Annex I to the ESRB risk dashboard

Last update: March 2026

Methodological Annex

1. Interlinkages and composite measures of systemic risk

1.1 Composite indicator of systemic stress

Sources: Thomson Reuters, ECB, and ECB calculations

The CISS comprises 15 raw, mainly market-based raw financial stress measures that are split equally into five categories, namely the financial intermediaries sector, money markets, equity markets, bond markets and foreign exchange markets. The raw stress indicators are homogenised by replacing each individual observation with its function value from the indicators' empirical cumulative distribution function. The five segment-specific sub-indices of financial stress are computed as averages of their three constituent transformed stress measures. The CISS aggregates the five sub-indices based on portfolio theoretical principles, i.e. by taking into account the time-varying cross-correlations between the sub-indices. The CISS thus places relatively more weight on situations in which stress prevails simultaneously in several market segments. It is unit-free and constrained to lie within the interval (0, 1). For further details see Hollo, D., Kremer, M. and Lo Duca, M., "CISS - A composite indicator of systemic stress in the financial system", Working Paper Series, No 1426, ECB, March 2012.

The Sovereign CISS applies the same methodological concept of the CISS. It comprises a total of 6 raw stress indicators for national sovereign bond markets: the yield spread against the euro swap interest rate of comparable maturity, the one-week realised volatility of daily yield changes, and the bid-ask bond price spread as a percentage of the mid-price, all computed for sovereign bonds of 2-year and 10-year maturity, respectively. These 6 indicators are transformed and aggregated into country-specific and euro area-wide composite stress indicators (SovCISSes) based on portfolio-theoretic principles, i.e. based on time-varying cross-correlations between them. As for the euro area-wide indicator, two different country-weighting schemes are applied: equal weights and GDP-weight.

1.2 Probability of a simultaneous default

Sources: Bloomberg, Thomson Reuters and ECB calculations

An estimate of the probability of a systemic event, i.e. a simultaneous default by two or more large and complex banking groups within a period of one year, as measured by the systemic risk measure (SRM). The SRM covers a sample of 15 banks. For further details on the indicator, see Box 8 in Financial Stability Review, ECB, June 2012.

The estimated probability of a simultaneous default of two or more EU sovereigns reflects the markets' assessment of the risk to default within one year. Country-specific risks are derived from the CDS spreads for 13 EU countries (i.e. Austria, Belgium, Germany, Spain, France, Ireland, Italy, the Netherlands, Portugal, Sweden, Poland, Denmark and Czech Republic). Owing to its recent decision to leave the EU, UK is not taken into account anymore.

1.3 MFI credits by counterpart sectors

Source: ECB

Credit extended by monetary financial institutions (MFIs), excluding the European System of Central Banks (ESCB), to counterpart sectors (excluding general government); credit comprises loans and holdings of securities. See ECB manual on MFI balance sheet statistics.[*]

1.4 MFIs deposits by counterpart sector

Source: ECB

Deposits placed at MFIs, excluding the European System of Central Banks (ESCB). See ECB manual on MFI balance sheet statistics.[*]

1.5 MFI credits to general government

Source: ECB

Credit extended by monetary financial institutions (MFIs), excluding the European System of Central Banks (ESCB), to counterpart sector general government; credit comprises loans and holdings of securities. See ECB manual on MFI balance sheet statistics. [*]

1.6 MFI loans for house purchase

Source: ECB

Loans extended by monetary financial institutions (MFIs), excluding the European System of Central Banks (ESCB), to counterpart sector households. See ECB manual on MFI balance sheet statistics. [*]

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[*]https://www.ecb.europa.eu/pub/pdf/other/manualmfibalancesheetstatistics201204en.pdf?426543c0dbb56bb78f5afd978b44db17

1.7 Investment funds' holdings of debt securities by counterpart sector

Source: ECB

Money Market Funds' and other Investment Funds' holdings of debt securities issued by counterpart sector.

1.8 Investment funds' holdings of equity and investment fund shares by counterpart sector

Source: ECB

Money Market Funds' and other Investment Funds' holdings of equity and investment fund shares issued by counterpart sector.

