Frankfurt am Main, 20 December 2012

European Systemic Risk Board

ESRB Risk Dashboard

Annex I

Issue 2

Cut-off date: 30 November 2012

ANNEX I TO THE RISK DASHBOARD Last updated: December 2012

INDICATORS METHODOLOGY

	INDICATOR	DATE RANGE AND FREQUENCY	SOURCE	METHODOLOGY
A) Interlinkages and imbalances				
1	Composite Indicator of Systemic Stress (CISS)	Since January 1999, weekly data	Thomson Reuters, ECB, and ECB calculations	The CISS comprises 15 mostly market-based raw financial stress measures equally split into five categories: financial intermediaries sector, money markets, equity markets, bond markets and foreign exchange markets. The raw stress indicators are homogenised by replacing each individual observation by its function value from the indicators' empirical cumulative distribution function. Five segment-specific subindices of financial stress are computed as averages of their three constituent transformed stress measures. The CISS aggregates the five subindices based on portfolio theoretical principles, i.e. by taking into account the time-varying cross-correlations between the subindices. The CISS thus puts relatively more weight on situations in which stress prevails in several market segments at the same time. It is unit-free and constrained within the interval (0, 1]. For further details see Hollo, D., M. Kremer and M. Lo Duca: CISS - A Composite Indicator of Systemic Stress in the Financial System, ECB Working Paper forthcoming.
2	Probability of a simultaneous default of two or more large and complex banking groups	Since January 2007, daily data	Thomson Reuters and ECB calculations	An estimate of the probability of a systemic event, i.e. the simultaneous default of two or more large and complex banking groups within a horizon 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 ECB, Financial Stability Review, June 2012.
3	Average contribution of individual institutions to overall systemic risk using CoVaR (EU financial system)	Since January 1999, daily data.	Bloomberg	The indicator is based on the methodology proposed by Adrian and Brunnermeier (2010). The sample contains the (log) stock prices of 119 European financial institutions (52 banks, 33 financial service providers and 34 insurance companies) listed in the STOXX600. The average "systemic risk contribution" (loss) tends to be higher during the stress periods.
4	Co-movements of sovereign credit default swap spreads	Since 21 March 2006, daily data.	Markit	The indicator for Europe is based on the spreads of 12 sovereign credit default swaps (CDSs), namely those of Belgium, Germany, Ireland, Greece, Spain, France, Italy, the Netherlands, Austria, Portugal, Finland and the United Kingdom. The sub-sample 1 indicator is based on the CDS spreads of countries hit by the sovereign crisis (Ireland, Greece, Spain, Italy and Portugal), while the sub-sample 2 indicator is based on those of the remaining countries (Belgium, Germany, France, the Netherlands, Austria, Finland and the United Kingdom). All indicators are constructed from the first component extracted through principal component analysis (PCA). A specific level for Greece's default probability is assumed for the period in which Greek CDSs were not traded, i.e. the period between 9 March (credit event) and 11 April 2012.
5	Foreign claims of EU banks	Quarterly and semi-annual	BIS international banking statistics and ECB consolidated banking statistics (semi-annual)	Size of the bubbles corresponds to the ratio between total foreign claims (BIS) and total equity (ECB) of a country's consolidated banking sector. The thickness of the arrows depends on the share of bilateral foreign claims over the total equity of the lending banking sector. Claims below 75% of total capital are cut off.
B) Macro risks				
6	Current and forecast real GDP growth	Since 1995 for all EU countries, quarterly data	European Comission	Latest actual year-on-year growth, 3-years historical average and EC forecast for the whole EU 27 in 2011. 3-years average is a simple average of year-on-year growth rates over last 12-quarter period.
