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Market environment

A.1 Market price performance

A.2 Market volatilities

A.3 Economic policy uncertainty

A.4 EUR exchange rates

A.5 Exchange rate implied volatilities

A.6 Market confidence

Note: Return indices on EU equities (Datastream regional index), global commodities (S&P GSCI) converted to EUR, EA corporate and sovereign bonds (iBoxx EUR, all maturities), 01/09/2017=100.
Sources: Refinitiv Datastream, ESMA.

Note: Annualised 40D volatility of return indices on EU 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.

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

Note: Implied volatilities for 3M options on exchange rates, in %. 5Y-MA EUR is the five-year moving average of the implied volatility for 3M options on EUR-USD exchange rate.
Sources: Refinitiv EIKON, ESMA.

Note: European Commission survey of EU financial services sector and subsectors (NACE Rev 2 64, 65, 95). Confidence indicators are averages of the net balance of responses to questions on development of the business situation over the past three months, evolution of demand over the past three months and expectation of demand over the next three months, in % of answers received. Fin.=financial. Ins.=insurance.
Sources: European Commission, ESMA.
A.7 Portfolio investment flows by asset class

Investment flows by resident sector

A.9 Institutional investment flows

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

Sources: ECB, ESMA.

Note: Quarterly Sector Accounts. Investment flows by resident sector in equity (excluding investment fund shares) and debt securities, EUR bn. 1Y-MA=one-year moving average of all investment flows.

Sources: ECB, ESMA.

Note: EA institutional investment flows by type of investor, EUR bn. Other=financial vehicle corporations, mixed funds, other funds. 1Y-MA=one-year moving average of all investment flows.

Sources: ECB, ESMA.
Securities markets

**Equity markets**

**A.10 Price performance**

- Price performance of national indices

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

- National equity indices from selected EU members

**A.12 Equity prices by sector**

- STOXX Europe 600 sectoral return indices

**A.13 Price-earnings ratios**

- Price-earning ratios based on average inflation-adjusted earnings from the previous 10 years (cyclically adjusted price-earning ratios)

**A.14 Return dispersion**

- Dispersion of the weekly returns on the main equity indices in the EU

**A.15 Implied volatility**

- Implied volatility of EURO STOXX 50 (VTX50) and S&P 500 (VIX), in %
Sovereign-bond markets

A.20
Issuance and outstanding

A.21
Issuance by credit rating

Note: Quarterly sovereign-bond issuance in the EU by rating category, 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.). Sources: Refinitiv EIKON, ESMA.
A.22  
Rating distribution

Note: Outstanding amount of sovereign bonds in the EU as of issuance date by rating category, in % of the total.  
Sources: Refinitiv Eikon, ESMA.

A.23  
Equity-sovereign bond correlation dispersion

Note: Dispersion of the correlation between daily returns of national equity indices and national sovereign debt return index, for 17 countries in the EU, over 60D rolling windows.  
Sources: Refinitiv Datastream, ESMA.

A.24  
Net issuance by country

Note: Quarterly net issuance of EU 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. EU total on right-hand scale.  
Sources: Refinitiv Eikon, ESMA.

A.25  
10Y yields

Note: Yields on 10Y sovereign bonds, selected EU members, in %. 5Y-MA=five-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: Dispersion of yields on 10Y sovereign bonds of 17 EU countries, in %.  
Sources: Refinitiv Datastream, ESMA.
A.28 Volatility

Volatility of 10Y sovereign bonds, selected EU members, in %. 5Y-MA=five-year moving average of EA 10Y bond indices computed by Datastream.

Sources: Refinitiv Datastream, ESMA.

A.29 Yield correlation dispersion

Dispersion of correlations between 10Y DE Bunds and other EU countries’ sovereign bond redemption yields over 60D rolling windows.

Sources: Refinitiv Datastream, ESMA.

A.30 CDS spreads

CDS spreads

Note: Datastream CDS sovereign indices (5 years, mid-spread).

Sources: Refinitiv Datastream, ESMA.

A.31 Bid-ask spreads

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

Sources: MTS, ESMA.

A.32 ESMA composite sovereign bond liquidity index

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.34
Liquidity

Note: Liquidity measured as median across countries of the bid-ask yields difference for 10Y sovereign bonds, in bps. 21 EU 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. 21 EU 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 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.

A.38
Yields by credit rating

Note: Markit iBoxx euro corporate bond indices for all maturities, in %. 5Y-MA=five-year moving average of all indices.

Sources: Refinitiv Datastream, ESMA.

A.39
Spreads by credit rating

Note: EA corporate bond option-adjusted spreads by rating, in bps.

Sources: Refinitiv Datastream, ESMA.
A.40 Debt redemption profile by sector

Note: Quarterly redemptions over 5Y-horizon by EU private financial and non-financial corporate issuers. EUR bn. Y-change=difference between the sum of this year’s (four last quarters) and last year’s (8th to 5th last quarters) redemptions.
Sources: Refinitiv EIKON, ESMA.

A.41 Rating distribution

Note: Outstanding amount of corporate bonds in the EU as of issuance date by rating category, in % of the total.
Sources: Refinitiv EIKON, ESMA.