1.9 Insurance corporations' assets allocation (including derivative holdings)

Source: EIOPA, based on Solvency II Reporting

Insurance corporations' asset allocation, including holdings of derivatives. This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. Starting from 2020 Q1 edition, a new allocation breakdown is available, i.e. "collective investment undertakings". For more information please see EIOPA's website (link)

1.10 Reinsurance part of premiums

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

From 2020 Q1 edition on, this indicator will replace the previous "Insurance groups' retention ratio". The reinsurance part of premiums is defined as the share of the premiums that is ceded to reinsurers. It is calculated as the complement to 1 of the retention ratio which, in turn, is defined as the net premiums written divided by gross premiums written. It is presented as interquartile moments of distribution across the insurance groups (1st quartile, median, 3rd quartile). Quarterly data refer to cumulative flows over the corresponding previous quarters.

2. Macro risk

2.1 Current and forecast real GDP growth

Source: European Commission

Latest actual year-on-year growth, three-year historical average and Commission forecast for all 27 countries of the EU. The three-year historical average is the simple average of year-on-year growth rates over the last 12 quarters. Real GDP growth is calculated using seasonally and working-day adjusted data. Starting from the Q3 2020 edition the indicator also shows the forecast of the current year.

2.2 Domestic credit-to-GDP gap

Sources: BIS, European Commission, ECB and ECB calculations

Credit-to-GDP gap (the deviation of the ratio of credit to GDP from its long-term trend) is calculated as the deviation of the ratio of total credit to nominal GDP from its recursive one-sided Hodrick-Prescott trend (see Annex-Part I, ESRB Recommendation ESRB/2014/1). The smoothing parameter lambda is set to 400,000. BIS data for the broad measure of credit to the domestic non-financial private sector is used where available; where not available ECB Euro Area Accounts credit data is used instead. GDP is the four-quarter cumulated flow.

2.3 Current account balance-to-GDP ratio

Sources: European Commission and ECB

Quarterly data represent the sum of the four quarters up to an including the quarter of reference. The three-year average is compiled on the basis of the annualised ratio of the last 12 quarters.

2.4 Unemployment rate

Source: European Commission

Latvia: quarterly data for all series. Croatia, Cyprus, Romania and Slovenia: quarterly data for youth unemployment.

2.5 Aggregate debt-to-GDP ratio

Sources: ECB and European Commission

The total aggregated debt as percentage of GDP represents the sum of the consolidated debt-to-GDP ratio of NFCs and government sectors, as well as the non-consolidated debt-to-GDP ratio of households. The change represents the percentage point change in debt-to-GDP ratio over the last four quarters.

2.6 General government debt-to-GDP ratio

Sources: European Commission and ECB

The official debt (latest observations plus forecasts) reported in the context of the excessive deficit procedure (EDP) was used as a source of data on general government debt. Intra-general government transactions are consolidated (netted out). The line represents the 60% Stability and Growth Pact threshold for the government debt-to-GDP ratio.

2.7 General government deficit-to-GDP ratio

Sources: European Commission and ECB

The line represent the 3% is Stability and Growth Pact threshold for budget deficit.

2.8 CDS premia on sovereign debt

Sources: Thomson Reuters Datastream and CMA

Sovereign credit default swaps (CDSs) spreads for a sample of EU sovereign countries. Owing to its recent decision to leave the EU, UK is not one of the sample countries anymore. The CDS spreads are expressed in basis points and refer to 5-year maturity contracts.

2.9 Government debt service

Sources: ECB and ECB calculations

Debt service is broken down into the principal amounts (face value) to be disbursed and the interest expenditure to accrue in the coming one year.

The scheduled (future) redemptions are calculated based on the maturity date for each debt security. The scheduled redemptions only take into consideration the maturity date of the current existing and outstanding debt securities. It does not include any possible early redemption of debt securities and/or redemptions of debt securities that will be issued in the future (i.e. debt securities that did not exist at the point in time to which the debt service refers to).

Finally, the interest to accrue in a given future period is calculated by applying the observed coupon rate to the current outstanding amounts. This measure does not take into account any re-fixing of the coupon rate for floating rate debt securities and index linked securities or any future change in the coupon rate of fixed rate debt securities (e.g. step-up coupons). The issuance of debt securities at discount/premium is reflected in the face value of the debt securities, and not as interest, as it is recommended by the international statistical standards.

The debt service for debt securities denominated in foreign currency assumes no change in the exchange rate vis-à-vis the euro.

Ratios to GDP for non-euro area Member States are calculated using nominal debt redemptions and GDP (the latter as forecast by the European Commission), both denominated in national currency. Owing to its recent decision to leave the EU, UK is not shown anymore.

2.10 Household debt-to-gross disposable income ratio

Sources: ECB and European Commission

Household's outstanding loans as a ratio of gross disposable income. All three-year average values are calculated over a three year period up to the end date applicable for the given country, if enough back data was available.

