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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). 01/12/2019=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, BRIL, RUB, IDR, MXN, IDR and TRY weighted by GDP as of start date year. 01/11/2019=100. Increases in value represent an appreciation of EUR. 1Y-MA USD one-year moving average of the USD exchange rate. Sources: ECB, IMF, ESMA.

A.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

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. 01/12/2019=100.
Sources: Refinitiv Datastream, ESMA.

Note: European equity return indices. 01/11/2019=100.
Sources: Refinitiv Datastream, ESMA.

Note: STOXX Europe 600 sectoral return indices. 01/12/2019=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.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.
**A.19** EU and US 10Y sovereign yields

![Graph showing 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

![Graph showing 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

![Graph showing 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

![Graph showing 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

![Graph showing 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

![Graph showing 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**

Liquidity indicator 40D-MA 5Y-MA

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**

Liquidity indicator 40D-MA 5Y-MA

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**

Liquidity indicator 40D-MA 5Y-MA

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**

Top 25% Core 50% Bottom 25% Median

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 %.

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

2.5
2.0
1.5
1.0
0.5
0.0
-0.5
Dec-19 Apr-20 Aug-20 Dec-20 Apr-21 Aug-21 Dec-21 AAA AA A BBB BB and lower NR

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.33 EU corporate rating distribution

100
80
60
40
20
0
4Q16 4Q17 4Q18 4Q19 4Q20 4Q21 AAA AA A BBB BB and lower NR

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

A.32 EU corporate spreads by credit rating

300
250
200
150
100
50
0
Dec-19 Apr-20 Aug-20 Dec-20 Apr-21 Aug-21 Dec-21 AAA AA A BBB BB and lower NR

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

A.34 EU corporate bid-ask spread and Amihud indicator

70
60
50
40
30
20
10
0
Dec-19 Apr-20 Aug-20 Dec-20 Apr-21 Aug-21 Dec-21 Bid-ask 1Y-MA Amihud (rhs)

Note: Market IBoxx EUR Corporate bond index bid-ask spread, in bps. 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

600
500
400
300
200
100
0
-100
-200
-300
4Q21 4Q22 4Q23 4Q24 4Q25 4Q26 Non-financials 1Y-change fin (lhs) 1Y-change non-fin (lhs)

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

1.0
0.5
0.0
-0.5
-1.0
-2.0
-3.0
Dec-19 Apr-20 Aug-20 Dec-20 Apr-21 Aug-21 Dec-21 Top 25% Core 50% Bottom 25% Median

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

#### A.39 EU SFI ratings issued by collateral type

Note: Number of rated EEA30 structured finance instruments by asset class. ABS=Asset-backed securities (rhs); 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.40 EU SFI ratings outstanding by collateral type

Note: Outstanding ratings of EEA30 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.41 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.42 EU SFI rating changes

Note: Aggregate number of notch changes on securitised assets issued in the EEA30 with long-term ratings, for upgrades and downgrades.

Sources: RADAR, ESMA.
**Securities lending**

**A.49 EU securities lending market value by asset type**

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

**A.50 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.51 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.52 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.53 Dispersion of net short positions in EU shares**

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

**A.54 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. Partially or fully missing data for the following countries: GR, LT and NL. Sources: NCAs, Refinitiv Datastream, ESMA.
A.55 Net short positions in industrial shares and equity prices

![Graph showing net short positions in industrial shares and equity prices](image)

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

A.56 Net short positions in EU financial shares and equity prices

![Graph showing net short positions in EU financial shares and equity prices](image)

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

### Money markets

A.57 Euro area interest rates

![Graph showing euro area interest rates](image)

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

A.58 Euribor rates by maturity

![Graph showing Euribor rates by maturity](image)

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

A.59 Interbank rate spreads to overnight index swap

![Graph showing interbank rate spreads to overnight index swap](image)

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

A.60 Interbank overnight activity

![Graph showing interbank overnight activity](image)

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

### Fund industry

#### A.61 EU fund performance

![Graph showing EU fund performance](image)

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

#### A.62 Volatility of EU fund returns

![Graph showing volatility of EU fund returns](image)

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

#### A.63 EU fund assets by market segment

![Graph showing EU fund assets by market segment](image)

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

#### A.64 EU fund NAV by legal form

![Graph showing EU fund NAV by legal form](image)