A.42 Hybrid capital instruments

Note: Quarterly hybrid capital instruments issuance in the EU. EUR bn, and outstanding amounts (rhs), EUR bn. According to Thomson Reuters 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, FR, IT and NL.
Sources: Refinitiv Datastream, ESMA.

A.44 Bid-ask spreads and Amihud indicator

Note: Markit 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 m. 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

Note: Number of rated structured finance instruments by asset class. ABS=Asset-backed securities; CDO=Collateralised debt obligations; CMBS=Commercial mortgage-backed securities; OTH=Other; RMBS=Residential mortgage-backed securities.
Sources: RADAR, ESMA.

A.47
SFI ratings outstanding by collateral type

Note: Outstanding EU ratings of 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.
Sources: RADAR, ESMA.

A.48
High-quality collateral outstanding

Note: Outstanding amount of high-quality collateral in the EU, EUR trn. High-quality collateral is the sum of outstanding debt securities issued by EU 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-.
Sources: Thomson Reuters EIKON, ESMA.

A.49
Rating distribution of covered bonds

Note: Outstanding amount of covered bonds in the EU as of issuance date by rating category, in % of the total.
Sources: Thomson Reuters EIKON, ESMA.

A.50
SFI rating changes

Note: Number of rating changes on securitised assets.
Sources: RADAR, ESMA.

A.51
Size of SFI rating changes

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

![Graph showing size of rating changes over time]

Note: Average change in notches for long-term ratings that changed for issuer types, covered bond instruments and structured finance, 2019 is year-to-date. Sources: RADAR, ESMA.

A.53 Non-financial corporate rating changes

![Graph showing non-financial corporate rating changes over time]

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

A.54 Rating drift

![Graph showing rating drift over time]

Note: 3 month moving average of net change in ratings from all credit rating agencies, excluding CERVED and ICAP, by asset class computed as a percentage number of upgrades minus percentage number of downgrades over number of outstanding ratings. Sources: RADAR, ESMA.

A.55 Rating volatility

![Graph showing rating volatility over time]

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.

**Short selling**

A.56 Value of net short positions in EU shares

![Graph showing value of net short positions in EU shares over time]

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

A.57 Dispersion of net short positions in EU shares

![Graph showing dispersion of net short positions in EU shares over time]

Note: Dispersion of net short positions by country 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.58 Value of net short positions in EU shares by sector

0.8
2.4
2.0
1.6
1.2
0.8
Manufacturing Financials
Information technology Utilities

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

A.59 Value of net short positions in EU sovereign debt

A.60 Net short positions in industrial shares and equity prices

2.8
2.4
2.0
1.6
1.2
0.8
Average net short position
Sectoral equity index (rhs)

Note: Average of net short positions in EU manufacturing shares, in % of issued share capital (left axis), and EU industrials equity benchmark (right axis), indexed 01/06/2017=100.
Sources: Refinitiv EIKON, National Competent Authorities, ESMA.

A.61 Net short positions in financial shares and equity prices

2.2
2.0
1.8
1.6
1.4
1.2
2.2
2.0
1.8
1.6
1.4
1.2
Average net short position
Sectoral equity index (rhs)

Note: Average of net short positions in EU financial shares, in % of issued share capital (left axis), and EU financials equity benchmark (right axis), indexed 01/06/2017=100.
Sources: Refinitiv EIKON, National Competent Authorities, ESMA.

Money markets

A.62 Interest rates

0.1
0.0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
Dec-17 Apr-18 Aug-18 Dec-18 Apr-19 Aug-19 Dec-19
3M Euribor EONIA

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

A.63 Spreads to overnight index swap

60
50
40
30
20
10
0
Dec-17 Apr-18 Aug-18 Dec-18 Apr-19 Aug-19 Dec-19
Euribor USD Libor GBP Libor

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

**A.66 OTC notional outstanding**

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

**A.67 OTC market value**

Note: Gross market values represent the cost of replacing all open contracts at the prevailing market prices.
Sources: Bank for International Settlements, ESMA.

**A.68 ETD notional outstanding by product category**

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

**A.69 ETD turnover by product category**

Note: Global average daily turnover in exchange-traded derivatives by product category, in USD tn. 1Y-MA IR = one-year moving average for interest rate, 1Y-MA FX = one-year moving average for foreign exchange.
Sources: Bank for International Settlements, ESMA.
A.70  
**ETD notional outstanding by asset class**

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

---

A.71  
**ETD turnover by asset class**

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

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A.72  
**ETD notional outstanding by exchange location**

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

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A.73  
**ETD turnover by exchange location**

