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### Asset management

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### Market based finance

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### Sustainable finance

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</table>

### Financial innovation

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<th>Topic</th>
<th>Page</th>
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<tbody>
<tr>
<td>Financial innovation</td>
<td>43</td>
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</tbody>
</table>
**Market environment**

### A.1 Market price performance
![Graph showing market price performance with indices for Equities, Commodities, Corporate bonds, and Sovereign bonds over Dec-18 to Dec-20 with a note explaining 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), 01/12/2018=100. Sources: Refinitiv Datastream, ESMA.]

### A.2 Market volatilities
![Graph showing market volatilities with indices for Equities, Commodities, Corporate bonds, and Sovereign bonds over Dec-18 to Dec-20 with a note explaining annualised 4QD 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
![Graph showing economic policy uncertainty with indices for Europe, US, Global, and VSTOXX (rhs) over Dec-18 to Dec-20 with a note explaining Economic Policy Uncertainty Index (EPU), developed by Baker et al. (www.policyuncertainty.com), based on the frequency of articles in European newspapers that contain the following triple: "economic" or "economy", "uncertain" or "uncertainty" and one or more policy-relevant terms. Global aggregation based on PPP-adjusted GDP weights. Implied volatility of EURO STOXX 50 (VSTOXX), monthly average, on the right-hand side. Sources: Baker, Bloom, and Davis 2015; Refinitiv Datastream, ESMA.]

### A.4 EUR exchange rates
![Graph showing EUR exchange rates with indices for USD, JPY, GBP, CHF, Emerging 1Y-MA USD over Dec-18 to Dec-20 with a note explaining spot exchange rates to Euro. Emerging is a weighted average (2016 GDP) of spot exchange rates for CNY, BRL, RUB, INR, MXN, IDR, and TRY. 01/12/2018=100. Increases in value represent an appreciation of EUR. 1Y-MA USD=one-year moving average of the USD exchange rate. Sources: ECB, IMF, ESMA.]

### A.5 Exchange rate implied volatilities
![Graph showing exchange rate implied volatilities with indices for EUR-USD, EUR-GBP, 1Y-MA USD, and 1Y-MA GBP over Dec-18 to Dec-20 with a note explaining implied volatilities for 3M options on exchange rates, in %. 1Y-MA GBP is the one-year moving average of the implied volatility for 3M options on EUR-USD (resp. EUR-GBP) exchange rate. Sources: Refinitiv Eikon, ESMA.]

### A.6 Market confidence
![Graph showing market confidence with indices for Overall fin. sector, Fin. intermediation, Ins. and pension, and Auxiliary activities over Dec-18 to Dec-20 with a note explaining 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.]

---

**Note**: All charts and graphs are derived from the dataset provided by Refinitiv Datastream and the European Supervisory Authority (ESMA), with specific references to the sources used for each chart. The data includes market price performance, market volatilities, economic policy uncertainty, EUR exchange rates, exchange rate implied volatilities, and market confidence, all of which are critical indicators for understanding the current state of the market environment.
A.7 Portfolio investment flows by asset class

Investment flows by resident sector

A.8 Institutional investment flows

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

Note: EA institutional investment flows by type of investor, EUR bn. Other=financial vehicle corporations, mixed funds, other funds. 5Y-MA=five-year moving average of all investment flows.
Sources: ECB, ESMA.
Securities markets

**Equity markets**

**A.10** Equity prices by sector

<p>| | | | | | |</p>
<table>
<thead>
<tr>
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</tbody>
</table>

Note: STOXX Europe 600 sectoral return indices. 01/12/2018=100.
Sources: Refinitiv Datastream, ESMA.

**A.11** Price performance of national indices

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<table>
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</tbody>
</table>

Note: European equity indices. 01/12/2018=100.
Sources: Refinitiv Datastream, ESMA.

**A.12** Price performance

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</table>

Note: Datastream regional equity indices for the EA (in EUR), the US (in USD) and Japan (in JPY). 01/12/2018=100.
Sources: Refinitiv Datastream, ESMA.

**A.13** Price-earnings ratios

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<thead>
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</tbody>
</table>

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

**A.14** Return dispersion

<p>| | | | | | |</p>
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<tbody>
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</tbody>
</table>

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

**A.15** Implied volatility

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</tbody>
</table>

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

A.20  
**Issuance and outstanding**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Outstanding non-EA</th>
<th>Outstanding EA</th>
<th>Non-EA issuance (rhs)</th>
<th>EA issuance (rhs)</th>
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</thead>
<tbody>
<tr>
<td>4Q15</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>4Q16</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>4Q17</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>4Q18</td>
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<td>4</td>
<td>5</td>
<td>3</td>
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<td>4Q19</td>
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<td>4Q20</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

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.21  
**Issuance by credit rating**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>AAA</th>
<th>AA</th>
<th>A+</th>
<th>A-</th>
</tr>
</thead>
<tbody>
<tr>
<td>4Q15</td>
<td>450</td>
<td>350</td>
<td>250</td>
<td>50</td>
</tr>
<tr>
<td>4Q16</td>
<td>400</td>
<td>300</td>
<td>200</td>
<td>40</td>
</tr>
<tr>
<td>4Q17</td>
<td>350</td>
<td>250</td>
<td>150</td>
<td>30</td>
</tr>
<tr>
<td>4Q18</td>
<td>300</td>
<td>200</td>
<td>100</td>
<td>20</td>
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<tr>
<td>4Q19</td>
<td>250</td>
<td>150</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>4Q20</td>
<td>200</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: Sovereign bond gross issuance in the EEA30 by rating bucket, EUR bn. Avg. ratingweighted 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.22 Rating distribution

