

# TRV Statistical Annex

ESMA Report on Trends, Risks and Vulnerabilities

No.1, 2024



ESMA Report on Trends, Risks and Vulnerabilities – Statistical Annex  
No. 1, 2024

© European Securities and Markets Authority, Paris, 2023. All rights reserved. Brief excerpts may be reproduced or translated provided the source is cited adequately. The reporting period for this Report is 1 July to 31 December 2023, unless otherwise indicated. Legal reference for this Report: Regulation (EU) No. 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC, Article 32 'Assessment of market developments, including stress tests', '1. The Authority shall monitor and assess market developments in the area of its competence and, where necessary, inform the European Supervisory Authority (European Banking Authority), and the European Supervisory Authority (European Insurance and Occupational Pensions Authority), the European Systemic Risk Board, and the European Parliament, the Council and the Commission about the relevant micro-prudential trends, potential risks and vulnerabilities. The Authority shall include in its assessments an analysis of the markets in which financial market participants operate and an assessment of the impact of potential market developments on such financial market participants.' The information contained in this publication, including text, charts and data, exclusively serves analytical purposes. It does not provide forecasts or investment advice, nor does it prejudice, preclude or influence in any way past, existing or future regulatory or supervisory obligations by market participants.

The charts and analyses in this report are, fully or in part, based on data not proprietary to ESMA, including from commercial data providers and public authorities. ESMA uses these data in good faith and does not take responsibility for their accuracy or completeness. ESMA is committed to constantly improving its data sources and reserves the right to alter data sources at any time. The third-party data used in this publication may be subject to provider-specific disclaimers, especially regarding their ownership, their reuse by non-customers and, in particular, their accuracy, completeness or timeliness, and the provider's liability related thereto. Please consult the websites of the individual data providers, whose names are given throughout this report, for more details on these disclaimers. Where third-party data are used to create a chart or table or to undertake an analysis, the third party is identified and credited as the source. In each case, ESMA is cited by default as a source, reflecting any data management or cleaning, processing, matching, analytical, editorial or other adjustments to raw data undertaken.

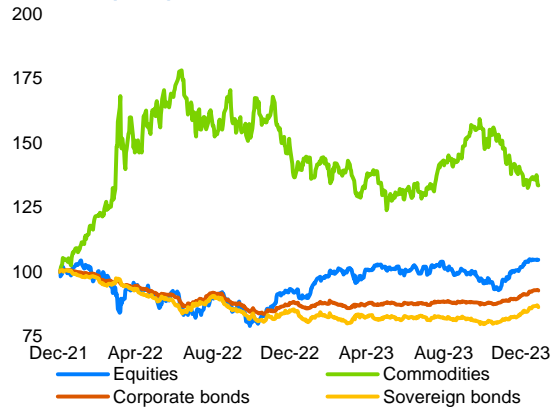
European Securities and Markets Authority (ESMA)  
Risk Analysis and Economics Department  
201-203 Rue de Bercy  
FR-75012 Paris  
[risk.analysis@esma.europa.eu](mailto:risk.analysis@esma.europa.eu)

# Table of contents

Market environment .....	4
Securities markets .....	5
Equity markets	5
Sovereign-bond markets	6
Corporate-bond markets	9
Credit quality	10
Securities lending	11
Short selling	12
Money markets	13
Commodities	13
Asset management .....	15
Fund industry	15
Money market funds	17
Alternative funds	18
Exchange-traded funds	20
Consumers .....	22
Investment resources available to households	22
Asset allocation by retail investors	22
Costs and performance	24
Complaints	26
Infrastructures and services .....	27
Trading venues and MiFID entities	27
Central counterparties	27
Central securities depositories	29
Credit rating agencies	29
Financial benchmarks	31
Market based finance .....	32
Capital markets financing	32
Market-based credit intermediation	34
Sustainable finance .....	35
ESG investing	35
Sustainable debt	36
Carbon markets	37
Financial innovation .....	38
Financial innovation	38

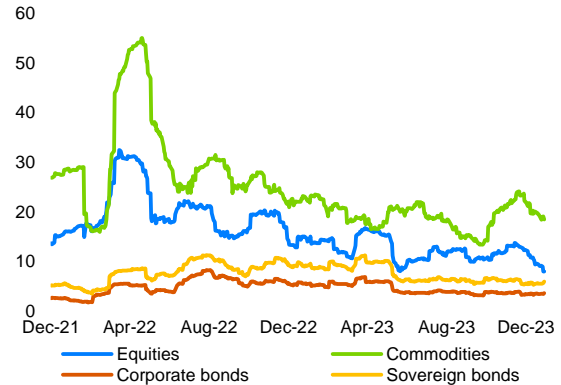
# Market environment

**A.1**  
**EU market price performance**



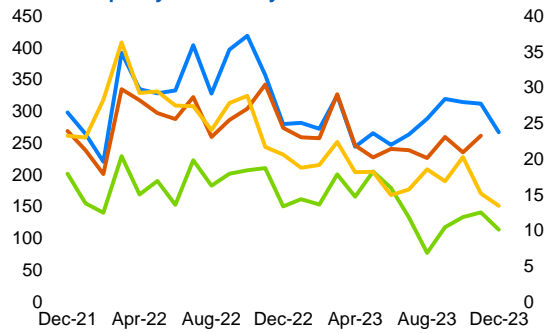
Note: Return indices on EA equities (Datastream regional index), global commodities (S&P GSCI) converted to EUR, EA corporate and sovereign bonds (iBoxx EUR, all maturities). 01/12/2021=100. Sources: Refinitiv Datastream, ESMA.

**A.2**  
**EU market volatilities**



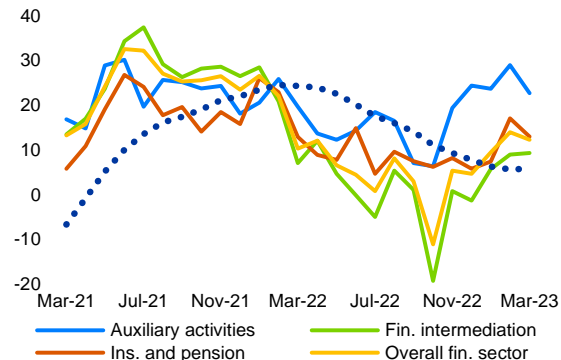
Note: Annualised 40D volatility of return indices on EA equities (Datastream regional index), global commodities (S&P GSCI) converted to EUR, EA corporate and sovereign bonds (iBoxx EUR, all maturities), in %. Sources: Refinitiv Datastream, ESMA.

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



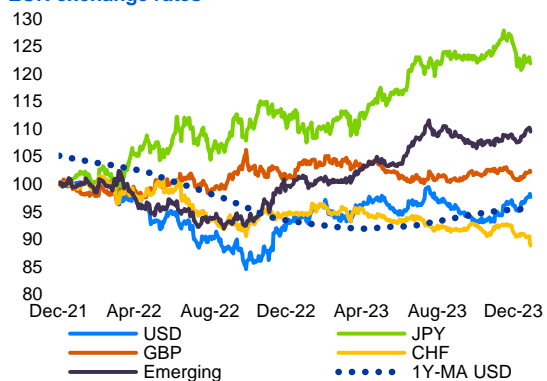
Note: Economic Policy Uncertainty Index (EPU), developed by Baker et al. (www.policyuncertainty.com), based on the frequency of articles in European newspapers that contain the following triple: "economic" or "economy", "uncertain" or "uncertainty" and one or more policy-relevant terms. Global aggregation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



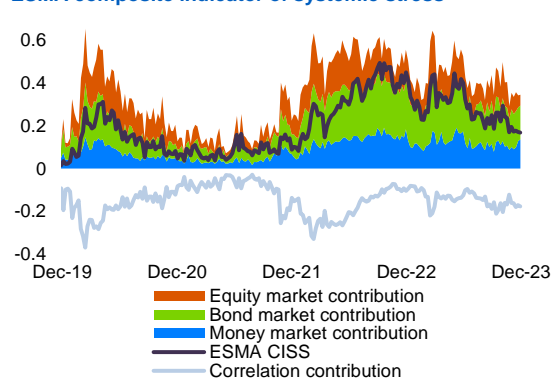
Note: European Commission survey of EU27 financial services sector and subsectors (NACE Rev.2 64, 65, 66). Confidence indicators are averages of the net balance of responses to questions on development of the business situation over the past three months, evolution of demand over the past three months and expectation of demand over the next three months, in % of answers received. Fin.=financial. Ins.=insurance. Sources: European Commission, ESMA.

**A.5**  
**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. 01/12/2021=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.6**  
**ESMA composite indicator of systemic stress**



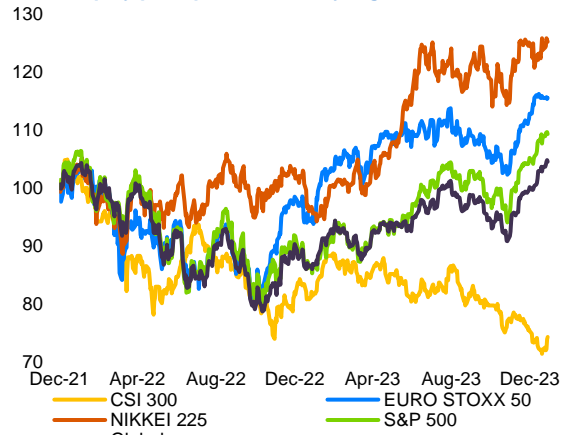
Note: ESMA version of the ECB CISS indicator measuring systemic stress in securities markets. It focuses on three financial market segments: equity, bond and money markets, aggregated through standard portfolio theory. It is based on securities market indicators such as volatilities and risk spreads. Sources: ECB, ESMA.

# Securities markets

## Equity markets

A.7

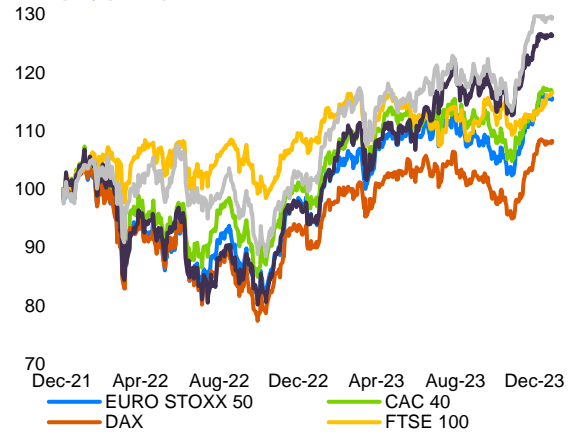
Global equity price performance by region



Note: Regional equity return indices. 01/12/2021=100.  
Sources: Refinitiv Datastream, ESMA.

A.8

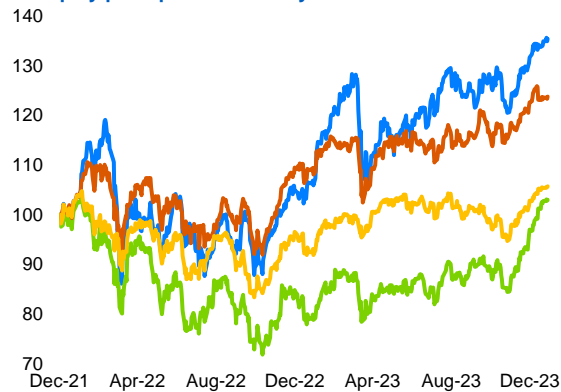
EU equity price performance of national indices



Note: European equity return indices. 01/12/2021=100.  
Sources: Refinitiv Datastream, ESMA.

A.9

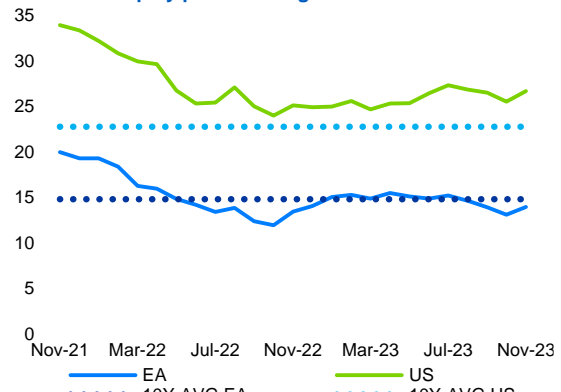
EU equity price performance by sector



Note: STOXX Europe 600 sectoral return indices. 01/12/2021=100.  
Sources: Refinitiv Datastream, ESMA.

A.10

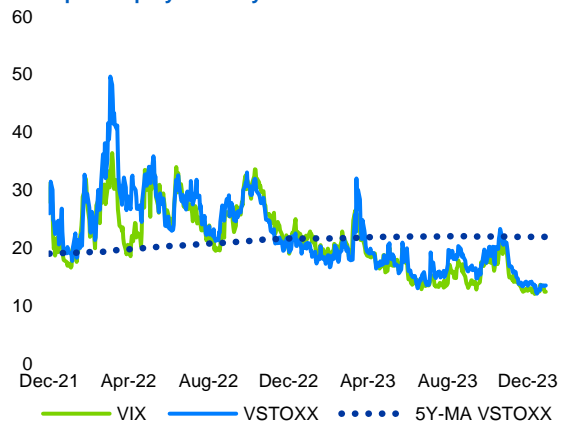
US and EU equity price-earnings ratios



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

A.11

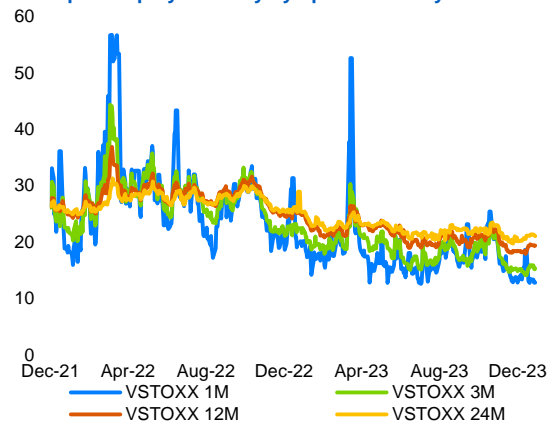
EU implied equity volatility



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

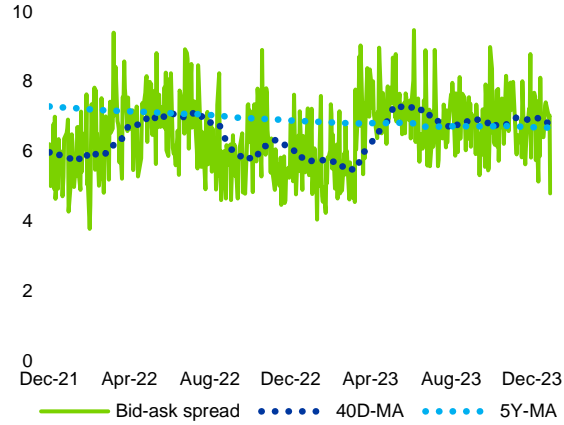
A.12

EU implied equity volatility by option maturity



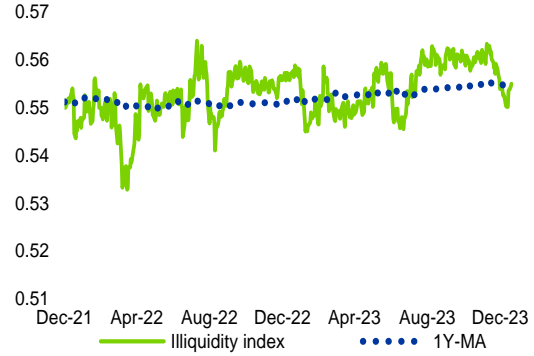
Note: EURO STOXX 50 implied volatilities, measured as price indices, in %.  
Sources: Refinitiv Datastream, ESMA.

**A.13**  
**EU equity 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.

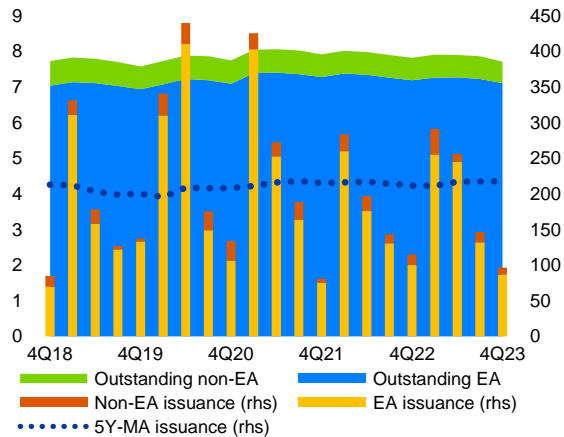
**A.14**  
**ESMA composite equity illiquidity index**



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.

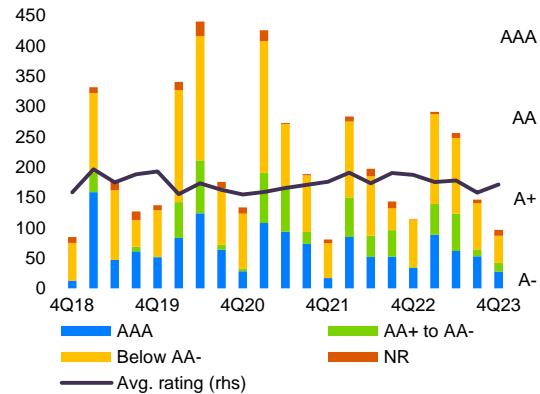
### Sovereign-bond markets

**A.15**  
**EU sovereign bond issuance and outstanding**



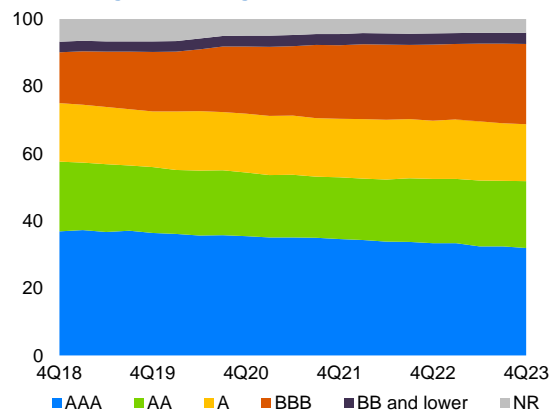
Note: Sovereign bond gross issuance in the EEA30 (rhs), EUR bn, and outstanding amounts, EUR tn. Maturities < 12 months are excluded.  
Sources: Refinitiv EIKON, ESMA.

**A.16**  
**EU sovereign bond issuance by credit rating**



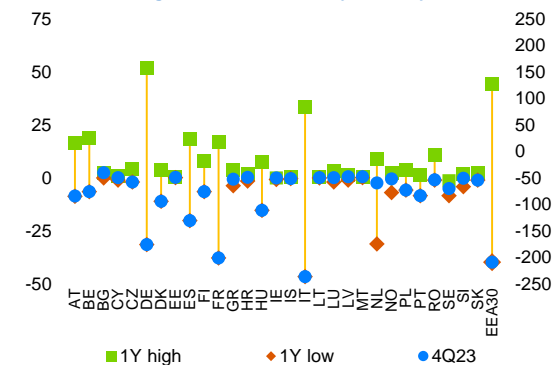
Note: Sovereign bond gross issuance in the EEA30 by rating bucket, EUR bn. Avg. rating=weighted average rating computed as a one-year moving average of ratings converted to a numerical scale (AAA=1, AA+=2, etc.) excluding non-rated bonds. Maturities < 12 months are excluded.  
Sources: Refinitiv EIKON,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

**A.17**  
**EU sovereign bond rating distribution**



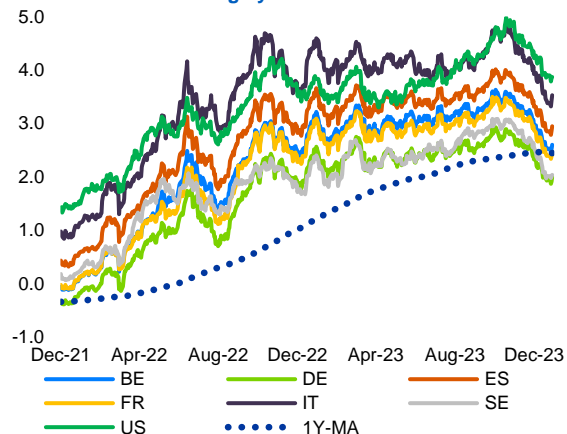
Note: Outstanding amount of sovereign bonds in the EEA30 as of issuance date by rating category, in % of the total. Maturities < 12 months are excluded.  
Sources: Refinitiv EIKON, ESMA.

**A.18**  
**Net EU sovereign bond issuance by country**



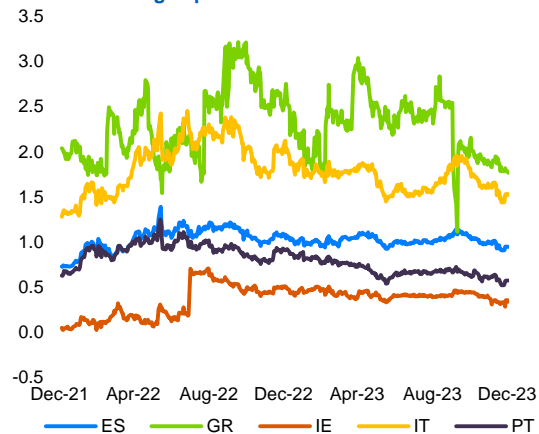
Note: Quarterly net issuance of EEA30 sovereign debt by country, EUR bn. Net issuance calculated as the difference between new issuance over the quarter and outstanding debt maturing over the quarter. Highest and lowest quarterly net issuance in the past year are reported. EEA30 total on right-hand scale.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

**A.19**  
**EU and US 10Y sovereign yields**



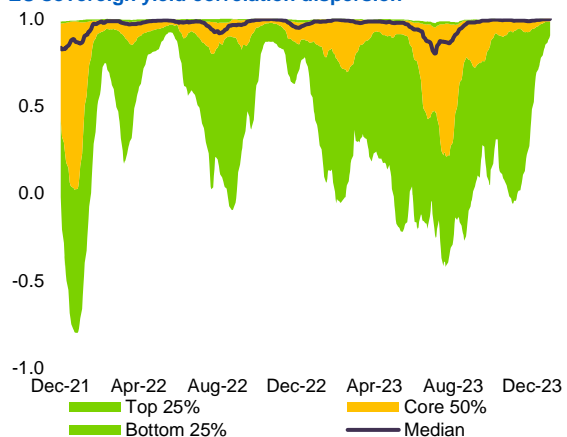
Note: Yields on 10Y sovereign bonds, selected countries, in %. 1Y-MA=one-year moving average of EA 10Y bond indices computed by Datastream.  
Sources: Refinitiv Datastream, ESMA.