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

### Trading venues and MiFID entities

#### A.74 Equity trading turnover by trading type

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</tr>
</thead>
<tbody>
<tr>
<td>Systematic internalisers</td>
<td>25.0%</td>
<td>26.5%</td>
<td>27.0%</td>
<td>27.5%</td>
<td>28.0%</td>
<td>28.5%</td>
<td>29.0%</td>
<td>29.5%</td>
<td>30.0%</td>
<td>30.5%</td>
<td>31.0%</td>
</tr>
<tr>
<td>Lite</td>
<td>20.0%</td>
<td>21.5%</td>
<td>22.0%</td>
<td>22.5%</td>
<td>23.0%</td>
<td>23.5%</td>
<td>24.0%</td>
<td>24.5%</td>
<td>25.0%</td>
<td>25.5%</td>
<td>26.0%</td>
</tr>
<tr>
<td>Frequent batch auctions</td>
<td>15.0%</td>
<td>16.5%</td>
<td>17.0%</td>
<td>17.5%</td>
<td>18.0%</td>
<td>18.5%</td>
<td>19.0%</td>
<td>19.5%</td>
<td>20.0%</td>
<td>20.5%</td>
<td>21.0%</td>
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<tr>
<td>OTC</td>
<td>10.0%</td>
<td>11.5%</td>
<td>12.0%</td>
<td>12.5%</td>
<td>13.0%</td>
<td>13.5%</td>
<td>14.0%</td>
<td>14.5%</td>
<td>15.0%</td>
<td>15.5%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Dark pool</td>
<td>5.0%</td>
<td>6.5%</td>
<td>7.0%</td>
<td>7.5%</td>
<td>8.0%</td>
<td>8.5%</td>
<td>9.0%</td>
<td>9.5%</td>
<td>10.0%</td>
<td>10.5%</td>
<td>11.0%</td>
</tr>
<tr>
<td>Total turnover</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
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Note: Type of equity trading in the EU as a percentage of total volumes. Total equity trading volumes in EUR trillion (right axis).

Sources: FITRS, ESMA.

#### A.75 Equity trading turnover by issuer origin

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<tr>
<th>Issuer Origin</th>
<th>Nov-19</th>
<th>Dec-19</th>
<th>Jan-20</th>
<th>Feb-20</th>
<th>Mar-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic issuer</td>
<td>40%</td>
<td>35%</td>
<td>30%</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>1Y-MA domestic</td>
<td>30%</td>
<td>35%</td>
<td>40%</td>
<td>45%</td>
<td>50%</td>
</tr>
<tr>
<td>Foreign issuer</td>
<td>30%</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>1Y-MA foreign</td>
<td>10%</td>
<td>15%</td>
<td>20%</td>
<td>25%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Note: Monthly equity turnover on EU trading venues by origin of the traded equity, in EUR bn. Data for London Stock Exchange, Equiduct and BATS Chi-X Europe are not reported. Foreign equities are issued in a country other than that of the trading venue.

Sources: FESE, ESMA.

#### A.76 Trading turnover by type of assets

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</thead>
<tbody>
<tr>
<td>Bonds</td>
<td>20.0%</td>
<td>25.0%</td>
<td>30.0%</td>
<td>35.0%</td>
<td>40.0%</td>
<td>45.0%</td>
<td>50.0%</td>
<td>55.0%</td>
<td>60.0%</td>
<td>65.0%</td>
<td>70.0%</td>
<td>75.0%</td>
<td>80.0%</td>
</tr>
<tr>
<td>ETFs</td>
<td>10.0%</td>
<td>15.0%</td>
<td>20.0%</td>
<td>25.0%</td>
<td>30.0%</td>
<td>35.0%</td>
<td>40.0%</td>
<td>45.0%</td>
<td>50.0%</td>
<td>55.0%</td>
<td>60.0%</td>
<td>65.0%</td>
<td>70.0%</td>
</tr>
<tr>
<td>UCITS</td>
<td>1.0%</td>
<td>1.5%</td>
<td>2.0%</td>
<td>2.5%</td>
<td>3.0%</td>
<td>3.5%</td>
<td>4.0%</td>
<td>4.5%</td>
<td>5.0%</td>
<td>5.5%</td>
<td>6.0%</td>
<td>6.5%</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

Note: Monthly turnover on EU trading venues by type of assets, in EUR bn. Data for Aquis Exchange, BATS Chi-X Europe, Equiduct, London Stock Exchange, TOM MTF and Turquoise are not reported for bonds, ETFs and UCITS.

Sources: FESE, ESMA.

#### A.77 Share of turnover by type of assets

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</tr>
</thead>
<tbody>
<tr>
<td>Equities</td>
<td>69.0%</td>
<td>70.0%</td>
<td>71.0%</td>
<td>72.0%</td>
<td>73.0%</td>
<td>74.0%</td>
<td>75.0%</td>
<td>76.0%</td>
<td>77.0%</td>
<td>78.0%</td>
<td>79.0%</td>
<td>80.0%</td>
<td>81.0%</td>
</tr>
<tr>
<td>Bonds</td>
<td>29.3%</td>
<td>28.5%</td>
<td>27.7%</td>
<td>26.9%</td>
<td>26.1%</td>
<td>25.3%</td>
<td>24.5%</td>
<td>23.7%</td>
<td>22.9%</td>
<td>22.1%</td>
<td>21.3%</td>
<td>20.5%</td>
<td>19.7%</td>
</tr>
<tr>
<td>ETFs</td>
<td>1.6%</td>
<td>1.8%</td>
<td>2.0%</td>
<td>2.2%</td>
<td>2.4%</td>
<td>2.6%</td>
<td>2.8%</td>
<td>3.0%</td>
<td>3.2%</td>
<td>3.4%</td>
<td>3.6%</td>
<td>3.8%</td>
<td>4.0%</td>
</tr>
<tr>
<td>UCITS</td>
<td>0.1%</td>
<td>0.3%</td>
<td>0.5%</td>
<td>0.7%</td>
<td>0.9%</td>
<td>1.1%</td>
<td>1.3%</td>
<td>1.5%</td>
<td>1.7%</td>
<td>1.9%</td>
<td>2.1%</td>
<td>2.3%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Note: Share of turnover on EU trading venues by asset class, in % of total turnover over the reporting period. Data for Aquis Exchange, BATS Chi-X Europe, Equiduct, London Stock Exchange, TOM MTF and Turquoise are not reported for bonds, ETFs and UCITS.