2.11 NFC debt-to-GDP ratio

Sources: ECB and European Commission

Stock of NFCs' debt (defined as debt securities, loans and pension scheme liabilities) in each EU Member State. Data for loans are taken on a consolidated basis from the national accounts. Non-financial corporations' debt excludes financial derivatives due to lack of comparability across countries. All three-year average values are calculated over a three year period up to the end date applicable for the given country, if enough back data was available.

3. Credit risk

3.1 Annual growth rates of MFI loans to households

& 3.2 Annual growth rates of MFI loans to NFCs

Source: ECB

Loans extended by MFIs, excluding the European System of Central Banks (ESCB); data for euro area Member States refer to loans granted to euro area households and NFCs, while for non-euro area Member States to loans to domestic households and NFCs. Euro area Member States data are adjusted for the derecognition of loans from the MFI statistical balance sheet due to their sale or securitisation. See ECB manual on MFI balance sheet statistics.[*]

3.3 Cost of borrowing from MFIs for households (for house purchase)

& 3.4 Cost of borrowing from MFIs for NFCs

Source: ECB

The cost-of-borrowing is a measure used to assess borrowing costs for non-financial corporations and households; they further enhance cross-country comparability. They are calculated on the basis of MFI interest rates statistics by aggregating the interest rates provided for the various maturities and sizes of new business loans granted by MFIs to non-financial corporations and households using their respective volumes as weights and smoothing them using a 24-month moving average. For more information on the calculation, please see: http://www.ecb.europa.eu/stats/pdf/MIR-Costofborrowingindicators-methodologicalnote.pdf

3.5 Lending margins of MFIs – loans to households (for house purchase)

& 3.6 Lending margins of MFIs – loans to NFCs

Source: ECB

Lending margins are measured as the difference between MFIs' interest rates for new loans to households for house purchase (new business loans to non-financial corporations excluding revolving loans and overdrafts, convenience and extended credit) and a weighted average rate of new deposits with agreed maturity from households and non-financial corporations.

For non-euro area countries, rates for loans and deposits in both euro and the national currency are used; the spread is calculated as the difference between the average lending rates and the average deposit rate, where average rates are calculated using the business volumes in both euro and national currency as weights.

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[*]https://www.ecb.europa.eu/pub/pdf/other/manualmfibalancesheetstatistics201204en.pdf?426543c0dbb56bb78f5afd978b44db17

3.7 Changes in credit standards for loans to households (for house purchase)

& 3.8 Changes in credit standards for loans to NFCs

Sources: ECB and Bank of England

Weighted net percentage of banks contributing to the tightening of standards over the past three months.

3.9 Option-adjusted spreads on euro area corporate bonds

Sources: Bank of America Merrill Lynch

Bank of America Merrill Lynch Bond Index for the euro area non-financial corporate sector, broken down by rating class (AA and BBB) and high yields.

3.10 Expected default frequency of the corporate sector

Sources: Moody's KMV and ECB calculations

Averages weighted by non-equity liabilities based on the Moody's EDF data for financial and non-financial companies. UK data are still included in the EU aggregates since the relevant EU27 fixed-composition indicators are not available yet.

3.11 Foreign currency loans

Source: ECB

Loans extended by MFIs, excluding the European System of Central Banks, to domestic non-MFIs (excluding general government) in foreign currency as a share of total loans to domestic non-MFIs.

3.12 Over/undervaluation of residential property prices

Sources: Eurostat, national sources, ECB and ECB calculations

The methodology applied for estimating the over/undervaluation of residential property prices is based on four different valuation methods: price-to-rent ratio, price-to-income ratio, asset pricing approach and a Bayesian estimated inverted demand model. For further details see Box 3, Financial Stability Review, ECB, June 2011; and box 3, Financial Stability Review, ECB, November 2015.

3.13 Change in nominal residential property prices

Sources: ECB, national sources and ECB calculations

Residential property price indicators differ in terms of: (i) geographical coverage (with some referring only to property transactions in larger cities); (ii) property-type coverage (with some excluding new dwellings); (iii) the types of price observation collected (e.g. transaction prices obtained from land registries or notaries or values as assessed by professional property values); (iv) the time at which a price observation enters the index; and (v) quality adjustment (i.e. how the observed prices are adjusted for changes in the quality or composition of the observed properties).

3.14 Insurances groups' credit quality steps

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website ([link](#))

Indicator presents the breakdown of the insurers' bond portfolio according to the different credit quality steps (1 to 6).