**A.20**  
**EU 10Y sovereign spreads**



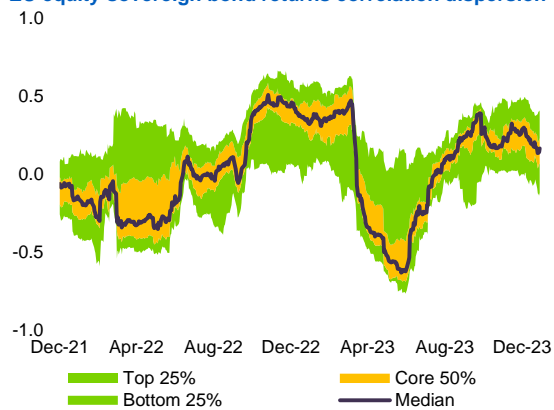
Note: Selected 10Y EA sovereign bond risk premia (vs. DE Bunds), in %.  
Sources: Refinitiv Datastream, ESMA.

**A.21**  
**EU sovereign yield correlation dispersion**



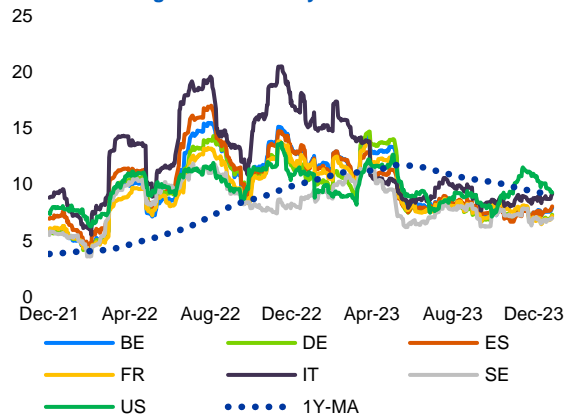
Note: Dispersion of correlations between 10Y DE Bunds and 15 other EU27 countries' sovereign bond redemption yields over a 60-day rolling window.  
Sources: Refinitiv Datastream, ESMA.

**A.22**  
**EU equity-sovereign bond returns correlation dispersion**



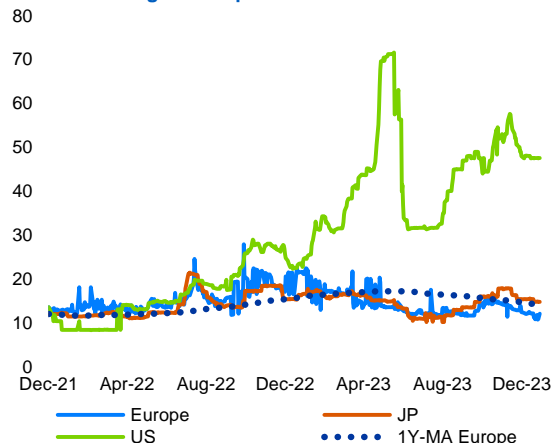
Note: Dispersion of the correlation between daily returns of national equity indices and national sovereign debt return index, for 16 countries in the EU27, over a 60-day rolling window.  
Sources: Refinitiv Datastream, ESMA.

**A.23**  
**EU 10Y sovereign bond volatility**



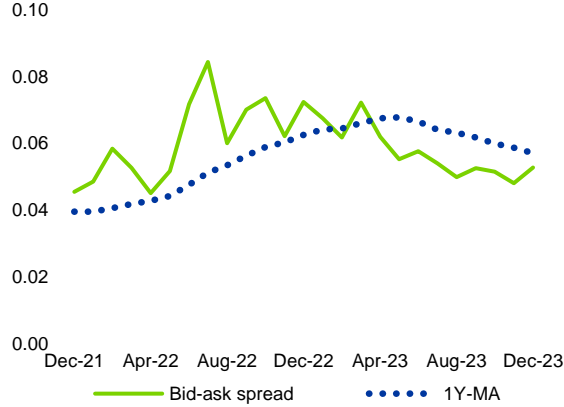
Note: Annualised 40-day volatility of 10Y sovereign bonds, selected countries, in %. 1Y-MA=one-year moving average of EA 10Y bond indices computed by Datastream.  
Sources: Refinitiv Datastream, ESMA.

**A.24**  
**Global sovereign CDS spreads**



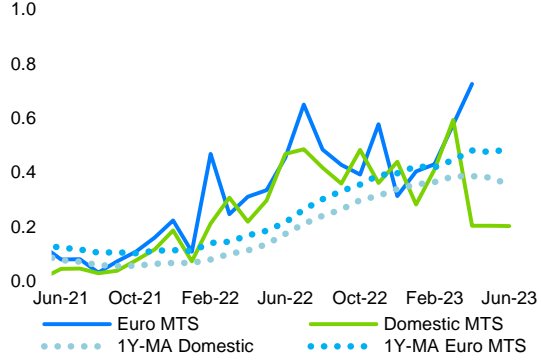
Note: Datastream CDS sovereign indices (5 years, mid-spread), in bps.  
Sources: Refinitiv Datastream, ESMA.

**A.25**  
**EU sovereign bid-ask spread**



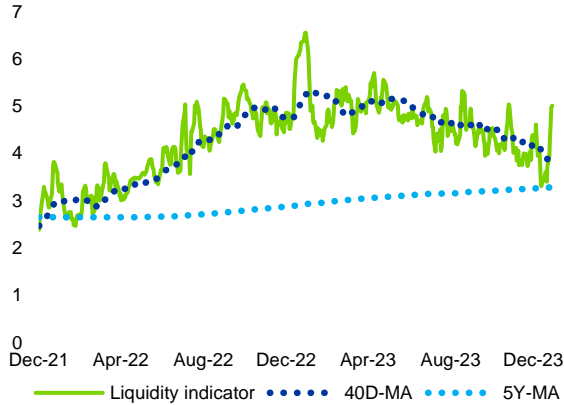
Note: Bid-ask spread as a monthly average of bid-ask spreads weighted by trading volumes for bonds both traded on one of 12 EU27 domestic markets (AT, BE, DE, ES, FI, FR, GR, IE, IT, NL, PT and SI) and Euro MTS, in EUR. Sources: MTS, ESMA.

**A.26**  
**ESMA composite sovereign bond liquidity index**



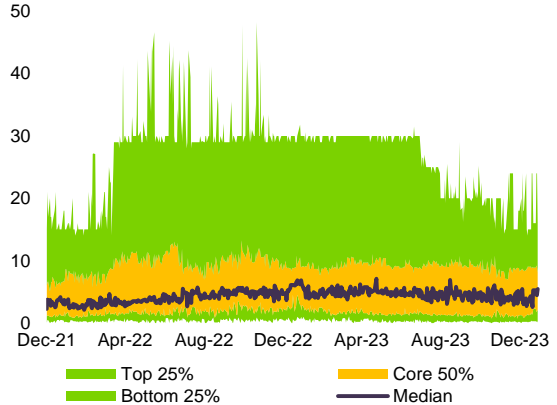
Note: Composite indicator of market liquidity in the sovereign bond market for the domestic and Euro MTS platforms, computed by applying the principal component methodology to four input liquidity measures (Amihud illiquidity coefficient, Bid-ask spread, Roll illiquidity measure and Turnover). The indicator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

**A.27**  
**EU sovereign bond liquidity**



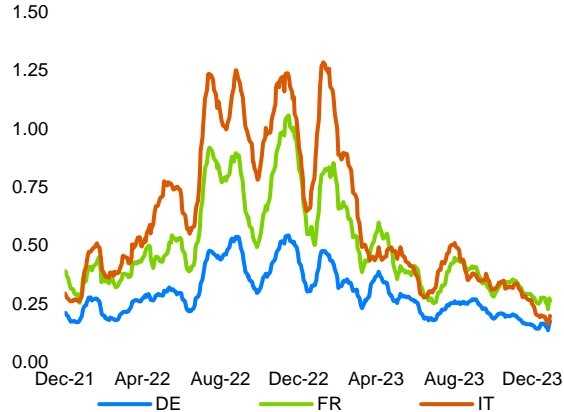
Note: Liquidity measured as median across countries of the bid-ask yields difference for 10Y sovereign bonds, in bps. Lower figures mean more liquidity and vice-versa. 22 EEA30 countries are included. Sources: Refinitiv EIKON, ESMA.

**A.28**  
**EU sovereign bond liquidity dispersion**



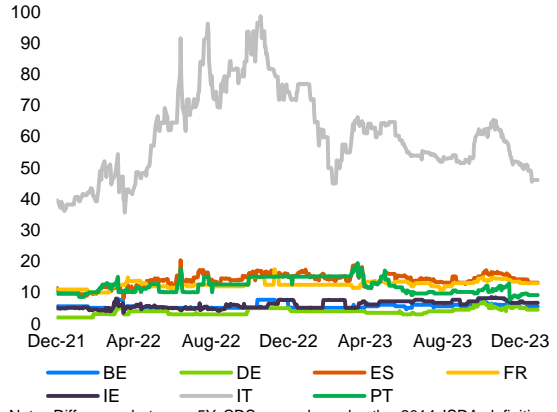
Note: Dispersion of liquidity measured as median across countries of the bid-ask yields difference for 10Y sovereign bonds, in bps. Lower figures mean more liquidity and vice-versa. 22 EEA30 countries are included. Sources: Refinitiv EIKON, ESMA.

**A.29**  
**EU sovereign 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.

**A.30**  
**EU sovereign bond redenomination risk**



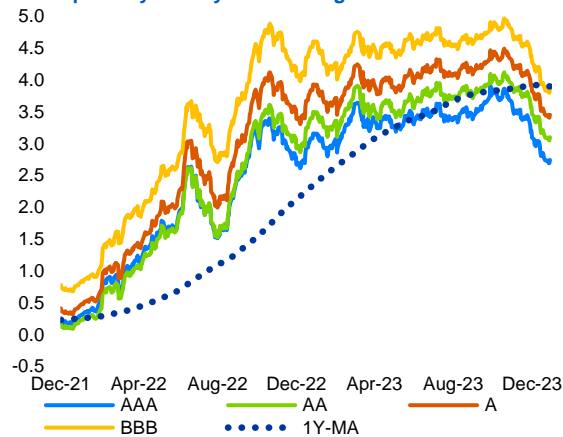
Note: Difference between 5Y CDS spreads under the 2014 ISDA definition (where debt redenomination is a credit event), and under the 2003 ISDA definition (where it is not), in bps. Sources: Refinitiv Datastream, ESMA.



## Corporate-bond markets

A.31

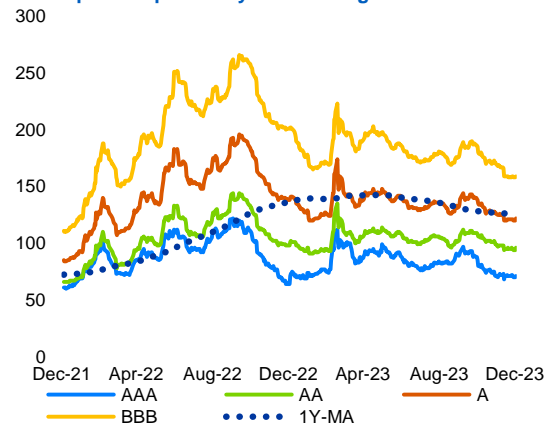
### EU corporate yields by credit rating



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.32

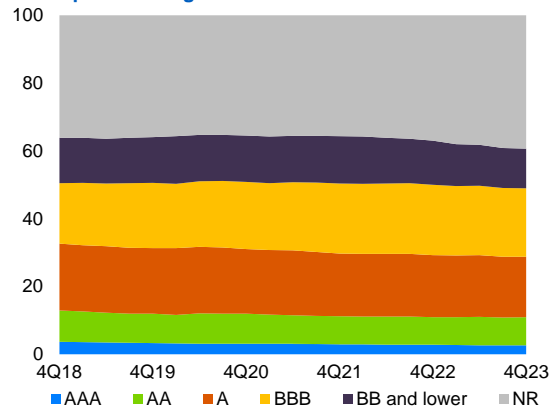
### EU corporate spreads by credit rating



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.33

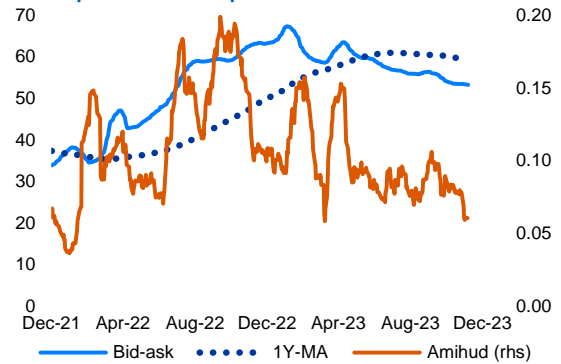
### EU corporate rating distribution



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.34

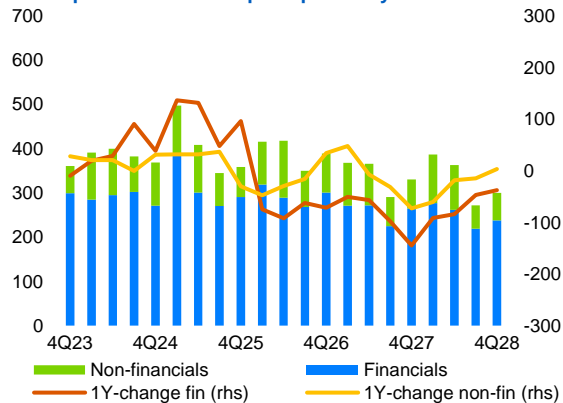
### EU corporate bid-ask spread and Amihud indicator



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

A.35

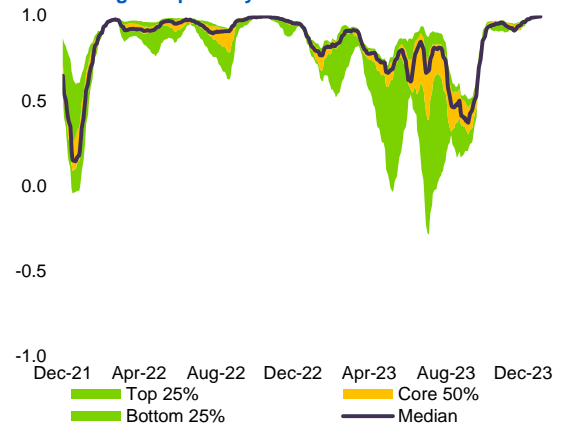
### EU corporate debt redemption profile by sector



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.36

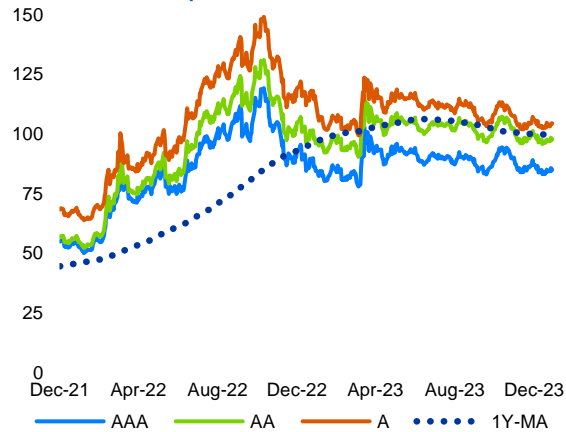
### EU sovereign-corporate yield correlation



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

A.37

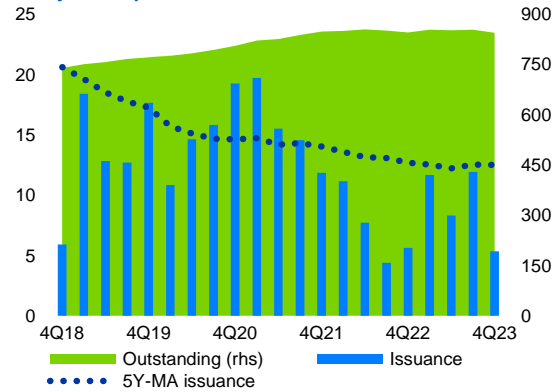
EU covered bond spreads



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

A.38

EU hybrid capital instruments issuance

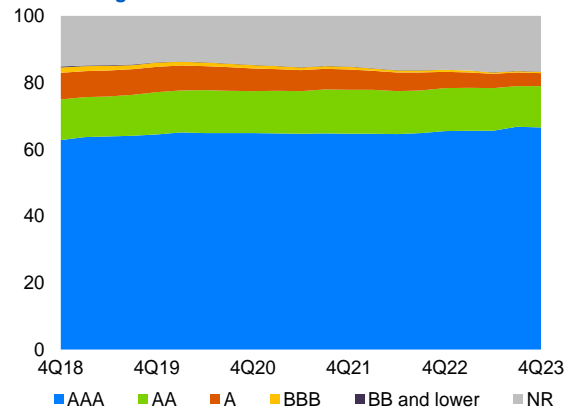


Note: Hybrid capital instruments gross issuance in the EEA30, EUR bn, and outstanding amounts (rhs), EUR tn. Maturities < 12 months are excluded. According to Refinitiv EIKON classification, hybrid capital refers to bonds having the qualities of both an interest-bearing security (debt) and equity. Sources: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

Credit quality

A.39

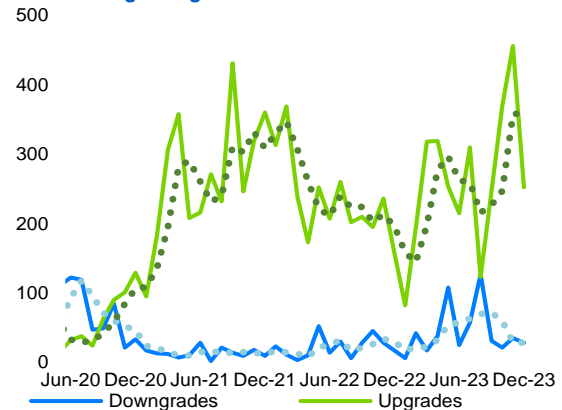
Credit rating distribution of EU covered bonds



Note: Outstanding amount of covered 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.40

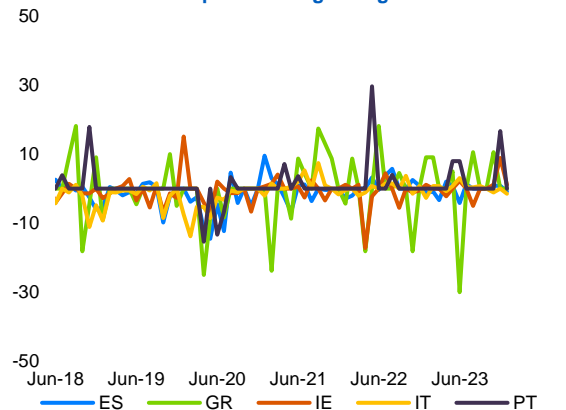
EU SFI rating changes



Note: Aggregate number of notch changes on securitised assets issued in the EEA with long-term ratings, for upgrades and downgrades. Sources: RADAR, ESMA.

A.41

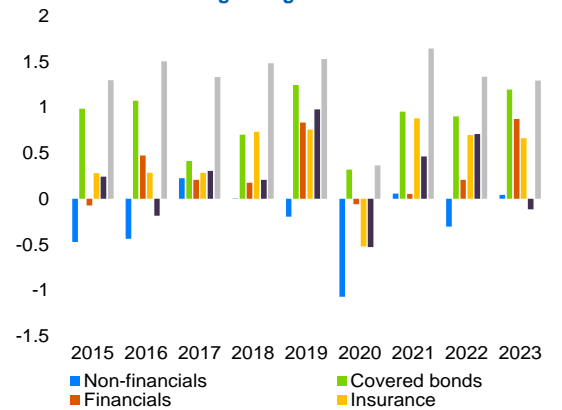
EU non-financial corporate rating changes



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

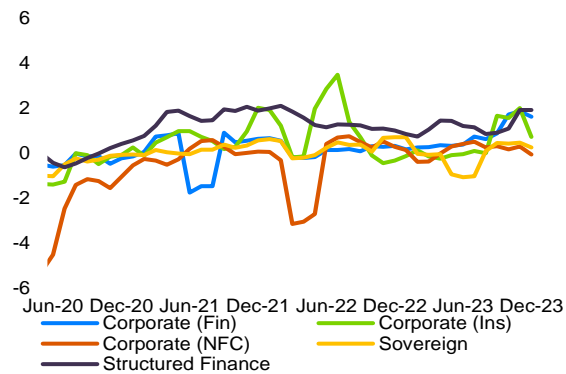
A.42

Size of EU credit rating changes



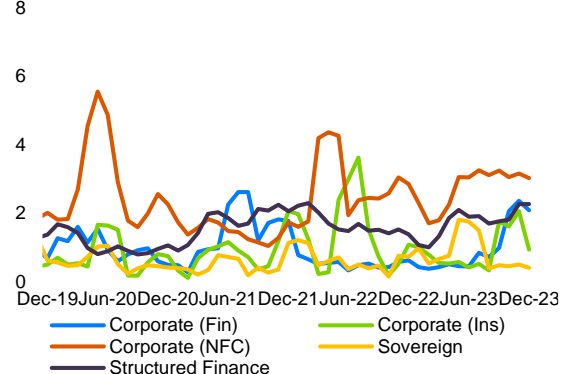
Note: Average change in notches for long-term EEA ratings for issuers and instruments (excl. ICAP and CERVED). Sources: RADAR, ESMA.

**A.43**  
**EU credit ratings drift by asset class**



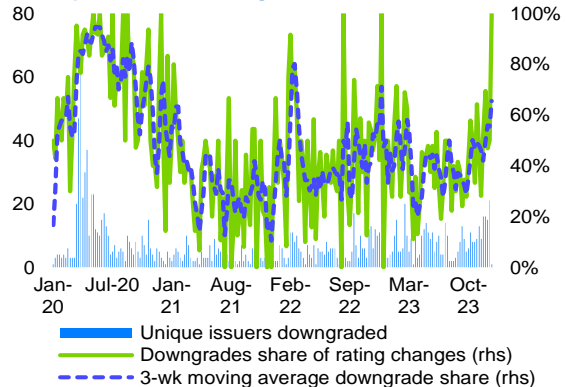
Note: 3-month moving average of net rating changes in EEA outstanding ratings from all credit rating agencies, excluding CERVED and ICAP, by asset class, computed as the percentage of upgrades minus the percentage of downgrades. Fin - Financials, Ins - Insurance, NFC - non-financials.  
Sources: RADAR, ESMA.

