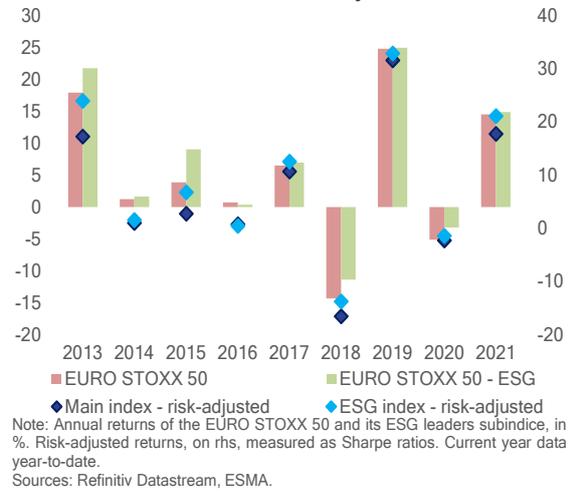
**ESG leaders index performance**



Note: MSCI ESG leaders total return indices, denominated in USD, indexed with 01/06/2019=100.  
Sources: Refinitiv Datastream, ESMA.

**A.218**

**Euro area ESG leaders index risk-adjusted returns**



Note: Annual returns of the EURO STOXX 50 and its ESG leaders subindex, in %. Risk-adjusted returns, on rhs, measured as Sharpe ratios. Current year data year-to-date.  
Sources: Refinitiv Datastream, ESMA.

**A.219**

**ESG fund assets**



Note: AuM of EU-domiciled ESG funds by type of fund, EUR bn, and share of ESG fund AuM in total fund AuM (rhs), in %.  
Sources: Morningstar, Refinitiv Lipper, ESMA.

**A.220**

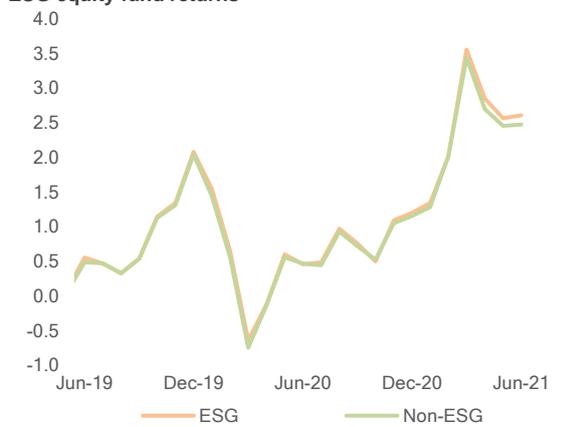
**ESG equity fund flows**



Note: Cumulative net flows in EU-domiciled ESG and non-ESG equity funds since January 2018, EUR bn.  
Sources: Morningstar, Refinitiv Lipper, ESMA.

**A.221**

**ESG equity fund returns**



Note: Annual average returns of EU-domiciled ESG and non-ESG equity funds, in %.  
Sources: Morningstar, Refinitiv Lipper, ESMA.

**A.222**

**ESG ETF assets**

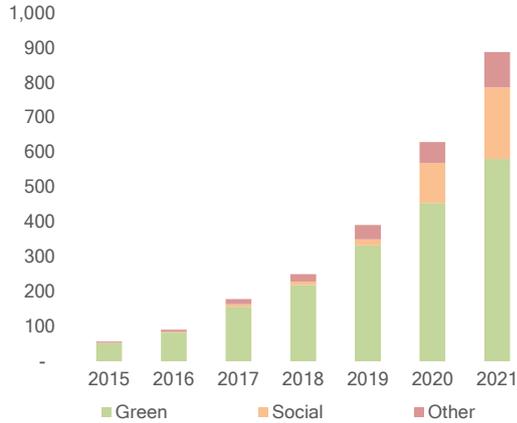


Note: AuM of EU-domiciled ESG ETFs, in EUR bn.  
Sources: Morningstar, ESMA.

