TRV Statistical Annex
ESMA Report on Trends, Risks and Vulnerabilities No.2, 2023
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Market environment

A.1 EU market price performance

225
200
175
150
125
100
75
50
25
0
Equities
Commodities
Corporate bonds
Sovereign bonds
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), 01/04/2021=100. Sources: Refinitiv Datastream, ESMA.

A.2 EU market volatilities

60
50
40
30
20
10
0
Equities
Commodities
Corporate bonds
Sovereign bonds
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

450
400
350
300
250
200
150
100
50
0
Europe
US
Global
VSTOXX (rhs)
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

40
30
20
10
0
-10
-20
-30
-40
Auxiliary activities
Fin. intermediation
Ins. and pension
Overall fin. sector
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

120
110
100
90
80
70
USD
JPY
GBP
CHF
Emerging
1Y-MA USD
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. 01/04/2021=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

0.6
0.4
0.2
0
-0.2
-0.4
-0.6
75-19 Jun-20 Jun-21 Jun-22 Jun-23
Equity market contribution
Bond market contribution
Money market contribution
ESMA CDS
Correlation contribution
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

**A.8**
EU equity price performance of national indices

**A.9**
EU equity price performance by sector

**A.10**
US and EU equity price-earnings ratios

**A.11**
EU implied equity volatility

**A.12**
EU implied equity volatility by option maturity

Note: Regional equity return indices, 01/06/2021=100.
Sources: Refinitiv Datastream, ESMA.

Note: European equity return indices. 01/06/2021=100.
Sources: Refinitiv Datastream, ESMA.

Note: STOXX Europe 600 sectoral return indices. 01/06/2021=100.
Sources: Refinitiv Datastream, ESMA.

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

Note: Implied volatility of EURO STOXX 50 (VSTOXX) and S&P 500 (VIX), in %.
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. ratings/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

A.20 EU 10Y sovereign spreads

A.21 EU sovereign yield correlation dispersion

A.22 EU equity-sovereign bond returns correlation dispersion

A.23 EU 10Y sovereign bond volatility

A.24 Global sovereign CDS spreads

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.

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

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.

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.

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.

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: Refinitiv Datastream, 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 liquidity 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, EE, FI, FR, IT and NL.
Sources: Refinitiv Datastream, ESMA.
### Credit quality

#### 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 EEA (bn, and outstanding amounts (rhs)). Maturities < 12 months are excluded.
- **Sources:** Refinitiv EIKON, ESMA.

#### 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). 2023 is year to date.
- **Sources:** RADAR, ESMA.
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**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 CERIVED 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 CERIVED 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.

**Securities lending**

**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 30/06/2023.

Sources: RADAR, ESMA.

**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.
Short selling

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.

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 the following countries: DK, GR, NL, PL and RO.
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 EA financial sectoral index (01/12/2020/100). 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 the following countries: DK, GR, NL, PL and RO.
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 index (01/12/2020/100). 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 the following countries: DK, GR, NL, PL and RO.
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 index (01/12/2020/100). 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 the following countries: DK, GR, NL, PL and RO.
Sources: NCAs, Refinitiv Datastream, ESMA.
Money markets

A.55
Euro area interest rates

A.56
Euribor rates by maturity

A.57
Interbank rate spreads to overnight index swap

A.58
Interbank overnight activity

Commodities

A.59
Dutch Natural Gas Futures open interest

A.60
Dutch Natural Gas Futures net positions
A.61
Commodity derivatives realised volatility

Note: Commodity price realised volatility (annualised 20D volatility) in %.

German Phelix futures for power, Dutch TTF for gas, Brent for oil, S&P GSCI industrial metals index and Euronext wheat futures.

Sources: Refinitiv Datastream, ESMA.
Asset management

**Fund industry**

### A.62 EU fund performance

![Graph showing EU fund performance over time]

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

### A.63 Volatility of EU fund returns

![Graph showing 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

![Graph showing 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

![Graph showing EU fund NAV by legal form]

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

### A.66 EU fund NAV by market segment

![Graph showing 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

![Graph showing 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 funds (BF and EF) monthly flows over time since 2004 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 a.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.
Liquidity risk profile of EU bond funds

Cash held by EU corporate bond funds

Credit quality of EU bond funds’ assets

Maturity of EU bond funds’ assets

Money market funds

EU MMF performance

MMF flows by domicile

Note: Quarterly effective average maturity of EU27 fund assets, in years; ESMA liquidity ratio (rhs, in reverse order).