**A.44**  
**EU credit ratings volatility by asset class**



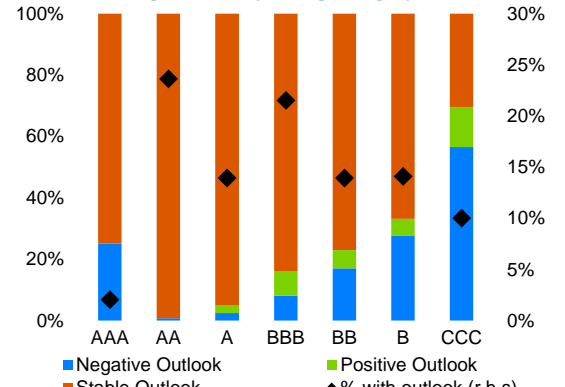
Note: 3-month moving average of net rating changes in EEA outstanding ratings from all credit rating agencies, excluding CERVED and ICAP, by asset class, computed as the percentage of upgrades minus the percentage of downgrades. Fin - Financials, Ins - Insurance, NFC - non-financials.  
Sources: RADAR, ESMA.

**A.45**  
**EU corporate issuer downgrades**



Note: Number of EEA corporate issuers with at least one bond downgraded, and ratio of downgraded corporate issues over upgrades and downgrades (3 week moving average). Issuers with same reported parent treated as one issuer.  
Sources: RADAR, ESMA.

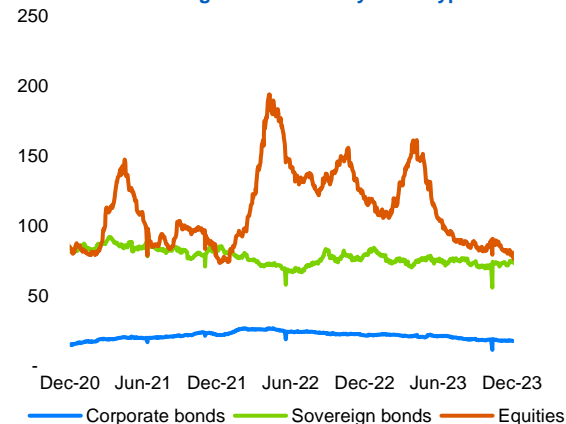
**A.46**  
**EU credit rating outlook by rating category**



Note: Distribution of outlooks for EEA corporate non financial instruments (ISINs) with outlook rated by the Big 5 (Fitch, Moody's, S&P, Scope and DBRS) by category value over the total ratings per category value. Cutoff date 31/12/2023.  
Sources: RADAR, ESMA.

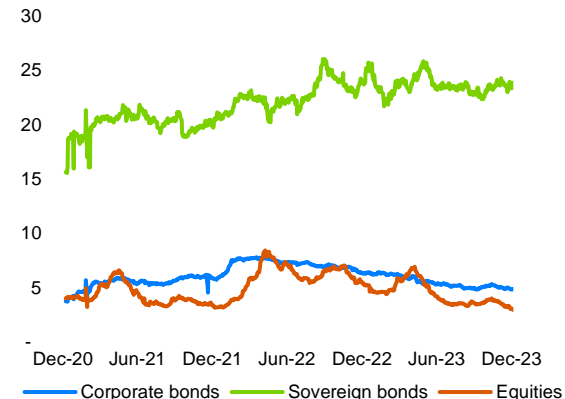
## Securities lending

**A.47**  
**EU 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.

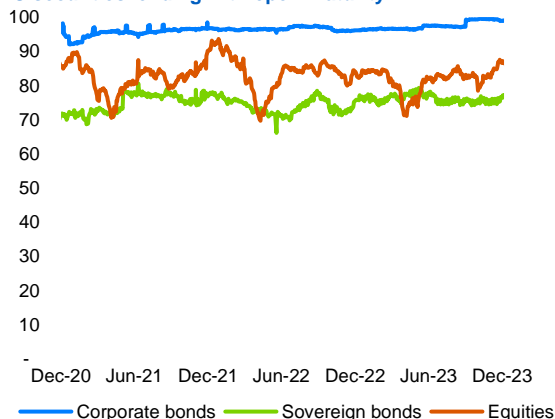
**A.48**  
**EU securities utilisation rate**



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.49

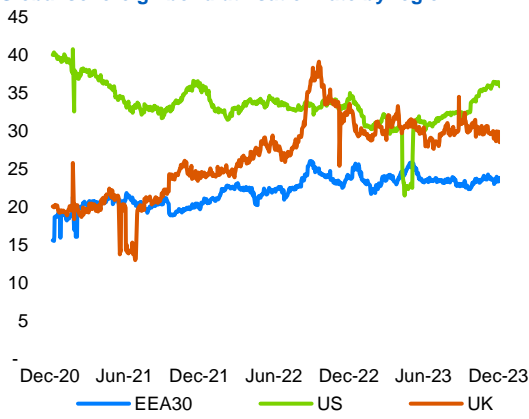
EU securities lending with open maturity



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

A.50

Global sovereign bond utilisation rate by region

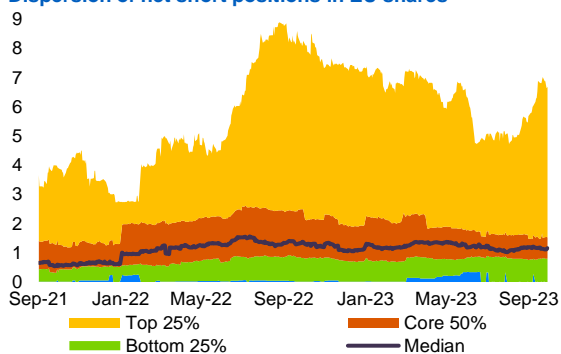


Note: Utilisation rate of sovereign bonds issued in EEA countries, in the US and in the UK. Utilisation rate in percent: the ratio of the market value of securities lent over the market value of securities available for lending.  
Sources: FIS Astec, Quandl, ESMA.

Short selling

A.51

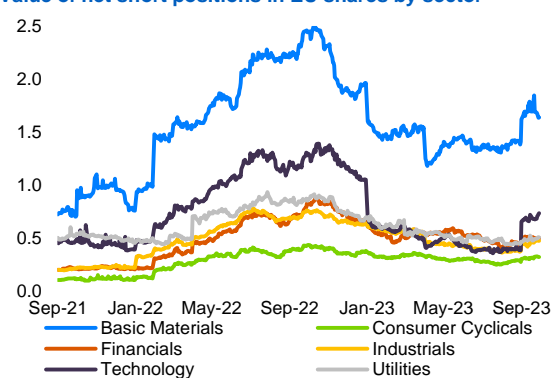
Dispersion of net short positions in EU shares



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. The 0.1% threshold entered into force on 31 January 2022 for all EU countries. NO, IS and LI continue to use the 0.2% threshold until the CDR 2022/27 is incorporated in their national legislation. Partially or fully missing data for several countries.  
Sources: NCAs, Refinitiv Datastream, ESMA.

A.52

Value of net short positions in EU shares by sector



Note: Market value of net short selling positions in EA shares as percentage of market value of selected EA sectoral indices. The 0.1% reporting threshold entered into force on 31 January 2022 for all EU countries. NO, IS and LI continue to use the 0.2% reporting threshold until their national legislation is amended. Partially or fully missing data for several countries.  
Sources: NCAs, Refinitiv Datastream, ESMA.

A.53

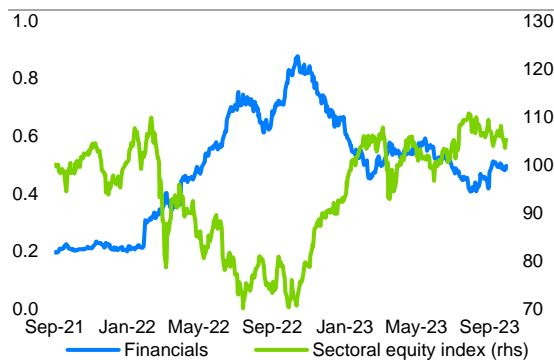
Net short positions in industrial shares and equity prices



Note: Market value of net short selling positions in EA industrial shares as percentage of market value of EA industrial sectoral indice. 01/03/2021=100. The 0.1% threshold entered into force on 31 January 2022 for all EU countries. NO, IS and LI continue to use the 0.2% threshold until the CDR 2022/27 is incorporated in their national legislation. Partially or fully missing data for several countries.  
Sources: NCAs, Refinitiv Datastream, ESMA.

A.54

Net short positions in EU financial shares and equity prices

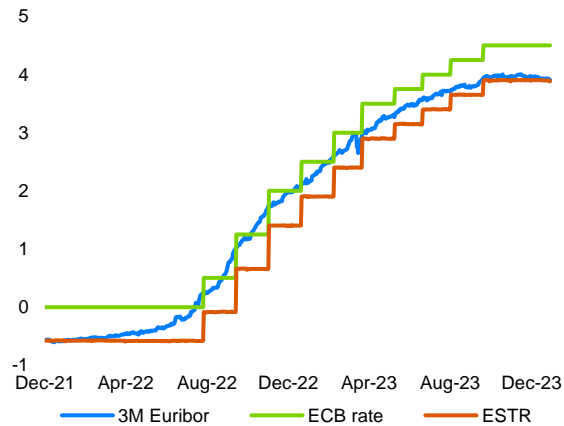


Note: Market value of net short selling positions in EA financial shares as percentage of market value of EA financial sectoral indice. 01/03/2021=100. The 0.1% threshold entered into force on 31 January 2022 for all EU countries. NO, IS and LI continue to use the 0.2% threshold until the CDR 2022/27 is incorporated in their national legislation. Partially or fully missing data for several countries.  
Sources: NCAs, Refinitiv Datastream, ESMA.

## Money markets

A.55

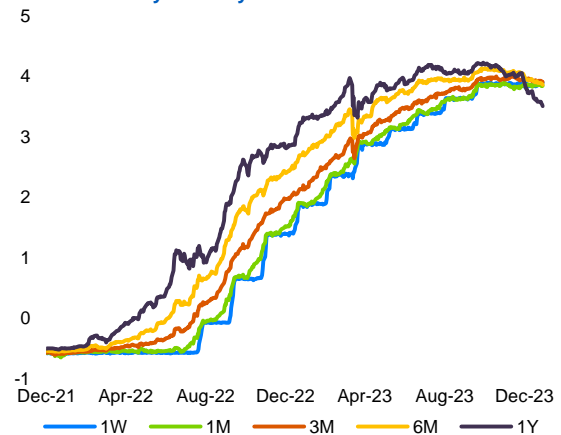
### Euro area interest rates



Note: EA money market interest rates, in %.  
Sources: Refinitiv Datastream, ESMA.

A.56

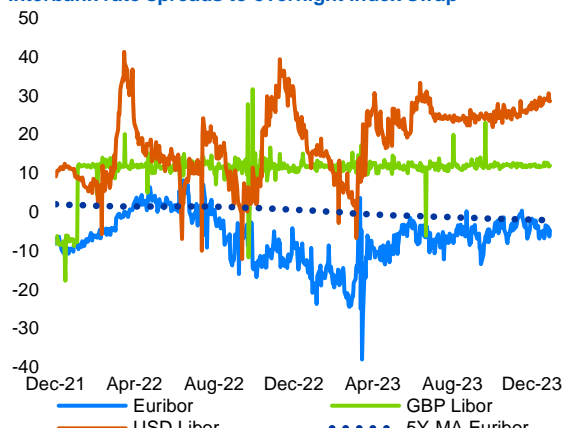
### Euribor rates by maturity



Note: Euribor interest rates by maturity, in %.  
Sources: Refinitiv Datastream, ESMA.

A.57

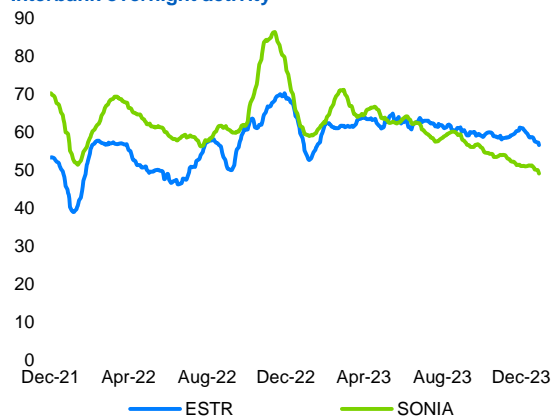
### Interbank rate spreads to overnight index swap



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

A.58

### Interbank overnight activity

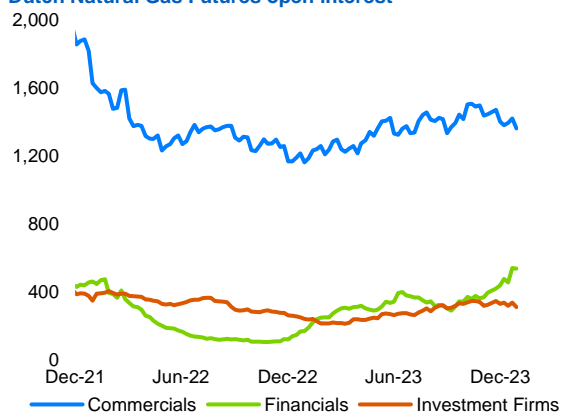


Note: 1M-MA of daily lending volumes on Euro short-term rate (€STR), EUR bn, and Sterling Overnight Index Average (SONIA), GBP bn.  
Sources: ECB, Refinitiv EIKON, ESMA.

## Commodities

A.59

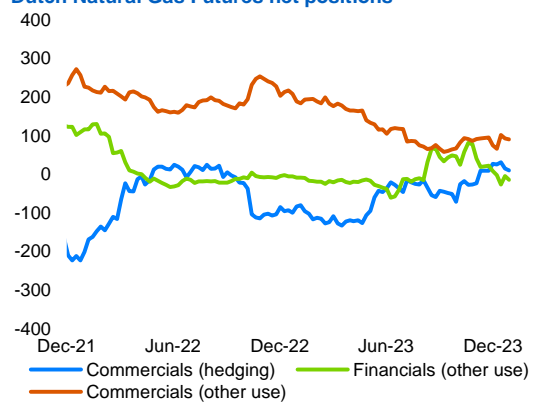
### Dutch Natural Gas Futures open interest



Note: Open interests on Dutch Natural Gas Futures by commercial, financials traders (funds and other financial institutions) and investment firms, in mn. Spikes might reflect data quality issues.  
Sources: ESMA Weekly Commodity Derivatives Positions Reporting, ESMA.

A.60

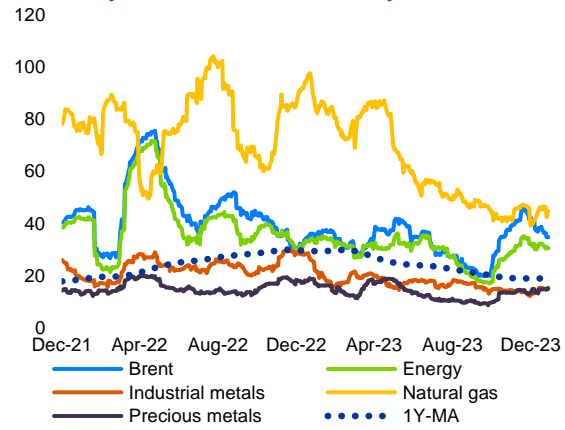
### Dutch Natural Gas Futures net positions



Note: Net number of positions (long minus short) on Dutch Natural Gas Future held by commercial traders and financials traders (funds and other financial institutions) in mn.  
Sources: ESMA Weekly Commodity Derivatives Positions Reporting, ESMA.

A.61

Commodity derivatives realised volatility



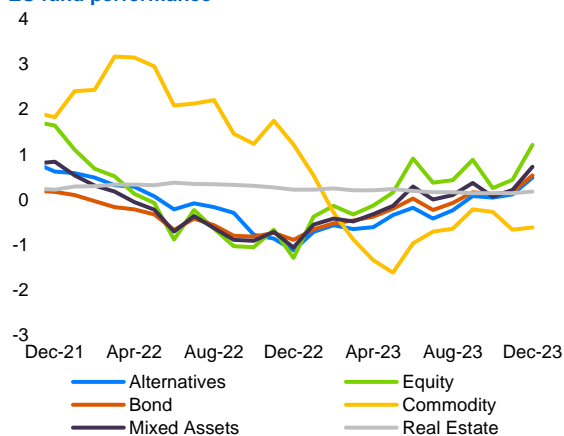
Note: Annualised 40-day volatility of S&P GSCI commodity indices and Brent price, in %. 1Y-MA=one-year moving average computed using S&P GSCI. Sources: Refinitiv Datastream, ESMA.

# Asset management

## Fund industry

A.62

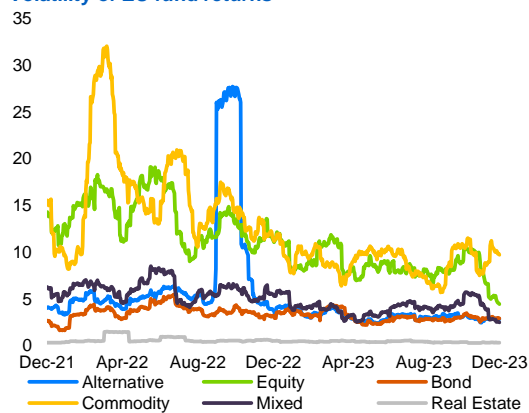
### EU fund performance



Note: EU27-domiciled investment funds' annual average monthly returns, asset weighted, in %.  
Sources: Thomson Reuters Lipper, ESMA.

A.63

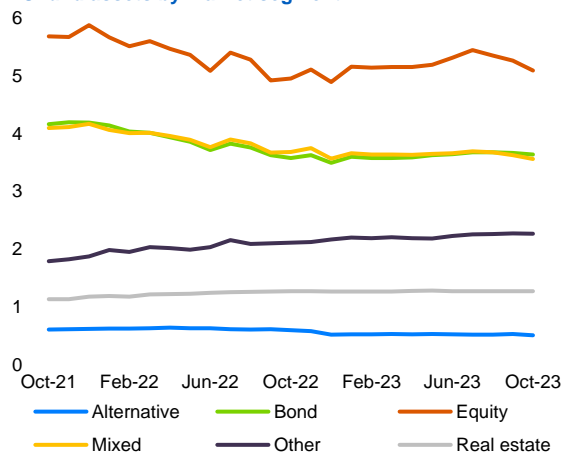
### Volatility of EU fund returns



Note: Annualised 40D historical return volatility of EU27 domiciled mutual funds, in %.  
Sources: Thomson Reuters Lipper, ESMA.

A.64

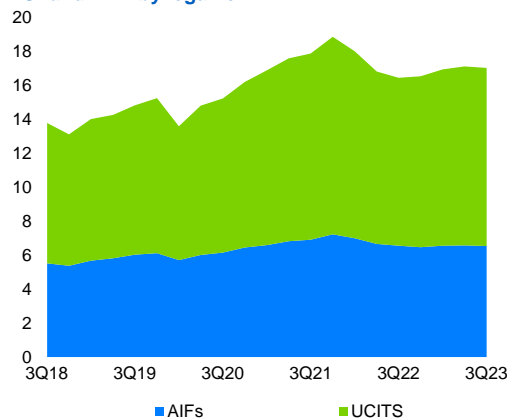
### EU fund assets by market segment



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

A.65

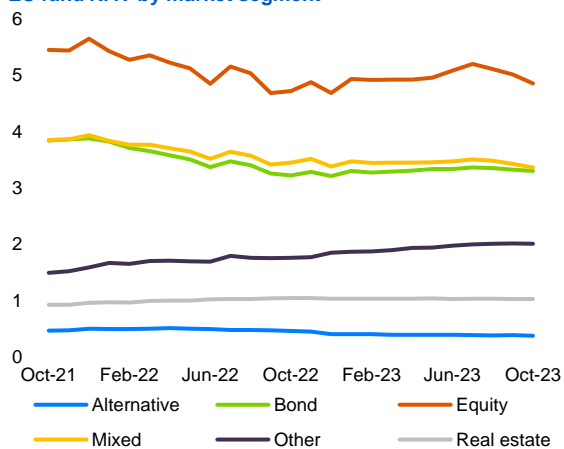
### EU fund NAV by legal form



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

A.66

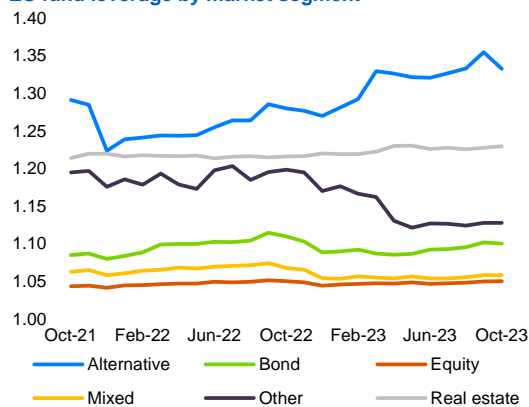
### EU fund NAV by market segment



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

A.67

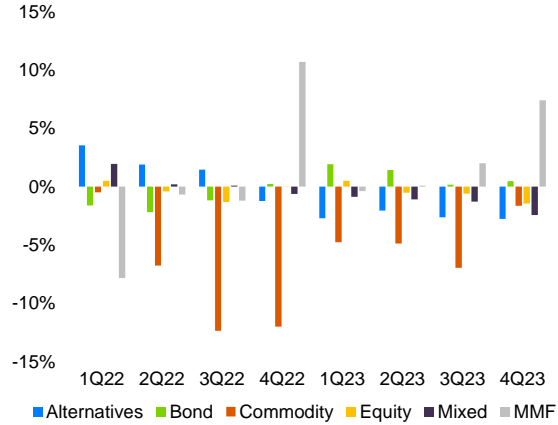
### EU fund leverage by market segment



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

A.68

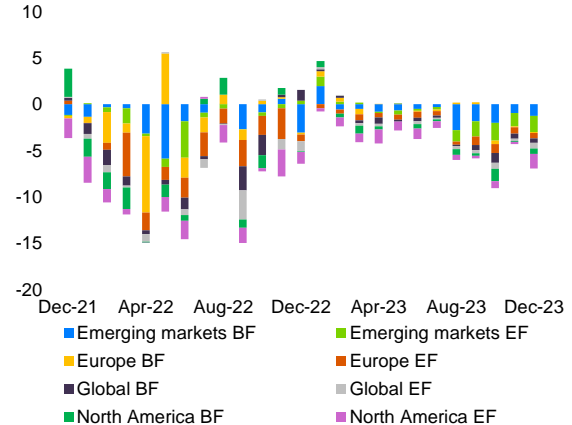
EU fund flows by fund type



Note: EU27-domiciled funds' quarterly flows, in % of NAV.  
Sources: Refinitiv Lipper, ESMA.