4. Funding and liquidity

4.1 Interbank interest rate spreads

Source: Refinitiv, Bloomberg Finance L.P. and ECB calculations

The indicator shows the difference between the overnight interbank rates and the overnight indexed swap (OIS) rates, for the euro area, the United States, and the United Kingdom.

4.2 EUR/USD cross-currency basis swap spreads

Source: Bloomberg

The indicators show the cost of swapping euro into US dollars with a one-year or three-month tenor. The lower the spread, the more expensive it is to swap euro into US dollars.

4.3 Banks' funding by central banks

Sources: ECB and ECB calculations

Liabilities of credit institutions (i.e. monetary financial institutions (MFIs) excluding the European System of Central Banks (ESCB) and money market funds) vis-à-vis the Eurosystem (for euro area countries) or the national central bank (for other EU countries) as a share of the sector's total liabilities (excluding capital and reserves and remaining liabilities). ESCB funding comprises loans to other MFIs and excludes holdings of securities other than shares issued by other MFIs.

4.4 Money markets and the Eurosystem's standing facilities

Sources: ECB and Bloomberg

The chart shows the evolution of the Eurosystem current account (including minimum reserves) and the marginal lending/deposit facility (for overnight lending/deposits), and the volume of euro-denominated transactions in the interbank overnight market (€STR volumes). As of October 2019 the EONIA rate has been officially replaced with the new interbank rate €STR.

4.5 Maturity profile of banks' outstanding debt securities

Sources: CSEC

Outstanding amounts of debt securities at market value. The maturity profile refers to the residual maturity of debt securities.

4.6 Banks' long-term debt securities issuance by type of bond

Sources: CSEC

Long-term debt securities issuances, excluding ABS, MBS and other debt securities without seniority information.

4.7 Loan-to-deposit ratio

Sources: ECB

Data refers to the ratio between total loans and total deposits vis-à-vis the domestic and euro area non-financial private sector and vis-à-vis non-banks (excluding general government) from other jurisdictions.

4.8 CDS spread between senior and subordinated debt

Sources: Thomson Reuters Datastream, CMA and ECB calculations

Median of the difference between CDS spreads on senior and subordinated debt respectively for a sample of large EU banks. Owing to its recent decision to leave the EU, UK is not one of the sample countries anymore.

4.9 Insurance groups' liquid asset ratio

Source: EIOPA, based on Solvency II Reporting

This indicator is based financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

This indicator informs on the proportion of liquid assets to total assets held by the EU insurance groups. The ratio is defined as:

 (Sum of liquid asset (category) * weight) / (total assets - Assets held for unit linked contracts) where the weight is determined by the liquidity characteristic of the asset (max weight of 1 for fully liquid assets)

5. Market risk

5.1 Equity indices

Sources: Bloomberg and Thomson Reuters

The equity indices displayed are EU Banks Datastream Index, EU Insurance Datastream Index, EU Building Materials and Fixtures Datastream Index and EU Diversified Industrials Datastream Index. Owing to its recent decision to leave the EU, UK is not taken into account anymore. As a result, the whole chart 5.1.a has been recompiled with the new EU-27 concept and according to the fixed-composition regime.

Volatility is implied by at-the-money options observed in the market. The VSTOXX Index is based on a new methodology jointly developed by Deutsche Börse and Goldman Sachs to measure volatility in the euro area.

VSTOXX is based on the EURO STOXX 50 Index options traded on Eurex. It measures implied volatility on options across all maturities.

5.2 Price/earnings ratio of equity indices

Sources: Thomson Reuters Datastream

The indices used are: EU non-financial corporations; Price-Earnings Ratio, EU main index; Price-Earnings Ratio, EU banking sector; Price-Earnings Ratio, EU insurance sector; Price-Earnings Ratio. Owing to its recent decision to leave the EU, UK is not taken into account anymore. As a result, the whole chart has been recompiled with the new EU-27 concept and according to the fixed-composition regime.

5.3 Exchange rate volatility

Source: Bloomberg

The indicators reflect the volatility of foreign currency interest rates implied by at-the-money options prices observed in the market for the major currencies, based on a three-month maturity.

5.4 Short-term interest rates – implied volatility

Source: Refinitiv

The indicators reflect the volatility of short-term interest rates implied by at-the-money swaptions prices observed in the market. For technical reasons related to negative interest rates the EUR 3M1Y rate was discontinued.