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

A.24 Net issuance by country

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

A.25 10Y yields

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

A.26 10Y spreads

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

A.27 Yield dispersion

Note: Yield dispersion on 10Y sovereign bonds of 16 EU27 countries, in %. Sources: Refinitiv Datastream, ESMA.
A.28 Volatility

Note: Annualised 40-day volatility of 10Y sovereign bonds, selected countries, in %. 1Y-MA: one-year moving average of 6A 10Y bond indices computed by Datastream.
Sources: Refinitiv Datastream, ESMA.

A.29 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.30 CDS spreads

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

A.31 CDS notional

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

A.32 Bid-ask spreads

Note: Bid-ask spread as weighted average of bid-ask spreads throughout a month weighted by trading volume across 10 EU27 domestic markets (AT, BE, DE, ES, FI, FR, IE, IT, NL and PT) and Euro MTS, in EUR.
Sources: MTS, ESMA.
A.34 Liquidity

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

A.35 Liquidity dispersion

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

A.36 Redenomination risk

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

A.37 Bond futures liquidity

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

Corporate-bond markets

A.38 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.39 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.40 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.41 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.42 Hybrid capital instruments

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

### A.43 Sovereign-corporate yield correlation

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

### A.44 Bid-ask spreads and Amihud indicator

Note: Market iBoxx EUR Corporate bond index bid-ask spread, in %, computed as a one-month moving average of the iBoxx components in the current composition. 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.45 Turnover ratio and average trade size

Note: Average transaction size for the corporate bond segment as the ratio of nominal amount of settlement instructions to number of settled instructions, in EUR mn. Turnover is the one-month moving average of the ratio of trading volume over outstanding amount, in %.
Sources: IHS Markit, ESMA.
### Credit quality

#### A.46
**SFI ratings issued by collateral type**

```
<table>
<thead>
<tr>
<th>Collateral Type</th>
<th>1Q15</th>
<th>2Q15</th>
<th>3Q15</th>
<th>4Q15</th>
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</thead>
<tbody>
<tr>
<td>ABS</td>
<td>800</td>
<td>600</td>
<td>400</td>
<td>200</td>
</tr>
<tr>
<td>CDO</td>
<td>1,200</td>
<td>1,000</td>
<td>800</td>
<td>600</td>
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<tr>
<td>CMBS</td>
<td>1,600</td>
<td>1,400</td>
<td>1,200</td>
<td>1,000</td>
</tr>
<tr>
<td>OTH</td>
<td>2,000</td>
<td>1,800</td>
<td>1,600</td>
<td>1,400</td>
</tr>
</tbody>
</table>
```

Note: Number of rated structured finance instruments by collateral type. ABS=Asset-backed securities; CDO=Collateralised debt obligations; CMBS=Commercial mortgage-backed securities; OTH=Other; RMBS=Residential mortgage-backed securities.

**Note:**
- Quasi high-quality collateral outstanding with a rating equal to or higher than AA-. Maturities < 12 months are excluded.

**Sources:** RADAR, ESMA.

#### A.47
**SFI ratings outstanding by collateral type**

```
<table>
<thead>
<tr>
<th>Collateral Type</th>
<th>1Q15</th>
<th>2Q15</th>
<th>3Q15</th>
<th>4Q15</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>800</td>
<td>600</td>
<td>400</td>
<td>200</td>
</tr>
<tr>
<td>CDO</td>
<td>1,200</td>
<td>1,000</td>
<td>800</td>
<td>600</td>
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<tr>
<td>CMBS</td>
<td>1,600</td>
<td>1,400</td>
<td>1,200</td>
<td>1,000</td>
</tr>
<tr>
<td>OTH</td>
<td>2,000</td>
<td>1,800</td>
<td>1,600</td>
<td>1,400</td>
</tr>
</tbody>
</table>
```

Note: Outstanding EU ratings of structured finance instruments by collateral type, in % of total. ABS=Asset-backed securities; CDO=Collateralised debt obligations; CMBS=Commercial mortgage-backed securities; OTH=Other; RMBS=Residential mortgage-backed securities.

**Note:**
- Quasi high-quality collateral outstanding with a rating equal to or higher than AA-. Maturities < 12 months are excluded.

**Sources:** RADAR, ESMA.

#### A.48
**High-quality collateral outstanding**

```
<table>
<thead>
<tr>
<th>Quarter</th>
<th>High-quality collateral outstanding</th>
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<tbody>
<tr>
<td>4Q15</td>
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<td>4Q16</td>
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<td>4Q17</td>
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<td>4Q18</td>
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<td>4Q19</td>
<td>4</td>
</tr>
<tr>
<td>4Q20</td>
<td>2</td>
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</tbody>
</table>
```

Note: Outstanding amount of high-quality collateral in the EEA27, EUR trn. High-quality collateral is the sum of outstanding debt securities issued by EEA27 governments with a rating equal to or higher than BBB-. Quasi high-quality collateral is the outstanding corporate debt with a rating equal to or higher than AA-. Maturities < 12 months are excluded.