7	Domestic credit-to-GDP gap	Since 1997 for some countries, and since 2004 for all EU countries, quarterly data	European Comission, ECB and ECB calculations.	Computed as the deviation ('gap') of credit-to-GDP, calculated as the difference between the ratio of notional stocks of credit and nominal GDP, and its recursive Hodrick-Prescott trend (see: L.Alessi and C.Detken, Quasi real time early warning indicators for costly asset price boom/bust cycles: a role for global liquidity, June 2011). Domestic credit comprises MFI loans to domestic non-MFIs (excluding general government) and MFI holdings of securities other than shares issued by domestic non-MFIs (excluding general government). GDP is the 4-quarters cumulated flow. Moreover, as from the Dec. 2012 edition of the Risk Dashboard data on outstanding amount of domestic credit have been replaced with notional stocks of domestic credit (i.e. outstanding amounts corrected for non-transaction related effects).
8	Current account balance-to-GDP	Since 1999 for all EU countries, quarterly data	European Comission and ECB	The three-year average refers to the most recent 12-quarter period. Quarterly data is the moving four-quarter sum up to the quarter of reference.
9	Unemployment rate	Since 1999 for all EU countries, monthly data	European Comission	The eight year median of the unemployment rate is used as a proxy for structural unemployment.
10	General government debt-to-GDP ratio	Since 1999, annual data	European Comission	Official debt (latest observations plus forecasts) reported in the context of the EDP (Excessive Deficit Procedure) was used as a source for general government debt. Intra-general government transactions are consolidated (netted out). A black dashed line is a 60% threshold for government debt-to-GDP ratio.
11	General government deficit-to-GDP ratio	Since 1999, annual data	European Comission	Latest observations plus forecasts for one year ahead. 3% level as a benchmark.
12	Credit default swap premia on sovereign debt in selected EU countries	Since 2008 for available countries, daily data	Bloomberg and CMA	Time series for available sovereign credit default swaps (CDSs), basis points, 5-year maturity.
13	Sovereign debt redemptions	Forthcoming 12 months redemptions, monthly and quarterly data	ECB and ECB calculations	Redemption schedule with reference to tradable debt securities only (loans are excluded), including debt issued in a currency other than the domestic one. Data on future debt redemptions for non-euro area member states are converted in EUR at the cut-off date's exchange rate. Ratios with GDP for non-euro area member states are calculated using nominal debt redemptions and GDP both denominated in national currency.
14	Non-financial corporations' sector debt-to-GDP ratio	Since 1999 for some countries and since 2004 for all EU countries, quarterly data	European Comission and ECB	Stock and annual changes of non-financial corporations debt in each EU member state.
15	Households' debt-to-gross disposable income ratio	From 1999, annual data	ECB, European Comission, US BEA and Bank of Japan.	Gross disposable income adjusted for the change in net equity of households in pension fund reserves. Countries marked with an asterisk refer to December 2010 (December 2009 for Luxembourg). Data for Malta are not available. EA average is chosen as benchmark since no aggregate can be computed for the EU.
16	Economic sentiment indicator	Since 1991 for some countries ; and since 2003 for all EU countries, monthly data	European Comission	Long-term-average = 100; 3-year historical average is a simple average of index level over last 12-quarter period to approximately cover the latest full economic cycle. The indicator comprises the industrial confidence indicator (weight 40%), the service confidence indicator (weight 30%), the consumer confidence indicator (weight 20%), the construction confidence indicator (weight 5%) and the retail confidence indicator (weight 5%).
17	Global PMI and industrial production	Since 2008, monthly data	OECD, JPMorgan and Markit	JPMorgan Global PMI Manufacturing output index, compiled by Markit, with a base (neutral) level of 50; values above (below) 50 indicate expansion (decline) in economic activity. Global industrial production over the latest three months in percentage changes over previous three month period
18	Gold and Brent crude oil prices	Since January 2005, daily data	Bloomberg	Spot prices for oil and future prices for gold.