## Sustainable debt

**A.223**

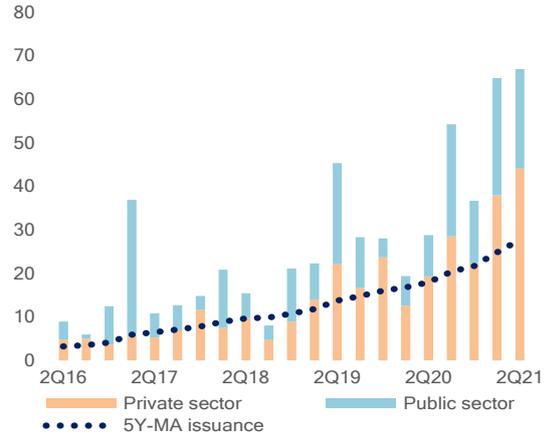
### ESG bonds outstanding



Note: Total amount of ESG bonds outstanding issued by EEA-domiciled issuers, EUR bn.  
Sources: CBI, Refinitiv EIKON, ESMA.

**A.224**

### Green bond quarterly issuance



Note: Green bond gross issuance in the EEA30 by sector, EUR bn.  
Sources: Refinitiv EIKON, ESMA.

**A.225**

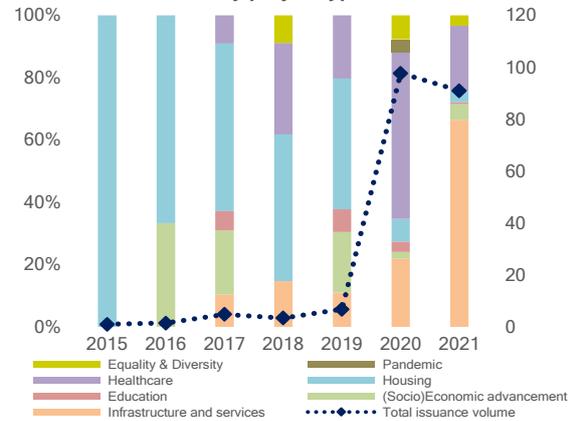
### Labelled green bond issuance



Note: Annual gross issuance volumes of green labelled and other ESG bonds by EEA- and UK-domiciled issuers, EUR bn, and share of other ESG bonds (right axis) in %. Green labelled bonds are certified by the Climate Bond Initiative and/or aligned with the ICMA Green Bond Principles.  
Sources: CBI, Refinitiv EIKON, ESMA.

**A.226**

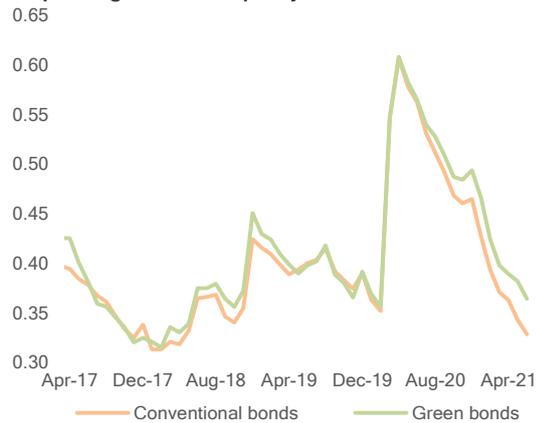
### Social bond issuance by project type



Note: Social bonds use of proceed allocation as a share of total issuance volume. Gross annual issuance volume of social bonds by EEA- and UK-domiciled issuers in EUR bn (right axis)  
Sources: CBI, Refinitiv EIKON, ESMA.

