

The development and compilation of macro prudential data – the European perspective

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Abstract

The availability of reliable data is a key requirement to identify and address macro-prudential stability issues and systemic risk, and to monitor their development as well as to assess the impact of mitigation measures that may be taken. The Consolidated Banking Data (CBD) have been a key component of the E(S)CB statistical toolbox for financial stability analysis for more than a decade. The dataset is an aggregation of micro supervisory returns supplied by EU banks and includes information on the whole spectrum of banking business from balance sheet or profit and loss, to capital adequacy and asset quality. Recently the CBD became a key input to the macro-prudential analysis conducted by the European Systemic Risk Board (ESRB). This paper first describes this data source and its contribution to banking and financial stability analysis. Using the CBD indicators as a starting point, the paper then puts in perspective this data source with other related statistical information, mainly the IMF Financial Soundness Indicators and the Key Risk Indicators produced by the European Banking Authority. Finally, the paper outlines how the entry into force of the Implementing Technical Standards (Financial Reporting and Common Reporting) will influence the CBD methodology and reporting.

Keywords: Macro prudential statistics – Financial stability – Financial analysis – Risk analysis – Systemic risk – Risk indicators - Consolidation – IMF – ECB – IFRS – EBA – ESRB – Financial soundness – deposit-takers – credit institutions

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Introduction

Reliable data are a basic requirement for the identification of systemic risk and the design of macro-prudential tools. The Consolidated Banking Data (CBD) are a key component of the E(S)CB statistical toolbox for financial stability analysis. This data set is an aggregation of micro supervisory returns supplied by EU banks and includes information on the whole spectrum of banking business from financial information to capital adequacy and asset quality. Recently the CBD became also a crucial input for the endeavours of the European Systemic Risk Board (ESRB).

This paper first describes this data source and its contribution to banking and financial stability analysis.² The paper then places the CBD in perspective with other related statistical information, namely the IMF Financial Soundness Indicators and the Key Risk Indicators produced by the European Banking Authority (EBA). Finally, the paper outlines how the entry into force of the EBA's Implementing Technical Standards (ITS) on Supervisory Reporting³ will impact the CBD methodology and reporting.

The Consolidated Banking Data and its contribution to banking and financial stability analysis

The CBD are one of the main statistical inputs of the macro prudential analysis conducted by the European System of Central Banks (ESCB) and the ECB and are a key part of the statistical support of the ECB to the ESRB. These data include detailed information on the profitability, balance sheets, asset quality and solvency ratios of banks in the 28 Member States of the EU (the EU 28).

The current CBD collection framework is based on the aggregation of a subset of the Financial Reporting (FINREP) and the Common Reporting (COREP). Special allowances are introduced in the reporting template to accommodate data returns from banks that did not yet adopt FINREP but are still reporting according to local Generally Accepted Accounting Principles (GAAP).

Data are reported to the ECB by National Central Banks (NCBs) and National Competent Authorities (NCAs) and the same reporting framework is adopted by all the EU 28 countries. The initial CBD date back to 2002 and the current CBD reporting scheme was implemented as from 2009. The reporting scheme used to report national data was based on the FINREP/COREP templates only from 2009.

The data are consolidated on a cross-border basis (data on branches and subsidiaries located outside the domestic market are consolidated in the data reported by the parent institution) and on a cross-sector basis (affiliates of banking

² Borgioli, Gouveia and Labanca (2013) deals extensively with methodological issues connected to this dataset and presents how CBD indicators can be used for topical financial stability analysis.

³ The ITS on Supervisory Reporting cover reporting on own-funds and capital requirements (currently under the COREP Guidelines), reporting of financial information (currently under the FINREP Guidelines), reporting on large exposures (currently under the COREP Large Exposures Guidelines), reporting on leverage and reporting on liquidity and stable funding. They will be complemented by other specific reporting templates introduced by the Capital Requirements Regulation (asset encumbrance, forbearance and non-performing exposures).

groups that can be classified as "other financial institutions" are included). Insurance corporations and non-financial institutions are not consolidated. The consolidation basis could, therefore, be different from the IFRS perimeter.