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

#### A.65 EU fund NAV by market segment

![Graph showing EU fund NAV by market segment](image)

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

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

![Graph showing EU fund leverage by market segment](image)

**Note:** Leverage of EA investment funds by fund type computed as the AuM/NAV ratio.
Sources: ECB, ESMA.
A.67 EU fund flows by fund type

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

A.68 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.69 EU bond fund flows by regional investment focus

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

A.70 EU equity fund flows by regional investment focus

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

A.71 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.72 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.73 Liquidity risk profile of EU bond funds

<table>
<thead>
<tr>
<th>Date</th>
<th>BF Maturity</th>
<th>HY Maturity</th>
<th>BF Liquidity Ratio (rhs)</th>
<th>HY Liquidity Ratio (rhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-16</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oct-17</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Aug-18</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Jun-19</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Apr-20</td>
<td>5</td>
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<td>4</td>
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<td>Feb-21</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Dec-21</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

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

Sources: Refinitiv Lipper, ESMA.

### A.74 Cash held by EU corporate bond funds

#### Dec-19 Apr-20 Aug-20 Dec-20 Apr-21 Aug-21 Dec-21

- **Corridor 1st/3rd quart.**
- **Median**

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

Sources: Refinitiv Lipper, ESMA.

### A.75 Credit quality of EU bond funds' assets

#### Dec-19 Apr-20 Aug-20 Dec-20 Apr-21 Aug-21 Dec-21

- **BBB**
- **3.0**

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

Sources: Refinitiv Lipper, ESMA.

### A.76 Maturity of EU bond funds' assets

#### Dec-19 Apr-20 Aug-20 Dec-20 Apr-21 Aug-21 Dec-21

- **3.0**

Note: Weighted average effective maturity of EU27 bond funds' assets, in years.

Sources: Refinitiv Lipper, ESMA.

### Money market funds

#### A.77 EU MMF performance

<table>
<thead>
<tr>
<th>Date</th>
<th>BF HY 2nd/98th perc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-19</td>
<td>-1.0</td>
</tr>
<tr>
<td>Apr-20</td>
<td>-0.5</td>
</tr>
<tr>
<td>Aug-20</td>
<td>0.0</td>
</tr>
<tr>
<td>Dec-20</td>
<td>0.5</td>
</tr>
<tr>
<td>Apr-21</td>
<td>1.0</td>
</tr>
<tr>
<td>Aug-21</td>
<td>1.5</td>
</tr>
<tr>
<td>Dec-21</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Note: EU27-domiciled MMF average yearly returns by month, in %. The graph shows the median and average asset-weighted returns and the difference between the returns corresponding to the 98th and 2nd percentile.

Sources: Refinitiv Lipper, ESMA.

#### A.78 EU MMF flows by domicile

<table>
<thead>
<tr>
<th>Date</th>
<th>EU27 US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-19</td>
<td>-5</td>
</tr>
<tr>
<td>Apr-20</td>
<td>-10</td>
</tr>
<tr>
<td>Aug-20</td>
<td>-15</td>
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<tr>
<td>Dec-20</td>
<td>-20</td>
</tr>
<tr>
<td>Apr-21</td>
<td>-25</td>
</tr>
<tr>
<td>Aug-21</td>
<td>-30</td>
</tr>
<tr>
<td>Dec-21</td>
<td>-35</td>
</tr>
</tbody>
</table>

Note: MMF net flows by domicile, in % of NAV.

Sources: Refinitiv Lipper, ESMA.
A.79
**EU MMF flows by geographical focus**

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

A.80
**EU MMF assets and leverage**

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

A.81
**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.82
**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.

A.83
**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.84
**EU alternative fund performance by strategy**

Note: Growth in hedge fund performance indices by strategy. Hedge fund indices (Total), arbitrage, Commodity Trading Advisor (CTA), distressed debt, event driven, fixed income, long/short equity, macro, multi-strategy, relative value (RV), in %.
Sources: Eurekahedge, ESMA.
**A.85**

EU alternative fund flows by domicile

![Graph showing EU alternative fund flows by domicile]

**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**

Alternative fund flows by geographical focus

![Graph showing alternative fund flows by geographical focus]

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

Sources: Refinitiv Lipper, ESMA.