**A.227**

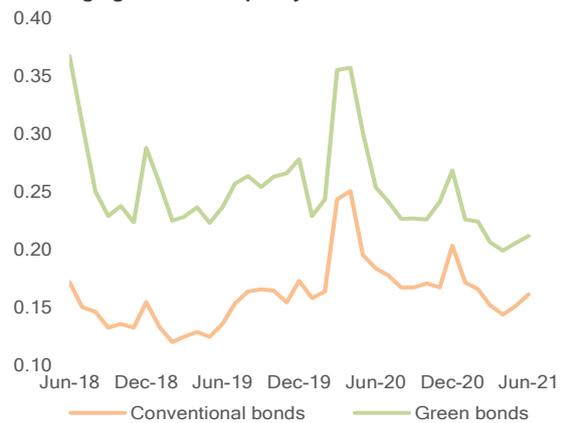
### Corporate green bond liquidity



Note: Bid-ask spread for green bonds and conventional bonds issued by green bond issuers included in the Markit iBOXX EUR Overall index, in EUR.  
Sources: Markit iBoxx, ESMA

**A.228**

### Sovereign green bond liquidity



Note: Average bid-ask spread for green bonds and other bonds issued by the same sovereign issuer traded on EuroMTS, in EUR.  
Sources: MTS, ESMA.

## Emissions trading

### A.229

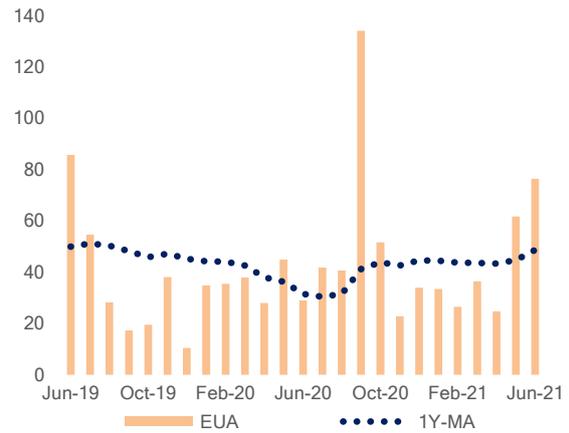
#### Emission allowance prices



Note: Daily settlement price of European Emission Allowances (EUA) on European Energy Exchange spot market, in EUR/tCO<sub>2</sub>.  
Sources: Refinitiv Datastream, ESMA.

### A.230

#### Emission allowance turnover



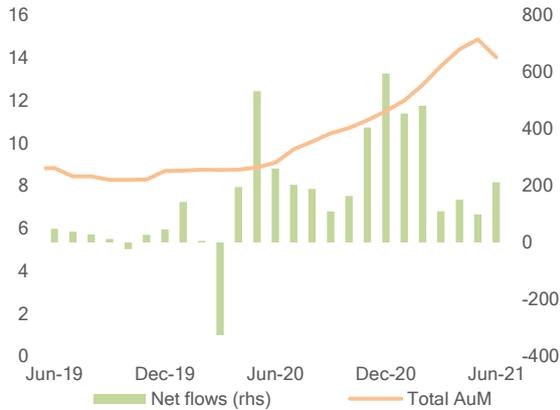
Note: Monthly turnover of European Emission Allowances (EUA) on European Energy Exchange, in EUR mn.  
Sources: Refinitiv Datastream, ESMA.

# Financial innovation

## Financial innovation

**A.231**

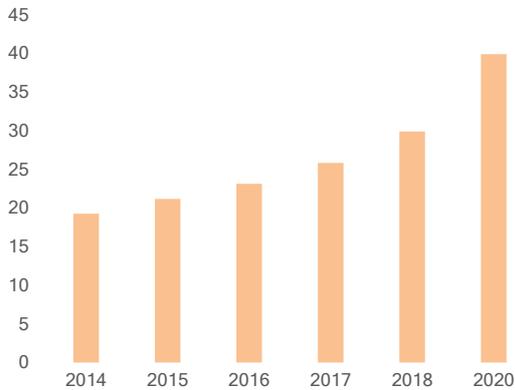
**Funds with AI/FinTech investment focus**



Note: Total AuM, 12-month rolling average, EUR bn, and monthly net flows, EUR mn, for selected EEA-domiciled funds (n=31) whose name includes reference to AI, automation, FinTech or robotics.  
Sources: Morningstar Direct, ESMA