	INDICATOR	DATE RANGE AND FREQUENCY	SOURCE	METHODOLOGY
C) Credit risks				
19	Foreign currency loans in the EU: a) Share of foreign currency loans in total lending and annual growth rates; b) Foreign currency loans broken down by domestic counterpart sector	Varies across countries depending on the year of the admission to the EU (between Jan.99 and Jan. 2007), monthly data.	ECB	Loans of MFI sector excluding the ESCB; share of FX loans on total loans to domestic non-MFIs private sector (y-axis) and annual growth rate of FX loans to non-MFI private sector (x-axis). In the breakdown, for each sector, its share of FX loans to the sectors of the economy is reported.
20	Yields on euro area non-financial corporate bonds, broken down by rating class	31 June 1996, daily data	Thomson Reuters	Merrill Lynch Bond Index for euro area non-financial corporate sector by rating class (AAA and BBB).
21	Lending spreads of monetary financial institutions – loans to non-financial corporations and households	January 2003 for euro area, monthly data	ECB, Thomson Reuters, and ECB calculations	Lending spreads are calculated as the average of the spreads for the relevant breakdowns of new business loans using volumes as weights. The individual spreads are the difference between the MFI interest rate for new business loans and the swap rate with a maturity corresponding to the loan category's initial period of rate fixation. The Lending Spreads are broken down by country in the euro area and by Non-Financial Corporations (NFC) and Households (HH). The reference rates used are : - For spreads for interest rates on loans having fixation periods less than one year: Euribor 6-month - For spreads for interest rates on loans having fixation periods between one and five years, Interest rate swap –Euro vs Euribor 3-year Interest Rate Swap - For spreads for interest rates on loans with fixation periods between five and ten years (only used in Loans for House Purchasing), Interest rate swap – (Euro vs Euribor 7-year Interest Rate Swap) - For spreads for loans with fixation period larger than five years, Interest rate swap – (Euro vs Euribor 10-year Interest Rate Swap)
22	Changes in credit standards for residential mortgages loans	January 2003 for euro area, quarterly data	ECB, Federal Reserve System and Bank of England.	Weighted net percentage over the past three months of banks contributing to tightening standards.
23	Changes in credit standards for loans to large enterprises	January 2003 for euro area, quarterly data	ECB, Federal Reserve System and Bank of England	Weighted net percentage over the past three months of banks contributing to tightening standards.
24	Residential property prices: a) Estimates of the over/undervaluation of residential property prices in selected EU countries; b) Change in nominal residential property prices	From 2005Q1, quarterly data	ECB and ECB calculations	The methodology applied for estimating over/under valuation of residential property prices is based on 4 different valuation methods: price-to-rent, price-to-income and two model based valuation methods (see ECB Financial Stability Review, June 2011, box 3, p. 53.). Price indexes data refer to total dwellings, whole country; national differences may however exist.
D) Funding & Liquidity				
25	Interbank interest rate spreads	Since January 2000, daily data	Thomson Reuters	Difference between the overnight interbank rates and the Overnight Index Swap (OIS) rate, for the euro area and the US.
26	Financial market liquidity indicator for the euro area	Since January 1999, daily data	ECB, Bank of England, Bloomberg, JPMorgan Chase & Co., Moody's KMV, and ECB calculations	This composite indicator is calculated by the ECB as a overall measure of liquidity, based on two components: money market liquidity risk and equity, bonds and FX liquidity risk. The composite indicator comprises unweighted averages of individual liquidity measures, normalised over the period 1999-2006 for non-money market components. The data shown have been exponentially smoothed.
27	EUR/USD cross currency basis swap spreads	Since January 2008 , daily data	Bloomberg	The indicators show the cost of swapping Euros into US Dollars with a 1-year or 3-months tenor. The lower the spread the more expensive is to swap EUR into USD.
28	Loans-to-deposits ratio for a sample of large EU banking groups	Since Q2 2011, quarterly data	EBA	Data refers to group consolidated data. The indicator is based on a sample of 36 large EU banks and the data are subject to changes over time in the sample composition. Loans are computed from FINREP 1.1 - Total loans advances (Rows: Loans and advances held for trading, designated at fair value through profit or loss, AFS, Loans and receivables, HTM); deposits are based on FINREP 1.2 - Total deposits (other than from credit institutions) (Rows: Deposits held for trading, designated at fair value through profit or loss, measured at amortised cost).
29	Pattern of credit institutions' liabilities: a) Liabilities of euro area credit institutions, broken down by instruments; b) Total liabilities of credit institutions - historical distribution of annual growth rates	Since January 1999, monthly data	ECB	Chart A: total liabilities for the euro area Credit Institutions sector (i.e. MFI excluding the Eurosystem and MMFs),excluding capital and reserves and remaining liabilities. Contributions by instrument based on 12-months cumulated flows. Short-term deposits and debt securities issue refer to instruments with original maturity below 1 year. Chart B: each box-plot displays the maximum, 3rd quartile, median, 1st quartile and minimum of the annual growth rates of the Credit Institutions sector (i.e. MFI excluding the Eurosystem and MMFs) total liabilities, excluding capital and reserves and remaining liabilities. Red-diamonds represent the last observation of each time series. The starting date for some countries does not coincide with Jan. 1999 and reflect the availability of data.
30	National central banks' shares of total funding	Varies across countries depending on the year of the admission to the EU (between Jan.99 and Jan 2007), monthly data.	IMF, ECB and ECB calculations.	Liabilities of the monetary financial institutions sector (excluding money market funds and the European System of Central Banks) vis-à-vis the Eurosystem (for euro area countries) or the local national central bank (for other EU countries) as a share of the sector's total liabilities (excluding capital and reserves and remaining liabilities). National central banks' holding of monetary financial institutions tradable securities are excluded
31	Money markets and central bank reserves	Since January 2007, Weekly data	ECB and Bloomberg.	The chart shows the evolution of the Eurosystem reserves and the marginal lending facility (for overnight lending) and the volume of Euro denominated transactions in the interbank overnight market (Eonia volume).
32	Maturity profile of EU banks' outstanding long-term debt	Since 2005, monthly data	Dealogic DCM Analytics and ECB calculations	Data refer to all amounts outstanding at the end of the corresponding year/month. Bank's long-term debt includes corporate bonds, medium-term notes, coverage bonds, asset-backed securities, and mortgage-backed securities with a minimum maturity of 12 months.