CBD series are currently collected on a twice-yearly basis, with a detailed template for end-of-year data and a lighter one referred to end-June. Data on EU domestic banks are divided into three groups according to bank size (small, medium-sized and large). "Large" domestic banks are those with assets totalling more than 0.5% of the total consolidated assets of EU banks of the previous reference year, while "medium-sized" banks have total assets between 0.005% and 0.5% of the total consolidated assets. Banks with total assets of less than 0.005% of the total consolidated assets are considered "small". The concept of size is therefore in relation to the EU banking system as a whole and not in relation to the size of the banking system in each single country. Moreover, having a moving threshold has made it possible to maintain the composition of the sub-populations rather stable across the aggregate banking business cycle.

Separate information is provided on foreign-controlled institutions active in EU countries. "Foreign banks" are subsidiaries and branches that are controlled by either an EU or a non-EU parent that is "foreign" from the reporting country's point of view. A separate reporting for these intermediaries is needed, given their prominence in several EU national banking markets.

While until recently the CBD were reported on a voluntary "best efforts" basis, these data shall now be reported by euro area NCBs in accordance with ECB "Guideline of 4 April 2014 on monetary and financial statistics (recast)", (ECB/2014/15)⁴.

Indicators based on CBD series are published at national level, euro area and EU level. It must be flagged that, when analysing CBD presented at country level, and especially when attempting a comparison across countries, it should be borne in mind that some country-level indicators differ as regards both coverage and definitions used, as well as reflecting differences in the national banking sector structures. Indicators of non-performing assets and provisioning, for instance, should be interpreted with caution owing to the differences between national definitions of impaired assets (non-performing and doubtful assets) and provisions. These differences in national level indicators will be substantially removed once the next-generation CBD framework, based on the new EBA Implementing Technical Standard (ITS) will be available (see conclusion). Lastly, country-level information may differ from that published in individual countries' reports on account of differences in the reporting populations.

CBD are rather extensively presented and commented in the ECB "Banking structures report"⁵, together with another ECB dataset, the Structural Financial Indicators⁶.

The CBD are also one of main datasets available to the ESRB in the framework of the regular provision of aggregated information by the ECB, as specified in the Decision of the European Systemic Risk Board of 21 September 2011

⁴ The Guideline of the ECB of 4 April 2014 on monetary and financial statistics (recast) was released on 29 April 2014 in the ECB website (document number: ECB/2014/15). Link to the document: https://www.ecb.europa.eu/ecb/legal/pdf/en_gui_2014_15_f_sign2.pdf.

⁵ <http://www.ecb.europa.eu/pub/pdf/other/bankingstructuresreport201311en.pdf>

⁶ http://www.ecb.europa.eu/stats/pdf/130708_ssi_table.pdf?6eb6a27bf4fc505cee66a57a5c20d02f

(ESRB/2011/6)⁷. The CBD are extensively used in the quarterly macro prudential review that presents detailed statistical information on the different dimensions of systemic risks faced by the national and EU financial systems. This quarterly macro prudential review was complemented recently with a semi-annual summary assessment of risks faced by national EU banking systems, aimed at supporting the discussion on national differences and developments across the respective banking sectors and where the CBD also features very prominently as the main dataset. Lastly, the CBD is also used in the ESRB risk dashboard, which provides a set of quantitative and qualitative indicators to identify and measure systemic risks in the EU financial system.⁸

Other related statistical information: the IMF's Financial Soundness Indicators and the EBA's Key Risk Indicators

This section relates the CBD to other statistical datasets, namely the IMF's Financial Soundness Indicators and the EBA's Key risk indicators.

1. IMF's Financial Soundness indicators

Since January 2007, the International Monetary Fund (IMF) has been releasing on a regular basis data aiming at assessing strengths and vulnerabilities of financial systems worldwide: the so-called Financial Soundness Indicators (FSIs), covering 95 countries at end-2012. Initially made of 40 measures of national economies for the participating countries, the list of indicators was amended in November 2013 to better capture, on the one hand the main features of the global financial crisis, and, on the other hand, to adopt in the indicators' compilation methodology at national level a new regulatory framework under the Basel III Accord⁹. This last review of the FSIs is however still in the process of being implemented so that no comparison will be made in the following paragraphs with the new IMF indicators.

In the FSIs' current version, some of the measures overlap in their definition with the set of indicators published in the CBD while showing sometimes, for these "common indicators", figures that differ at country level. This makes it worthwhile comparing the two sets of data in order to better understand these discrepancies that may lead to a distinct interpretation of the same indicator.