**A.86**

EU alternative fund assets and leverage

![Graph showing EU alternative fund assets and leverage]

**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**

Direct and indirect EU property fund flows

![Graph showing 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.89 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.90 EU ETF returns volatility

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

A.91 EU ETF and NAV by domicile

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

A.92 EU ETF NAV by asset type

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

A.93 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.94 EU and US ETF flows by domicile

Note: ETF net flows by domicile, in % of NAV. Sources: Refinitiv Lipper, ESMA.
A.95

Assets of leveraged EU ETFs

<table>
<thead>
<tr>
<th>Year</th>
<th>Leveraged (short) - assets</th>
<th>Leveraged (long) - assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>2013</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2014</td>
<td>4</td>
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<td>2</td>
<td>8</td>
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<tr>
<td>2016</td>
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<td>4</td>
<td>6</td>
</tr>
<tr>
<td>2020</td>
<td>2</td>
<td>8</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.96

Average beta values for EU ETFs

-4.5 to 4.5

Dec-19 Apr-20 Aug-20 Dec-20 Apr-21 Aug-21 Dec-21

- Unleveraged (Short) - Leveraged (short)
- Unleveraged (long) - Leveraged (long)

Note: Annual average beta for leveraged and unleveraged EU27 ETFs. 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.97

Assets of EU ETFs by replication method

<table>
<thead>
<tr>
<th>Year</th>
<th>Physical - assets</th>
<th>Synthetic - assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>2014</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>2016</td>
<td>60</td>
<td>40</td>
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<tr>
<td>2018</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>2020</td>
<td>100</td>
<td>100</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.98

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>2012</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>2013</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td>2014</td>
<td>40</td>
<td>60</td>
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<td>2015</td>
<td>60</td>
<td>40</td>
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<tr>
<td>2016</td>
<td>80</td>
<td>20</td>
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<tr>
<td>2017</td>
<td>100</td>
<td>100</td>
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<td>2018</td>
<td>120</td>
<td>120</td>
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<tr>
<td>2019</td>
<td>140</td>
<td>140</td>
</tr>
<tr>
<td>2020</td>
<td>-</td>
<td>-</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

A.99
EU household disposable income growth

![Graph showing disposable income growth from 2Q16 to 2Q21](image)

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.100
EU household saving and investment rates

![Graph showing saving and investment rates from 2Q16 to 2Q21](image)

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.101
EU investor sentiment

![Graph showing investor sentiment from Dec-19 to Dec-21](image)

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.102
EU household growth rates in financial assets

![Graph showing growth rates of financial assets from 2Q16 to 2Q21](image)

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

Asset allocation by retail investors

A.103
EU household assets to liabilities ratio

![Graph showing assets to liabilities ratio from 2Q16 to 2Q21](image)

Note: Financial assets and liabilities ratio in %.
Sources: ECB, ESMA.

A.104
EU household financial assets by class

![Graph showing financial assets by class from 2016 to 2021](image)

Note: Financial assets of EU27 households, EUR tn, and share of securities investments (debt securities, equities and IF shares), in % of total assets on right hand side (rhs). IF shares=investment fund shares. Other assets/insurance technical reserves, financial derivatives, loans granted and other accounts receivable.
Sources: ECB, ESMA.
A.105
Share of securities investments in EU household assets

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

A.107
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 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.106
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
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 bn. Share of passive and ETFs over total EU equity UCITS assets, in %.
Sources: Refinitiv Lipper, ESMA.

A.110
Bond UCITS market size by management type

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

**A.111**
**Bond UCITS net flows by management type**

<table>
<thead>
<tr>
<th>3Q16</th>
<th>3Q17</th>
<th>3Q18</th>
<th>3Q19</th>
<th>3Q20</th>
<th>3Q21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>ETFs</td>
<td>Passive (excl. ETFs)</td>
<td></td>
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</tr>
</tbody>
</table>

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.112**
**Equity active funds closet index indicator**

<table>
<thead>
<tr>
<th>2Q17</th>
<th>2Q18</th>
<th>2Q19</th>
<th>2Q20</th>
<th>2Q21</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS&lt;60% &amp; TE&lt;4%</td>
<td>AS&lt;50% &amp; TE&lt;3%</td>
<td>AS&lt;50%, TE&lt;3% &amp; R2&gt;95%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