Sources: FESE, ESMA.

#### A.78 Circuit-breaker occurrences by market capitalisation

<table>
<thead>
<tr>
<th>Market Capitalisation</th>
<th>Dec-17</th>
<th>Apr-17</th>
<th>Aug-17</th>
<th>Dec-18</th>
<th>Apr-18</th>
<th>Aug-18</th>
<th>Dec-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large caps</td>
<td>250.0%</td>
<td>300.0%</td>
<td>350.0%</td>
<td>400.0%</td>
<td>450.0%</td>
<td>500.0%</td>
<td>550.0%</td>
</tr>
<tr>
<td>Mid caps</td>
<td>200.0%</td>
<td>250.0%</td>
<td>300.0%</td>
<td>350.0%</td>
<td>400.0%</td>
<td>450.0%</td>
<td>500.0%</td>
</tr>
<tr>
<td>Small caps</td>
<td>150.0%</td>
<td>200.0%</td>
<td>250.0%</td>
<td>300.0%</td>
<td>350.0%</td>
<td>400.0%</td>
<td>450.0%</td>
</tr>
<tr>
<td>ETFs</td>
<td>100.0%</td>
<td>150.0%</td>
<td>200.0%</td>
<td>250.0%</td>
<td>300.0%</td>
<td>350.0%</td>
<td>400.0%</td>
</tr>
</tbody>
</table>

Note: Number of daily circuit-breaker trigger events by type of financial instrument and by market cap registered on 34 EEA 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.79 Circuit-breaker-trigger events by sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>Dec-17</th>
<th>Apr-17</th>
<th>Aug-17</th>
<th>Dec-18</th>
<th>Apr-18</th>
<th>Aug-18</th>
<th>Dec-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology, utilities and telecommunications services</td>
<td>50.0%</td>
<td>60.0%</td>
<td>70.0%</td>
<td>80.0%</td>
<td>90.0%</td>
<td>100.0%</td>
<td>110.0%</td>
</tr>
<tr>
<td>Financials</td>
<td>40.0%</td>
<td>50.0%</td>
<td>60.0%</td>
<td>70.0%</td>
<td>80.0%</td>
<td>90.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Healthcare, consumer cyclical and non-cyclical</td>
<td>10.0%</td>
<td>20.0%</td>
<td>30.0%</td>
<td>40.0%</td>
<td>50.0%</td>
<td>60.0%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Basic materials, industrials and energy</td>
<td>0.0%</td>
<td>5.0%</td>
<td>10.0%</td>
<td>15.0%</td>
<td>20.0%</td>
<td>25.0%</td>
<td>30.0%</td>
</tr>
</tbody>
</table>

Note: Percentage of circuit-breaker trigger events by economic sector registered on 34 EEA 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.80 Number of trading venues and systematic internalisers

- Regulated market: 136
- Multilateral trading facility: 220
- Organised trading facility: 74
- Systematic internaliser: 221

Note: Number of trading venues registered under MiFID II/MiFIR by national competent authorities and notified to ESMA, by type. Sources: ESMA Registers.

A.81 Data reporting services providers

- Approved publication arrangement: 23 (44%)
- Approved reporting mechanism: 29 (56%)

Note: Number of data reporting services providers registered under MiFID II/MiFIR by national competent authorities and notified to ESMA, by type. Sources: ESMA Registers.

Central counterparties

A.82 Value cleared

- Cash: 2012 (100), 2013 (100), 2014 (100), 2015 (100), 2016 (100), 2017 (100), 2018 (100)
- ETD: 2012 (0), 2013 (0), 2014 (0), 2015 (0), 2016 (0), 2017 (0), 2018 (0)
- OTC: 2012 (0), 2013 (0), 2014 (0), 2015 (0), 2016 (0), 2017 (0), 2018 (0)
- Repo: 2012 (0), 2013 (0), 2014 (0), 2015 (0), 2016 (0), 2017 (0), 2018 (0)

Note: Volume of transactions cleared by reporting CCPs. Annual data, EUR tn, for cash, repos, non-OTC and OTC derivatives. LCH Ltd, although the largest CCP in terms of volume in the OTC segment, is not reported owing to uneven reporting during the period. Sources: ECB, ESMA.