1.1 FSIs, CBD, what do these datasets include?

As the FSIs distinguish between the *deposit-takers* and *non-deposit-takers* reporting sectors, measures are split into seven categories comprising:

- Core FSIs for Deposit Takers
- Encouraged FSIs for Deposit Takers

⁷ OJ C 302, 13.10.2011, p.3.

⁸ The ESRB risk dashboard – as required by the ESRB regulation (Article 3(2)(g)) – was released for the first time after the ESRB General Board meeting on 20 September 2012. The ESRB risk dashboard is now one of the communication instruments of the ESRB, as it provides statistical information concerning risks and vulnerabilities in the financial system to the public at large. Since March 2013 the ESRB risk dashboard has also been available via the ECB's Statistics Database:
<http://sdw.ecb.europa.eu/reports.do?node=1000003268>.

⁹ See the IMF cover note on *Modifications to the current list of financial Soundness indicators* available here: <http://www.imf.org/external/np/pp/eng/2013/111313.pdf>.

- Other Financial Corporations
- Non-financial Corporations Sector
- Households
- Market Liquidity
- Real Estate Markets

In this section, the focus is only set on the two first categories for which the comparison with the CBD is possible, keeping in mind though that the *credit institutions* covered by the ECB statistics correspond to a narrower definition of deposit-takers. In this regard, the EBA publishes on a regular basis a list of *credit institutions* to which authorisation has been granted to operate within the European Economic Area countries (EEA) which are also listed in the ECB's Register of Institutions and Affiliates Database (RIAD). The ECB as from November 2014 or the competent national authorities are in charge of providing licences to the deposit-takers meeting the legal requirements in order to run the business of credit institutions. These can then cover, again within the European Economic Area countries, three types of banks:

- *CRD credit institutions*: undertaking whose business is to receive deposits or other repayable funds from the public and to grant credits for its own account;
- *EEA branches operating in each EEA country*: branches of credit institutions authorised in another EEA country which have the right to passport their activities;
- *Non EEA Branches*: branches of credit institutions having their Head Office in a third country.¹⁰

This means that there also exist in EU countries deposit-takers which are not credit institutions; these are commonly called *non-bank deposit-takers* and are not included in the CBD reporting population. This makes perfect sense when thinking of the so-to-say rule of thumb¹¹ applying to the reporting of the consolidated banking data: these are expected to be supervisory data, namely data collected by national supervisory authorities from the financial entities they supervise and which should be therefore institutions holding a banking license.

Table 1 in the annex gives an overview of all the indicators included in the FSIs for deposit-takers which are also available in CBD.

1.2 Reporting and compilation

Whereas the IMF receives the FSIs directly compiled by the reporting agencies in each participating country (indicators are at national level), the 141 existing published CBD indicators are calculated by the ECB for all EU countries based on aggregated "raw data" transmitted by the NCBs. Looking at the way the data are channelled to the institution in charge of their publication is a starting point for confronting the methodologies applied to both datasets. The difference in approach

¹⁰ Further information is also available on the EBA website:
<http://www.eba.europa.eu/risk-analysis-and-data/credit-institutions-register>.

¹¹ The statistical treatment owed to non-bank deposit-takers operating in the EU is not specified in any CBD-related document. Similarly, no written rule specifies that the CBD should be only collected at national level for the supervised banks in the country.

is indeed crucial to assess the cross-country comparability of such statistics. From an "IMF's perspective", it is important to guarantee that the compilation methods used by countries to produce the FSIs (see FSI compilation guide¹²) are harmonised to a reasonable extent across reporters. This is not an issue in the CBD where all indicators are calculated starting from data points from the same reporting template and according to standardised formulas applied to all countries with very few exceptions in particular cases mostly related to data availability issues (missing values). On the other hand, making sure that outputs from standardised formulas are cross-country comparable requires providing clear guidance to reporters on the collection of the raw data needed for the indicators. Therefore, and in contrast to the methodological advice laid out in the IMF *Compilation guide on Financial Soundness Indicators*, the CBD reporting instructions contain a template addressed to all EU NCBs specifying, for each statistical area covered by the dataset (income statement, balance sheet, etc.), the exact positions to be reported by credit institutions, with, when it exists, a specific IFRS reference.