Sources: Refinitiv Lipper, ESMA.

Note: Quarterly average credit quality (S&P ratings; 1 = AAA; 4 = BBB; 10 = D) for EU27-domiciled funds.

Sources: Refinitiv Lipper, ESMA.

Note: Weighted average effective maturity of EU bond funds’ assets, data in years.

Sources: Thomson Reuters Lipper, ESMA

Note: EU27-domiciled MMFs’ average yearly returns by month, asset-weighted, in %.

The graph shows the median and average asset-weighted returns and the difference between the returns corresponding to the 98th and the 2nd percentile (light blue corridor).

Sources: Refinitiv Lipper, ESMA.

Note: Monthly net flows for MMFs by domicile, in % of NAV.

Sources: Refinitiv Lipper, ESMA.
A.80
EU MMF flows by geographical focus

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

A.81
EU MMF assets and leverage

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

A.82
EU MMF maturity

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

A.83
EU MMF liquidity

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

Alternative funds

A.84
EU hedge fund returns

Note: EU27-domiciled hedge funds' monthly returns, %.
The graph shows the returns' median, the difference between the returns corresponding to the 98th and 25th percentiles (light blue corridor) and the difference between the returns corresponding to the 1st and 3rd quartiles (dotted line corridor).
Sources: Lipper Tass, ESMA.

A.85
EU alternative fund performance by strategy

Note: Growth of EU27 alternative fund performance indices by strategy: hedge fund index (HF), arbitrage (Arb), commodity trading advisor (CTA), distressed debt, event driven, fixed income (FI), long/short equity (LS), macro, multi-strategy, relative value (RV), in %.
Sources: Eurekahedge, ESMA.
A.86
EU alternative fund flows by domicile

![Graph showing EU alternative fund flows by domicile from Jun-21 to Jun-23.]

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

A.87
EU alternative fund assets and leverage

![Graph showing EU alternative fund assets and leverage from May-21 to Jun-23.]

Note: NAV and AuM of EU 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

![Graph showing alternative fund flows by geographical focus from Jun-21 to Jun-23.]

- Emerging markets
- Global
- North America
- Western Europe

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

A.89
Direct and indirect EU property fund flows

![Graph showing direct and indirect EU property fund flows from Jun-21 to Jun-23.]

Note: Two-month cumulative flows of direct and indirect EU27-domiciled property funds, EUR bn. Indirect property funds invest in securities of real estate companies, including real estate investment trusts (REITs).
Sources: Morningstar Direct, ESMA.
Exchange-traded funds

A.90 EU ETF returns

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

A.91 EU ETF returns volatility

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

A.92 EU ETF and NAV by domicile

Note: NAV, EUR tn, 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

<table>
<thead>
<tr>
<th>Year</th>
<th>Leveraged (short) - assets</th>
<th>Leveraged (long) - assets</th>
</tr>
</thead>
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<tr>
<td>2014</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2016</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2018</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2020</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2022</td>
<td>10</td>
<td>11</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Physical - assets</th>
<th>Physical - number (rhs)</th>
<th>Synthetic - assets</th>
<th>Synthetic - number (rhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2016</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>2018</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>2020</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>2022</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Physical net flows</th>
<th>Synthetic net flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>2016</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>2018</td>
<td>80</td>
<td>120</td>
</tr>
<tr>
<td>2020</td>
<td>160</td>
<td>240</td>
</tr>
<tr>
<td>2022</td>
<td>320</td>
<td>480</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>A.100</th>
<th>EU household disposable income growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>4Q17  4Q18  4Q19  4Q20  4Q21  4Q22</td>
</tr>
<tr>
<td>8</td>
<td>Disposable income 5Y-MA</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>A.101</th>
<th>EU household saving and investment rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>4Q17  4Q18  4Q19  4Q20  4Q21  4Q22</td>
</tr>
<tr>
<td>20</td>
<td>Saving rate 5Y-MA saving 5Y-MA investment</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>A.102</th>
<th>EU investor sentiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposable income 5Y-MA</td>
<td></td>
</tr>
</tbody>
</table>

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.