A.83 Trade size

- Cash: 2012 (0), 2013 (0), 2014 (0), 2015 (0), 2016 (0), 2017 (0), 2018 (20)
- ETD: 2012 (0), 2013 (0), 2014 (0), 2015 (0), 2016 (0), 2017 (0), 2018 (0)
- OTC: 2012 (0), 2013 (0), 2014 (0), 2015 (0), 2016 (0), 2017 (0), 2018 (0)
- Repo (rhs): 2012 (0), 2013 (0), 2014 (0), 2015 (0), 2016 (0), 2017 (0), 2018 (0)

Note: Average size of transactions cleared by reporting CCPs, for cash, repos, non-OTC and OTC derivatives. Annual data, EUR mn. LCH Ltd, although the largest CCP in terms of volume in the OTC segment, is not reported owing to uneven reporting during the period. Sources: ECB, ESMA.

A.84 OTC derivatives central clearing rates

- 1Q18: 60
- 2Q18: 40
- 3Q18: 20
- 4Q18: 0

Note: Clearing ratios of gross outstanding notional for interest rate derivatives and credit derivatives in %. Sources: TRs, ESMA.

A.85 Share of transactions cleared by CCPs

- EUREX Clearing: 46%
- ICE Clear Europe: 21%
- LCH SA: 20%
- Others: 7%
- CCG: 6%

Note: Share of volume of transactions cleared by reporting CCPs for cash, repos, non-OTC and OTC derivatives. 2018: LCH Ltd, although the largest CCP in terms of volume in the OTC segment, is not reported owing to uneven reporting during the period. Sources: ECB, ESMA.
Central securities depositories

**A.86 IRD trading volumes**

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

**A.87 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.

**A.88 EU Index CDS clearing volumes**

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.89 OTC Interest rate derivatives clearing**

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

**A.90 Settlement activity**

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

**A.91 Settlement fails**

Note: Share of failed settlement instructions in the EU, in % of value, one-week moving averages. Sources: National Competent Authorities, ESMA.
A.92
Securities held in CSD accounts

Value of settled transactions

A.94
Credit rating agencies

A.95
Ratings volatility

A.96
Outstanding ratings issued by the top 3 CRAs

A.97
Outstanding ratings excluding the top 3 CRAs

Note: Value of securities held by EU CSDs in accounts, EUR tn. Sources: ECB, ESMA.

Note: Value of settled instructions processed by EU CSDs, EUR tn. Sources: ECB, ESMA.

Note: 3 month moving average of ratings by all credit rating agencies, excluding CERVED and ICAP, by asset class computed as a percentage number of upgrades minus percentage number of downgrades over number of outstanding 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.

Note: Evolution of outstanding ratings, indexed 3Q15=100. All CRAs excluding S&P, Moody’s and Fitch. Sovereign on right hand axis. Sources: RADAR, ESMA.
A.98 Changes in structured finance instrument ratings

A.99 Changes in outstanding covered bond ratings

A.100 Share of outstanding ratings Big 3 CRAs vs. others

Financial benchmarks

A.101 €STR rate and volumes

A.102 IRDs linked to EONIA and Euribor by maturity

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

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

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

Note: €STR rate at 50th, 75th and 25th percentile of the volume (in % LHS) and volumes (in EUR ts). Sources: Refinitiv Datastream, ECB, ESMA.

Note: Gross nominal amount of IRD outstanding refinance EONIA and EURIBOR by maturity. As of 25 October 2019. Sources: TRs, ESMA.
A.103 IRDs linked to reference rates

Note: Gross notional amount of IRD outstanding referencing benchmarks, by maturities. Other EEA includes NIBOR, PRIBOR, STIBOR, WIBOR and EUBOR, other Third country benchmarks include BBSW, ODOR, JIBAR, TIBOR, TELBKR and MOSPRIM.
As of 25 October 2019, EUR trn.
Sources: TRs, ESMA

A.104 Number of benchmark administrators

Note: Number of benchmark administrators reported to ESMA by country of administrator.
Sources: ESMA Registers

A.105 Derivatives referencing EURIBOR by maturity

Note: Gross notional amount of derivatives outstanding referencing EURIBOR by maturity date, as of end-October 2019. EUR trillion.
Sources: TRs, ESMA

A.106 Derivatives referencing EONIA by maturity

Note: Gross notional amount of derivatives outstanding referencing EONIA by maturity date, as of end-October 2019. UER trillion.
Sources: TRs, ESMA.
Asset management

Fund industry

A.107 Fund performance

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

A.108 Fund volatility

Note: Annualised 40D historical return volatility of EU domiciled mutual funds, in %.
Sources: Refinitiv Lipper, ESMA.

A.109 Entities authorised under UCITS

Note: Number of entities authorised under the UCITS Directive by national competent authorities of the Member States and notified to ESMA. Newly authorised entities and withdrawn entities on the right axis.
Sources: ESMA Registers.

A.110 Share of entities authorised under UCITS by country

Note: Number of entities authorised under the UCITS Directive by national competent authorities and notified to ESMA, in %.
Sources: ESMA Registers.

A.111 Entities authorised under AIFMD

Note: Number of entities authorised under AIFMD by national competent authorities of the Member States and notified to ESMA. Newly authorised entities and withdrawn entities on the right axis.
Sources: ESMA Registers.