1.3 Coverage

One important difference between the two datasets regards their geographical coverage since the FSIs are reported to the IMF by 95 countries worldwide whereas the CBD cover the EU 28. It is also useful indicating that the FSIs are reported on a best effort basis with the support of some technical guidance provided by the compilation guide, whereas the Consolidated Banking Data, as already explained above, are now included in the *Guideline of the ECB on monetary and financial statistics*, setting up therefore a legal framework to their transmission by the NCBs to the ECB.

Going one step further in the analysis of differences in terms of coverage between the two data sources, one may also stress that while the CBD cover only credit institutions operating in the European Union, including banking groups, stand-alone credit institutions as well as foreign-controlled (EU and non-EU) subsidiaries and branches, the FSIs are compiled for a broader range of reporting entities: in addition to the non-credit institution deposit-takers as mentioned above, they cover *Other Financial Corporations* (two indicators), *Non-Financial Corporations* (five indicators) and *Households* (two indicators). Regardless of any specific reporting sector, the FSIs also contain data on market liquidity and price indices for the real estate market.

1.4 Frequency

The FSIs may be reported to the IMF on a quarterly basis but a larger set of data is usually reported annually (more countries reporting more indicators). Owing to their broader geographical and sectorial coverage the FSIs face more challenging issues in the timeliness of the data transmission by national authorities. When looking at the last available data, one may observe that the last released observation significantly differs from a country to another.

The CBD are collected semi-annually for all EU countries. However, the data reported at mid-year are only a subset of the annual collection referred to end-year. Possible revisions to the previous periods may be transmitted by all reporters at each data collection. Therefore, data gaps in the CBD only arise from data

¹² Link to the online version: <http://www.imf.org/external/pubs/ft/fsi/guide/2006/>.

availability issues at country level: either the required series do not exist under national accounting standards for banks or the data are not (yet) statistically monitored due, for instance, to national legislation. Such issues, together with a constant attempt to lower the reporting burden towards national counterparts, also prevents the ECB from increasing the CBD reporting frequency.

1.5 Accounting standards

To even greater extent than the CBD at European level, the compilation of the FSIs requires dealing with the rather disparate accounting landscape worldwide. Although there exist internationally agreed prudential, accounting, and statistical standards, these are not necessarily implemented by all countries for various reasons. In order to deal with the lack of cross-country harmonisation in applying international standards, the IMF explicitly encourages the participating countries to *"disclose the basis of accounting that is used to compile FSI data series, along with the critical assumptions made."*

In the CBD, by default, all items are intended to be reported by EU countries under the IFRS accounting framework. For countries in which a relevant number of credit institutions do not apply IFRS, the official template allows reporting some items in specific cells for those reporters. The item *Total assets [non-IFRS and non-portfolio reporting IFRS banks]* is for instance collected together with the so-called item *Total assets [full sample]*.

Whereas the income statement and balance sheet data are expected to be consistent across IFRS compliers, the asset quality data still suffer some gaps and important short-comings in terms of the harmonisation of definitions. IAS39 *Financial Instruments: Recognition and Measurement*¹³ provides accounting rules for the classification, measurement and derecognition of financial instruments aiming at assessing the amount of impaired assets. But it does not go any further into the valuation of non-performing loans for instance and for which reporting banks have to rely on some sort of commonly agreed rule of thumb: the *90-days-overdue* criterion, also recommended by Basel II.

In practice, countries may also report "loans with payments less than 90 days past due that are recognized as nonperforming under national supervisory guidance" in the FSIs as stated in the IMF compilation guide, the good news being that this also applies to the data collected in the CBD. However any strict comparison of the data released in the two datasets should be carried out only with care since the series may not cover the same underlying population (all MFIs versus relevant supervised entities for instance) or include the same instruments (debt instruments sometimes excluded by EU countries when reporting the FSIs).

At this stage, one may look at the rule of consolidation applied to the CBD and FSIs. The scope is actually expected to be the same for both datasets; namely the required approach for compiling either the CBD raw data or the IMF financial soundness indicators is a cross-border and cross-sector consolidation. At country level, this means that all domestically controlled entities and, their subsidiaries and branches, resident or not in the country, must be included in the aggregated figures. This makes sense if one simply thinks about macro prudential analysis as the assessment of the soundness of a sector rather than individual banks.