**Sources:** Thomson Reuters EIKON, ESMA.

#### A.49
**Rating distribution of covered bonds**

```
<table>
<thead>
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<th>Rating Category</th>
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<th>2Q15</th>
<th>3Q15</th>
<th>4Q15</th>
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<td>100</td>
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<tr>
<td>A</td>
<td>200</td>
<td>100</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>BBB</td>
<td>100</td>
<td>50</td>
<td>25</td>
<td>12.5</td>
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<td>1.5625</td>
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<td>0.1953125</td>
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</table>
```

Note: Outstanding amount of covered bonds in the EEA27 as of issuance date by rating category, in % of the total. Maturities < 12 months are excluded.

**Sources:** Thomson Reuters EIKON, ESMA.

#### A.50
**SFI rating changes**

```
<table>
<thead>
<tr>
<th>Quarter</th>
<th>Rating Actions</th>
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</thead>
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</tr>
<tr>
<td>3Q15</td>
<td>200</td>
</tr>
<tr>
<td>4Q15</td>
<td>100</td>
</tr>
</tbody>
</table>
```

Note: Number of rating changes on securitised assets.

**Sources:** RADAR, ESMA.

#### A.51
**Size of SFI rating changes**

```
<table>
<thead>
<tr>
<th>Quarter</th>
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</table>
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Note: Average size of upgrades and downgrades when credit rating agencies took rating actions on securitised assets, number of buckets traversed.

**Sources:** RADAR, ESMA.
A.52
Size of rating changes

A.53
Non-financial corporate rating changes

A.54
Ratings drift

A.55
Ratings volatility

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

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.

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

Note: 3 month moving average of volatility of ratings by all credit rating agencies, excluding CERVED and ICAP, by asset class computed as number of rating changes over number of outstanding ratings.
Sources: RADAR, ESMA.
**Securities lending**

A.56 Securities lending transactions by asset type

Note: number of daily transactions, in thousands, in securities lending markets for instruments primarily traded in the EEA30. Equities on the rhs. Sources: FIS Astec Analytics, Quandl, ESMA.

A.57 Securities utilisation rate

Note: 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 Analytics, Quandl, ESMA.

A.58 Securities lending contract tenure

Note: average tenure of loans for instruments primarily traded in the EEA30. Tenure is measured in days and weighted by the market value of the loan. Source: FIS Astec Analytics, Quandl, ESMA.

**Short selling**

A.59 Value of net short positions in EU shares

Note: Market value of net short selling positions as percentage of total market value in the EEA30. Number of shares part of a main national index on which short positions were reported by NCAs under the Short Selling Regulation. Sources: National Competent Authorities, Refinitiv Datastream, ESMA.

A.60 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. Sources: National Competent Authorities, Refinitiv Datastream, ESMA.
A.61 Value of net short positions in EU shares by sector

Note: Average of net short positions in EEA30 shares for manufacturing, financial, information technology and utilities, in % of issued share capital. Sources: National Competent Authorities, ESMA.

A.62 Value of net short positions in EU sovereign debt

Note: Duration-adjusted net short selling positions held in EEA30 sovereign debt, EUR tn. Sources: National Competent Authorities, ESMA.

A.63 Net short positions in industrial shares and equity prices

Note: Average of net short positions in EEA30 manufacturing shares, in % of issued share capital, and EEA30 industrial equity benchmark, 01/03/2018=100. Sources: National Competent Authorities, Refinitiv Datastream, ESMA.

A.64 Net short positions in financial shares and equity prices

Note: Average of net short positions in EEA30 financial shares, in % of issued share capital, and EEA30 financial equity benchmark, 01/03/2018=100. Sources: National Competent Authorities, Refinitiv Datastream, ESMA.

Money markets

A.65 Interest rates

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

A.66 Spreads to overnight index swap

Note: Spreads between 3M interbank rates and 3M overnight index swap, in bps. Sources: Refinitiv Datastream, ESMA.
A.67 Interbank overnight activity

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

A.68 EONIA forwards

Note: Euro overnight index swap forwards, in %.
Sources: Refinitiv Eikon, ESMA.

Commodity markets

A.69 Prices

Note: S&P GSCI commodity indices and Brent price. 01/12/2018=100. 1Y-MA=one-year moving average computed using S&P GSCI.
Sources: Refinitiv Datastream, ESMA.

A.70 Volatility

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

A.71 Open interest

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

A.72 Implied volatility

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

#### A.73
**OTC notional outstanding**

- **Commodity**
- **Credit default swaps**
- **Equity-linked**
- **Interest rate**

Note: Gross notional amounts of outstanding OTC derivatives by product category, USD tn.

Sources: Bank for International Settlements, ESMA.

#### A.74
**OTC market value**

- **Commodity**
- **Credit default swaps**
- **Equity-linked**
- **Interest rate**

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

Sources: Bank for International Settlements, ESMA.

#### A.75
**ETD notional outstanding by product category**

- **Foreign exchange**