A.69

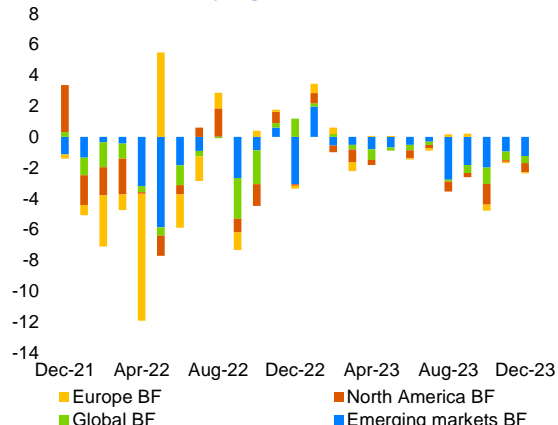
EU fund flows by regional investment focus



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

A.70

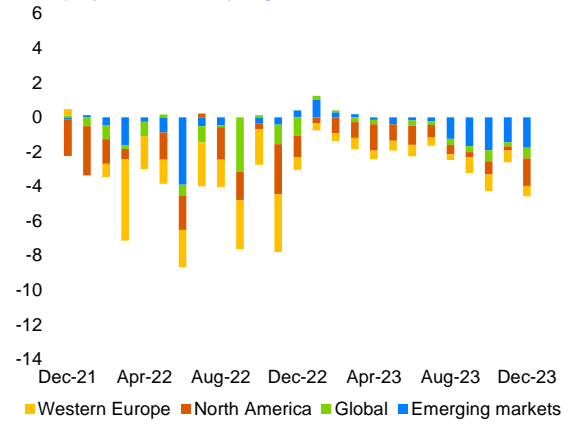
EU bond fund flows by regional investment focus



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

A.71

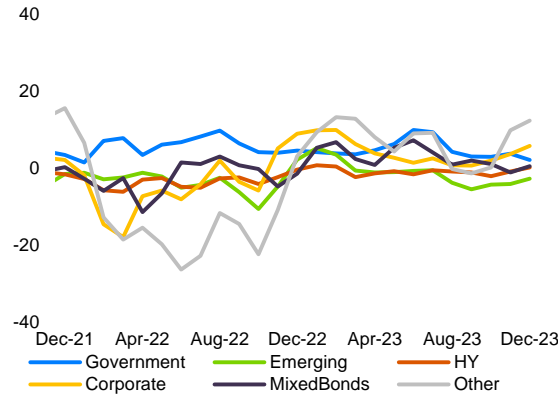
EU equity fund flows by regional investment focus



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

A.72

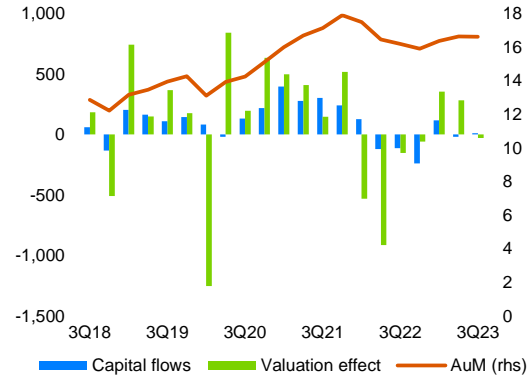
Net flows in EU bond funds



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.73

Net asset valuation of EU funds

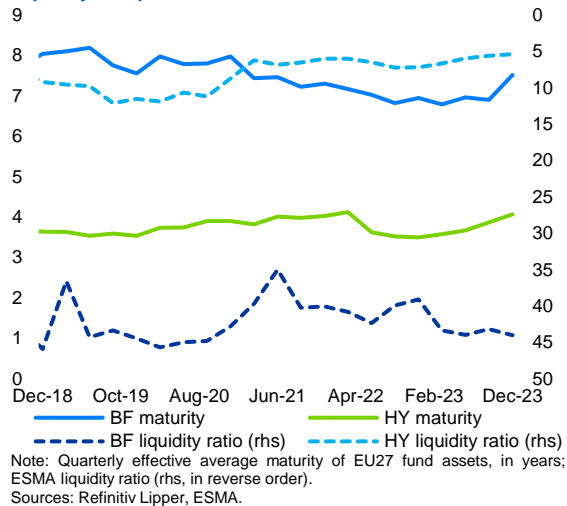


Note: Net valuation effect related to the AuM of EA investment funds, computed as the intraperiod change in AuM, net of flows received in the respective period. Capital flows and valuation effects in EUR bn. AuM expressed in EUR tn.  
Sources: ECB, ESMA.



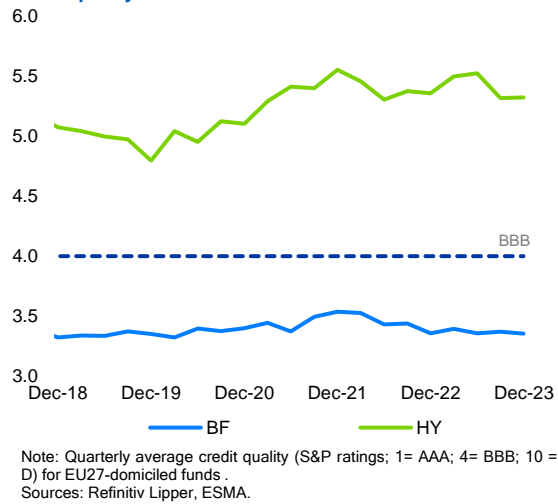
A.74

**Liquidity risk profile of EU bond funds**



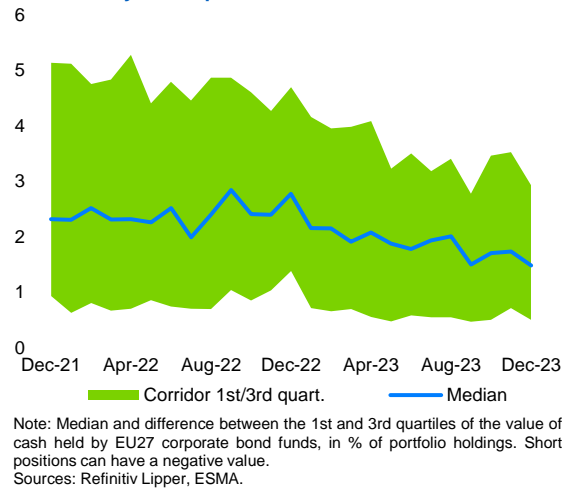
A.76

**Credit quality of EU bond funds' assets**



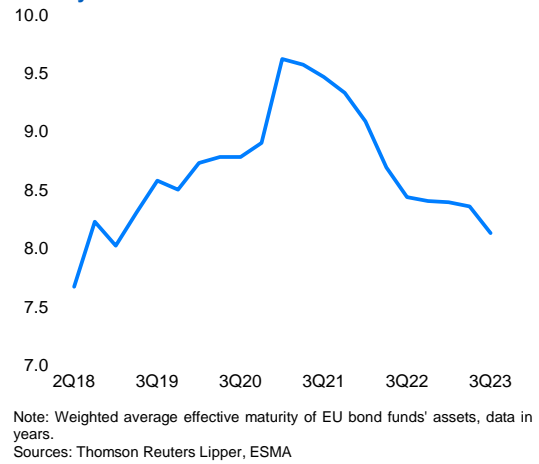
A.75

**Cash held by EU corporate bond funds**



A.77

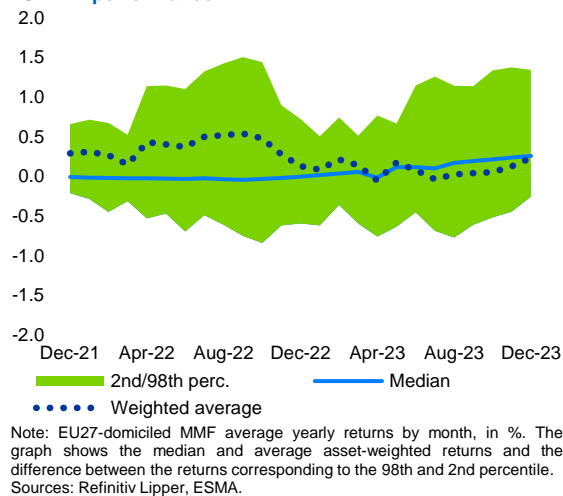
**Maturity of EU bond funds' assets**



**Money market funds**

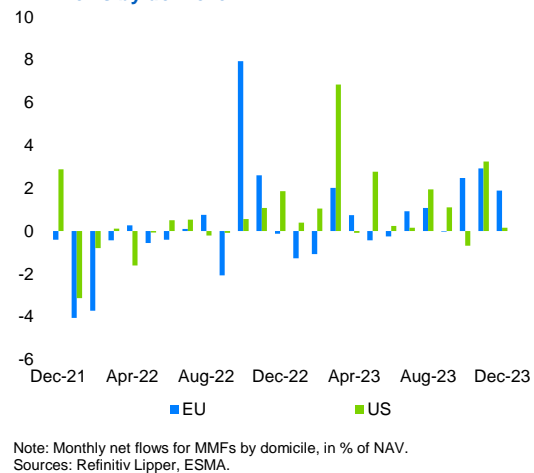
A.78

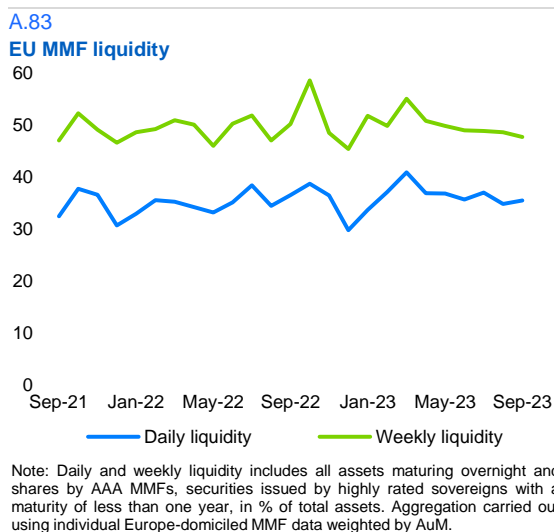
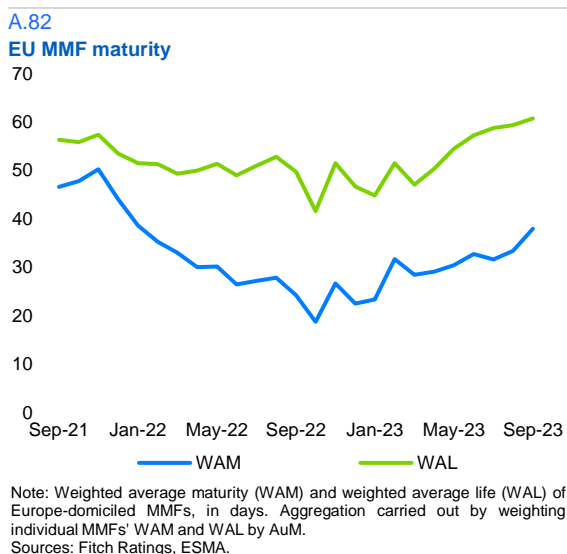
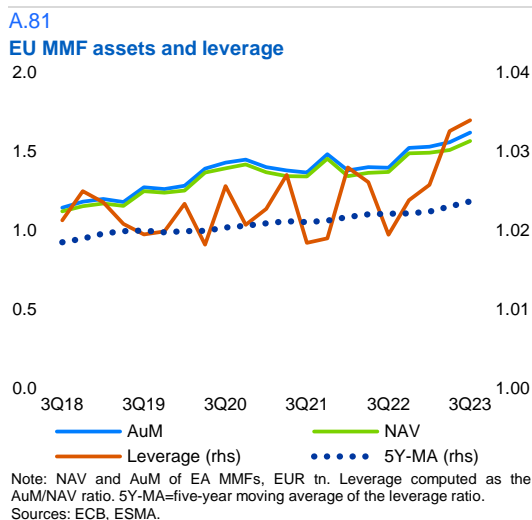
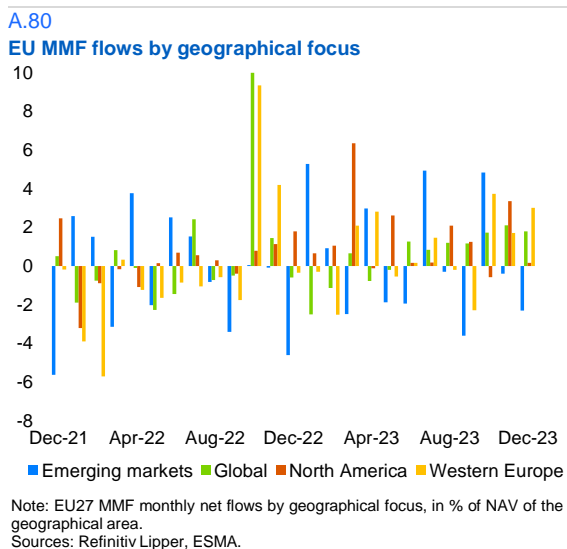
**EU MMF performance**



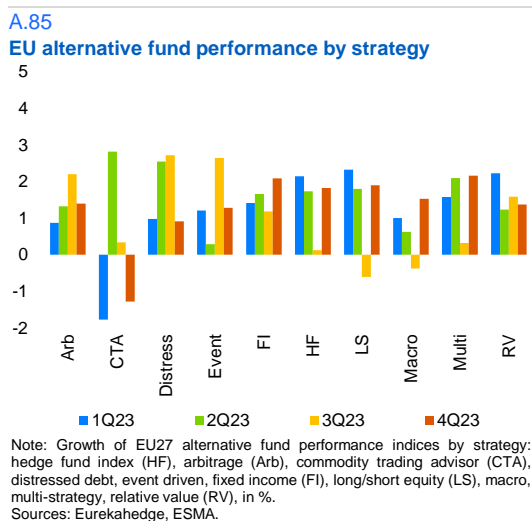
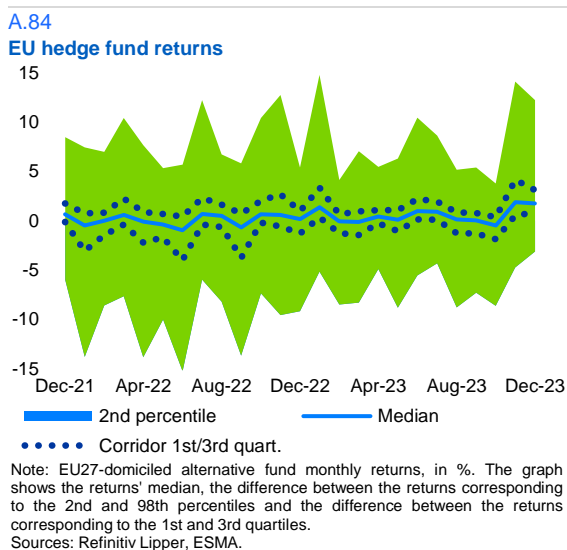
A.79

**MMF flows by domicile**



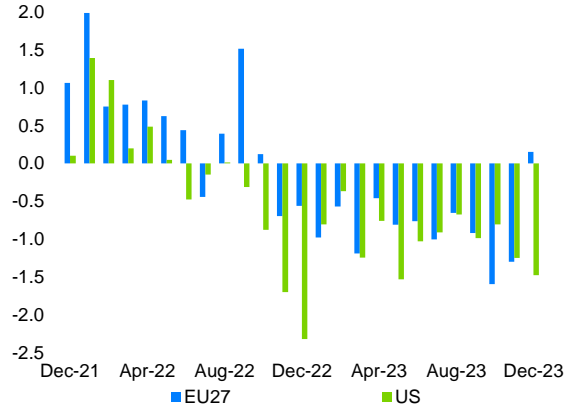


**Alternative funds**



A.86

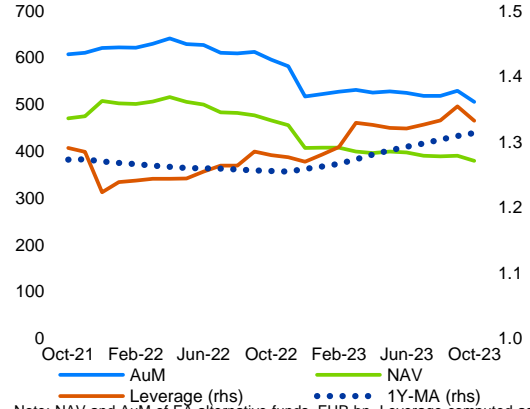
**EU alternative fund flows by domicile**



Note: Alternative mutual fund monthly 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.87

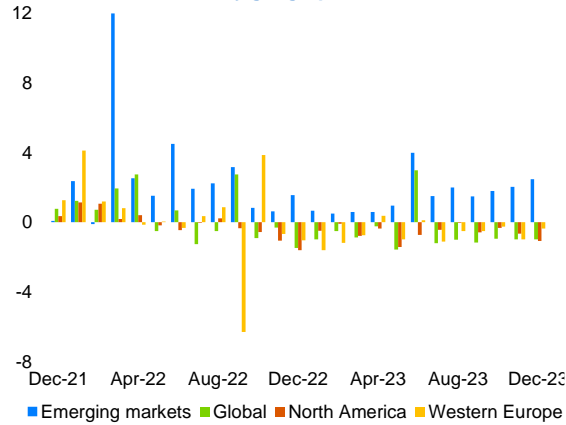
**EU alternative fund assets and leverage**



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.88

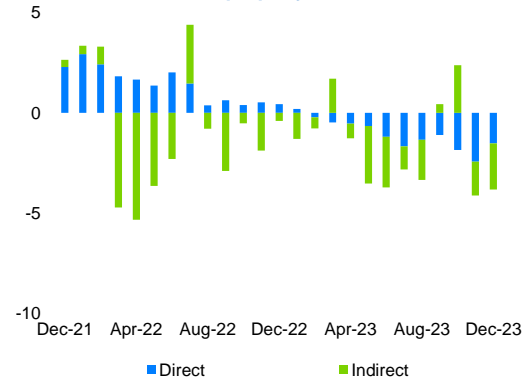
**Alternative fund flows by geographical focus**



Note: Alternative mutual funds' monthly net flows by geographical focus, in % of NAV of the geographical area. Data on alternative mutual funds represents

A.89

**Direct and indirect EU property fund flows**

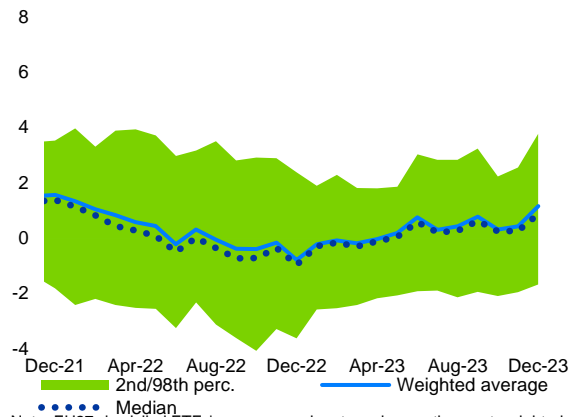


Note: Two-month cumulative flows for direct and indirect EU27-domiciled property funds. Indirect property funds invest in securities of real estate companies, including Real Estate Investment Trusts (REITs), in EUR bn. Sources: Morningstar, ESMA.

## Exchange-traded funds

A.90

### EU ETF returns



Note: EU27-domiciled ETFs' average yearly returns by month, asset-weighted, in %. The graph shows the median and average asset-weighted returns and the difference between the returns corresponding to the 98th and the 2nd percentile (light blue corridor).  
Sources: Refinitiv Lipper, ESMA.