¹³ The technical summary is available here on the IFRS website: <http://www.ifrs.org/IFRSs/IFRS-technical-summaries/Documents/IAS39-English.pdf>.

Nevertheless, whereas the FSIs are only collected for the whole reporting sector regardless of the financial institutions' ownership ("all deposit-takers operating in the reporting countries"), the CBD are at first stage consolidated on a domestic versus foreign-controlled approach and transmitted as such. The resulting indicators are therefore compiled and published for the three reporting sectors:

- Domestic banks;
- Foreign-controlled subsidiaries and branches;
- Domestic banks and EU or non-EU foreign-controlled subsidiaries and branches ("all banks").

Table 1 below gives an illustration of the impact of the methodological differences between the FSIs and the CBD on a usual profitability indicator.

Comparing two measures of ROE*

Return-on-Equity (%) ... or Return-on-Equity (%)?
(data at end December 2012)

Table 1

	FSI	CBD**
Austria	5.5	4.1
Belgium	3.4	3.3
Bulgaria	6.3	4.7
Czech Republic	20.4	13.7
Denmark	1.5	2.0
Estonia	14.2	11.7
Finland	10.8	8.9
France	6.0	3.4
Hungary	-1.4	-5.1
Ireland	12.2	-14.6
Italy	-0.9	-1.0
Latvia	7.8	4.9
Lithuania	8.9	7.8
Luxembourg	10.4	7.0
Malta	24.7	4.7
Netherlands	7.4	4.1
Poland	14.0	10.8
Portugal	-5.4	-3.3
Romania	-5.9	-7.2
Slovak Republic	9.1	9.0
Slovenia	-19.6	-19.4
Spain	-21.0	-24.9
Sweden	15.3	11.4
United Kingdom	5.8	1.9

* Only EU countries for which both figures were available are displayed.

** As from 2014, foreign-controlled branches are excluded from the scope of consolidation for this specific indicator.

The differences in the above figures can be logically investigated along two lines: compilation practises at national level and confrontation of the methodologies used by the ECB and the IMF for this specific indicator.

Regarding national compilation practises, and looking beyond the conceptual difference between deposit-takers (covered by the FSIs) and credit institutions (reported for the CBD) stated above, it is worth noting that most non-euro area countries (UK excluded) reported non-consolidated data to the IMF in 2012. This was not the case for the CBD. For other (euro area) countries, the scope of consolidation between the two datasets was also slightly different: domestically-controlled cross-border approach for the FSIs against cross-border and cross-sector consolidation under the CBD framework. Some countries simply do not use the same data sources: supervisory data versus monetary statistics for instance, which also result in discrepancies as the scope of consolidation then again differ.

On the methodologies used for compiling ROE, differences mostly arise from inconsistent approaches to compile the numerator: this is intended as *Net income before extraordinary items and taxes* for the IMF versus *Total profit after tax and discontinued operations* in the CBD approach owing to the broad concept of "return" which does not exist as such in the banks' income statement. Table 2 below summarizes and compares the accounting items included in both income statement measures. On the contrary, the denominator is expected to be the same according to both guidelines; namely, "capital and reserves" required for the IMF measure should match with the "total equity" reported under the balance sheet part of the CBD reporting scheme. However, the IMF guidelines encourage the use of an average value of capital using the most frequent observations available. In the collection of CBD, reported accounting positions are expected to correspond to end-period positions. Although balance sheet items usually follow a flat trend, this may of course result in final values that differ for total equity, those of the IMF including in a way all variations that may have occurred in the amount of capital held by deposit-takers over the last year of activity.