- **Short-term interest rate**
- **Long-term interest rate**

Note: Open interest in exchange-traded derivatives by product category, in USD tn.

Sources: Bank for International Settlements, ESMA.

#### A.76
**ETD turnover by product category**

- **Foreign exchange**
- **Interest rate (rhs)**
- **1Y-MA FX**
- **1Y-MA IR (rhs)**

Note: Global average daily turnover in exchange-traded derivatives by product category, in USD tn.

Sources: Bank for International Settlements, ESMA.

#### A.77
**ETD notional outstanding by asset class**

- **Futures**
- **Options**

Note: Open interest in exchange-traded derivatives by asset class, in USD tn.

Sources: Bank for International Settlements, ESMA.

#### A.78
**ETD turnover by asset class**

- **Futures**
- **Options**
- **1Y-MA futures**
- **1Y-MA options**

Note: Global average daily turnover in exchange-traded derivatives by asset class, in USD tn.

Sources: Bank for International Settlements, ESMA.
A.79
ETD notional outstanding by exchange location

A.80
ETD turnover by exchange location

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

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

Trading venues and MiFID entities

A.81
Equity trading by trading type

Equity trading in the EEA as a percentage of total volumes. Total equity trading volumes in EUR billions (right axis). OTC data includes volumes relative to the UK. Last available data point is December 2020.
Sources: FIRDSS, FITRS, ESMA.

A.83
Trading turnover by type of assets

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

A.84
Share of turnover by type of assets

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

A.86
Circuit-breaker-trigger events by sector

Note: Percentage of circuit-breaker trigger events by economic sector registered on 29 EEA30 trading venues for all constituents of the STOXX Europe Large/Mid/Small 200 and a large sample of ETFs tracking these indices or some of their subindices. Results displayed as weekly aggregates.
Sources: Morningstar Real-Time Data, ESMA.
A.87 Number of trading venues and systematic internalisers

- Regulated market: 126
- Systematic internaliser: 173
- Organised trading facility: 27
- Multilateral trading facility: 144

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

A.88 Data reporting services providers

- Approved publication arrangement: 16

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

A.89 Initial Margins held at EU and UK CCPs

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

A.90 Margin breaches

- Breaches of initial margin - average uncovered exposure
- Breaches of initial margin - average uncovered exposure

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 September 2020. Sources: Clarus Financial Technology, PQD, ESMA.

A.91 Initial margins held at EU and UK CCPs by asset class

Note: Outstanding amounts of initial margin required and excess collateral received by EU27 and UK CCPs for derivatives (CCP, A, C&G, European Central Counterparty N.V and KDPW data missing), in EUR bn. Data points for 29 May, 12 June and 16 October incomplete. Sources: TRs, ESMA.

A.92 Initial margins by account type

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). Sources: Clarus Financial Technology, CPMI-IOSCO PQD, ESMA.
A.93 IRD clearing volumes by CCP

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

A.94 IRD subject to clearing obligation by CCP

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

A.95 Credit derivatives clearing volumes by CCP

Note: Quarterly notional volumes cleared for CDS, CDX and CDX futures & swaps in EUR, USD, JPY or GBP, in %. Total volumes in EUR trillion (right axis).
Sources: Clarus Financial Technology, ESMA.

A.96 Credit derivatives subject to clearing obligation by CCP

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

A.97 IRD trading volumes

Note: Daily trading volumes for EU27-currency-denominated IRD products. Products include IRS, basis swaps, FRA, inflation swaps, OIS. 40-day moving average notional, USD bn. ISDA SwapsInfo data are based on publicly available data from DTCC Trade Repository LLC and Bloomberg Swap Data Repository.
Reporting logic for indicating the cleared status of trades changed for DTCC SDR on 21 Nov 2020.
Sources: ISDA SwapsInfo, ESMA.

A.98 CDS index trading volumes

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

A.99 Settlement activity

Note: Total value of settled transactions in the EEA30 as reported by NCAs, in EUR bn, one-week moving averages. Sources: National Competent Authorities, ESMA.

A.100 Settlement fails

Note: Share of failed settlement instructions in the EEA30, in % of value, one-week moving averages. Sources: National Competent Authorities, ESMA.

A.101 Number of settlement instructions

Note: Total number of settlement instructions in the EEA30 as reported by NCAs, in thousand, one-week moving averages. Dotted lines represent six-month moving averages. Sources: National Competent Authorities, ESMA.

A.102 Number of failed settlement instructions

Note: Share of failed settlement instructions in the EEA30, in % of total number of instructions, one-week moving averages. Dotted lines represent six-month moving averages. Sources: National Competent Authorities, ESMA.

Credit rating agencies

A.103 Ratings drift

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

A.104 Ratings volatility

Note: 3-month moving average of volatility of ratings by all credit rating agencies, excluding CERVED and ICAP, by asset class computed as number of rating changes over number of outstanding ratings. Sources: RADAR, ESMA.
A.105 Outstanding ratings issued by the top 3 CRAs

A.106 Outstanding ratings excluding the top 3 CRAs

A.107 Changes in outstanding structured finance ratings

A.108 Changes in outstanding covered bond ratings