**A.232**

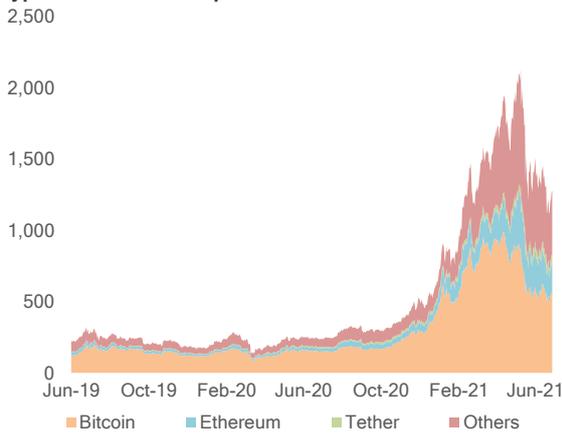
**Cloud services revenues**



Note: Percentage of businesses purchasing cloud computing services by year in 22 EU countries, %. Countries included: AT, BE, CZ, DE, DK, EE, ES, FI, FR, GR, HU, IE, IT, LV, LT, LU, NL, PL, PT, SI, SK, SE. Firms across the economy with at least 10 employees were surveyed.  
Sources: OECD, ESMA

**A.233**

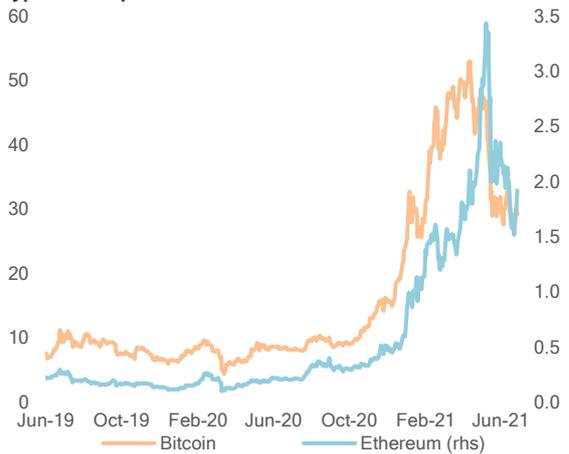
**Crypto Asset market capitalisation**



Note: Market capitalisation of Bitcoin, Ethereum, Tether and other crypto-assets, in EUR bn.  
Sources: CoinMarketCap, ESMA.

**A.234**

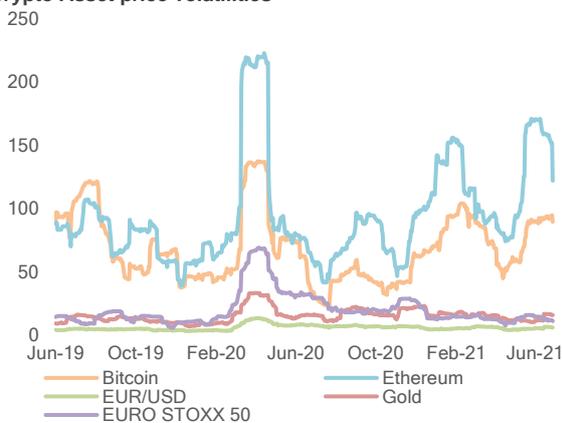
**Crypto Asset prices**



Note: Prices of selected crypto-assets, EUR thousand.  
Sources: Refinitiv Datastream, ESMA.