	INDICATOR	DATE RANGE AND FREQUENCY	SOURCE	METHODOLOGY
E) Market risks				
33	Global risk aversion indicator	Since January 1999, daily data	Bloomberg, Bank of America Merrill Lynch, UBS, Commerzbank, and ECB calculations	The indicator is constructed as the first principal component of five currently available risk aversion indicators: Commerzbank Global Risk Perception, UBS FX Risk Index, Westpac's Risk Appetite Index, BoA ML Risk Aversion Indicator, Credit Suisse Risk Appetite Index.
34	Equity indices: a) Equity indices by market; b) Equity indices by sector; c) Equity implied volatility indices: S&P 500 and Euro Stoxx 50	Since January 1999, daily data	Bloomberg and Thomson Reuters	The equity indices displayed are S&P 500, Nikkei 225, Euro Stoxx 50, FTSE 100, Swiss Market Index, EU-DS banks, EU-DS Full Lin Insur, EU-DS Build Mat/Fixt and EU-DS Div Inds. Volatility is implied by at-the-money options observed in the market. The Chicago Board Options Exchange Volatility Index (CBOE VIX Index) reflects a market estimate of future volatility, based on the weighted average of the implied volatilities for a wide range of strikes. 1st & 2nd month expirations are used until 8 days from expiration, then the 2nd and 3rd are used. The VSTOXX Index is based on a new methodology jointly developed by Deutsche Borse and Goldman Sachs to measure volatility in the Eurozone. VSTOXX is based on the EURO STOXX 50 Index options traded on Eurex. It measures implied volatility on options across all maturities.
35	Price/earnings ratios of equity indices, by sector	Since January 1999, daily data	Thomson Reuters	The indices used are EU-DS Non financial - PER, EU-DS Market - PER, EU-DS Banks - PER and EU-DS Insurance - PER.
36	Short-term interest rates – implied volatility: 3months - 1year	Since January 1999, daily data	Bloomberg	The indicators reflect the volatility of short term interest rates implied by at-the-money swaptions prices observed in the market.
37	Long-term interest rates – implied volatility: 3months - 10year	Since January 1999, daily data	Bloomberg	The indicators reflect the volatility of long term interest rates implied by at-the-money swaptions prices observed in the market.
38	Exchange rate volatility	Since January 1999, daily data	Bloomberg	The indicators reflect the volatility of FX interest rates implied by at-the-money options prices observed in the market for the major currencies, based on 3 months maturity.
F) Profitability and Solvency				
39	Slope of the yield curve	Since January 2006, daily data	ECB, Bank of International Settlements, Bank of England and the Federal Reserve System	The slope of yield curve is calculated as the difference between the 10 years swap rate and the 1 year swap rate. The higher the difference, the steeper the yield curve. The Unite States, Switzerland, and euro area yield curves are estimated using the Svenson model. The UK is estimated using the variable roughness penalty model.
Sample of large EU banking groups				
40.a	Return on equity	Since Q2 2011, quarterly data	EBA	Data refers to group consolidated data. The indicator is based on a sample of 36 large EU banks and the data are subject to changes over time in the sample composition. The indicator is based on the net income from FINREP 2 (Total profit or loss after tax and discontinued operations) and on the total equity from FINREP 1.3. Quarterly flows are annualised.
40.b	Cost-to-income ratio	Since Q2 2011, quarterly data	EBA	Data refers to group consolidated data. The indicator is based on a sample of 36 large EU banks and the data are subject to changes over time in the sample composition. The indicator is based on the costs as defined in FINREP 2 (Rows: Administration costs; Depreciation) and in the total operating income as defined in FINREP 2 (Total operating income: rows: Interest income; Interest expenses; Expenses on Share capital repayable on Demand; Dividend income; Fee and commission income; Fee and commission expenses; Realised gains (losses) on financial assets & liabilities not measured at fair value through profit or loss, net; Gains (losses) on financial assets and liabilities held for trading, net; Gains (losses) on financial assets and liabilities designated at fair value through profit or loss, net; Gains (losses) from hedge accounting, net; Exchange differences, net; Gains (losses) on derecognition of assets other than held for sale, net; Other operating income; Other operating expenses). Quarterly data refer to cumulative flows over the corresponding year.