**A.113**
**EU household portfolio returns**

<table>
<thead>
<tr>
<th>Sep-19</th>
<th>Jan-20</th>
<th>May-20</th>
<th>Sep-20</th>
<th>Jan-21</th>
<th>May-21</th>
<th>Sep-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returns</td>
<td></td>
<td></td>
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</tbody>
</table>

Note: One-year moving average of the monthly gross returns of a stylised household portfolio, in %. Asset weights, computed using National Financial Accounts by Institutional Sectors, are 36% for collective investment schemes, 36% for deposits, 22% for shares and 3% for debt securities. Costs, fees and other charges incurred for buying, holding or selling these instruments are not taken into account. Sources: Refinitiv Datastream, Refinitiv Lipper, ECB, ESMA.

**A.114**
**EU fund synthetic risk and reward indicator**

<table>
<thead>
<tr>
<th>Dec 19</th>
<th>Apr 20</th>
<th>Aug 20</th>
<th>Dec 20</th>
<th>Apr 21</th>
<th>Aug 21</th>
<th>Dec 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>Bond</td>
<td>Mixed</td>
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<td></td>
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<tr>
<td>Alternative</td>
<td>Money Market</td>
<td></td>
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</tbody>
</table>

Note: The calculated Synthetic Risk and Reward Indicator 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.115**
**UCITS retail investor dispersion of net performance**

<table>
<thead>
<tr>
<th>3Q16</th>
<th>3Q17</th>
<th>3Q18</th>
<th>3Q19</th>
<th>3Q20</th>
<th>3Q21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 25%</td>
<td>Core 50%</td>
<td>Bottom 25%</td>
<td>EU net</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.116**
**UCITS retail investors net performance by asset class**

<table>
<thead>
<tr>
<th>3Q17</th>
<th>3Q18</th>
<th>3Q19</th>
<th>3Q20</th>
<th>3Q21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond</td>
<td>Mixed</td>
<td>Equity (rhs)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.117
Equity UCITS total costs by management type

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

A.118
Equity UCITS net performance by management type

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

A.119
Bond UCITS total costs by management type

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

A.120
Bond UCITS net performance by management type

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

A.121
EU complaints

A.122
EU complaints by type of firm involved

A.123
EU complaints by underlying cause

A.124
EU complaints by type of financial instrument

A.125
EU complaints by MiFID II service category

Note: Number of complaints recorded by quarterly-reporting NCAs (n=114) via given reporting channels: "NCA"=Reports lodged directly by consumers with NCAs. "Firms"=Complaints recorded by NCAs via firms. "Average total"=average total number from 4Q18 to 4Q20.

Sources: ESMA complaints database

Note: Share of complaints for quarterly-reporting NCAs (n=114) 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
Infrastructures and services

Trading venues and MiFID entities

A.126 EU equity trading by trading type

<table>
<thead>
<tr>
<th>Month</th>
<th>Large caps</th>
<th>Mid caps</th>
<th>Small caps</th>
<th>OTC</th>
<th>Systematic internaliser</th>
<th>Periodic auction</th>
<th>Dark pool</th>
<th>Total volumes (rhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov-19</td>
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<td>Mar-20</td>
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<td>Jul-20</td>
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<td>Dec-21</td>
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</table>

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

A.127 EU trading turnover by type of assets

<table>
<thead>
<tr>
<th>Month</th>
<th>Bonds</th>
<th>Equities</th>
<th>ETFs</th>
<th>UCITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov-19</td>
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<td>Mar-20</td>
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<td>Jul-20</td>
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<td>Mar-21</td>
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</table>

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.128 EU circuit-breaker occurrences by market capitalisation

<table>
<thead>
<tr>
<th>Month</th>
<th>Large caps</th>
<th>Mid caps</th>
<th>Small caps</th>
<th>ETFs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov-19</td>
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<td>Dec-19</td>
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<td>May-20</td>
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<td>Mar-21</td>
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</tbody>
</table>

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

A.129 EU circuit-breaker-trigger events by sector

<table>
<thead>
<tr>
<th>Month</th>
<th>Basic materials, industrials and energy</th>
<th>Financials</th>
<th>Healthcare, consumer cyclicals and non-cyclicals</th>
<th>Technology, utilities and telecommunications services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-19</td>
<td></td>
<td></td>
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<td>Apr-20</td>
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<td>Dec-21</td>
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</tbody>
</table>