A.91

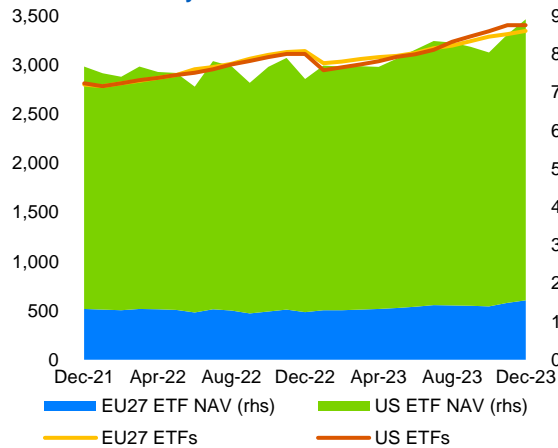
### EU ETF returns volatility



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

A.92

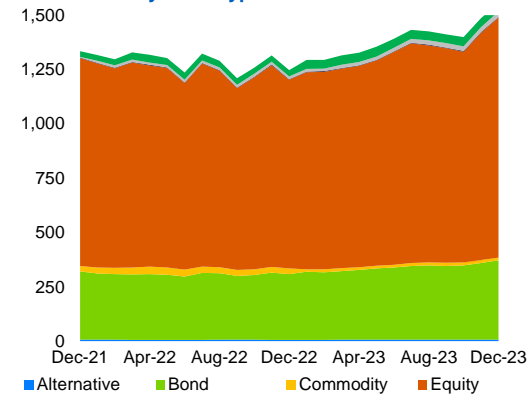
### EU ETF and NAV by domicile



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

A.93

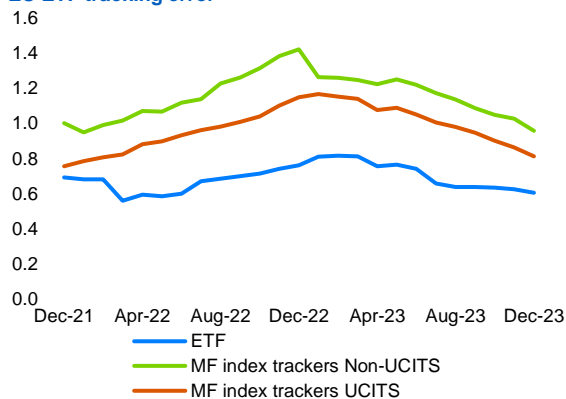
### EU ETF NAV by asset type



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

A.94

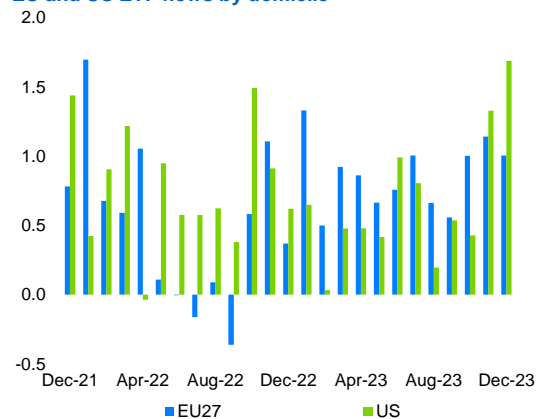
### EU ETF tracking error



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.95

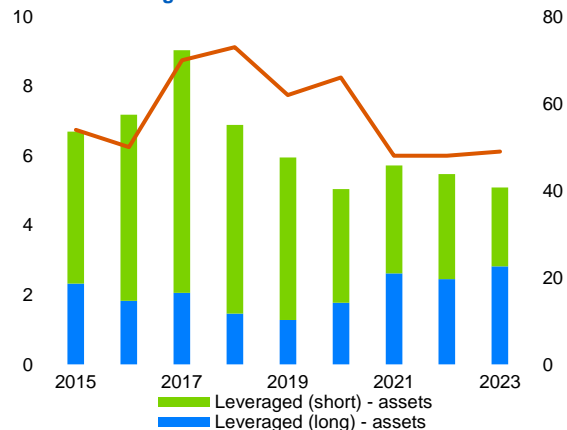
### EU and US ETF flows by domicile



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

A.96

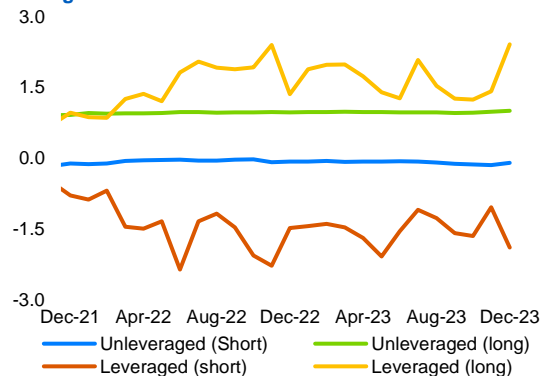
Assets of leveraged EU ETFs



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.97

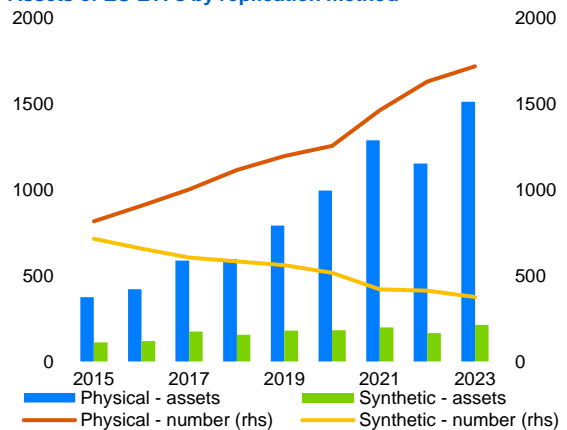
Average beta values for EU ETFs



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.98

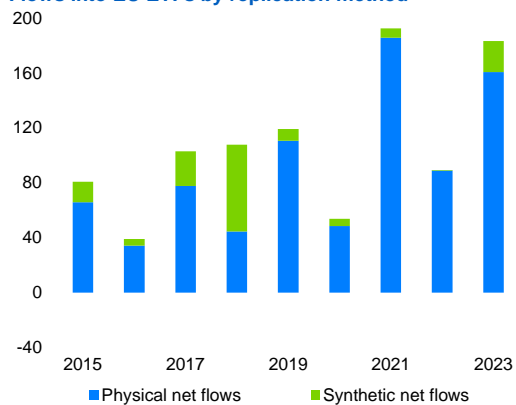
Assets of EU ETFs by replication method



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.99

Flows into EU ETFs by replication method



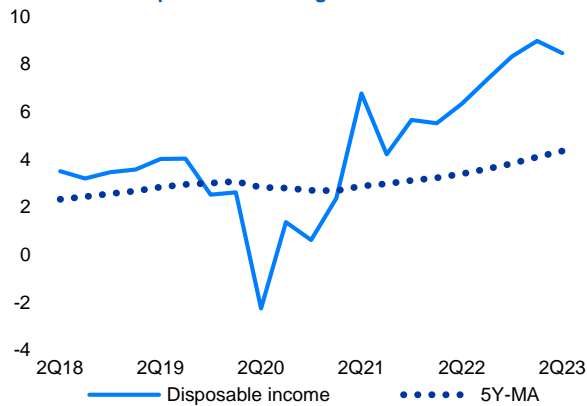
Note: Net flows of physical and synthetic ETFs with primary listings in Europe, in EUR bn. Sources: ETFGI, ESMA

# Consumers

## Investment resources available to households

A.100

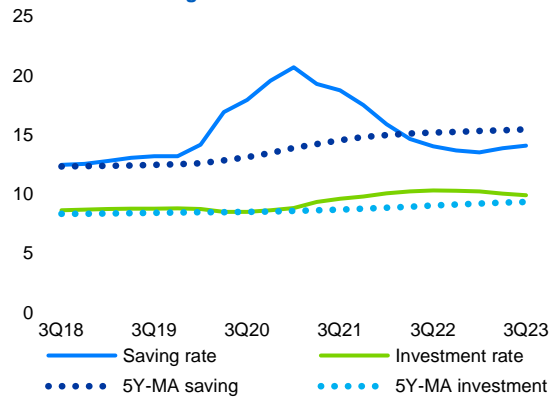
### EU household disposable income growth



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.101

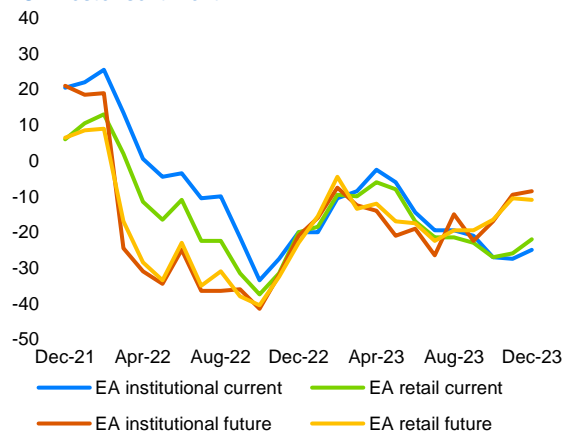
### EU household saving and investment rates



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.102

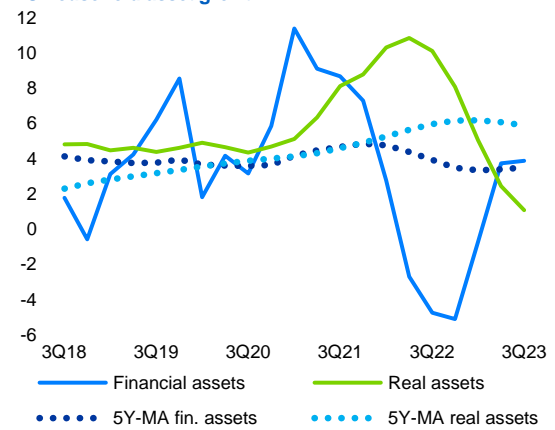
### EU investor sentiment



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.103

### EU household asset growth

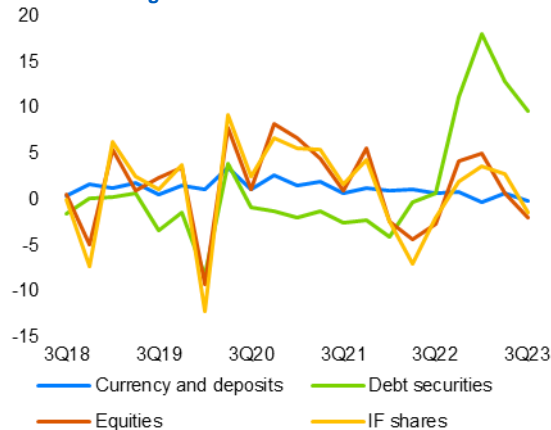


Note: Annualised growth rate real and financial assets of EA households, in %. 5Y-MA=five-year moving average of the growth rates.  
Sources: ECB, ESMA.

## Asset allocation by retail investors

A.104

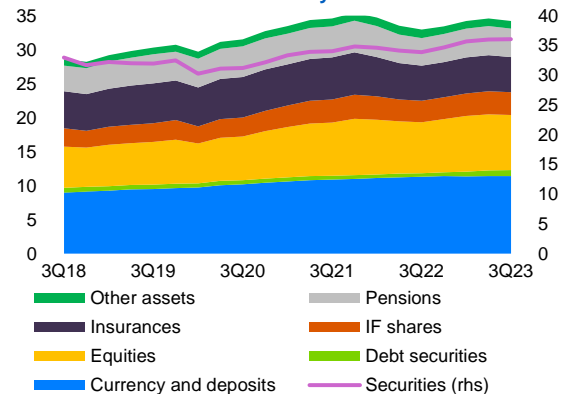
### EU household growth rates in financial assets



Note: Quarterly asset growth rates of financial assets held by EU27 households, in %. IF shares=investment fund shares.  
Sources: ECB, ESMA.

A.105

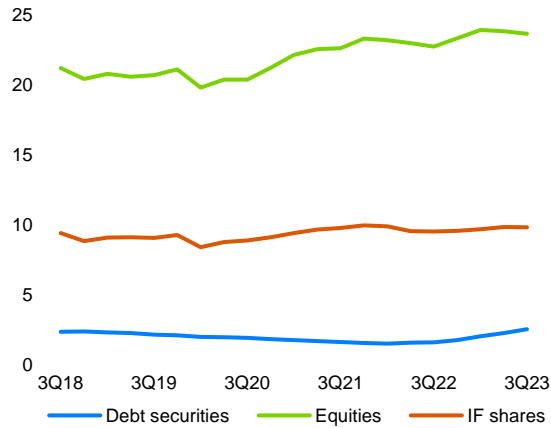
### EU household financial assets by class



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.106

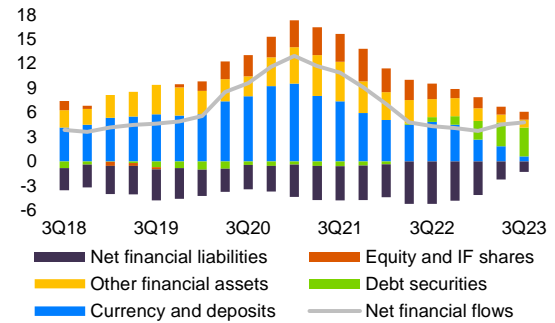
Share of securities investments in EU household assets



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.107

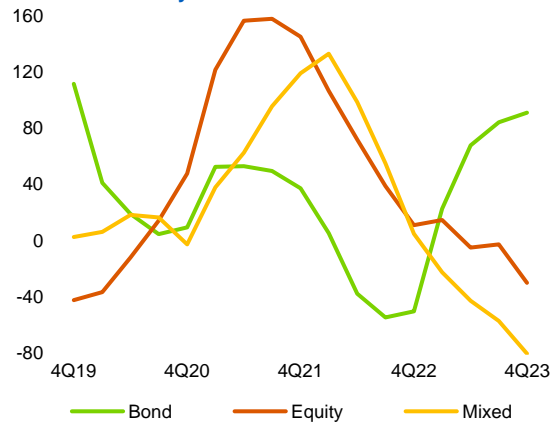
EU household net financial asset flows



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.108

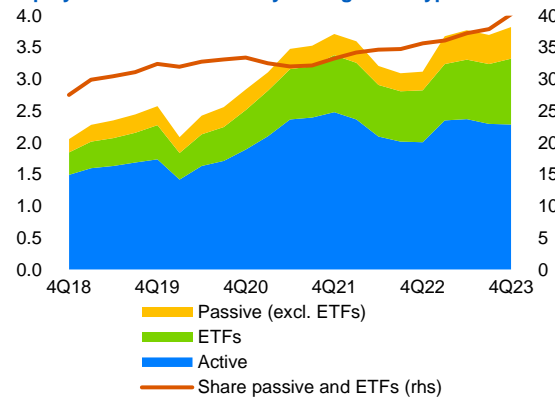
UCITS net flows by asset class for retail investors



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

A.109

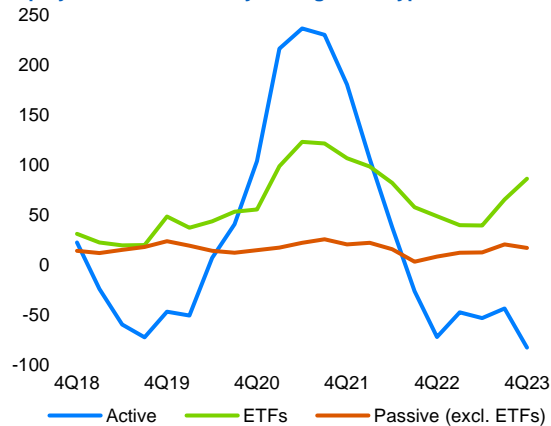
Equity UCITS market size by management type



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.110

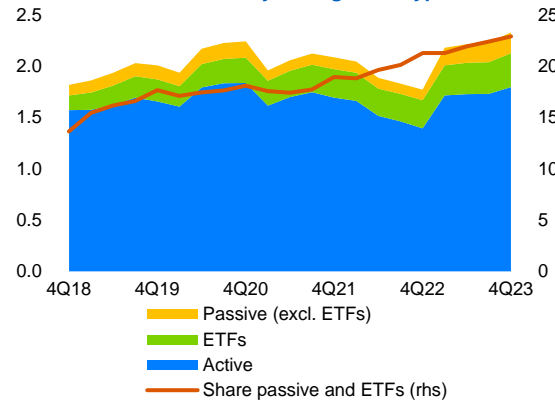
Equity UCITS net flows by management type



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.111

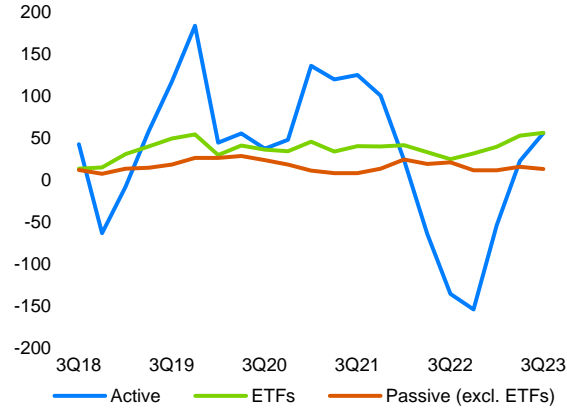
Bond UCITS market size by management type



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 tn. Share of passive and ETFs, in %.  
Sources: Refinitiv Lipper, ESMA.

A.112

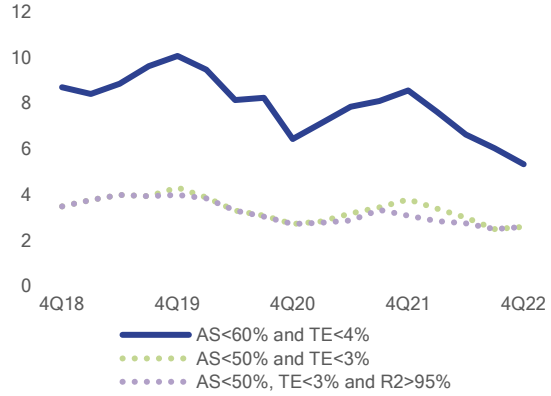
**Bond UCITS net flows by management type**



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.113

**Equity active funds closet index indicator**

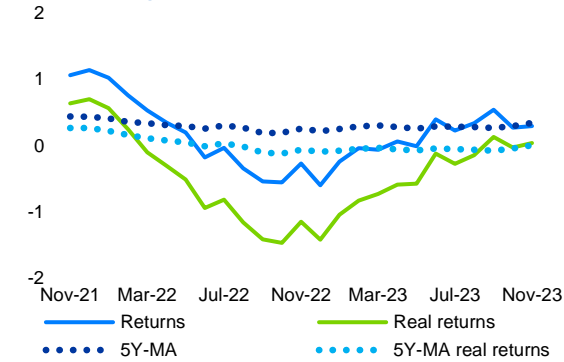


Note: Note: EU27 active equity UCITS share of potential closet index (CI) within our sample. Share of total, %. Potential CI based on three criteria: Active Share (AS) < 60% and Tracking Error (TE) < 4%; AS < 50% and TE < 3%; AS < 50% and TE < 3% and R-squared (R2) > 95%.  
Sources: Morningstar Direct, ESMA.

**Costs and performance**

A.114

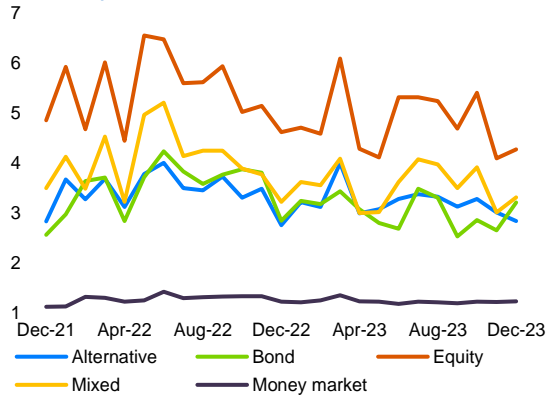
**EU household portfolio returns**



Note: One-year moving average of the monthly gross nominal and real returns of a stylised EU 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, Eurostat, ESMA.

A.115

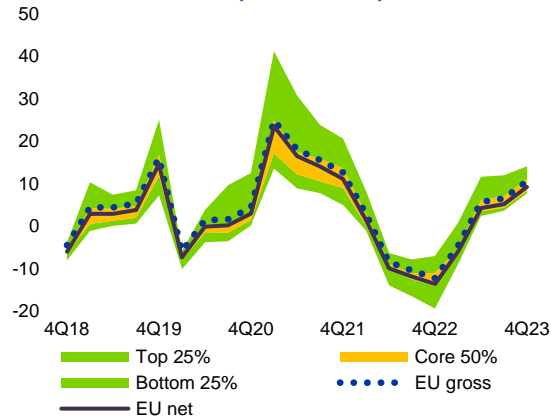
**EU fund synthetic risk and reward indicator**



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.116

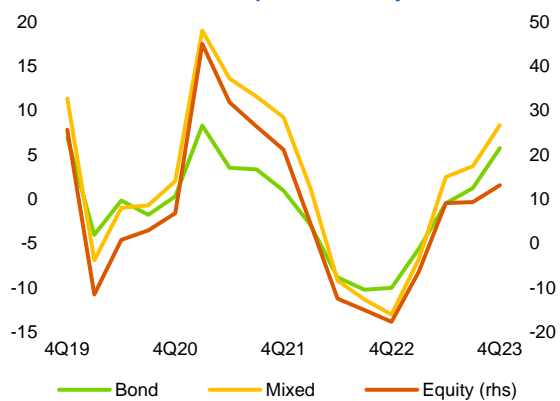
**UCITS retail investor dispersion of net performance**



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.

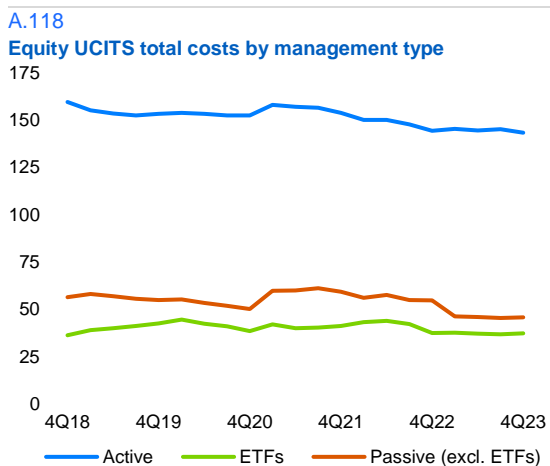
A.117

**UCITS retail investors net performance by asset class**

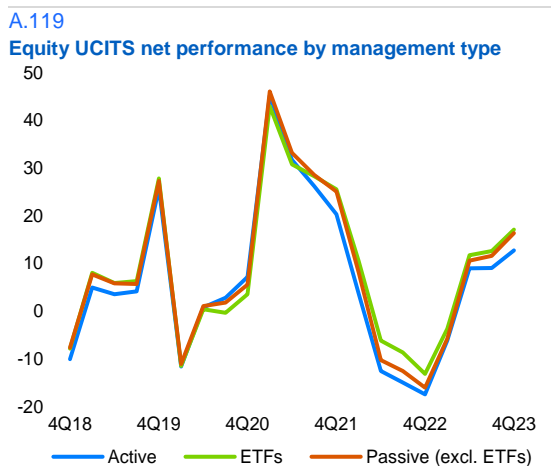


Note: Evolution of net annual performance (net of ongoing costs (TER), subscription and redemption fees) of EU27 UCITS, retail investors only, by asset class, in %.  
Sources: Refinitiv Lipper, ESMA.

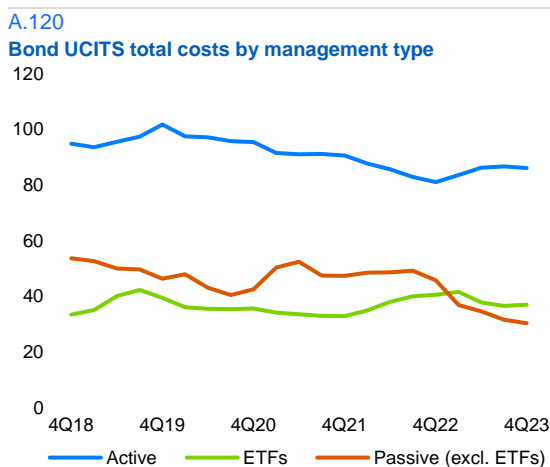




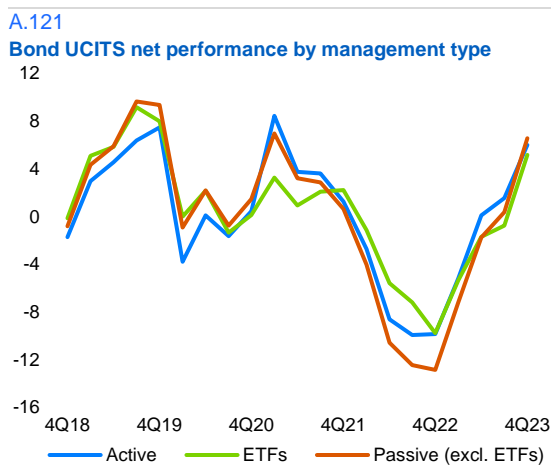
Note: Evolution of total costs (ongoing costs (TER), subscription and redemption fees) of EU27 equity UCITS, retail and institutional investors, by management type, in bps.  
 Sources: Refinitiv Lipper, ESMA.



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.



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.

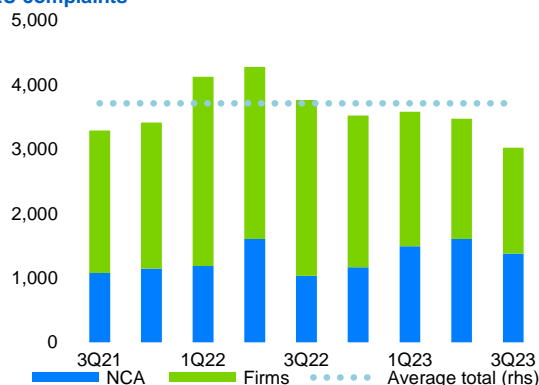


Note: Evolution of net annual performance (net of ongoing costs (TER), subscription and redemption fees) of EU27 bond UCITS, retail and institutional investors, by management type, in %.  
 Sources: Refinitiv Lipper, ESMA.