5.5 Long-term interest rates – implied volatility

Source: Refinitiv

The indicators reflect the volatility of long-term interest rates implied by at-the-money swaptions prices observed in the market. For technical reasons related to negative interest rates the EUR 3M10Y rate was discontinued.

5.6 Insurance groups' duration (of assets / liabilities)

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

Chart shows insurance groups' duration of assets (Weighted Average Modified Duration) and liabilities (Weighted Average Modified Duration from 2023 onwards, Weighted Average Macaulay Duration previously) based on Q4 data for the respective year.

6. Profitability and solvency

6.1 Banking groups' profitability indicators

a. Return on equity

Source: EBA

The data is based on the EBA's implementing technical standards (ITS) on supervisory reporting (EU Regulation No 680/2014 and it subsequent amendments). Data refer to group consolidated data. The indicator is based on a sample of 194 EU banks (the list of the banks can be found under the link http://www.eba.europa.eu/risk-analysis-and-data). Data are subject to changes in the composition of the sample over time. The indicator is based on the ratio between *profit and loss for the year* (Template F02.00; Row 670 670; Column 10) and *total equity* (Template F01.03; Row 300; Column 10). Quarterly flows are annualised.

b. Return on assets

Source: EBA

The data is based on the EBA's implementing technical standards (ITS) on supervisory reporting (EU Regulation No 680/2014 and it subsequent amendments). Data refer to group consolidated data. The indicator is based on a sample of 194 EU banks (the list of the banks can be found under the link http://www.eba.europa.eu/risk-analysis-and-data). Data are subject to changes in the composition of the sample over time. The indicator is based on ratio between *profit and loss for the year* (Template F02.00; Row670; Column 10) and *total assets* (Template F01.01; Row 380; Column 10). Quarterly flows are annualised.

c. Cost-to-income ratio

Source: EBA

The data is based on the EBA's implementing technical standards (ITS) on supervisory reporting (EU Regulation No 680/2014 and it subsequent amendments). Data refer to group consolidated data. The indicator is based on a sample of 194 EU banks (the list of the banks can be found under the link http://www.eba.europa.eu/risk-analysis-and-data). Data are subject to changes in the composition of the sample over time. The indicator is based on the ratio between *administrative and depreciation expenses* (Template F02.00; Row 360,390; Column 10) and *total net operating income* (Template F02.00; Row 355; Column 10). Quarterly data refer to cumulative flows over the corresponding year.

d. Net interest income-to-total operating income ratio

Source: EBA

The data is based on the EBA's implementing technical standards (ITS) on supervisory reporting (EU Regulation No 680/2014 and it subsequent amendments). Data refer to group consolidated data. The indicator is based on a sample of 194 EU banks (the list of the banks can be found under the link http://www.eba.europa.eu/risk-analysis-and-data). Data are subject to changes in the composition of the sample over time. The indicator is based on the ratio between *net interest income* (Template F02.00; Row 010, 090; Column 10) and *total net operating income* (Template F02.00; Row 355; Column 10). . Quarterly data refer to cumulative flows over the corresponding year.

6.2 Banking groups' solvency, liquidity and balance sheet structure indicators

a. CET1 to risk weighted assets ratio

Source: EBA

The data is based on the EBA's implementing technical standards (ITS) on supervisory reporting (EU Regulation No 680/2014 and it subsequent amendments). Data refer to group consolidated data. The indicator is based on a sample of 194 EU banks (the list of the banks can be found under the link http://www.eba.europa.eu/risk-analysis-and-data). Data are subject to changes in the composition of the sample over time. The indicator is based on the ratio between *common equity TIER 1 capital* (Template C01.00; Row 20; Column 10) and *total risk exposure amount* (Template C02.00; Row 10; Column 10).

b. Non-performing loans to total gross loans and advances

Source: EBA

The data is based on the EBA's implementing technical standards (ITS) on supervisory reporting (EU Regulation No 680/2014 and it subsequent amendments). Data refer to group consolidated data. The indicator is based on a sample of 194 EU banks (the list of the banks can be found under the link http://www.eba.europa.eu/risk-analysis-and-data). Data are subject to changes in the composition of the sample over time. The indicator is based on the ratio between *non-performing loans and advances* (Template F18.00; Row 070,250; Column 60) and on *total gross loans and advances* (Template F18.00; Row 070,250; Column 10).