A.109 Share of outstanding ratings Big 3 CRAs vs. others

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

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

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

A.110 EURIBOR rates

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

A.112 IRDs linked to reference rates

Note: Gross notional amount of IRS outstanding referencing benchmarks, EUR tbn.
Sources: TRs, ESMA.

A.114 €STR rate

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

A.111 IRSs linked to EONIA and Euribor by maturity

Note: Before or after end-2021
Sources: TRs, ESMA.

A.113 Number of banks contributing to €STR

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

A.115 €STR volumes

Note: Total nominal value of transactions before trimming, in EUR tbn. Number of transactions before trimming.
Sources: ECB, ESMA.
Asset management

Fund industry

A.116 Fund performance

A.117 Fund volatility

A.118 Entities authorised under UCITS

A.119 Share of entities authorised under UCITS by country

A.120 Entities authorised under AIFMD

A.121 Share of entities authorised under AIFMD by country

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

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

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

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

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

Note: Number of entities authorised under AIFMD by EEA30 National Competent Authorities and notified to ESMA, in %.
Sources: ESMA Registers.
A.122
Assets by market segment

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

A.123
NAV by legal form

Note: NAV of EU28 funds, EUR tn. Sources: EFAMA, ESMA.

A.124
NAV by fund market segment

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

A.125
Leverage by market segment

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

A.126
Fund flows by fund type

Note: EU27 bond and equity fund net flows, in % of NAV. Sources: Refinitiv Lipper, ESMA.

A.127
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.128 Bond fund flows by regional investment focus

A.129 Equity fund flows by regional investment focus

A.130 Net flows for bond funds

A.131 Net asset valuation

A.132 Liquidity risk profile of EU bond funds

A.133 Cash as percentage of assets
**A.134**
Credit quality of bond funds' assets

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Dec-18 Apr-19 Aug-19 Dec-19 Apr-20 Aug-20 Dec-20

BF
HY (rhs)

Note: Average credit quality of assets held in investment grade bond funds (BF) compared with high yield bond funds (HY) based on S&P ratings: 1=A, 2=BBB, 4=BB, 10=D.

An increase implies a deterioration of the credit quality.

Sources: Refinitiv Lipper, ESMA.

---

**A.135**
Maturity of EU bond funds' assets

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2Q15 3Q16 3Q17 3Q18 4Q19 4Q20

Note: Weighted average effective maturity of EU27-domiciled bond fund assets, data in years.

Sources: Thomson Reuters Lipper, ESMA.

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**Money market funds**

**A.136**
MMF performance

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Dec-18 Apr-19 Aug-19 Dec-19 Apr-20 Aug-20 Dec-20

2nd/98th perc. Median

- Weighted average

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.137**
MMF flows by domicile

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Dec-18 Apr-19 Aug-19 Dec-19 Apr-20 Aug-20 Dec-20

EU27 US

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

Sources: Refinitiv Lipper, ESMA.

---

**A.138**
MMF flows by geographical focus

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Dec-18 Apr-19 Aug-19 Dec-19 Apr-20 Aug-20 Dec-20

Emerging markets Global North America Western Europe

Note: EU27 MMF net flows by geographical focus, in % of NAV.

Sources: Refinitiv Lipper, ESMA.

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**A.139**
Assets and leverage

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3Q15 3Q16 3Q17 3Q18 3Q19 3Q20

AuM NAV

Leverage (rhs) 5Y-MA (rhs)

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.
**Alternative funds**

**A.140**

**MMF maturity**

![MMF maturity chart]

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.141**

**MMF liquidity**

![MMF liquidity chart]

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.142**

**Hedge fund returns**

![Hedge fund returns chart]

Note: EU-domiciled hedge funds’ monthly returns, %. The graph shows the returns’ traction, the difference between the returns corresponding to the 90th 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.143**

**Hedge fund performance by strategy**

![Hedge fund performance by strategy chart]

Note: Growth in hedge fund performance indices by strategy. Hedge fund index (Total): Market-Neutral, Total Return, Long/Short Equity, Quantitative, Macro, Multi-strategy, relative value (RV), in %.

Sources: Eurekahedge, ESMA.

**A.144**

**Fund flows by domicile**

![Fund flows by domicile chart]

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

Sources: Refinitiv Lipper, ESMA.

**A.145**

**Assets and leverage**

![Assets and leverage chart]

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

Sources: ECB, ESMA.
A.146
Alternative fund flows by geographical focus

-20 Dec-18 Apr-19 Aug-19 Dec-19 Apr-20 Aug-20 Dec-20
Emerging markets Global North America Western Europe
Note: EU27 alternative mutual fund net flows by geographical focus, in % of NAV. Data on alternative mutual funds represent only a subset of the entire alternative fund industry. Sources: Refinitiv Lipper, ESMA.

A.147
Direct and indirect property fund flows

-2 Dec-18 Apr-19 Aug-19 Dec-19 Apr-20 Aug-20 Dec-20
Direct Indirect
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.

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Exchange-traded funds