Asset allocation by retail investors

<table>
<thead>
<tr>
<th>A.104</th>
<th>EU household growth rates in financial assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>4Q17  4Q18  4Q19  4Q20  4Q21  4Q22</td>
</tr>
<tr>
<td>10</td>
<td>Currency and deposits Debt securities Equities</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>A.105</th>
<th>EU household financial assets by class</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>4Q17  4Q18  4Q19  4Q20  4Q21  4Q22</td>
</tr>
<tr>
<td>30</td>
<td>Currency and deposits Debt securities Equities IF shares Insurances Pensions Other assets Securities (rhs)</td>
</tr>
</tbody>
</table>

Note: Financial assets of EU27 households, EUR in. and share of financial assets 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) 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.
### Costs and performance

#### A.114 EU household portfolio returns

![Graph showing 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

![Graph showing returns]

**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

![Graph showing dispersion]

**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

![Graph showing net performance]

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

Sources: Refinitiv Lipper, ESMA.
**A.118**

**Equity UCITS total costs by management type**

<table>
<thead>
<tr>
<th>Q18</th>
<th>Q19</th>
<th>Q20</th>
<th>Q21</th>
<th>Q22</th>
<th>Q23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>175</td>
<td>150</td>
<td>125</td>
<td>100</td>
<td>75</td>
</tr>
<tr>
<td>ETFs</td>
<td>75</td>
<td>50</td>
<td>25</td>
<td>0</td>
<td>-25</td>
</tr>
<tr>
<td>Passive (excl. ETFs)</td>
<td>25</td>
<td>50</td>
<td>75</td>
<td>100</td>
<td>125</td>
</tr>
</tbody>
</table>

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

Sources: Refinitiv Lipper, ESMA.

**A.119**

**Equity UCITS net performance by management type**

<table>
<thead>
<tr>
<th>Q18</th>
<th>Q19</th>
<th>Q20</th>
<th>Q21</th>
<th>Q22</th>
<th>Q23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>50</td>
<td>30</td>
<td>10</td>
<td>0</td>
<td>-10</td>
</tr>
<tr>
<td>ETFs</td>
<td>10</td>
<td>30</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Passive (excl. ETFs)</td>
<td>30</td>
<td>50</td>
<td>75</td>
<td>100</td>
<td>125</td>
</tr>
</tbody>
</table>

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

Sources: Refinitiv Lipper, ESMA.

**A.120**

**Bond UCITS total costs by management type**

<table>
<thead>
<tr>
<th>Q18</th>
<th>Q19</th>
<th>Q20</th>
<th>Q21</th>
<th>Q22</th>
<th>Q23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>125</td>
<td>100</td>
<td>75</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>ETFs</td>
<td>50</td>
<td>75</td>
<td>100</td>
<td>125</td>
<td>150</td>
</tr>
<tr>
<td>Passive (excl. ETFs)</td>
<td>25</td>
<td>50</td>
<td>75</td>
<td>100</td>
<td>125</td>
</tr>
</tbody>
</table>

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

Sources: Refinitiv Lipper, ESMA.

**A.121**

**Bond UCITS net performance by management type**

<table>
<thead>
<tr>
<th>Q18</th>
<th>Q19</th>
<th>Q20</th>
<th>Q21</th>
<th>Q22</th>
<th>Q23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>12</td>
<td>8</td>
<td>4</td>
<td>0</td>
<td>-4</td>
</tr>
<tr>
<td>ETFs</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Passive (excl. ETFs)</td>
<td>-4</td>
<td>0</td>
<td>-4</td>
<td>-8</td>
<td>-12</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th></th>
<th>1Q21</th>
<th>3Q21</th>
<th>1Q22</th>
<th>3Q22</th>
<th>1Q23</th>
<th>Average total (rhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Number of complaints recorded by quarterly-reporting NCAs (n=14) via given reporting channels. "NCA"=Reports lodged directly by consumers with NCAs. "Firms"=Complaints recorded by NCAs via firms. "Average total"=Average total number from 1Q21 to 1Q23.

Sources: ESMA complaints database.