**A.235**

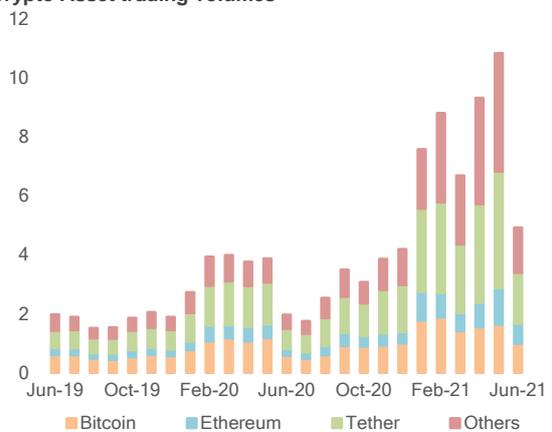
**Crypto Asset price volatilities**



Note: Annualised 30-day historical volatility of EURO STOXX 50, EUR/USD spot rate returns and USD-denominated returns for Bitcoin, Ethereum and gold, in %.  
Sources: Refinitiv Datastream, ESMA.

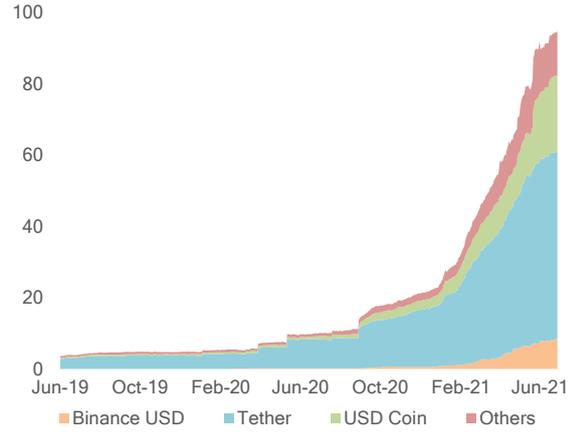
**A.236**

**Crypto Asset trading volumes**



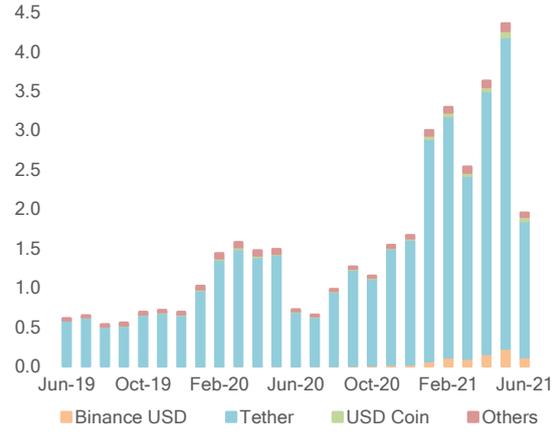
Note: Trading volumes of Bitcoin, Ethereum, Tether and other crypto-assets, in EUR tn.  
Sources: CoinMarketCap, ESMA.

**A.237**  
Stablecoin market capitalisation



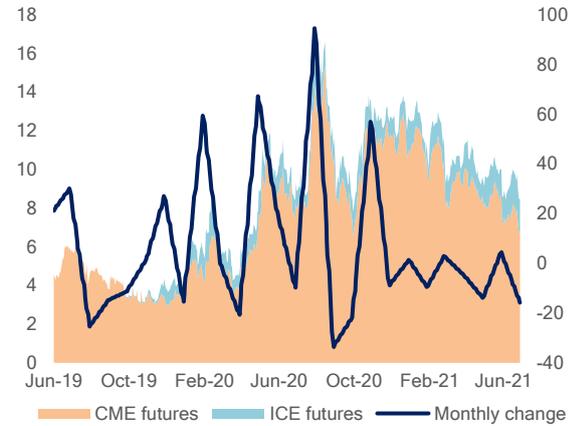
Note: Market capitalisation of Binance USD, Tether, USD Coin and other stablecoins, in EUR bn.  
Sources: CoinMarketCap, ESMA.

**A.238**  
Stablecoin trading volumes



Note: Trading volumes of Binance USD, Tether, USD Coin and other stablecoins, in EUR tn.  
Sources: CoinMarketCap, ESMA.

**A.239**  
Bitcoin futures market



Note: Total open interest in Bitcoin futures, in thousand of contracts, and change in monthly average total open interest, in %.  
Sources: Refinitiv Datastream, ESMA.