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

A.130 EU trading system capacity proxy

<table>
<thead>
<tr>
<th>Month</th>
<th>Trading volume</th>
<th>3M-MA Volume</th>
<th>Capacity (rhs)</th>
<th>All-time high (rhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-19</td>
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<td>Mar-21</td>
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</tbody>
</table>

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.131 EU equity market concentration

<table>
<thead>
<tr>
<th>Month</th>
<th>Top 25%</th>
<th>Core 50%</th>
<th>Bottom 25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-19</td>
<td></td>
<td></td>
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<td>Jan-20</td>
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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 counterparty

A.132 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.133 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 June 2021. Sources: Clarus Financial Technology, PQD, ESMA.

A.134 Initial margins held at EU CCPs by asset class

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

A.135 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), in %. Total amounts in EUR bn (rhs), as of 30 June 2021. Sources: Clarus Financial Technology, CPMI-IOSCO PQD, ESMA.

A.136 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.137 Credit derivatives clearing volumes by CCP

Note: Quarterly notional volumes cleared for CDS, CDX and CDD 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.
Central securities depositories

A.140 Settlement activity 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. Missing data for some CSDs prior to mid-March 2020. Dotted lines represent one-year moving averages of the respective asset classes.
Sources: NCAs, ESMA.

A.141 Settlement fails in EU CSDs by asset class

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

A.142 Number of settlement instructions in EU CSDs

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

A.143 Number of failed settlement instructions in EU CSDs

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

A.144 Outstanding EU credit ratings issued by Big 3 CRAs

A.145 Share of outstanding EU credit ratings: Big 3 CRAs vs. rest

A.146 Changes in outstanding EU SFI ratings

A.147 Changes in outstanding EU covered bond ratings

Note: Evolution of the number of outstanding EEA30 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, Supra - supranational. Sources: RADAR, ESMA.

Note: Share of outstanding ratings of EEA30 issuers and instruments from Big 3 CRAs (S&P, Moody’s and Fitch) and ratings from all other CRAs in %. Sources: RADAR, ESMA.

Note: Number of withdrawn and new ratings for structured finance instruments, EEA30 ratings. Sources: RADAR, ESMA.

Note: Number of withdrawn and new ratings for covered bond ratings, EEA30 ratings. Sources: RADAR, ESMA.
Financial benchmarks

A.148 IRDs linked to new RFRs

A.149 IRDs linked to Euribor and Libor

A.150 €STR rate

A.151 €STR volumes

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

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

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

Capital markets financing

A.152 Total EU 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 standardized 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.153 Number and volume of EU IPOs

Note: Number of IPOs in the EEA30 (rhs) and deal amount in EUR bn (lhs).
Sources: Refinitiv Eikon, ESMA.

A.154 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.155 EU corporate bond issuance by rating

Note: Quarterly investment-grade (rating >= BBB-), high-yield (rating < BBB-) and non-rated corporate bond gross issuance in the EEA30, EUR bn.
Sources: Refinitiv EIKON, ESMA.

A.156 Yearly EU HY corporate bond issuance

Note: Yearly gross HY corporate bond issuance in the EEA30 since 2013, in EUR bn (lhs), and quarterly average in EUR bn (rhs).
Sources: Refinitiv Eikon, ESMA.

A.157 EU corporate bonds outstanding by rating

Note: Quarterly investment-grade (rating >= BBB-), high-yield (rating < BBB-) and non-rated corporate bond outstanding amounts, EUR tn. Maturities < 12 months are excluded.
Sources: Refinitiv EIKON, ESMA.
SMEs

A.164
EU SME trading volumes

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

A.165
Trading volumes on EU SME Growth Markets

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

Market-based credit intermediation

A.166
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.167
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.168
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 bn. Expressed in % of bank assets on rhs.
Sources: ECB, ESMA.

A.169
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.
### Credit terms in EU SFT and OTC derivatives

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**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.

### EU securities financing conditions

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**Note:** Weighted average of responses to the questions "Over the past three months, how has demand for funding/has 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.172 Global ESG leaders index performance**

![Graph showing Global ESG leaders index performance from Dec-19 to Dec-21.]