## Complaints

A.122

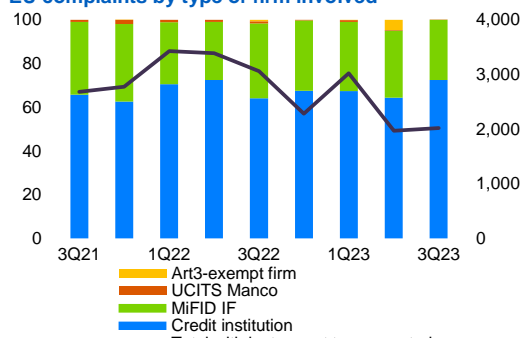
### EU complaints



Note: Number of complaints recorded by quarterly-reporting NCAs (n=13) 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 2Q21 to 2Q23. Sources: ESMA complaints database.

A.123

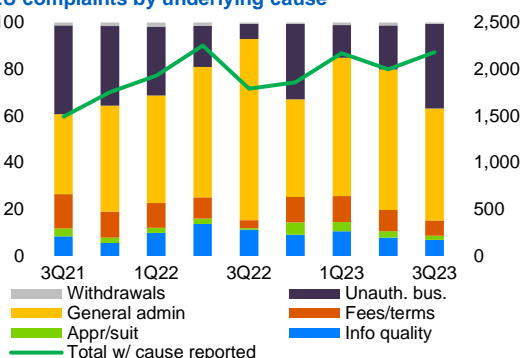
### EU complaints by type of firm involved



Note: Share of complaints for quarterly-reporting NCAs (n=13) received direct from consumers and via firms by type of firm involved, excluding complaints without 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 MiFID Article 3. Sources: ESMA complaints database.

A.124

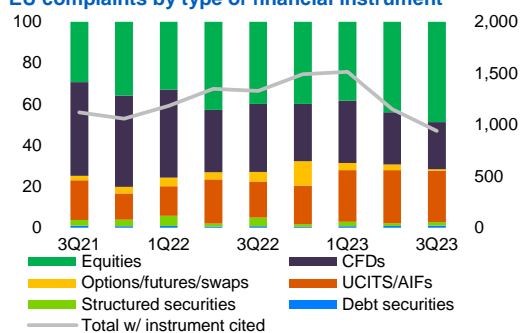
### EU complaints by underlying cause



Note: Share of complaints for quarterly-reporting NCAs (n=13) 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 categorised by one of the listed causes. Sources: ESMA complaints database.

A.125

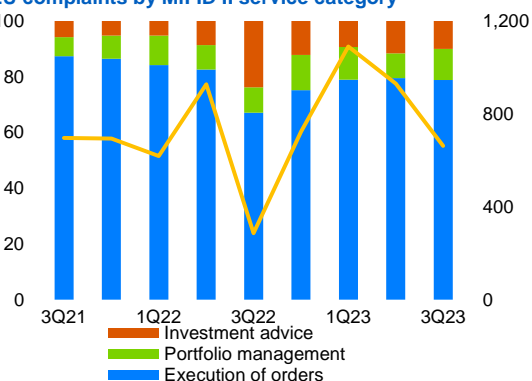
### EU complaints by type of financial instrument



Note: Share of complaints from quarterly-reporting NCAs (n=13) received direct from consumers 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 channels whether or not further categorisation possible. "CFDs"=Contracts for Differences. Sources: ESMA complaints database.

A.126

### EU complaints by MiFID II service category



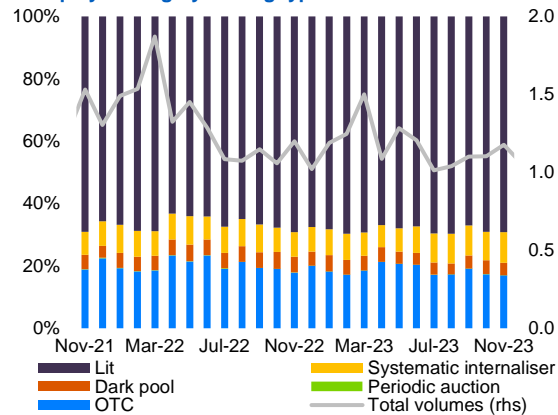
Note: Share of complaints for quarterly-reporting NCAs (n=13) received direct from consumers and via firms recorded as associated with a given MiFID service, excluding complaints with no such category recorded, all reporting channels, %. "Total with MiFID service reported"=Total complaints received via these reporting channels recorded as associated with a MiFID service. Sources: ESMA complaints database.

# Infrastructures and services

## Trading venues and MiFID entities

A.127

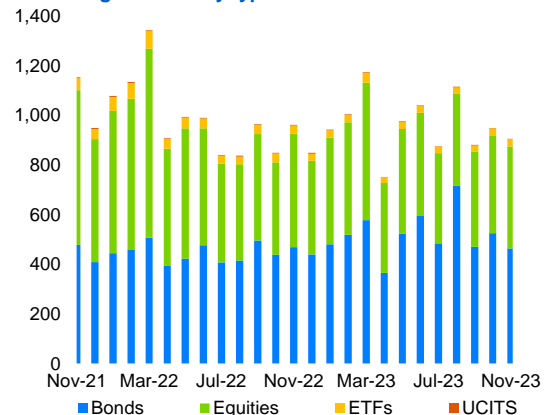
### EU equity trading by trading type



Note: Type of equity trading in the EEA as a percentage of total equity turnover. Total equity trading turnover in EUR trillion (rhs). Last available data point is November 2023.  
Sources: FIRDS, FITRS, ESMA.

A.128

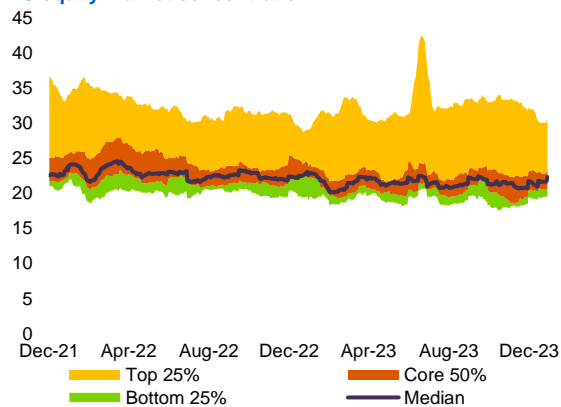
### EU trading turnover by type of assets



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.129

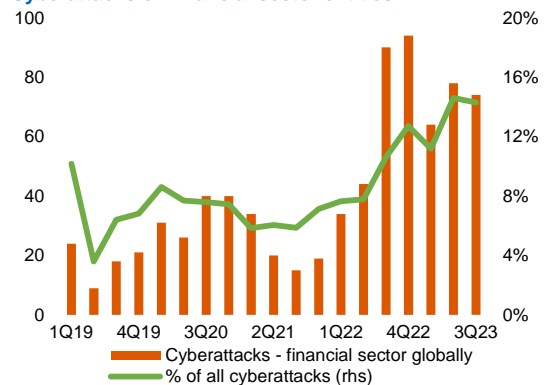
### EU equity market concentration



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

A.130

### Cyberattacks on financial sector entities

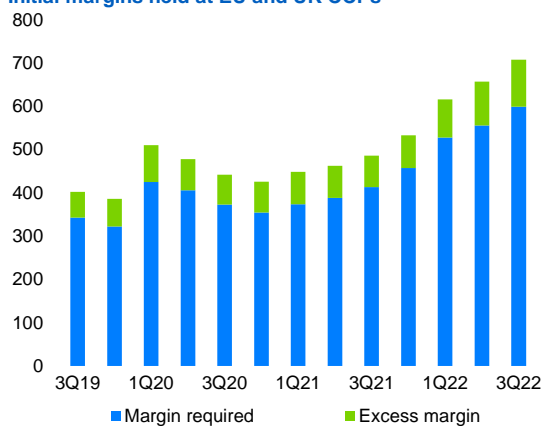


Note: Cyberattacks on financial sector entities globally by quarter, publicly-acknowledged incidents. For details, see Harry, C., & Gallagher, N. (2018). *Classifying cyber events*. Journal of Information Warfare, 17(3), 17-31  
Sources: University of Maryland CISSM Cyber Attacks Database, ESMA

## Central counterparties

A.131

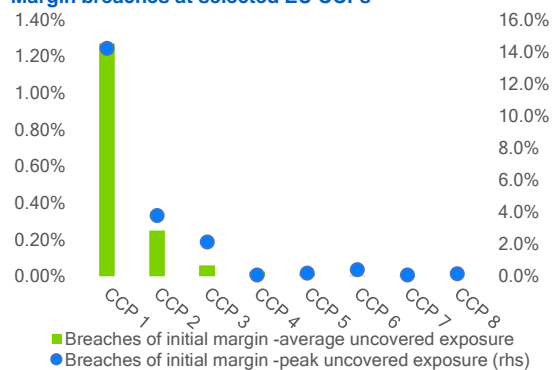
### Initial margins held at EU and UK CCPs



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.132

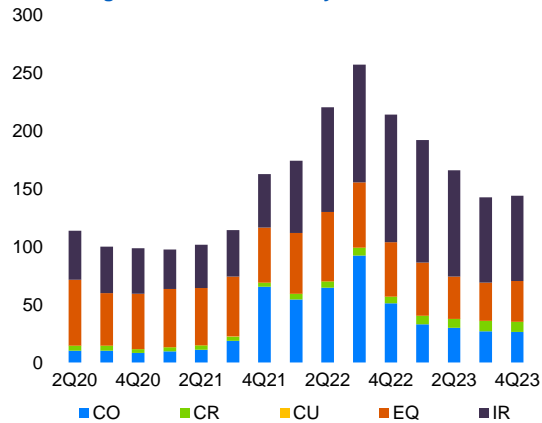
### Margin breaches at selected EU CCPs



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 30 December 2022. (Data for Athex Clearing, BME Clearing, CC&G and Euro CCP not reported)  
Sources: Clarus Financial Technology, PQD, ESMA.

A.133

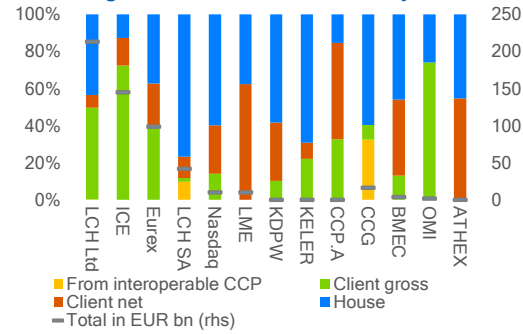
Initial margins held at EU CCPs by asset class



Note: Outstanding amounts of initial margin required and excess collateral received by EU27 CCPs for derivatives . in EUR bn.  
Sources: TRs, ESMA.

A.134

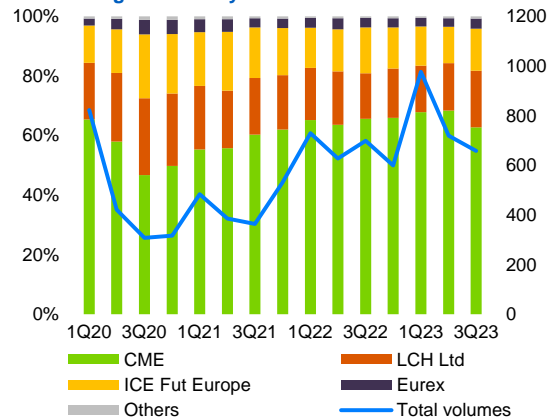
Initial margins held at EU and UK CCPs by account



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). As of 31st December 2022. Data for CCG, BMEC, OMI and ATHEX from 30th September 2022.  
Sources: Clarus Financial Technology, CPMI-IOSCO PQD, ESMA.

A.135

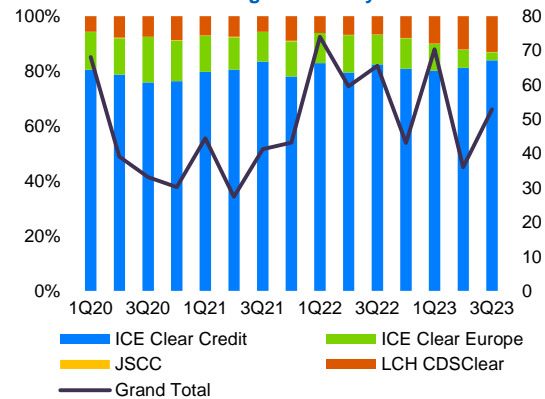
IRD clearing volumes by CCP



Note: Quarterly notional volumes cleared for OTC and ETD IRDs in EUR, USD, JPY or GBP. Market shares by CCP in % of total quarterly volumes cleared for these products. Total volumes in EUR tn.  
Sources: Clarus Financial Technology, ESMA.

A.136

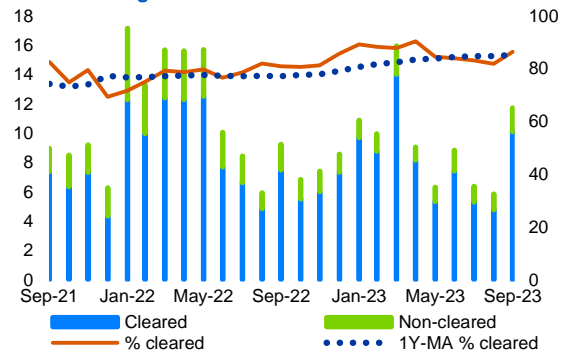
Credit derivatives clearing volumes by CCP



Note: Quarterly notional volumes cleared for CDS, CDX and CDX futures & swaptions in EUR, USD, JPY or GBP. Market shares by CCP in % of total quarterly volumes cleared for these products. Total volumes in EUR tn.  
Sources: Clarus Financial Technology, ESMA.

A.137

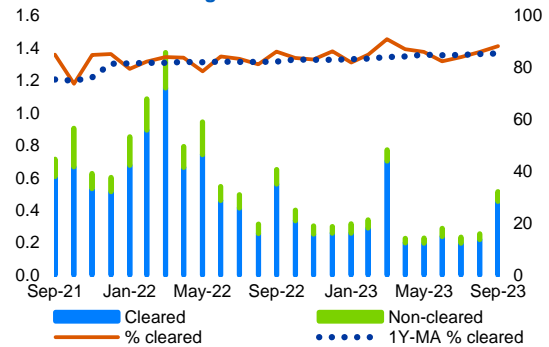
EU IRD trading volumes



Note: Monthly trading volumes for EU27-currency-denominated IRD products. Products include IRS, basis swaps, FRA, inflation swaps, OIS. 40-day moving average notional, USD tn. ISDA SwapsInfo data are based on publicly available data from DTCC Trade Repository LLC and Bloomberg Swap Data Repository.  
Sources: ISDA SwapsInfo, ESMA.

A.138

EU CDS index trading volumes

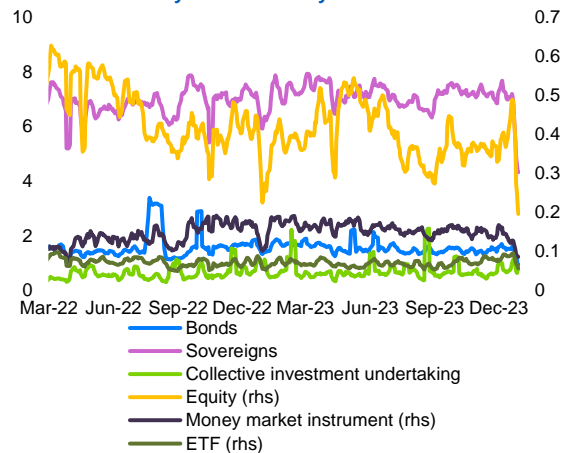


Note: Monthly trading volumes for the main EUR CDS indices including Itraxx Europe, Itraxx Europe Crossover, Itraxx Europe Senior Financials. 40-day moving average notional, USD tn. ISDA SwapsInfo data are based on publicly available data from DTCC Trade Repository LLC and Bloomberg Swap Data Repository.

### Central securities depositories

A.139

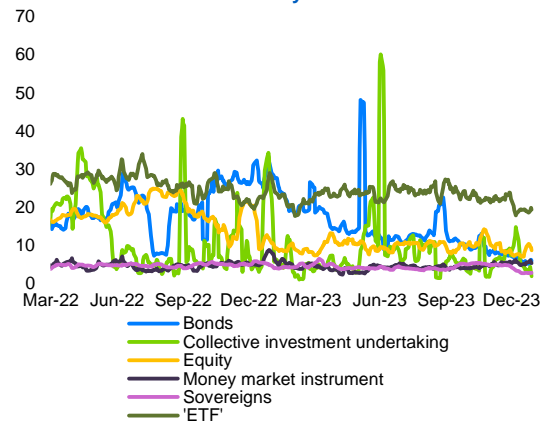
#### Settlement activity in EU CSDs by asset class



Note: Value of settlement instructions at EEA level, in EUR tn. One-week moving averages. Extreme values removed. Sources: ESMA.

A.140

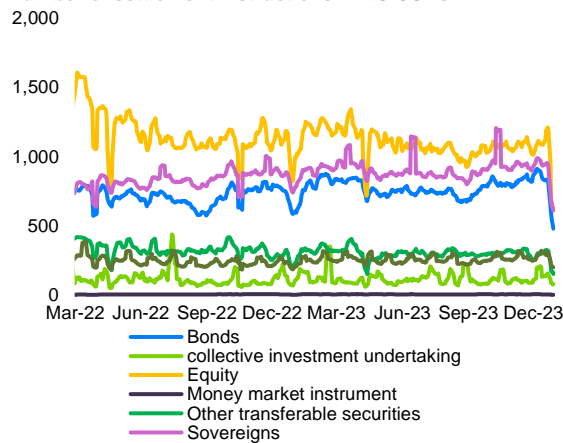
#### Settlement fails in EU CSDs by asset class



Note: Settlement fails as a % of total value of settlement instructions at EEA level. One-week moving averages. Extreme values removed. Sources: ESMA.

A.141

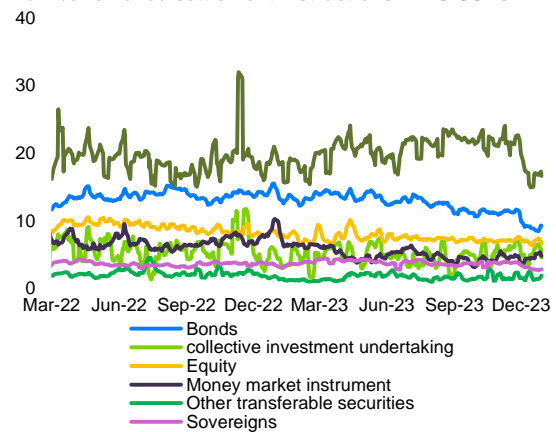
#### Number of settlement instructions in EU CSDs



Note: Volume of settlement instructions at EEA level, in thousands. One-week moving averages. Extreme values removed. Sources: ESMA.

A.142

#### Number of failed settlement instructions in EU CSDs

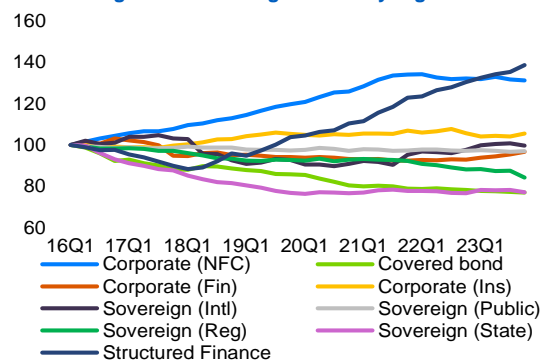


Note: Settlement fails as a % of total volume of settlement instructions at EEA level. One-week moving averages. Extreme values removed. Sources: ESMA.

### Credit rating agencies

A.143

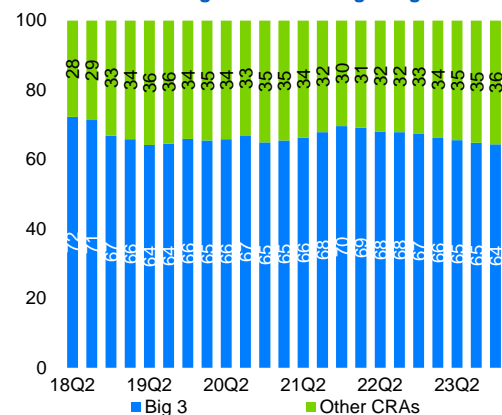
#### Outstanding EU credit ratings issued by Big 3 CRAs



Note: Evolution of the number of outstanding EEA issuer and instrument ratings by debt category, indexed 1Q16=100. S&P, Moody's and Fitch. NFC- non financial, Fin - financial, Ins - insurance, Intl - international, Reg - regional. Supranational sovereigns omitted due to very small population. Sources: RADAR, ESMA.

A.144

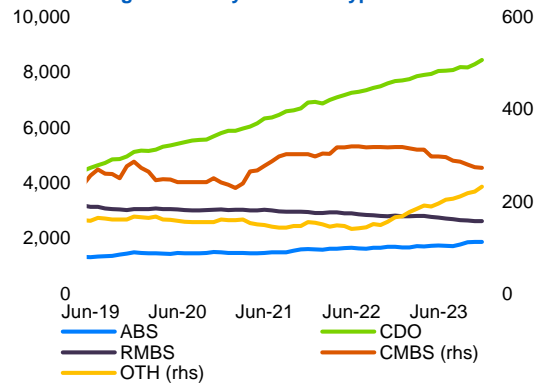
#### Share of outstanding EU credit ratings: Big 3 CRAs vs. rest



Note: Share of outstanding ratings of EEA issuers and instruments from Big 3 CRAs (S&P, Moody's and Fitch) and ratings from all other CRAs in %. Sources: RADAR, ESMA.

A.145

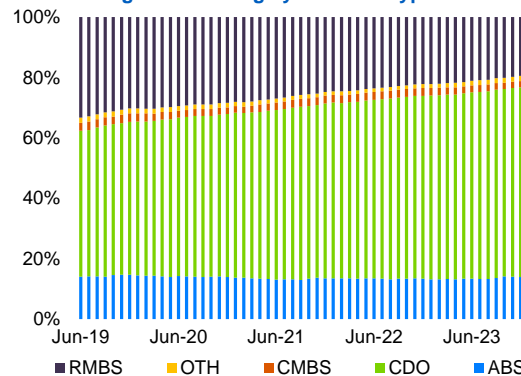
**EU SFI ratings issued by collateral type**



Note: Number of rated EEA structured finance instruments by asset class. ABS=Asset-backed securities (r.h.axis); CDO=Collateralised debt obligations; CMBS=Commercial mortgage-backed securities; OTH=Other; RMBS=Residential mortgage-backed securities. Asset backed commercial paper omitted due to very small sample size. Sources: RADAR, ESMA.