#### A.123

**EU complaints by type of firm involved**

<table>
<thead>
<tr>
<th></th>
<th>1Q21</th>
<th>3Q21</th>
<th>1Q22</th>
<th>3Q22</th>
<th>1Q23</th>
<th>Total with instrument type reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art3-exempt firm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UCITS Manco</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MFID IF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit institution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Share of complaints for quarterly-reporting NCAs (n=14) 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. "MFID IF"=MFID 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**

<table>
<thead>
<tr>
<th></th>
<th>1Q21</th>
<th>3Q21</th>
<th>1Q22</th>
<th>3Q22</th>
<th>1Q23</th>
<th>Total with cause reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withdrawals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General admin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fees/terms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Share of complaints for quarterly-reporting NCAs (n=14) received direct from consumers and via firms by underlying cause, excluding complaints with no cause recorded. %: "Unauth. bus."=Unauthorized 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**

<table>
<thead>
<tr>
<th></th>
<th>1Q21</th>
<th>3Q21</th>
<th>1Q22</th>
<th>3Q22</th>
<th>1Q23</th>
<th>Total with instrument cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Options/futures/swaps</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFDs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured securities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Share of complaints from quarterly-reporting NCAs (n=14) received direct from consumers and via firms by type of financial instrument "Total with instrument cited"=Number of complaints via these reporting channels excluding those with instrument type not reported or reported as "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**

<table>
<thead>
<tr>
<th></th>
<th>1Q21</th>
<th>3Q21</th>
<th>1Q22</th>
<th>3Q22</th>
<th>1Q23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment advice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

![EU equity trading by trading type](image)

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 April 2023. Sources: FIRDS, FITRS, ESMA.

**A.128**
EU trading turnover by type of assets

![EU trading turnover by type of assets](image)

Note: Monthly turnover on EEA30 trading venues by type of assets, in EUR bn. Last available data point is April 2023. Sources: FESE, ESMA.

**A.129**
EU circuit breaker occurrences by market capitalisation

![EU circuit breaker occurrences by market capitalisation](image)

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

**A.130**
EU circuit breaker trigger events by sector

![EU circuit breaker trigger events by sector](image)

Note: Percentage of circuit-breaker trigger events by economic sector registered on 29 EEA30 trading venues for all constituents of the STOXX Europe Large/Mid/Small 200. Results displayed as weekly aggregates. Sources: Morningstar Real-Time Data, ESMA.

**A.131**
EU trading system capacity proxy

![EU trading system capacity proxy](image)

Note: Daily and 3M-MA of trading volumes on 29 EEA30 trading venues for all constituents of the STOXX Europe Large/Mid/Small 200 and a large sample of ETFs tracking these indices or some of their subindices, in EUR bn. Capacity computed as the average across trading venues of the ratio of daily trading volume over maximum volume observed since 31/03/2016, in %. Sources: Morningstar Real-Time Data, ESMA.

**A.132**
EU equity market concentration

![EU equity market concentration](image)

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

A.139 EU IRD trading volumes

A.140 EU CDS index trading volumes

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

A.141 Settlement activity in EU CSDs by asset class

A.142 Settlement fails in EU CSDs by asset class

Note: Total value of settlement instructions in the EEA30 as reported by NCAs, in EUR bn, one-week moving averages. Dotted lines represent one-year moving averages of the respective asset classes. Sources: NCAs, ESMA.

A.143 Number of settlement instructions in EU CSDs

A.144 Number of failed settlement instructions in EU CSDs

Note: Total number of settlement instructions in the EEA30 as reported by NCAs, in thousand, one-week moving averages. Dotted lines represent one-year moving averages of the respective asset classes. Sources: NCAs, ESMA.
Credit rating agencies

A.145
Outstanding EU credit ratings issued by Big 3 CRAs

140
120
100
80
60
40
20
0

A.146
Share of outstanding EU credit ratings: Big 3 CRAs vs. rest

100
80
60
40
20
0

A.147
EU SFI ratings issued by collateral type

10,000
8,000
6,000
4,000
2,000
0

A.148
EU SFI ratings outstanding by collateral type

100%
80%
60%
40%
20%
0%

A.149
Changes in outstanding EU SFI ratings

600
400
200
0
-200
-400

A.150
Changes in outstanding EU covered bond ratings

360
270
180
90
0
-90
-180
-270

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.

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.

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

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.