c. Ratio of liquid assets to short term liabilities

Source: EBA

The data is based on the EBA's implementing technical standards (ITS) on supervisory reporting (EU Regulation No 680/2014 and it subsequent amendments). Data refer to group consolidated data. The indicator is based on a sample of 194 EU banks (the list of the banks can be found under the link http://www.eba.europa.eu/risk-analysis-and-data). Data are subject to changes in the composition of the sample over time. The indicator is based on the ratio between *liquid assets* (Template C51.00; Sheet Total; Row: 010-390 excl. 030; Column: 020 & 040 (if not available 030, if not available 040)) and *total items providing stable funding in less than 12 month* (Template 61.00; Sheet Total; Row: 010-250; Column: 010- 040).

d. Asset encumbrance ratio

Source: EBA

The data is based on the EBA's implementing technical standards (ITS) on supervisory reporting (EU Regulation No 680/2014 and its subsequent amendments). Data refer to group consolidated data. The indicator is based on a sample of 164 EEA banks (the list of the banks can be found under the link https://www.eba.europa.eu/risk-analysis-and-data/reporting-by-authorities). Data are subject to changes in the composition of the sample over time. The indicator is based on the ratio between *total encumbered assets and collateral* (Template F32.01; Row 010; Column 010; and Template F32.02; Row 130; Column 010) and total assets and collateral (Template F32.01; Row 010; Column 010, 060; and Template F32.02; Row 130;Column 010,040).

6.3 Insurances groups' profitability indicators

a. Return on equity

Source: EIOPA, based on Solvency II Reporting

This indicator on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

The return on equity is defined as the cumulated profit (loss) after tax and before dividends for the last relevant reporting period, divided by the excess of assets over the liabilities observed at the end of the reporting period. The data is not annualised, resulting in changes of magnitude between H1 (profit over first 6 months) and H2 (profit over entire year) figures.

b. Combined ratio – non-life insurance

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

The combined ratio is defined as net claims incurred and expenses incurred divided by net written premiums. Quarterly data refer to cumulative flows over the corresponding previous quarters.

c. Expense ratio – non-life insurance

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

Expense ratio is defined as expenses incurred divided by net written premiums. Quarterly data refer to cumulative flows over the corresponding previous quarters.

d. Loss ratio – non-life insurance

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

Loss ratio is defined as net claims incurred divided by net written premiums. Quarterly data refer to cumulative flows over the corresponding previous quarters.

6.4 Insurances groups' solvency indicators

a. Insurance groups' solvency ratio

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

The solvency ratio is defined as the available solvency capital divided by the required solvency capital.

b. Insurance groups' excess of assets over liabilities

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

The indicator is calculated as insurance groups' total assets reduced by the insurance groups' total liabilities. It is presented as interquartile moments of distribution across the insurance groups (1st quartile, median, 3rd quartile).

6.5 Insurances groups' quality of own funds

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link)

Indicator presents the breakdown of the quality of the Solvency II own funds, according to the different tiers (1 to 3).

7. Structural risk

7.1 Banking sector size

Source: ECB and Eurostat

The indicator is calculated as the total assets of domestic banking groups and total assets of foreign banking groups as a percentage of GDP.

7.2 Banking sector leverage

Source: ECB

The indicator is calculated as the total assets divided by total equity.

7.3 Growth of components of the EU financial sector

Source: ECB

Growth rates derived from flows. OFI, ICPF and non-MMF investment funds data based on financial accounts combining (as available) ESA 2010 and ESA1995 data. MFI data based on monetary statistics. MMFs data based are proxied by MMF shares/units issued by the MFI sector.

7.4 Total assets of investment funds and OFIs as per cent of credit institutions' total assets

Source: ECB

OFI and non-MMF investment funds data based on financial accounts combining (as available) ESA 2010 and ESA1995 data. MFI data is based on monetary statistics. MMFs data based on total assets for euro area countries and are proxied by MMF shares/units issued by the MFI sector for non-euro area countries.

7.5 Total assets of investment funds and OFIs in the EU

Source: ECB and European Commission

Investment funds balance sheet data are missing for the UK (total assets are estimated from the financial sector balance sheet).

7.6 Non-MMF investment funds ratio of short term assets to short term liabilities

Source: ECB

The indicator shows ratio of non-MMF investment funds' short term assets (deposit and loan claims and debt securities with original maturity up to one year) to short term liabilities (loans and deposits received with original maturity up to one year and Investment fund shares/units of open-end funds). Maturity breakdowns for loans and deposits are available only from 2014 Q4 and are estimated for prior periods based on the maturity breakdowns in 2015 for these instruments (for the respective counterparty sectors).