A.146

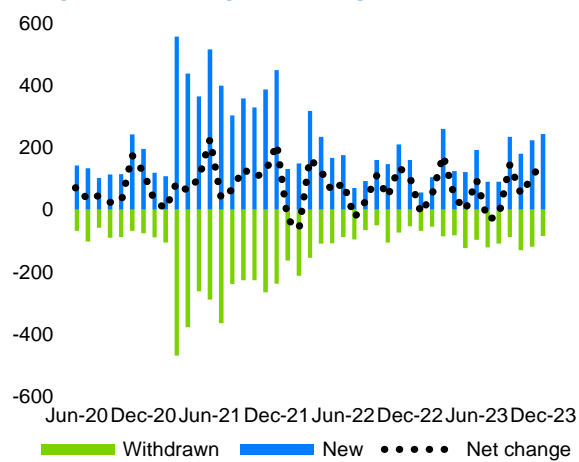
**EU SFI ratings outstanding by collateral type**



Note: Outstanding ratings of EEA structured finance instruments by asset class, in % of total. ABS=Asset-backed securities; CDO=Collateralised debt obligations; CMBS=Commercial mortgage-backed securities; OTH=other; RMBS=Residential mortgage-backed securities. Asset backed commercial paper omitted due to very small sample size. Sources: RADAR, ESMA.

A.147

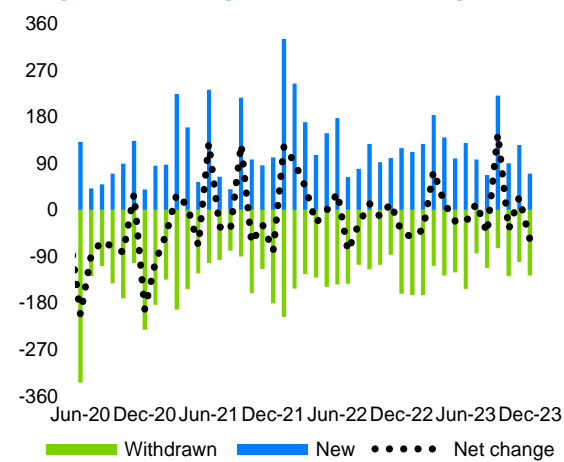
**Changes in outstanding EU SFI ratings**



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

A.148

**Changes in outstanding EU covered bond ratings**

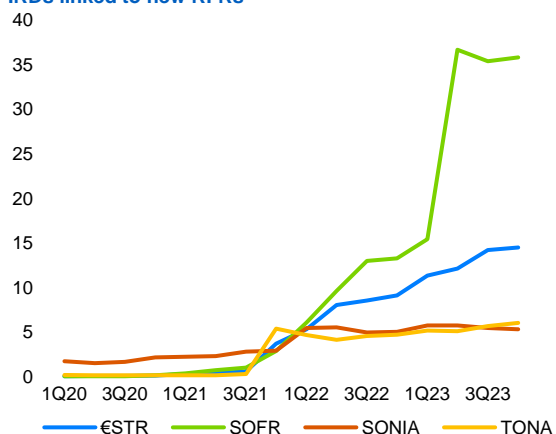


Note: Number of withdrawn and new ratings for covered bond ratings, EEA ratings. Sources: RADAR, ESMA.

## Financial benchmarks

### A.149

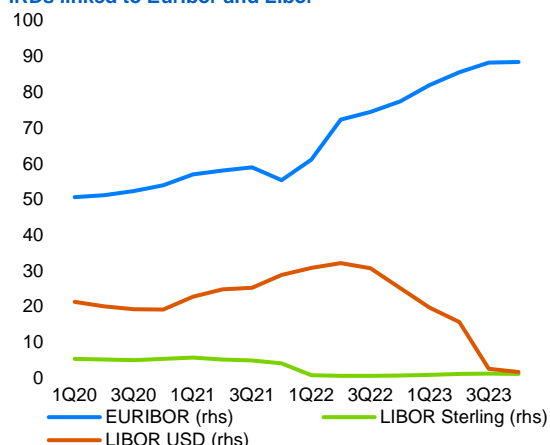
#### IRDs linked to new RFRs



Note: Gross notional amount of IRD outstanding referencing new benchmarks, EUR tn.  
Sources: TRs, ESMA

### A.150

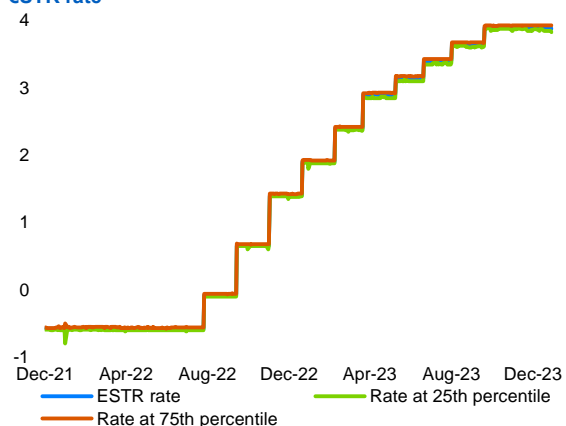
#### IRDs linked to Euribor and Libor



Note: Gross notional amount of IRD outstanding referencing benchmarks, EUR tn.  
Sources: TRs, ESMA

### A.151

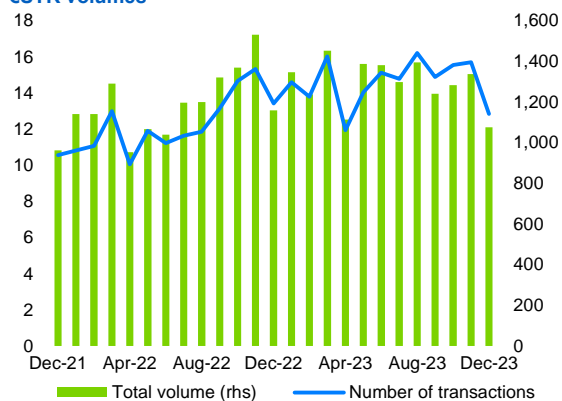
#### €STR rate



Note: €STR rates at 25th, 50th and 75th percentile of volume, in %.  
Sources: ECB, ESMA.

### A.152

#### €STR volumes



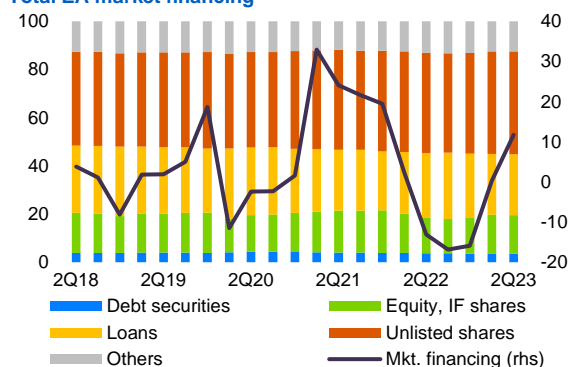
Note: €STR monthly number of transactions, in thousand, and monthly volumes, EUR tn, before trimming.  
Sources: ECB, ESMA.

# Market based finance

## Capital markets financing

A.153

Total EA market financing

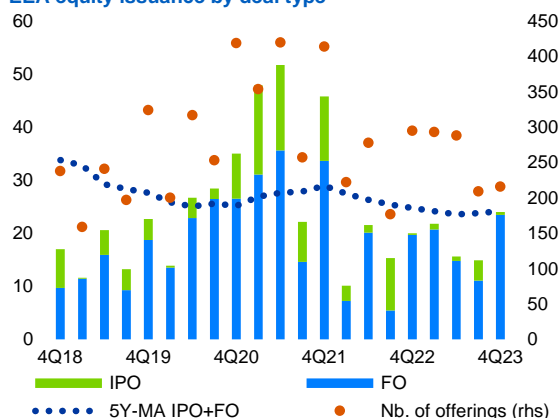


Note: Liabilities of EA non-financial corporations (NFC), by debt type as a share of total liabilities. Others include: financial derivatives and employee stock options; insurance, pensions and standardised guarantee schemes; trade credits and advances of NFC; other accounts receivable/payable. Mkt.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

Sources: ECB, ESMA.

A.154

EEA equity issuance by deal type

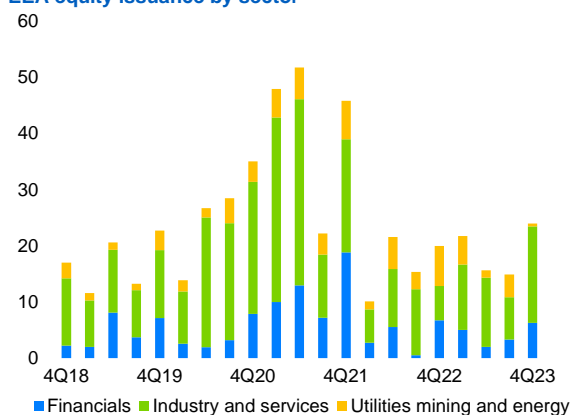


Note: Equity gross issuance in the EEA30 by type, EUR bn, and number of equity offerings. 5Y-MA=five-year moving average of the total value of equity offerings.

Sources: Refinitiv EIKON, ESMA.

A.155

EEA equity issuance by sector

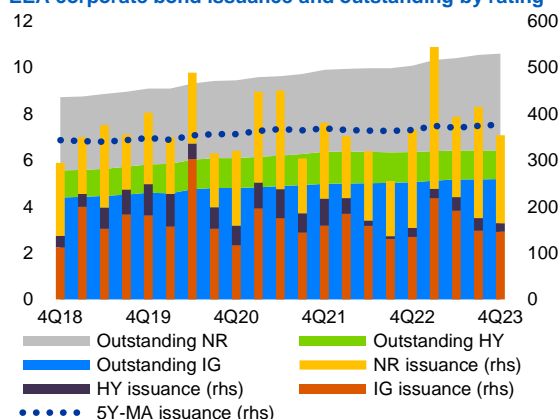


Note: Equity gross issuance in the EEA30 by sector, EUR bn. Financials includes banking & investment services, insurance, investment trusts and real estate.

Sources: Refinitiv EIKON, ESMA.

A.156

EEA corporate bond issuance and outstanding by rating

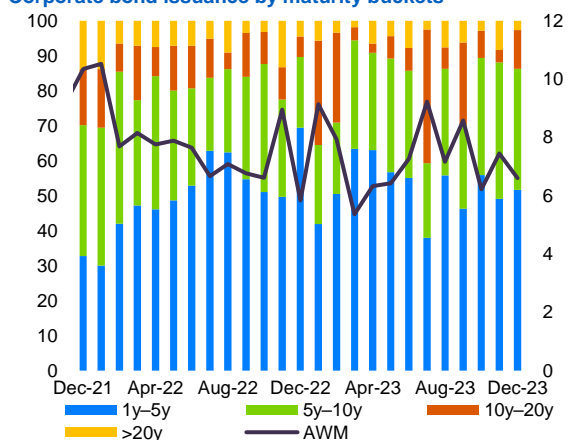


Note: Quarterly investment-grade (rating >= BBB-), high-yield (rating < BBB-) and non-rated corporate bond gross issuance in the EEA30 (rhs), EUR bn, and outstanding amounts, EUR tn. Maturities < 12 months are excluded.

Sources: Refinitiv EIKON, ESMA.

A.157

Corporate bond issuance by maturity buckets

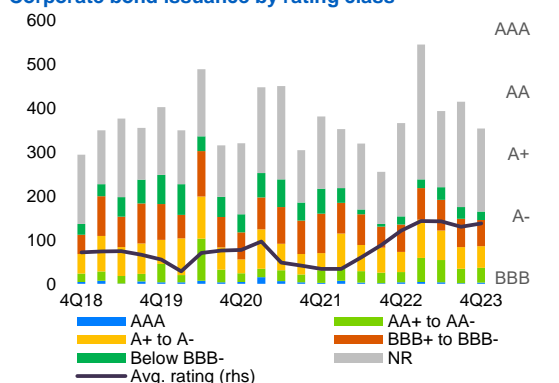


Note: Monthly share of corporate bond issuance by maturity bucket, in % (lhs) and average weighted maturity at issuance (AWM), in years (rhs).

Sources: Refinitiv Eikon, ESMA.

A.158

Corporate bond issuance by rating class

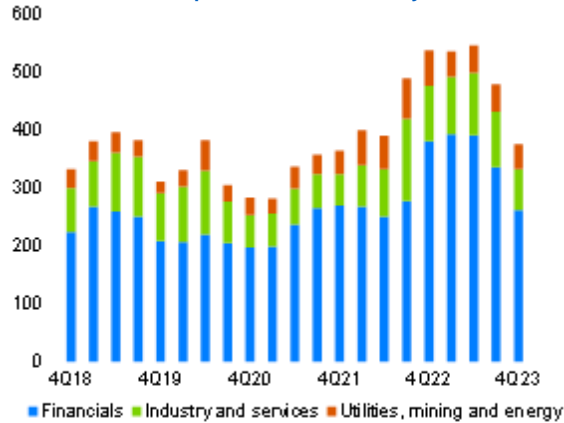


Note: Corporate bond gross issuance in the EEA30 by rating bucket, EUR bn. Avg. rating=weighted average rating computed as a one-year moving average of ratings converted to a numerical scale (AAA=1, AA+=2, etc.) excluding non-rated bonds. Maturities < 12 months are excluded.

Sources: Refinitiv EIKON, ESMA.

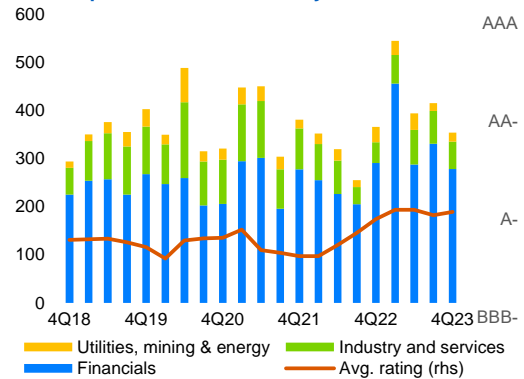


**A.159**  
Short-term EEA corporate debt issuance by sector



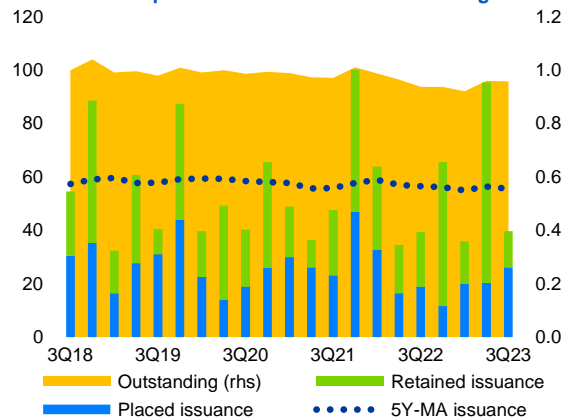
Note: Short-term corporate debt gross issuance in the EEA30 by sector, EUR bn. Short-term = Maturities < 12 months.

**A.160**  
EEA corporate bond issuance by sector



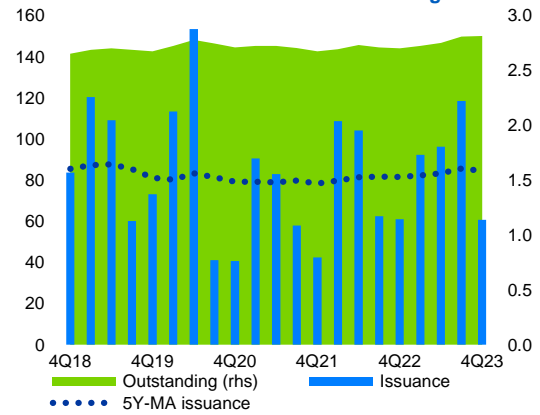
Note: Corporate bond gross issuance in the EEA30 by sector, EUR bn. Avg. rating=weighted average rating computed as a one-year moving average of ratings converted into a numerical scale (AAA=1, AA+=2, etc.). Maturities < 12 months are excluded.  
Sources: Refinitiv EIKON, ESMA.

**A.161**  
EU securitised products issuance and outstanding



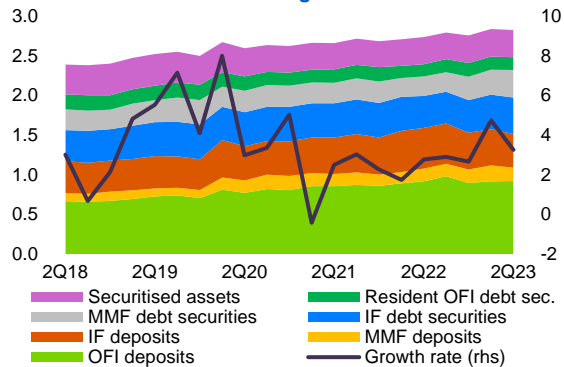
Note: Retained and placed securitised products gross issuance in Europe, EUR bn, and outstanding amounts (rhs), EUR tn. Data includes ABS, CDO, MBS, SME, WBS.  
Sources: AFME, ESMA.

**A.162**  
EEA 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.163**  
EA non-bank wholesale funding

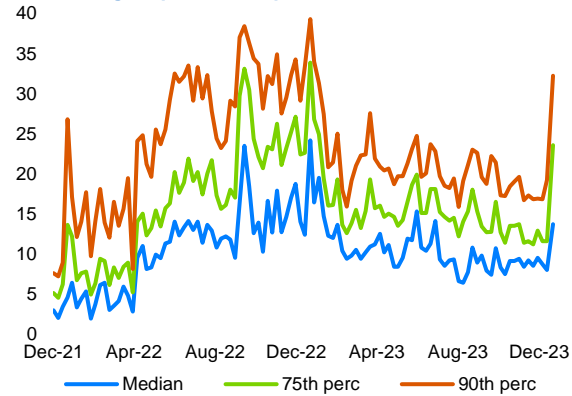


Note: Amount of wholesale funding provided by EA non-banks, EUR tn, and growth rate (rhs), in %. Securitised assets are net of retained securitisations. Resident OFI reflects the difference between the total financial sector and the known sub-sectors within the statistical financial accounts (i.e. assets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

## Market-based credit intermediation

A.164

### EU sovereign repo market specialness

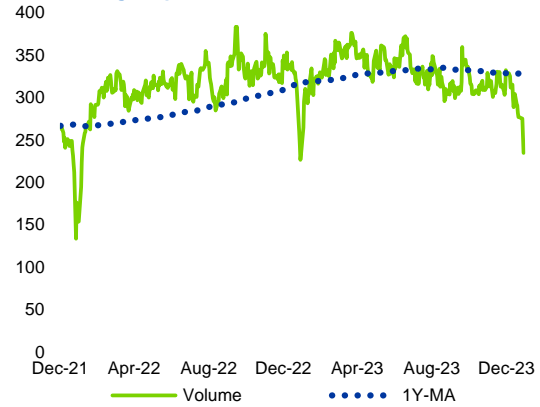


Note: Median, 75th and 90th percentile of weekly specialness, measured as the difference between general collateral and special collateral repo rates on government bonds in nine EUR repo markets (AT, BE, DE, ES, FI, FR, IT, NL and PT).

Sources: CME Group Benchmark Administration Limited, ESMA.

A.165

### EU sovereign repo market turnover

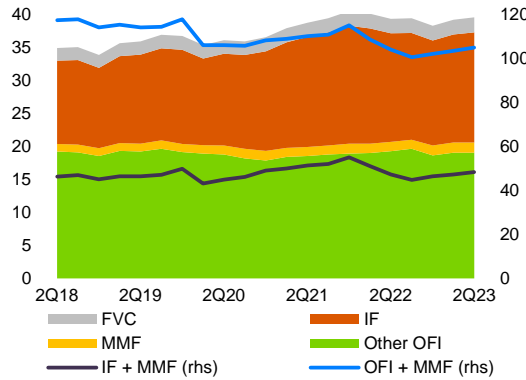


Note: Repo transaction volumes executed through CCPs in nine sovereign EUR repo markets (AT, BE, DE, ES, FI, FR, IT, NL and PT), EUR bn.

Sources: CME Group Benchmark Administration Limited, ESMA.

A.166

### Total assets of EU MMFs and other financial institutions

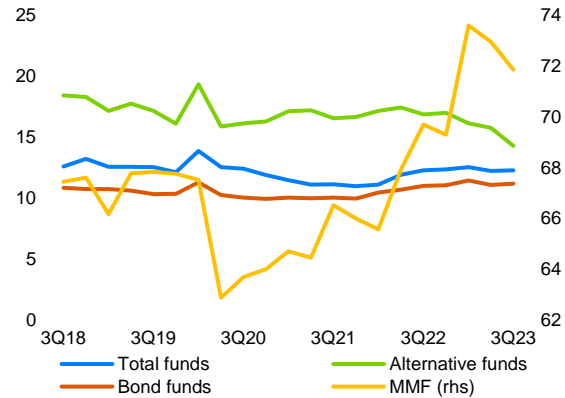


Note: Total assets for EA MMFs and other financial institutions (OFI): investment funds (IF), financial vehicle corporations (FVC), Other OFI estimated with ECB Quarterly Sector Accounts, in EUR tn. Expressed in % of bank assets on rhs.

Sources: ECB, ESMA.

A.167

### EU 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.168

### Credit terms in EU SFT and OTC derivatives

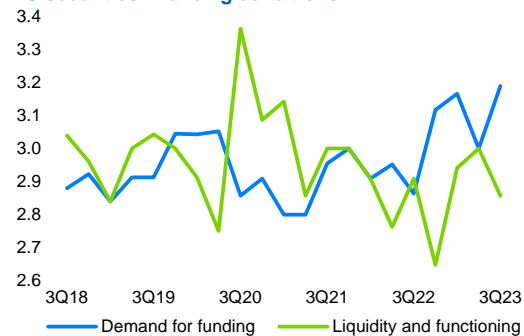


Note: Weighted average of responses to the question: "Over the past three months, how have terms offered as reflected across the entire spectrum of EUR-denominated instruments in securities financing and OTC derivatives transaction types changed?" 1=tightened considerably, 2=tightened somewhat, 3=remained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

Sources: ECB, ESMA.