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

A.151
IRDs linked to new RFRs

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

A.152
IRDs linked to Euribor and Libor

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

A.153
€STR rate

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

A.154
€STR volumes

Note: Total nominal value of transactions before trimming, in EUR bn. Number of transactions before trimming.
Sources: ECB, ESMA.
Market based finance

Capital markets financing

A.155
Total EU market financing

![Graph showing EU market financing by quarter.]

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.156
EU equity issuance by deal type

![Graph showing EU 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.157
Number and amount of EEA IPOs

![Graph showing number and amount of EEA IPOs.]

Note: Quarterly number and amount (n EUR bn) of IPOs deals issued by EEA firms.
Sources: Refinitiv Eikon, ESMA.

A.158
EU corporate bond issuance and outstanding by rating

![Graph showing EU 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 bn. Maturities <= 12 months are excluded.
Sources: Refinitiv Eikon, ESMA.

A.159
Corporate bond issuance by maturity buckets

![Graph showing corporate bond issuance by maturity buckets.]

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

A.160
Corporate bond issuance by rating class

![Graph showing 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.161 EU 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.162 EU 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.163 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.164 EU 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.165 EU non-bank wholesale funding

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

**Sources:** ECB, ESMA.

### A.166 Short-term EU corporate debt issuance by sector

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

**A.167**  
**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.

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**A.168**  
**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.

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**A.169**  
**Total assets of EU MMFs and other financial institutions**

Note: Total assets for EU 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.

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**A.170**  
**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.

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**A.171**  
**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=lightened considerably, 2=lightened somewhat, 3=remained basically unchanged, 4=eased somewhat, and 5=eased considerably. Sources: ECB, ESMA.

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**A.172**  
**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.173
Global ESG leaders index performance

A.174
EU ESG leaders index risk-adjusted returns

A.175
EU ESG fund assets

A.176
EU fund flows by SFDR disclosure regime

A.177
EU ESG equity fund returns

A.178
EU ESG ETF assets

Note: MSCI ESG leaders total return indices, denominated in USD, indexed with 01/06/2021=100.
Sources: Refinitiv Datastream, ESMA.

Note: Annual returns of the EURO STOXX 50 and its ESG leaders subindices, in %.
The EURO STOXX ESG leaders 50 is based on the STOXX Global 1800 on which exclusions and a ranking system for each three pillars (environmental, social and governance) are applied. Risk-adjusted returns, on rhs, measured as Sharpe ratios. Current year data year-to-date.
Sources: Refinitiv Datastream, ESMA.

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.

Note: Cumulative monthly net flows of EU domiciled funds since March 2021 by SFDR disclosure regime, EUR bn.
Sources: Morningstar, Refinitiv Lipper, ESMA.

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

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.181

EU ESG bonds outstanding

[Graph showing EU ESG bonds outstanding from 2018 to 2023]

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

A.182

EU green bond quarterly issuance

[Graph showing EU green bond quarterly issuance from 2018 to 2023]

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

A.183

Labelled EU green bond issuance

[Graph showing labelled EU green bond issuance from 2019 to 2023]

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.
Sources: Refinitiv Eikon, ESMA.

A.184

EU social bond issuance by project type

[Graph showing EU social bond issuance by project type from 2017 to 2023]

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.185 EU corporate green bond liquidity

A.186 EU sovereign 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.187 EU emission allowance prices

A.188 EU emission allowance returns volatility

Note: Daily settlement price of European Emission Allowances (EUA) on European Energy Exchange spot market, in EUR/CO2.
Sources: Refinitiv Datastream, ESMA.

A.189 Share of hedging positions in EUA futures by non-financials

A.190 Number of positions in EUA derivatives held by funds

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

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.191
Number of EU listed firms disclosing Scope 1 emissions

A.192
Share of listed EU firms disclosing GHG emissions target

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.

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

A.193 Crypto asset market capitalisation

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

A.194 Crypto asset prices

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

A.195 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.196 Crypto asset trading volumes

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

A.197 Stablecoin market capitalisation

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

A.198 Stablecoin trading volumes

Note: Trading volumes of Binance USD, Tether, USD Coin and other stablecoins, in EUR tn.
Sources: CoinMarketCap, ESMA.
A.199

**Bitcoin futures market**

A.200

**Crypto asset consensus mechanisms**

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

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.