Income statement items included in the numerator compiled for ROE*

Table 2

FSI	CBD
<i>Net income (before extraordinary items and taxes)¹⁴</i>	<i>Total profit (loss) after tax and discontinued operations¹⁵</i>
(+) Interest income	(+) Interest income
▪ Gross interest income	
▪ Less provisions for accrued interest on non-performing assets	
(-) Interest expenses	(-) Interest expenses
	(-) Expenses on share capital repayable on demand
(+) Non-interest income	
▪ Fees and commissions receivable (net)	(+) Fee and commission income (-) Fee and commission expenses
▪ Gains or losses on financial instruments	(+) Realised gains (losses) on financial assets & liabilities not measured at fair value through profit or loss (+) Gains (losses) on financial assets and liabilities held for trading (+) Gains (losses) on financial assets and liabilities designated at fair value through profit or loss, net
▪ Prorated earnings	(+) Share of the profit (loss) of associates and joint ventures accounted for using the equity method
	(+) Gains (losses) from hedge accounting, net
	(+) Exchange differences, net
	(+) Gains (losses) on derecognition of assets other than held for sale, net
▪ Other income	(+) Dividend income (+) Other operating income
(-) Non-interest expenses	(-) Other operating expenses
▪ Personnel costs	▪ Staff expenses ▪ General and administrative expenses
▪ Other expenses	▪ Property, Plant and Equipment ▪ Investment Properties ▪ Intangible assets [other than goodwill]
(-) Provisions (net)	
▪ Loan loss provisions	(-) Provisions
▪ Other financial asset provisions	(-) Impairment
	(+) Negative goodwill immediately recognised in profit or loss (+) Profit (loss) from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations (+) Tax (expense) income related to profit or loss from continuing operations (+) Profit (loss) after tax from discontinued operations

* (+) designates items to be added to the total return. (-) designates items that are deducted from the total return. Bullet points list the sub-items included in the income statement positions.

¹⁴ See Table 4.1 in chapter 4 of the FSI compilation guide "Accounting framework and sectorial financial statements".

¹⁵ This item is reported as such by the EU National Central Banks. It is however expected to include the sub-items listed in the table which are also reported to the ECB.

2. EBA's Key Risk Indicators

The Key Risk Indicators (KRIs) have been defined in the framework of the discussions in the High Level Group on Data of the ESRB and the European Supervisory Authorities (ESAs), with the view to aligning the EBA and ESRB's data requirements and thereby avoiding duplication of reporting obligations.

The primary objective of this set of indicators is to support the data users in terms of risk assessment and prioritisation, although some are also useful in assessing banks' business models.

The KRIs compiled by the EBA currently consist of a set of 53 indicators for a sample of 55 banks across 20 countries of the European Economic Area, which are required by the EBA for its own monitoring of the EU banking system.

The banks in the sample cover at least 50% of the total assets of each national banking sector in the EU. Data are reported by the national competent authorities to the EBA at firm-level basis. The EBA compiles the required ratios, calculates distribution measures and correlations among indicators, and transmits the aggregated information to the ECB's Directorate General Statistics, in line with the ECB's statistical support to the ESRB.¹⁶

The current set of KRIs is divided into five categories: solvency, credit risk and assets quality, profitability, balance sheet structures and growth rates.

Under the category *solvency indicators* are 11 indicators, like for example Tier 1 capital ratio and Total capital ratio, as well a wide-range of measures of total capital requirements for credit, market and operational risk. The group *credit risk and asset quality indicators* includes 10 indicators like, among others, coverage ratio, past due loans to total loans and advances, etc. The category *earning risk indicators* comprises 12 indicators, including *inter alia* measures of return-on-equity and return-on-assets, cost-to-income ratio and breakdowns of the total operating income. Under *balance sheet structure*, a total of 13 indicators are provided, including data for total equity and total liabilities, financial assets and liabilities held for trading among other components of the structure of banks' balance sheets. Finally, the overall package of 53 indicators is complemented by 7 indicators with growth rates for some key variables to support the risk assessment.

All raw data (numerators and denominators of the ratios) required to calculate the set of 53 micro-prudential KRIs are based on the COREP and FINREP reporting frameworks¹⁷ and hence, standardised definitions of the data content are ensured. However, data availability varies between jurisdictions given the uneven degree of application of FINREP and COREP across the EU. Therefore the data has been requested on a best effort basis and the relevant competent authorities collect these data either: a) directly from the relevant financial institutions, or b) mapping data available in national reporting formats to the data items as defined in COREP and FINREP, or c) using other sources to proxy the missing data.

Table 2 in the Annex gives an overview of all KRIs which are also available in CBD. When comparing the set of indicators from the KRIs and CBD it is important to highlight that several indicators are similar. For instance, under the group of

¹⁶ Israel, Sandars, Schubert and Fischer (2013) illustrates the work that has been carried out to prepare, develop, implement and manage the initial set of statistical and supervisory information necessary to support the ESRB.