A.112 Share of entities authorised under AIFMD by country

Note: Number of entities authorised under AIFMD by national competent authorities and notified to ESMA, in %.
Sources: ESMA Registers.
**A.113** Assets by market segment

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

**A.114** NAV by legal form

Note: NAV of EU fund industry, EUR tn. Quarterly data.
Sources: EFAMA, ESMA.

**A.115** NAV by fund market segment

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

**A.116** Leverage by market segment

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

**A.117** Fund flows by fund type

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

**A.118** Fund flows by regional investment focus

Note: Bond and equity funds (BF and EF) over time since 2004 by regional investment focus, in % of NAV.
Sources: Refinitiv Lipper, ESMA.
**A.119**
Bond fund flows by regional investment focus

![Graph showing bond fund flows by regional investment focus](image)

Note: Bond flows by regional investment focus, in % of NAV.
Sources: Refinitiv Lipper, ESMA.

**A.120**
Equity fund flows by regional investment focus

![Graph showing equity fund flows by regional investment focus](image)

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

**A.121**
Net flows for bond funds

![Graph showing net flows for bond funds](image)

Note: Two-month cumulative net flows for 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.122**
Net asset valuation

![Graph showing net asset valuation](image)

Note: Net valuation effect related to the AuM of EU 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.123**
Liquidity risk profile of EU bond funds

![Graph showing liquidity risk profile of EU bond funds](image)

Note: Effective average maturity of fund assets in years; ESMALiquidity ratio (rhs, in reverse order); BF: bond funds excluding high yield funds.
Sources: Refinitiv Lipper, ESMA.

**A.124**
Cash as percentage of assets

![Graph showing cash as percentage of assets](image)

Note: Cash held by EU corporate bond funds, in % of portfolio holdings (%). Short positions can have a negative value.
Sources: Refinitiv Lipper, ESMA.
A.125  Credit quality of bond funds’ assets

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

A.126  Maturity of EU bond funds’ assets

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

Money market funds

A.127  MMF performance

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

A.128  MMF flows by domicile

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

A.129  MMF flows by geographical focus

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

A.130  Assets and leverage

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

**A.131**
**MMF maturity**

Note: Weighted average maturity (WAM) and weighted average life (WAL) of EU prime MMFs, in days. Aggregation carried out by weighting individual MMFs’ WAM and WAL by AuM.

Sources: Fitch Ratings, ESMA.

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**A.132**
**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 MMF data weighted by AuM.

Sources: Fitch Ratings, ESMA.

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**A.133**
**Hedge fund returns**

Note: EU-domiciled hedge funds’ monthly returns, in %. The graph shows the returns’ median, the difference between the returns corresponding to the 2nd and 98th percentiles and the difference between the returns corresponding to the 1st and 3rd quartiles.

Sources: Refinitiv Lipper, ESMA.

---

**A.134**
**Hedge fund performance by strategy**

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

Sources: Eurekahedge, ESMA.

---

**A.135**
**Fund flows by domicile**

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

Sources: Refinitiv Lipper, ESMA.

---

**A.136**
**Assets and leverage**

Note: NAV and AuM of EA hedge funds, EUR bn. Leverage computed as the AuMNAV ratio. 5Y-MA: long-five-year moving average for the leverage ratio.

Sources: ESMA.
Alternative fund flows by geographical focus

Direct and indirect property fund flows

Exchange-traded funds

NAV and number by domicile

NAV by asset type
A.143 Tracking error

<table>
<thead>
<tr>
<th>Dec-17</th>
<th>Apr-18</th>
<th>Aug-18</th>
<th>Dec-18</th>
<th>Apr-19</th>
<th>Aug-19</th>
<th>Dec-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETFs</td>
<td>MFs index trackers UCITS</td>
<td>MFs index trackers Non-UCITS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Tracking error defined as standard deviation of fund excess returns compared to benchmark. The graph shows the tracking error for ETF and mutual funds both UCITS and non-UCITS. Yearly standard deviation reported on monthly frequency. End-of-month data.
Sources: Refinitiv Lipper, ESMA.

A.144 Flows by domicile

<table>
<thead>
<tr>
<th>Dec-17</th>
<th>Apr-18</th>
<th>Aug-18</th>
<th>Dec-18</th>
<th>Apr-19</th>
<th>Aug-19</th>
<th>Dec-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>US</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: ETF net flows by domicile, in % of NAV. Yearly standard deviation reported on monthly frequency. End-of-month data.
Sources: Refinitiv Lipper, ESMA.

A.145 Assets of leveraged European ETFs

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Leveraged (short) - assets</td>
<td>Leveraged (long) - assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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.146 Average beta values for European ETFs

<table>
<thead>
<tr>
<th>Dec-17</th>
<th>Apr-18</th>
<th>Aug-18</th>
<th>Dec-18</th>
<th>Apr-19</th>
<th>Aug-19</th>
<th>Dec-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unleveraged (Short)</td>
<td>Unleveraged (long)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Leveraged ETFs are self-reported. The annual average monthly beta is measured as the volatility of a fund return in comparison to its benchmark. An unleveraged ETF replicating its benchmark will typically have a beta close to 1.0.
Sources: Refinitiv Lipper, ESMA.