Note: MSCI ESG Leaders total return indices, denominated in USD, indexed with 01/11/2019 = 100. MSCI ESG Leaders are companies with an MSCI ESG rating of BB or above and an MSCI ESG controversies score of 3 or above. Sources: Refinitiv Datastream, ESMA.

**A.174 EU ESG fund assets**

![Bar chart showing EU ESG fund assets from Nov-19 to Nov-21.]

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.175 EU ESG fund flows**

![Line chart showing EU ESG fund flows from Jan-19 to Dec-21.]

Note: Cumulative net flows of EU27-domiciled equity ESG and non-ESG funds since January 2019, EUR bn. Sources: Morningstar, Refinitiv Lipper, ESMA.

**A.176 Number of EU and US climate-related controversies**

![Bar chart showing number of climate-related controversies in EU (EEA) and US from 4Q19 to 4Q21.]

Note: Quarterly number of new climate-related controversies involving EEA financial sector firms (based on the STOXX Europe 600) and US financial sector firms (based on the S&P 500), and share of climate-related controversies. Climate-related controversies include greenhouse gas emissions, soy, forest burning, energy management, arctic drilling and coal-fired power plants. Sources: RepRisk, ESMA.

**A.177 Reputational Risk Index of EU firms**

![Line chart showing reputational risk index of EU firms from 4Q18 to 4Q21.]

Note: Average quarterly RepRisk Index (RRI) for financial vs. non-financial sector firms from the STOXX Europe 600 index. The RRI captures firms’ reputational risk related to ESG issues based on reach and impact of public information, ranging from 0 (no risk) to 100 (maximum risk). Sources: RepRisk, ESMA.
**ESMA TRV Statistical Annex**

**No. 1, 2022**

**ESMA TRV Statistical Annex**

**No. 1, 2022**

### EU ESG equity fund returns

![Graph showing EU ESG equity fund returns](image)

**Note:** EU27-domiciled ESG and non-ESG equity funds’ annual average monthly returns, asset weighted, in %.

**Sources:** Morningstar, Thomson Reuters Lipper, ESMA.

### EU ESG ETF assets

![Graph showing EU ESG ETF assets](image)

**Note:** AuM of EU-domiciled ESG ETFs, EUR bn.

**Sources:** Morningstar, ESMA.

### Sustainable debt

#### EU ESG bonds outstanding

![Graph showing EU ESG bonds outstanding](image)

**Note:** Total amount of ESG bonds outstanding issued by EEA30-domiciled issuers, EUR bn.

**Sources:** Refinitiv EIKON, ESMA.

#### Green-labelled EU green bond issuance

![Graph showing green-labelled EU green bond issuance](image)

**Note:** ESG bond gross issuance in the EEA30, EUR bn, and share of other ESG bonds (rhs), in %. Other = all ESG bonds not labelled "Green" by the Climate Bond Initiative and/or aligned with the ICMA Green Bond Principles.

**Sources:** Refinitiv EIKON, ESMA.

#### EU social bond issuance by project type

![Graph showing EU social bond issuance by project type](image)

**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.
Carbon markets

A.186 EU emission allowance prices

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

A.187 EU emission allowance returns volatility

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

A.188 Share of hedging positions in EUA futures by non-financials

Note: Weekly share of hedging positions in EU emission allowance futures held by compliance entities and other non-financial firms, four-week moving average. June 2021 reports excluded due to data quality issues. Sources: ESMA.

A.189 Number of positions in EUA futures held by funds

Note: Weekly number of long and short positions in EU emission allowance futures held by investment funds, thousands, four-week moving average. Sources: ESMA.
A.190
Number of EU firms disclosing Scope 1 GHG emissions


SMEs Medium-large Large Very large

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

A.191
Share of EU firms disclosing GHG emissions target

Dec-18 Sep-19 Jun-20 Mar-21 Dec-21

SMEs Medium-large Large Very large

Note: Share of EEA-domiciled firms listed in the EU disclosing a greenhouse gas emissions 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.192  Crypto asset market capitalisation

A.193  Crypto asset prices

A.194  Crypto asset price volatilities

A.195  Crypto asset trading volumes

A.196  Stablecoin market capitalisation

A.197  Stablecoin trading volumes

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

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

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

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

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

Note: Trading volumes of Binance USD, Tether, USD Coin and other stablecoins, in EUR tn.
Sources: CoinMarketCap, ESMA.
A.198

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.