A.148
Returns

-4 Dec-18 Apr-19 Aug-19 Dec-19 Apr-20 Aug-20 Dec-20
2nd/98th perc. Weighted average Median
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.149
Volatility

0 Dec-18 Apr-19 Aug-19 Dec-19 Apr-20 Aug-20 Dec-20
Volatility
Note: Annualised 40-day historical return volatility of EU27-domiciled ETFs, in %. Sources: Refinitiv Lipper, ESMA.

A.150
NAV and number by domicile

3,000 Dec-18 Apr-19 Aug-19 Dec-19 Apr-20 Aug-20 Dec-20
EU27 ETFs US ETFs
Note: NAV, EUR tn, and number of ETFs by domicile. Sources: Refinitiv Lipper, ESMA.

A.151
NAV by asset type

Note: NAV of EU27 ETFs by asset type, EUR bn. Sources: Refinitiv Lipper, ESMA.
### A.152 Tracking error

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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.153 Flows by domicile

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<tbody>
<tr>
<td>Dec-18</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Apr-19</td>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>Aug-19</td>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Dec-19</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Apr-20</td>
<td>0.9</td>
<td>1.0</td>
</tr>
<tr>
<td>Aug-20</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Dec-20</td>
<td>1.5</td>
<td>1.6</td>
</tr>
</tbody>
</table>

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

### A.154 Assets of leveraged European 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>500</td>
<td>1000</td>
</tr>
<tr>
<td>2013</td>
<td>1000</td>
<td>1500</td>
</tr>
<tr>
<td>2014</td>
<td>1500</td>
<td>2000</td>
</tr>
<tr>
<td>2015</td>
<td>2000</td>
<td>2500</td>
</tr>
<tr>
<td>2016</td>
<td>2500</td>
<td>3000</td>
</tr>
<tr>
<td>2017</td>
<td>3000</td>
<td>3500</td>
</tr>
<tr>
<td>2018</td>
<td>3500</td>
<td>4000</td>
</tr>
<tr>
<td>2019</td>
<td>4000</td>
<td>4500</td>
</tr>
<tr>
<td>2020</td>
<td>4500</td>
<td>5000</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.

### A.155 Average beta values for European ETFs

<table>
<thead>
<tr>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
</tr>
<tr>
<td>1.5</td>
</tr>
</tbody>
</table>

Note: Leveraged ETFs are self-reported. The annual average monthly beta is measured as the volatility of a fund’s 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.156 Assets of European ETFs by replication method

<table>
<thead>
<tr>
<th>Year</th>
<th>Physical - assets</th>
<th>Synthetic - assets</th>
<th>Physical - number (rhs)</th>
<th>Synthetic - number (rhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>100</td>
<td>200</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>2014</td>
<td>300</td>
<td>500</td>
<td>300</td>
<td>500</td>
</tr>
<tr>
<td>2016</td>
<td>500</td>
<td>700</td>
<td>500</td>
<td>700</td>
</tr>
<tr>
<td>2018</td>
<td>700</td>
<td>900</td>
<td>700</td>
<td>900</td>
</tr>
<tr>
<td>2020</td>
<td>900</td>
<td>1100</td>
<td>900</td>
<td>1100</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.157 Flows into European 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>100</td>
<td>200</td>
</tr>
<tr>
<td>2013</td>
<td>300</td>
<td>500</td>
</tr>
<tr>
<td>2014</td>
<td>500</td>
<td>700</td>
</tr>
<tr>
<td>2015</td>
<td>700</td>
<td>900</td>
</tr>
<tr>
<td>2016</td>
<td>900</td>
<td>1100</td>
</tr>
<tr>
<td>2017</td>
<td>1100</td>
<td>1300</td>
</tr>
<tr>
<td>2018</td>
<td>1300</td>
<td>1500</td>
</tr>
<tr>
<td>2019</td>
<td>1500</td>
<td>1700</td>
</tr>
<tr>
<td>2020</td>
<td>1700</td>
<td>1900</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.158 Disposable income

Note: Annualised growth rate of household gross disposable income adjusted for changes in pension entitlements for 16 EU27 countries (AT, BE, CZ, DE, DK, ES, FI, FR, IE, IT, NL, PL, PT, RO, SE and SI), in %. 5Y-MA=five-year moving average of the growth rate.
Sources: Eurostat, ESMA.

A.159 Household saving and investment rates

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

A.160 Investor sentiment

Note: Sentix Sentiment Indicators for the EA retail and institutional investors on a ten-year horizon. The zero benchmark is a risk-neutral position.
Sources: Refinitiv Datastream, ESMA.

A.161 Growth rates in financial assets

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

Asset allocation by retail investors

A.162 Household assets to liabilities ratio

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

A.163 Household financial assets by class

Note: Financial assets of EU27 households, EUR tn, and share of securities investments (debt securities, equities and IF shares) in total, in %. IF shares=investment fund shares. Other financial assets=Insurance technical reserves, financial derivatives, loans granted and other accounts receivable.
Sources: ECB, ESMA.
A.164
Share of securities investments in household assets

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

A.165
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.166
Equity UCITS net flows by asset class

Note: EU-27 UCITS annual net flows, retail investors, by asset class, EUR bn.
Sources: Refinitiv Lipper, ESMA.

A.167
Equity UCITS market size by management type

Note: EU equity UCITS market size by management type. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees are available, EUR bn. Share of passive and ETFs in %, right-hand size.
Sources: Refinitiv Lipper, ESMA.

A.168
Equity UCITS net flows by management type

Note: EU equity UCITS annual net flows at quarterly frequencies, by management type, EUR bn. Active right-hand size (rhs) axis.
Sources: Refinitiv Lipper, ESMA.

A.169
Equity UCITS cumulative net flows

Note: EU equity UCITS cumulative annual net flows by management type. 4Q16=100.
Sources: Refinitiv Lipper, ESMA.
Costs and performance

A.170 Portfolio returns