A.147 Assets of European ETFs by replication method

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical - assets</td>
<td>Synthetic - assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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.148 Flows into European ETFs by replication method

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical net flows</td>
<td>Synthetic net flows</td>
<td></td>
<td></td>
<td></td>
<td></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.149 Disposable income

A.150 Household saving and investment rates

A.151 Investor sentiment

A.152 Growth rates in financial assets

Asset allocation by retail investors

A.153 Household assets to liabilities ratio

A.154 Household financial assets by class

Note: Financial assets and liabilities ratio in %. Sources: ECB, ESMA.
A.155 Share of securities investments in household assets

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

A.156 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.157 Equity UCITS market size by management type

Note: Market size for EU-domiciled UCITS equity, actively and passively managed, and ETFs. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees are available, EUR tn. Share of passive and ETFs in %, right-hand size.
Sources: Refinitiv Lipper, ESMA.

A.158 Equity UCITS netflows by management type

Note: EU domiciled equity UCITS by management type, active, passive, and ETFs. Annual netflows at quarterly frequencies, EUR bn.
Sources: Refinitiv Lipper, ESMA.

A.159 Cumulative netflows equity UCITS

Note: EU domiciled equity UCITS by management type, active, passive and ETFs. Cumulative net flows, 3Q12=100.
Sources: Refinitiv Lipper, ESMA.
**Costs and performance**

### A.160
**Dispersion of returns all assets**

![Graph showing dispersion of returns all assets]

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

Sources: Refinitiv Lipper, ESMA.

### A.161
**Absolute costs**

![Graph showing absolute costs]

Note: Total costs (ongoing costs, subscription and redemption fees) of UCITS funds, retail investors, %. Money market funds on the right hand side.

Sources: Refinitiv Lipper, ESMA.

### A.162
**Retail fund synthetic risk and reward indicator**

![Graph showing retail fund synthetic risk and reward indicator]

Note: The calculated synthetic risk and reward indicator (SSRI) is based on ESMA SSRI 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.163
**Portfolio returns**

![Graph showing portfolio returns]

Note: Annual average gross returns for a stylised household portfolio, in %. Asset weights, computed using ECB Financial Accounts by Institutional Sectors, are 37% for collective investment schemes (of which 12% mutual funds and 25% insurance and pension funds), 31% for deposits, 22% for equity, 7% debt securities and 3% for other assets. 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.164
**Net returns by asset class**

![Graph showing net returns by asset class]

Note: Evolution of net returns, excluding ongoing costs (TER) and subscription and redemption fees for UCITS funds, by asset class, %. Equity on the right hand side.

Sources: Refinitiv Lipper, ESMA.

### A.165
**Dispersion in the absolute cost impact**

![Graph showing dispersion in the absolute cost impact]

Note: 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.166 UCITS total cost dispersion by asset class

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

A.167 Equity UCITS total costs by management type

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

A.168 Equity UCITS net returns by management type

Note: Evolution of net returns, gross net of ongoing costs (TER) and subscription and redemption fees for UCITS funds, by assets class, %.
Sources: Refinitiv Lipper, ESMA.

Complaints

A.169 Total complaints

Note: Number of complaints recorded by quarterly-reporting NCAs (n=17) 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 2Q17 to 2Q19.
Sources: ESMA complaints database.

A.170 Complaints data by type of firm

Note: Share of complaints for quarterly-reporting NCAs (n=17) received direct from consumers and via firms by type of firm involved, excluding complaints with firm type recorded, %.
Sources: ESMA complaints database.
A.171 Complaints by cause

Note: Share of complaints for quarterly-reporting NCAs (n=17) received direct from consumers and via firms by underlying cause, excluding complaints with no cause recorded. % 'Unauth. bus.'=unauthorised business. % 'Appr/suit' = appropriateness or suitability assessment. % 'Info quality' = quality or lack of information. % 'Total with cause reported' = number of complaints via these reporting channels including those with none of the listed causes recorded.

Sources: ESMA complaints database

A.172 Complaints data by instrument

Note: Share of complaints from quarterly-reporting NCAs (n=17) 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'. % 'CFDs' = Contracts for Differences.

Sources: ESMA complaints database

A.173 Complaints by MiFID II category

Note: Share of complaints for quarterly-reporting NCAs (n=17) received direct from consumers and via firms recorded as associated with a given MiFID service, excluding complaints with no such category recorded, all reporting channels. % 'Total with MiFID service reported' = total complaints received via these reporting channels recorded as associated with a MiFID service.

Sources: ESMA complaints database
Market based finance

Capital markets financing

**A.174**
Total market financing

Note: Quarterly Sector Accounts. Liabilities of 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 growth (rhs) annual growth in debt securities and equity and investment fund (IF) shares, right axis, in %. Sources: ECB, ESMA.

**A.175**
Equity issuance by deal type

Note: EU equity issuance by type, EUR bn, and number of equity offerings (YMA five-year moving average of the total value of equity offerings). Sources: Refinitiv Eikon, ESMA.