A.169

### EU 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.

# Sustainable finance

## ESG investing

A.170

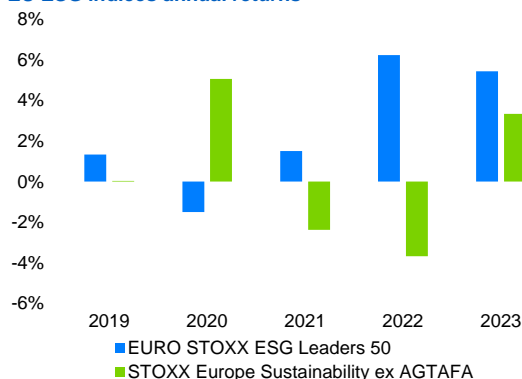
Global ESG leaders index performance



Note: MSCI ESG leaders total return indices, denominated in USD, indexed with 01/12/2021=100.  
Sources: Refinitiv Datastream, ESMA.

A.171

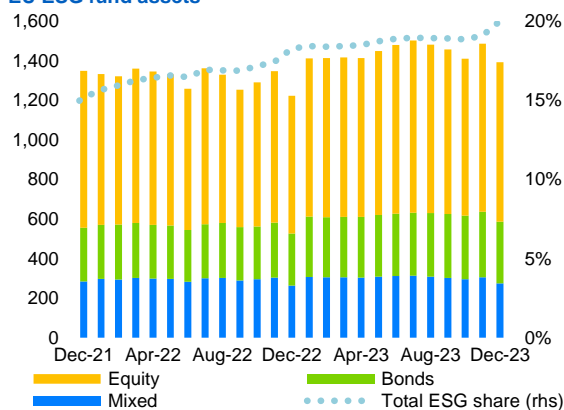
EU ESG indices annual returns



Note: Annual returns of the STOXX ESG Leaders 50 index (best-in-class strategy) and STOXX Europe Sustainability ex Alcohol, Gambling, Tobacco, Armaments & Firearms, and Adult Entertainment (AGTAF), positive screening and exclusion-based strategy) measured as relative difference to the STOXX Europe 600, in percentage points  
Sources: Refinitiv Datastream, ESMA.

A.172

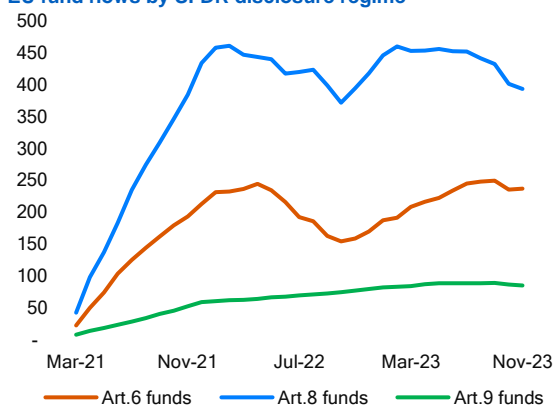
EU ESG fund assets



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.173

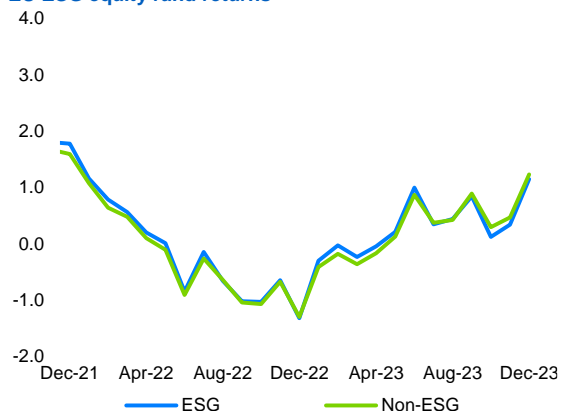
EU fund flows by SFDR disclosure regime



Note: Cumulative net flows into EU-domiciled funds (excluding MMFs) by SFDR fund type since SFDR started to apply, EUR bn  
Sources: Morningstar, ESMA.

A.174

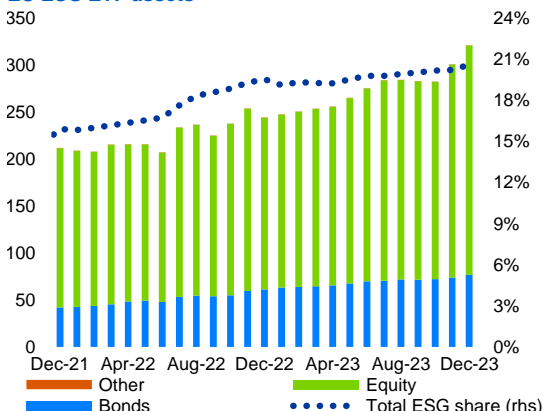
EU ESG equity fund returns



Note: ESG and non-ESG equity funds' annual average monthly returns, asset weighted, in %.  
Sources: Morningstar, Refinitiv Lipper, ESMA.

A.175

EU ESG ETF assets

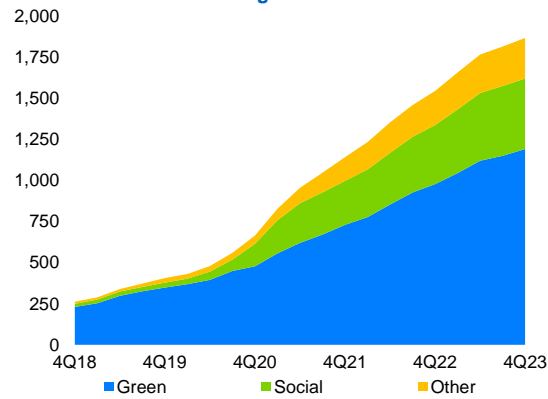


Note: AuM of EU-domiciled ESG ETFs by type of fund, EUR bn, and share of ESG ETF AuM in total ETF AuM (rhs), in %.  
Sources: Morningstar, Refinitiv Lipper, ESMA.

## Sustainable debt

A.176

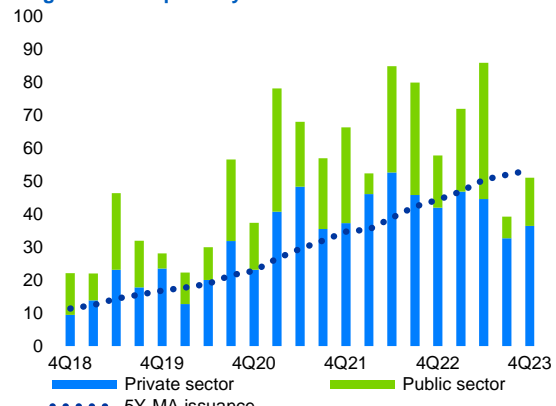
### EU ESG bonds outstanding



Note: Total amount of ESG bonds outstanding issued by EEA30-domiciled issuers, EUR bn.  
Sources: Refinitiv EIKON, ESMA.

A.177

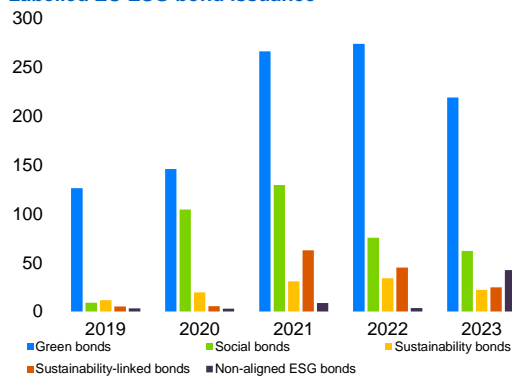
### EU green bond quarterly issuance



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

A.178

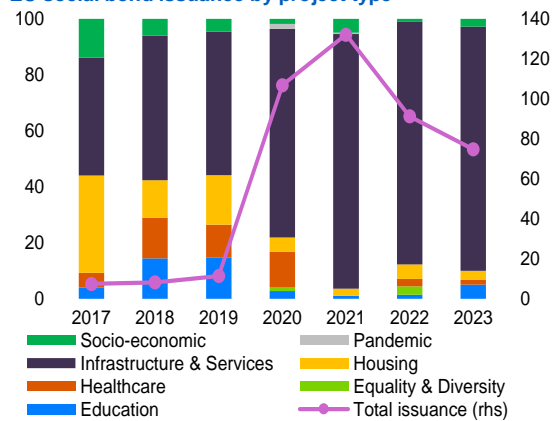
### Labelled EU ESG bond issuance



Note: ESG bonds gross issuance in the EEA30, EUR bn per ESG bond category. Green bonds means aligned with CBI and/or ICMA principles, social, sustainability and sustainability-linked bonds means aligned with ICMA principles. Non-aligned ESG bonds means all ESG bonds not aligned with either the ICMA or the CBI principles.

A.179

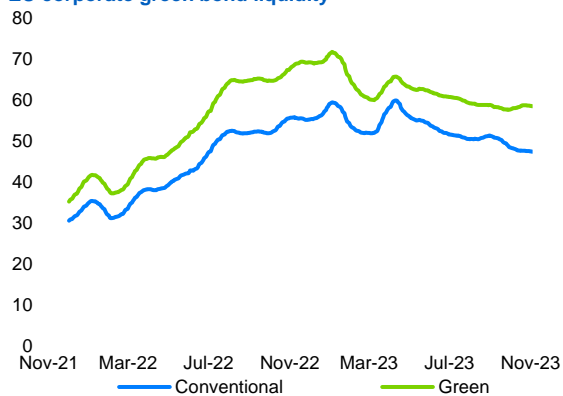
### EU social bond issuance by project type



Note: Social bond gross issuance in the EEA30 by project type, in %, as a share of total social bond gross issuance (rhs), in EUR bn.  
Sources: Refinitiv EIKON, ESMA.

A.180

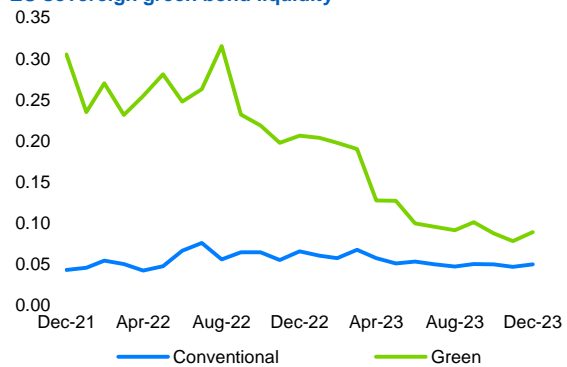
### EU corporate green bond liquidity



Note: One-month moving average of the bid-ask spread of green and conventional bonds from green bond issuers included in the Markit iBoxx EUR Corporate bond index, in bps.  
Sources: IHS Markit, ESMA.

A.181

### EU sovereign green bond liquidity

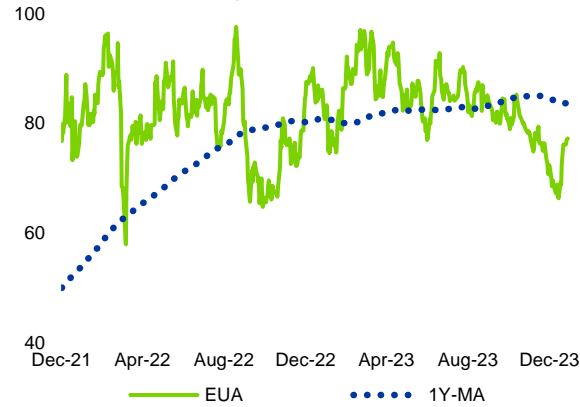


Note: Bid-ask spread of green and conventional bonds from government, supranational and agency green bond issuers, as a monthly average of bid-ask spreads weighted by trading volumes across 12 EU27 domestic markets (AT, BE, DE, ES, FI, FR, GR, IE, IT, NL, PT and SI) and Euro MTS, in EUR.  
Sources: MTS, ESMA.

## Carbon markets

A.182

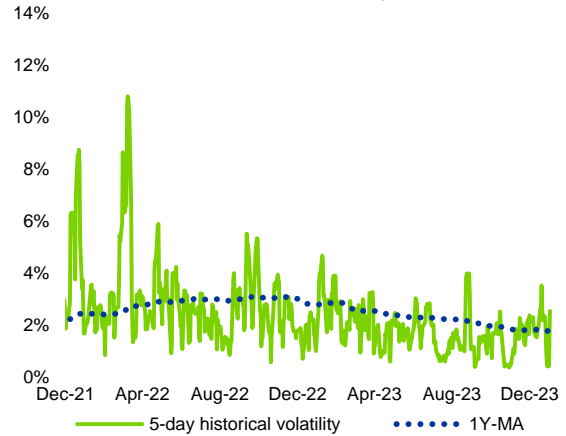
### EU emission allowance prices



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.183

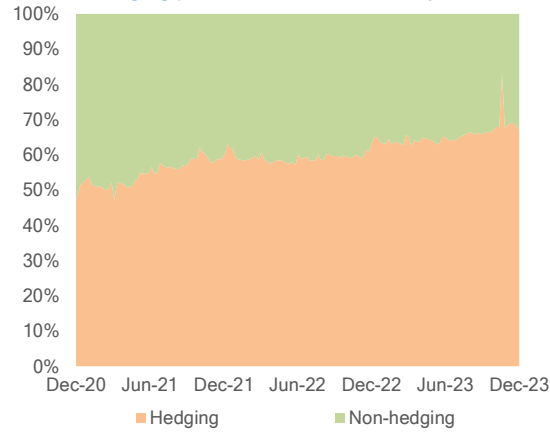
### EU emission allowance returns volatility



Note: Rolling 5-day standard deviation of daily changes in EU emission allowance spot prices, in %.  
Sources: Refinitiv Datastream, ESMA.

A.184

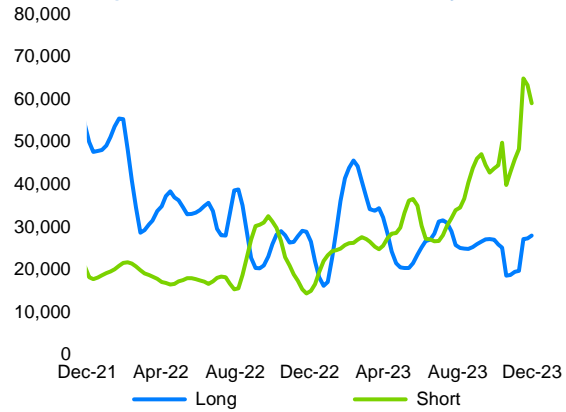
### Share of hedging positions in EUA futures by non-financials



Note: Share of hedging and non-hedging positions of non-financial corporations, in %.  
Sources: ESMA commodity derivatives weekly position reporting.

A.185

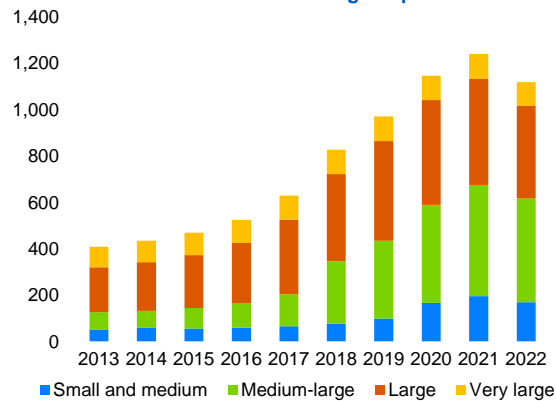
### Number of positions in EUA derivatives held by funds



Note: Weekly number of long and short (non-hedging) positions in EU emission allowance derivative contracts held by investment funds, four-week moving averages.  
Sources: ESMA.

A.186

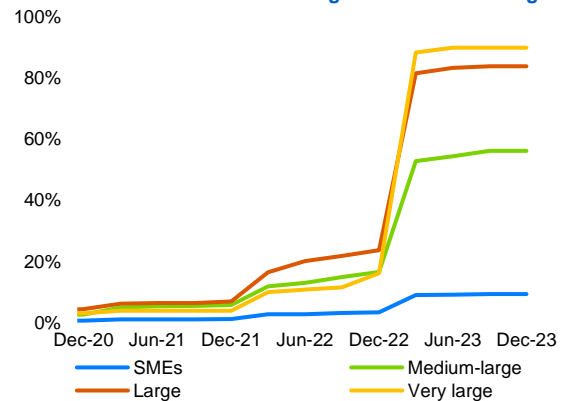
### Number of EU-listed firms disclosing Scope 1 emissions



Note: Number of EEA-domiciled firms listed in the EU disclosing Scope 1 (direct) greenhouse gas emissions, by market capitalisation and emissions year. SMEs=below 200mn; Medium-large=from 200mn to 2bn; Large=from 2bn to 20bn; Very large=above 20bn.  
Sources: Refinitiv EIKON, FIRDS, ESMA.

A.187

### Share of EU-listed firms disclosing GHG emissions target



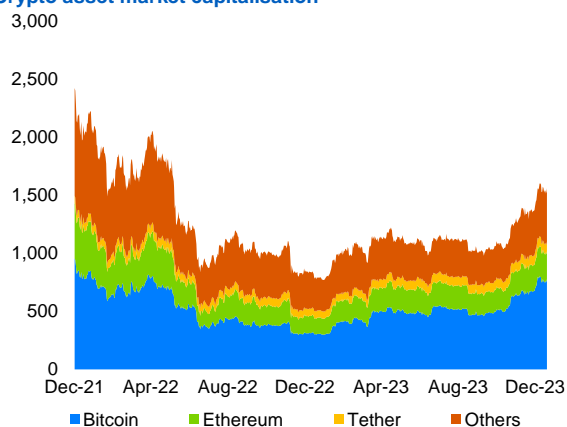
Note: Share of EEA-domiciled firms listed in the EU disclosing a greenhouse gas emission reduction target, by market capitalisation. SMEs=below 200mn; Medium-large=from 200mn to 2bn; Large=from 2bn to 20bn; Very large=above 20bn.  
Sources: Refinitiv EIKON, FIRDS, ESMA.

# Financial innovation

## Financial innovation

A.188

**Crypto asset market capitalisation**



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

A.189

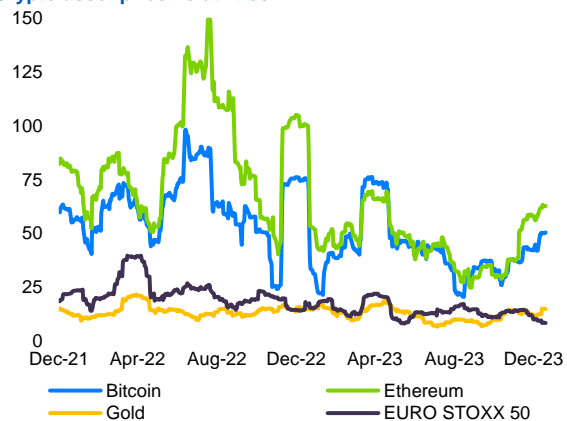
**Crypto asset prices**



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

A.190

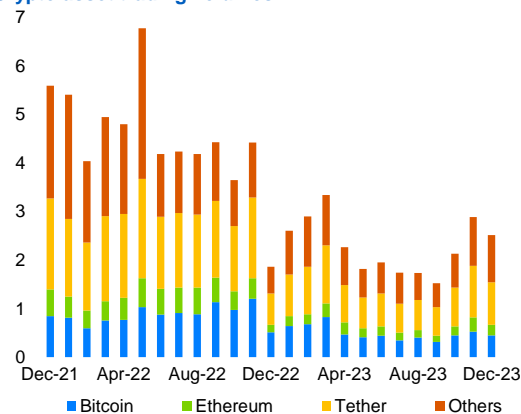
**Crypto asset price volatilities**



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

A.191

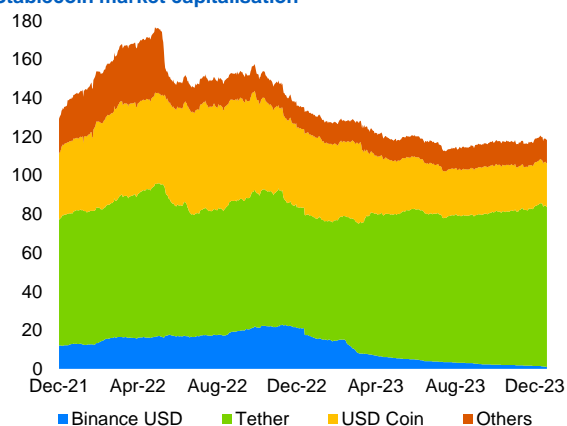
**Crypto asset trading volumes**



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

A.192

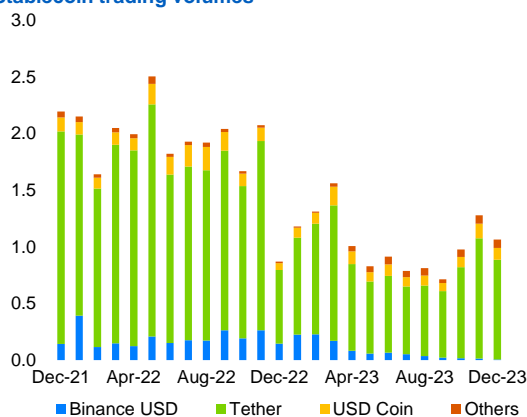
**Stablecoin market capitalisation**



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

A.193

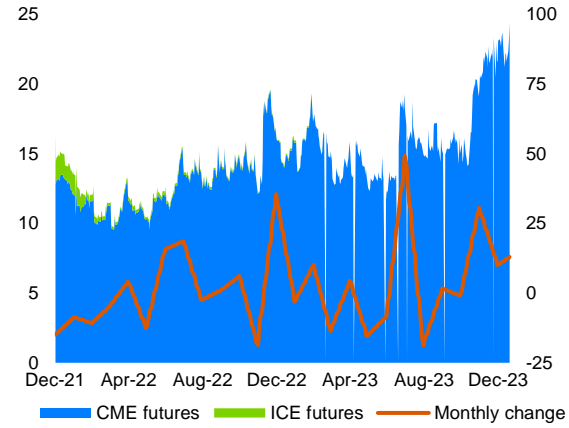
**Stablecoin trading volumes**



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

A.194

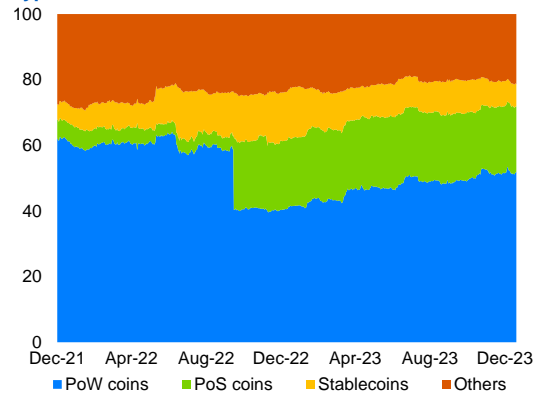
**Bitcoin futures market**



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

A.195

**Crypto asset consensus mechanisms**



Note: Market capitalisation of crypto-assets by consensus mechanism, as % of the total. PoW=Proof-of-Work, PoS=Proof-of-Stake. Stablecoins only include Binance USD, Tether and USD Coin.  
Sources: CoinMarketCap, ESMA.