Note: 12-months trailing average monthly gross returns for a stylised household portfolio, in %. Asset weights, computed using National Financial Accounts by Institutional Sectors, are 36% for collective investment schemes, 39% for deposits, 22% for shares, 3% 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.172 Dispersion of returns all assets

Note: Dispersion of net performances of EU UCITS, retail investors, adjusted for total expense ratio and load fees, in %. Distribution represents selected EU markets. Top mid-tail 15%-distribution between the 75th and 90th percentile. Bottom mid-tail 15%-distribution between the 10th and 25th percentile.

Sources: Refinitiv Lipper, ESMA.

A.174 UCITS total cost dispersion by asset class

Note: EU-27 UCITS dispersion of total costs (ongoing costs, subscription and redemption fees), computed as the difference between gross and net returns, per asset class, retail investors, %.

Sources: Refinitiv Lipper, ESMA.

A.171 Retail fund synthetic risk and reward indicator

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

Sources: Refinitiv Lipper, ESMA.

A.173 Net returns by asset class

Note: EU-27 UCITS evolution of gross annual performance, retail investors, by assets class, %. Equity on the right hand side.

Sources: Refinitiv Lipper, ESMA.

A.175 Dispersion by absolute cost impact

Note: EU-27 UCITS dispersion of total costs (ongoing costs, subscription and redemption fees) of UCITS funds, computed as the difference between gross and net returns, by country, retail investors, %.

Sources: Refinitiv Lipper, ESMA.
**A.176**

Equity UCITS total costs by management type

Note: EU equity UCITS, evolution of total costs, ongoing costs (TER), subscription and redemption fees by management type, %.
Sources: Refinitiv Lipper, ESMA.

**A.177**

Equity UCITS net returns by management type

Note: EU equity UCITS evolution of net annual performance, net of ongoing costs (TER), subscription and redemption fees by management type, %.
Sources: Refinitiv Lipper, ESMA.
Complaints

A.178
Total complaints

Note: Number of complaints recorded by quarterly-reporting NCAs (n=14) via given reporting channels. *NCA*=Reports lodged directly by consumers with NCAs. *Firms (rhs)*=Complaints recorded by NCAs via firms. *Average total*=average total number from 3Q18 to 3Q20.

Sources: ESMA complaints database

A.179
Complaints data by type of firm

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

Sources: ESMA complaints database

A.180
Complaints by cause

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

Sources: ESMA complaints database

A.181
Complaints data by instrument

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

Sources: ESMA complaints database

A.182
Complaints by MiFID II category

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

Capital markets financing

A.183 Total market financing

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

A.184 Loans vis-à-vis EA NFCs

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

A.185 Cumulative equity issuance – IPOs and follow-on

Note: Cumulative amount of Follow-on issuance in the EEA30 (rhs) and IPOs (rhs) in 2019 and 2020, EUR bn.
Sources: Refinitiv Eikon, ESMA.

A.186 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.187 Average maturity at issuance

Note: Weighted average maturity at issuance: debt data of corporate bonds issued in the EEA, in yrs (rhs). AWM= Average weighted maturity, in years (rhs).
Sources: Refinitiv Eikon, ESMA.

A.188 Gross issuance of corporate bonds by rating

Note: Monthly corporate bond issuance in the EEA30 by rating, EUR bn, and average issuance rating (rhs).
Sources: Refinitiv Eikon, ESMA.
A.189
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.190
Corporate bond issuance and outstanding

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

A.191
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.192
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.193
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.194
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.
**SMEs**

### A.196 SME trading volumes

- **Utilities, mining & energy**
- **Industry and services**
- **Financials**
- **5Y-MA issuance**

**Note:** Monthly trading volumes on EEA30 = UK venues of SME shares in 2019 EUR billion (ths), and % share in total equity trading (ths).

**Sources:** Refinitiv EIKON, ESMA.

### A.197 SME trading volumes on Growth Markets

**Note:** SME trading volumes on GMs, by segment/MIC domicile, EURbn.

**Sources:** FIRD3, PITRI, ESMA.

### A.198 Number of SME issuers by market type

- **Small Cap**
- **Medium Cap**
- **Multilateral trading facilities**
- **Regulated markets**
- **Systematic internalisers**
- **Over the counter**

**Note:** Number of small and medium enterprises that have issued shares publicly available for trading in the EU, by market type. Shares may be available for trading on more than one market type. SME categories based on market capitalisation in 2019.

**Small cap** = less than EUR 20mn; **Medium cap** = from EUR 20mn to 200mn.

**Sources:** FIRD3, PITRI, ESMA.
**Market-based credit intermediation**

### A.199

**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: RepoFunds Rate, ESMA.

### A.200

**US shadow banking liabilities**

Note: Size of the US shadow banking system proxied by liabilities of ABS issuers, government-sponsored enterprise (GSE) and pool securities, open commercial paper (CP), size of the US repo and securities lending (collateralised with cash) markets, and liabilities of MMFs, in USD tn. Expressed in % of bank liabilities on rhs.

Sources: Refinitiv Datastream, ESMA.

### A.201

**MMFs and other financial institutions**

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

Sources: ECB, ESMA.