¹⁷ FINREP rev1 published by CEBS 24 July 2007, COREP published by CEBS 6 January 2010

indicators in the category *solvency indicators*, Tier 1 capital ratio and Total capital ratio derived from the KRIs dataset are also available in the CBD dataset. Considering the *earning risk indicators* there are identical indicators for example for return-on-equity, cost-to-income ratio, return-on-assets. In some cases, namely for *credit risk and asset quality* indicators and for *balance sheet structure* derived from the KRIs dataset, exact indicators are not available in the CBD; nonetheless they could be compiled from the CBD template.

Regarding the framework for the transmission of information to the ECB's Directorate General Statistics, the Decision ESRB/2011/6 specifies that based on datasets from a sample of large banking groups, the EBA should report to the ESRB the complete set of 53 indicators at aggregated level.

Aggregated information transmitted by the EBA comprises data on at least three legal entities, none of which represents 85% or more of the relevant market, regardless of whether this market consists of one or more Member States or the Union as a whole. When dispersion measures are provided, the aggregated information comprises data on at least five legal persons when referring to publicly available data and data on at least six legal persons when there is a need to protect confidential firm-level data.

Regarding frequency and timeliness, the KRIs are collected on a quarterly basis, with the EBA receiving data from national supervisory authorities by the end of the quarter after the reference date. The EBA is requested to transmit the information within five working days of collecting the data from national authorities.

Five KRIs¹⁸ are currently released on a quarterly basis to the public in the framework of the regular publication of the ESRB Risk Dashboard. Individual institutions interquartile range and median for a sample of large EU banking groups are available also via the ECB's Statistics Database¹⁹. For those cases where indicators are similar to the CBD dataset, the values are comparable, for instance the return-on-equity for the CBD large domestic banks in end-2003 was close to 3%, whereas the identical ratio from the KRIs dataset was close to 4%. Since the datasets are broadly based on the same methodological reporting framework, divergences mainly arise from changes in the composition of the KRI sample over time.

Also due to low sample size, dispersion measures by country for the KRI dataset are not publicly available via the ECB's Statistics Database – this shortcoming is expected to be addressed with a new expanded sample to be used in future KRI framework, as explained below.

With the EBA's Implementing Technical Standard (ITS)²⁰ on Supervisory Reporting entering into force from 2014, the existing set of KRIs will be enhanced,

¹⁸ These are Return on equity, Cost-income ratio, Net interest income to total operating income, Tier 1 capital to (total assets - intangible assets), Impaired loans and past due (>90 days) loans to total loans.

¹⁹ Available at: <http://sdw.ecb.europa.eu/browse.do?node=9545741>.

²⁰ The Capital Requirements Regulation (CRR) sets out prudential requirements directly applicable as of 01.01.2014, and includes a number of articles with specific mandates for the EBA to develop Implementing Technical Standards (ITS) relating to supervisory reporting requirements. These draft ITS are part of the single rulebook ensuring regulatory harmonisation in Europe, with the specific aim of specifying uniform formats, frequencies, reporting dates, definitions and the IT solutions to be applied by credit institutions and investment firms in Europe for the submission of supervisory data required under the CRR. The reporting requirements set out in the ITS relate to own funds and own funds requirements, financial information, losses stemming from lending collateralised by immovable property, large exposures, leverage ratio and liquidity ratios. Institutions are required to comply with new CRR requirements as of 01.01.2014.

fulfilling data gaps in the areas that are currently not sufficiently covered, i.e. liquidity, and be complemented by a larger variety of new indicators that will help to monitor adequately all potential risks and therefore serve better the assessment and surveillance of the strengths and vulnerabilities in the banking sector.

Under the new framework for KRIIs competent authorities shall submit data relating to own funds requirements, financial information, losses stemming from immovable property, large exposures, liquidity and leverage ratios as well as asset encumbrance.