40.c	Net interest income to total operating income	Since Q2 2011, quarterly data	EBA	Data refers to group consolidated data. The indicator is based on a sample of 36 large EU banks and the data are subject to changes over time in the sample composition. Net income as defined in FINREP 2 (Rows: Interest income; interest expenses) and total operation income as above. Quarterly data refer to cumulative flows over the corresponding year.
41.a	Tier 1 capital to total assets excluding intangible assets	Since Q2 2011, quarterly data	EBA	Data refers to group consolidated data. The indicator is based on a sample of 36 large EU banks and the data are subject to changes over time in the sample composition. Tier 1 capital as defined in COREP CA 1.1 and total assets excluded from intangible assets as derived from FINREP 1.1.
41.b	Impaired loans to total loans	Since Q2 2011, quarterly data	EBA	Data refers to group consolidated data. The indicator is based on a sample of 36 large EU banks and the data are subject to changes over time in the sample composition. Impaired loans as derived from FINREP 7 and FINREP 30B (Row: Loans and advances, Column: Net carrying amount of the impaired assets, Row: Loan and advances, Specific allowances for individually assessed financial assets and Specific allowances for collectively assessed financial assets, Column: Closing balance) and total loans as defined in FINREP 1.1. and FINREP 30B (Total loans advances (Rows: Loans and advances AFS, Loans and receivables, HTM), Row: Loan and advances, Specific allowances for individually assessed financial assets and Specific allowances for collectively assessed financial assets, Allowances for incurred but not reported losses on financial assets, Column: Closing balance).
Sample of large EU insurance groups				
42.a	Return on equity	Since H1 2010, semi-annual data	EIOPA	The indicator is based on the data available for a sample of 27 EU-headquartered insurance groups and are subject to changes over time in the sample composition. The return on equity is defined as the cumulated profit (loss) after taxes and before dividends over the last four quarters divided by the average available solvency capital over the last four quarters.
42.b	Combined ratio – non-life insurance business	Since H1 2010, semi-annual data	EIOPA	The indicator is based on the data available of a sample of 25 EU-headquartered insurance groups and are subject to changes over time in the sample composition. The combined ratio is defined as net claims incurred and net operating expenses divided by net premiums earned. Semi-annual data refer to cumulative flows over the corresponding year.
42.c	Gross premiums written – life insurance business	Since H1 2010, semi-annual data	EIOPA	The indicator is based on the data available for a sample of 25 EU-headquartered insurance groups and are subject to changes over time in the sample composition. The chart refers to the annual percentage change of the gross premiums written for life insurance business. Semi-annual data refer to cumulative flows over the corresponding year.
42.d	Gross premiums written – non-life insurance business	Since H1 2010, semi-annual data	EIOPA	The indicator is based on the data available for a sample of 25 EU-headquartered insurance groups and are subject to changes over time in the sample composition. The chart refers to the annual percentage change of the gross premiums written for non-life insurance business. Semi-annual data refer to cumulative flows over the corresponding year.
43.a	Solvency ratio – life insurance business	Since H1 2010, semi-annual data	EIOPA	The indicator is based on the data available for a sample of 25 EU-headquartered insurance groups and are subject to changes over time in the sample composition. The solvency ratio is defined as the available solvency capital divided by the required solvency capital for life insurance business.
43.b	Solvency ratio – non-life insurance business	Since H1 2010, semi-annual data	EIOPA	The indicator is based on the data available for a sample of 25 EU-headquartered insurance groups and are subject to changes over time in the sample composition. The solvency ratio is defined as the available solvency capital divided by the required solvency capital for non-life insurance business.
44	Retention ratio	Since H1 2010, semi-annual data	EIOPA	The indicator is based on the data available for a sample of 27 EU-headquartered insurance groups and are subject to changes over time in the sample composition. The retention ratio is defined as net premiums written divided by gross premiums written. Semi-annual data refer to cumulative flows over the corresponding year.