7.7 Insurance groups´ profitability indicators

a. Gross premiums written - life insurance

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link).

The indicator presents annual growth rates of the interquartile moments of distribution across the insurance groups (1st quartile, median, 3rd quartile) of the gross written premiums for the life insurance sector.

b. Gross premiums written - non-life insurance

Source: EIOPA, based on Solvency II Reporting

This indicator is based on financial stability reporting data collected from 93 EEA insurance groups reporting under the Solvency II regime. For more information please see EIOPA's website (link).

The indicator presents annual growth rates of the interquartile moments of distribution across the insurance groups (1ˢᵗ quartile, median, 3ʳᵈ quartile) of the gross written premiums for the non-life insurance sector.

8. Central counterparties

8.1 Prefunded default resources

Source: CPMI-IOSCO quantitative public disclosure data & ESRB Secretariat calculations.

The prefunded default resources have several components. Mutualised default funds are only used to absorb losses if the defaulting member's variation margin, initial margin, and CCP's skin-in-the-game, respectively, are insufficient. Initial margin is the first line of defence against loss mutualisation and calculated in relation to the risk brought by clearing members. The primary purpose of skin-in-the-game is to ensure CCPs' incentives are aligned with those of their clearing members. It is calculated in relation to a capital requirement.

The chart shows the prefunded contributions of CCPs (skin-in-the-game) as the numerator and the prefunded contributions of clearing members to the mutualised default fund as the denominator. The measure sheds light on the relative size of skin-in-the-game, which indicates the key economic incentive for prudent risk management by a CCP. Importantly, the second skin-in-the-game (in yellow), that is a regulatory requirement for EU CCPs, forms the last part of the prefunded waterfall and therefore has the potential to reduce contagion effects in the event of the default of a clearing member. Information provided for segregated clearing services have been aggregated into a single structure.

Each bar represents a quarter.

8.2 Haircut policies

Source: CPMI-IOSCO quantitative public disclosure data & ESRB Secretariat calculations.

Margins and haircuts are essential parts of the CCP risk management frameworks. Initial margins are designed to protect a CCP against losses stemming from the default of a clearing member while haircuts aim to mitigate a fall in market value of collateral in case the collateral has to be sold. Indicator depends on the collateral accepted by CCPs, e.g. equities, bonds or bank guarantees.

Information provided for segregated clearing services has been aggregated into a single structure.

OMI Clear currently only reports cash collateral resulting in haircut for non-cash initial margin of zero. Each bar represents a quarter.

8.3 Collateral policies

Source: CPMI-IOSCO quantitative public disclosure data & ESRB Secretariat calculations.

This chart shows the aggregated degree of collateralisation by clearing member at a CCP. A clearing member is permitted to transfer more collateral in the form of initial margin than that required by a CCP, to cover changes in both the trading positions (which result in higher total margin requirements) and the margin and

haircut parameters calibrated and used by CCPs. This reduces the operational complexity of clearing members posting additional collateral in a short time frame, e.g. in response to a margin call. A level above 1 indicates an overcollateralisation, while a level below 1 would indicate an undercollateralisation and a violation of regulatory requirements. CPMI-IOSCO final guidance on CCP resilience recommends that CCPs do not rely on the additional collateral posted by their members over the margin required when assessing the adequacy of their financial resources. This is because the additional collateral might be withdrawn in a stressed period.

Information provided for segregated clearing services has been aggregated into a single structure.

Exceptions: PQD 20.2.1 is added to PQD 6.2.15 for EuronextC as they do not include initial margin resulting from interoperability arrangements in PQD 6.2.15. Revisions have also been made for CCE, SIX x clear, LCH SA and LCH Ltd in the calculation of PQD 6.2.15 for all quarters.

Each bar represents a quarter. The y-axis limit is set to 7 to enhance clarity, even though SKDD reported amounts above this threshold.

8.4 Liquidity policies: qualifying liquid resources to the estimated largest same-day payment obligation

Source: CPMI-IOSCO quantitative public disclosure data & ESRB Secretariat calculations.

The indicator shows the ratio of Qualified Liquid Resources (QLR) to the estimated largest same-day payment obligation. The latter may arise from the default of a single clearing member and its affiliates (including transactions cleared for their clients) under extreme but plausible market conditions. Multi-day payment obligations are used as a proxy for CCE, ICC and CME as they do not report same-day payment obligations in PQD 7.3.1. EMIR requires CCPs to cover liquidity risk generated by the default of at least the two clearing members to which the CCP has the largest exposures.