**A.176**
Equity issuance by sector

Note: Issuance, EUR bn, and number of equity offerings. Sector Accounts Accounts of non-financial corporations (NFC), by sector. Sources: Refinitiv Eikon, ESMA.

**A.177**
Corporate bond issuance and outstanding

Note: Quarterly corporate bond issuance in the EU 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, A=2, etc.).Sources: Refinitiv Eikon, ESMA.

**A.178**
Securitised products issuance and outstanding

Note: Issuance, EUR bn, and outstanding amount, EUR tn, of securitised products in Europe, retained and placed. Sources: AFME, ESMA.
**Market-based credit intermediation**

### A.180

**MMFs and other financial institutions**

- **3Q14**
  - FVC
  - IF
  - OFI
  - IF + MMF
  - MMF
  - Other OFI

**Note:** Total assets for EA MMF 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.181

**Non-bank wholesale funding**

- **3Q14**
  - Sec. assets net of ret. sec.
  - Resid. OFI debt securities
  - MMF debt securities

**Note:** Amount of wholesale funding provided by Euro area non-banks, EUR tn, and growth rate (rhs), in %. Resid. 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, insurance, pension funds, financial vehicle corporations, investment funds and money market funds).

Sources: ECB, ESMA.

### A.182

**EU shadow banking liabilities**

- **3Q14**
  - ABCP
  - ABS
  - CP

**Note:** Size of shadow banking system proxied by amounts of ABS and ABCP outstanding, size of the EU repo market and EU securities on loan (collateralised with cash), and liabilities of MMF, in EUR tn. Expressed in % of bank liabilities on rhs.

Sources: ECB, AFME, ICMA, Finance, ESMA.

### A.183

**US shadow banking liabilities**

- **3Q14**
  - ABS & GSE
  - MMF

**Note:** Size of 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 MMF, in USD tn. Expressed in % of bank liabilities on rhs.

Sources: Federal Reserve Flow of Funds, Refinitiv Datastream, ESMA.
A.184 MMFs and other financial institutions

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

A.185 Financial market interconnectedness

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

A.186 Credit terms in SFT and OTC derivatives

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

A.187 Securities financing conditions

Note: Weighted average of responses to the question: “Over the past three months, how has demand for funding/liquidity and functioning for all collateral types changed?” 1=decreased/deteriorated considerably, 2=decreased/deteriorated somewhat, 3=remained basically unchanged, 4=increased/improved somewhat, and 5=increased/improved considerably.
Sources: ECB, ESMA.

A.188 Sovereign repo market turnover

Note: Repo transaction volumes executed through CCPs in seven sovereign EUR repo markets (AT, BE, DE, FI, FR, IT and NL), EUR bn.
Sources: RepoFunds Rate, ESMA.

A.189 Covered bond issuance and outstanding

Note: Quarterly covered bond issuance in the EU, EUR bn, and outstanding amounts (rhs), EUR tn.
Sources: Refinitiv Eikon, ESMA.
Sustainable finance

Green finance

A.190 Green bonds outstanding

A.191 Green bond issuance

A.192 Green bond private sector issuance

A.193 Green bond credit quality

A.194 Green bond maturity buckets

A.195 Maturity distribution of green and conventional bonds

Note: Net cumulative green bond issuance in the EU by maturity bucket, EUR bn.
Sources: Climate Bonds Initiative, Refinitiv Eikon, ESMA.

Note: Distribution of green bonds and conventional corporate bonds outstanding in the EU by maturity bucket, in %.
Sources: Climate Bonds Initiative, Refinitiv Eikon, ESMA.
A.196 Green bond liquidity

- Conventional bonds
- Green bonds

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

Sources: MTS, ESMA.

A.197 Green bond currencies

- Euro
- Other EEA
- US Dollar
- British Pound
- Rest of the World

Note: Green bonds outstanding in the EU by currency, EUR bn.

Sources: Climate Bonds Initiative, Refinitiv EIKON, ESMA.

A.198 ESG share price performance

- EA
- GB
- US

Note: MSCI ESG leaders total return indices, denominated in USD, indexed with 01/11/2017=100.

Sources: Refinitiv Datastream, ESMA.

A.199 ESG index risk-adjusted returns

- EURO STOXX 50
- EURO STOXX 50 - ESG
- Main index - risk-adjusted
- ESG index - risk-adjusted

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.200 Emission allowance prices

- EUA
- 1Y-MA

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

Sources: Refinitiv Datastream, ESMA.

A.201 Emission allowance turnover

- EUA
- 1Y-MA

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

Sources: Refinitiv Datastream, ESMA.
Financial innovation

A.202 Total net assets in world’s largest MMFs

A.204 Crypto-Asset prices

A.206 Bitcoin futures market

A.203 Crypto-Assets market capitalisation

A.205 Crypto-Asset price volatility

A.207 ICO issuances

Note: Fund value of 3 largest MMFs as of 30 June 2019, EUR bn. Yu’e Bao = TianHong Income Box Money Market Fund. 2Q18 value for Yu’e Bao interpolated.
Sources: Morningstar Direct, ESMA.

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

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

Note: Global monthly volumes raised in ICOs in EUR bn.
Sources: Coinschedule.com, ESMA.