### A.202

**Financial market interconnectedness**

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

Sources: ECB, ESMA.

### A.203

**Credit terms in SFT and OTC derivatives**

Note: Weighted average of responses to the question: “Over the past three months, how have terms offered on 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=improved somewhat, and 5=improved considerably.

Sources: ECB, ESMA.

### A.204

**Securities financing conditions**

Note: Weighted average of responses to the questions “Over the past three months, how have demand for funding/have liquidity and functioning for all EUR-denominated collateral types changed?” 1=decreased/deteriorated considerably, 2=decreased/deteriorated somewhat, 3=remained basically unchanged, 4=improved/improved somewhat, and 5=improved/improved considerably.

Sources: ECB, ESMA.
A.205
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: RepoFunds Rate, ESMA.
Sustainable finance

Green finance

A.206 Green bonds outstanding

Note: Outstanding amount of green bonds in the EEA30 by sector, EUR bn, and share of private sector (rhs). In %.
Sources: Refinitiv EIKON, ESMA.

A.207 Green bond issuance

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

A.208 Green bonds outstanding from private sector

Note: Outstanding amount of corporate green bonds in the EEA30 by sector, EUR bn, and share in the overall corporate bond market (rhs), in %.
Sources: Refinitiv EIKON, ESMA.

A.209 Green bond credit quality

Note: Outstanding amount of green bonds in the EEA30 by credit rating and sector, EUR bn.
Sources: Refinitiv EIKON, ESMA.

A.210 Green bond maturity buckets

Note: Distribution of outstanding green bonds in the EEA30 by maturity bucket compared with the overall corporate bond market distribution, in %.
Sources: Refinitiv EIKON, ESMA.
### A.212 Sovereign green bond liquidity

<table>
<thead>
<tr>
<th>Date</th>
<th>Dec-17</th>
<th>Jun-18</th>
<th>Dec-18</th>
<th>Jun-19</th>
<th>Dec-19</th>
<th>Jun-20</th>
<th>Dec-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.5</td>
<td>0.4</td>
<td>0.3</td>
<td>0.2</td>
<td>0.1</td>
<td>0.5</td>
<td>0.4</td>
</tr>
</tbody>
</table>

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

*Sources: MTIS, ESMA.*

### A.213 Green bond currencies

- **Euro**
- **EEA ex. Euro**
- **British Pound**
- **US Dollar**
- **Rest of the world**

*Note: Outstanding amount of green bonds in the EEA30 by currency, EUR bn.*

*Sources: Refinitiv Eikon, ESMA.*

### A.214 ESG index performance

<table>
<thead>
<tr>
<th>Date</th>
<th>Dec-18</th>
<th>Apr-19</th>
<th>Aug-19</th>
<th>Dec-19</th>
<th>Apr-20</th>
<th>Aug-20</th>
<th>Dec-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>140</td>
<td>130</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>90</td>
<td>80</td>
</tr>
</tbody>
</table>

*Note: Euro Stoxx 50 ESG leaders and broader indices, indexed with 31/12/2018=100.*

*Sources: Refinitiv Datastream, ESMA.*

### A.215 ESG index risk-adjusted returns

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return</td>
<td>-12</td>
<td>-8</td>
<td>-5</td>
<td>-3</td>
<td>-1</td>
<td>0</td>
</tr>
</tbody>
</table>

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

*Sources: Refinitiv Datastream, ESMA.*

### A.216 Emission allowance prices

<table>
<thead>
<tr>
<th>Date</th>
<th>Dec-18</th>
<th>Apr-19</th>
<th>Aug-19</th>
<th>Dec-19</th>
<th>Apr-20</th>
<th>Aug-20</th>
<th>Dec-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>35</td>
<td>30</td>
<td>25</td>
<td>20</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

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

*Sources: Refinitiv Datastream, ESMA.*

### A.217 Emission allowance turnover

<table>
<thead>
<tr>
<th>Date</th>
<th>Dec-18</th>
<th>Apr-19</th>
<th>Aug-19</th>
<th>Dec-19</th>
<th>Apr-20</th>
<th>Aug-20</th>
<th>Dec-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>140</td>
<td>120</td>
<td>100</td>
<td>80</td>
<td>60</td>
<td>40</td>
<td>20</td>
</tr>
</tbody>
</table>

*Note: Monthly turnover of European Emission Allowances (EUA) on European Energy Exchange, in EUR mn.*

*Sources: Refinitiv Datastream, ESMA.*
Financial innovation

**A.218**

Funds with AI/FinTech investment focus

![Bar chart showing net flows and total AuM for selected EU-domiciled funds with AI/FinTech names.](image)

Note: Total AuM, 12-month rolling average, EUR bn, and monthly net flows, EUR mn, for selected EU-domiciled funds (n=41) whose name includes reference to AI, automation, FinTech or robotics.

Sources: Morningstar Direct, ESMA.

**A.220**

Digital operational incidents: CCP Outages

![Bar chart showing total number of outages and total outage duration by quarter for global sample of CCPs (n=11).](image)

Note: Number of outages and total outage duration in minutes, by quarter, for global sample of CCPs (n=11).

Sources: Clarus, CCPs, ESMA.

**A.222**

Crypto-Asset prices

![Line chart showing prices of selected crypto-assets, EUR thousand.](image)

Note: Prices of selected crypto-assets, EUR thousand.

Sources: Refinitiv Datastream, ESMA.

**A.221**

Crypto-Asset market capitalisation

![Line chart showing market capitalisation of Bitcoin, Ethereum, Tether and other crypto-currencies, in EUR bn.](image)

Note: Market capitalisation of Bitcoin, Ethereum, Tether and other crypto-currencies, in EUR bn.

Sources: CoinMarketCap, ESMA.

**A.223**

Crypto-Asset price volatility

![Line chart showing annualised 30-day historical volatility of EURO STOXX 50, EUR/USD spot rate returns and USD-denominated returns for Bitcoin, Ethereum and gold.](image)

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

Sources: Refinitiv Datastream, ESMA.
A.224

Bitcoin futures markets

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

A.225

Crypto-asset trading volumes

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