Average values have been taken for PQD 7.1.2-7.1.9 in order to align stocks with flows.

To better visualise lower values, the y-axis limit is set to 30. Each bar represents a quarter.

8.5 Liquidity policies: cash ratio

Source: CPMI-IOSCO quantitative public disclosure data & ESRB Secretariat calculations.

This indicator shows the amount of initial margin that a CCP has received in cash and reflects the preferences of clearing members to post cash or other forms of collateral. However, the cash received could also be invested by the CCP and may therefore actually be held in a less liquid form, so this measure should be read in conjunction with the indicator on cash re-investments.

Exception: PQD 20.2.1 is added to PQD 6.2.15 for EuronextC as they do not include initial margin resulting from interoperability arrangements in PQD 6.2.15. Revisions have also been made for CCE, SIX x clear, LCH SA and LCH Ltd in the calculation of PQD 6.2.15 for all quarters.

The y-axis limit is set to 1 to enhance clarity, even though OMIClear report amounts above this threshold. Each bar represents a quarter.

8.6 Concentration at CCP level

Source: CPMI-IOSCO quantitative public disclosure data & ESRB Secretariat calculations.

This indicator shows an estimate of the five largest clearing members' average contributions to total initial margin, default fund contributions and client clearing at the clearing service level within a CCP. An increase in concentration indicates a rise in a CCP's exposures to its largest clearing members relative to its exposures to the remaining clearing members, which, in turn, could mean that losses would need to be covered more quickly from default waterfall resources if a clearing member defaults. If client clearing activities are concentrated in a small number of clearing members, the default of one large clearing member could have major implications for its respective clients and could transmit distress to a wider range of financial institutions.

All bars refer to the two most recent quarters observed. PQD 18.3 and 18.4 show quarter averages and therefore averages are taken for PQD 6.2.15 and 4.1.5 to match stocks with flows.

8.7 Interoperability arrangements

Source: CPMI-IOSCO quantitative public disclosure data & ESRB Secretariat calculations.

Interoperability arrangements allow clearing members of a CCP to clear their trades through a different CCP. Currently, there are five interoperability arrangements in Europe in place: EuronextC - LCH SA, CCE - LCH Ltd., CCE - six x-clear AG (CH), LCH Ltd. - six x-clear AG (CH), LCH Ltd. - six x-clear Norwegian branch (CH/NO). The indicator shows the initial margin provided for interoperability arrangements as a share of total initial margin for the clearing service. It seeks to assess the relative magnitude of interoperability links for the individual CCPs that have established such links, thereby providing an indication of the potential effects stemming from disruptions to the linked CCPs. The indicator also shows whether two linked CCPs are facing different contagion risks from the same link, i.e. if the relative magnitude of the link is significantly more important for one of the two CCPs.

Each bar represents a quarter.

8.8 Share of client clearing

Sources: CPMI-IOSCO quantitative public disclosure data & ESRB Secretariat calculations.

This indicator considers the extent of direct and indirect client clearing at a CCP. Client Clearing is an essential part of a well-functioning clearing market. Financial market participants that wish to or are required by the clearing obligation to centrally clear financial transactions may either become direct members of a CCP or may clear transactions through clearing members that offer client clearing.

Since not all firms which are required to or wish to clear derivative or other financial transactions are clearing members of CCPs, client clearing is essential to ensure that all firms have access to central clearing.
A low share of client clearing indicates that the CCP mainly clears transaction between clearing members. A high share of client clearing may indicate a potential dependence on some direct members offering client clearing.

Each bar represents a quarter.

8.9 Cash reinvestment policies

Sources: CPMI-IOSCO quantitative public disclosure data & ESRB Secretariat calculations.

This indicator shows the re-investment strategies applied by a CCP to its clearing members' cash collateral. It shows the percentage of cash that is reinvested into different classes of instruments.

In line with EMIR requirements, a CCP may either deposit the cash received at a central bank or other financial institution or reinvest it in highly liquid securities of minimal credit and market risk, including domestic or foreign government bonds. The choices made between re-investment policies could imply trade-offs and could entail varying degrees of risk-sensitivity. CCPs relying to a higher degree on secured deposits in commercial banks or committed lines of credit (as opposed to central bank deposits which not all CCPs have access to) may be exposed to higher risk, particularly if liquidity providers are, at the same time, clearing members of the CCP.

The chart shows the three most recent quarters.