The sample of banks expected to report ITS data on a quarterly basis will be expanded in a considerable way from the current 55 EU banks to around 200 EU banks. With a small sample of banks the options for building peer groups are limited and the statistical significance of any inference is also questionable. Furthermore, outliers and possible misreporting institutions can importantly affect the aggregate figures and entry/exit from the sample of – even few – reporting institutions (for instance due to Merger & Acquisitions) can have a significant impact on the computation of some indicators (for instance growth rates). In this context, a larger sample is expected to tackle one of the main shortcomings of the current set of KRIIs which refers to the sample size. A larger sample should strengthen the possibilities to create different peer groups based on alternative criteria. Information would be richer and enable various sub-aggregations. More generally, larger samples provide more flexibility and possibility of benchmarking for risk analysis. This would also improve the feedback to national competent authorities, with the possibility to provide not only EU averages, but also figures for peer groups.

The remittance dates will be also further improved with the entry into force of the ITS. The EBA is expected to transmit preliminary data to the ECB's Directorate General Statistics, in line with the ECB's statistical support to the ESRB, t+42 business days after the reference quarter on a provisional basis, and a final data set at t+50 business days if there are revisions.²¹

All in all, the improvements in terms of harmonization, coverage, periodicity and timeliness that the new supervisory reporting may bring, is expected to enable a reduction in the reporting burden by using existing statistical outputs and extract the maximum possible analytical value from information already available.

²¹ In the framework before the EBA's Implementing Technical Standards the KRIIs were requested to be transmitted to support the ESRB in t+95 days after the reference quarter.

Conclusion and challenges ahead

The existing CBD collection framework is based on the Financial Reporting (FINREP) and the Common Reporting (COREP) guidelines, both issued by the Committee of European Banking Supervisors (CEBS), forerunner to the EBA.

With banks' supervisory reports based from 2014 onwards on the EBA's ITS, the current CBD framework needs to be adjusted. To this end, the ESCB Statistics Committee/Working Group on Monetary and Financial Statistics (WG MFS), the Financial Stability Committee/Macro prudential Analysis Group (MPAG) and the European Banking Authority (EBA) Standing Committee on Oversight and Practices (SCOP) established a Joint "Task Force on Consolidated Banking Data" to design and implement a revised CBD reporting scheme based on the ITS. At the same time, the opportunity is being taken to review the whole CBD scope and content in the light of possible new user needs over a medium term perspective, always ensuring that the reporting and compiling burden is further minimised through the re-use of supervisory returns.

The new CBD framework shall be in place in time for the data referring to end December 2014 and to be reported in spring 2015. Foremost amongst data users' expectations is that there will be an important improvement of cross-country comparability for key indicators and financial positions such as non-performing loans, provisions, risk-weighted assets ratio, and so on. The coming ITS is aiming at this and it is now up to the CBD to bridge the new reporting framework with the users' requirements. Users are also looking forward to possibly increased granularity frequency of the CBD.

**Annex - Overview of all Financial Soundness Indicators
(Table 1a and 1b) and Key Risk Indicators (Table 2a and
2b) also available in CBD**

Financial Soundness Indicators versus CBD measures

Table 1a

Core FSIs for Deposit Takers	Similar indicator published in/from the CBD
Regulatory Capital to Risk-Weighted Assets	Overall solvency ratio
Regulatory Tier 1 Capital to Risk-Weighted Assets	Tier 1 ratio
Non-performing Loans Net of Provisions to Capital	Net total doubtful and non-performing loans [% of total own funds for solvency purposes]
Non-performing Loans to Total Gross Loans	Gross total doubtful and non-performing loans [% of total debt instruments and total loans and advances] ¹
Sectorial Distribution of Loans to Total Loans	<i>No breakdown by sectorial counterpart is available in the CBD</i>
Residents	
Deposit-takers	
Central Bank	
Other Financial Corporations	
General Government	
Nonfinancial Corporations	
Other Domestic Sectors	
Non-residents	
Return on Assets	Return on Assets [%] ²
Return on Equity	Return on Equity [%] ²
Interest Margin to Gross Income	Net interest income [% of total income]
Non-interest Expenses to Gross Income	Cost-to-income ratio [%]
Liquid Assets to Total Assets (Liquid Asset Ratio)	Banks' liquid assets ratio ³
Liquid Assets to Short Term Liabilities	<i>No maturity information is available in the CBD</i>
Net Open Position in Foreign Exchange to Capital	<i>No information on foreign-currency-linked instruments in the CBD</i>

¹ NPLs under the CBD framework cover loans and debt securities.

² Total profit (loss) after tax and discontinued operations is used for the CBD as numerator (can be before tax for the FSIs).

³ The two categories of "liquid assets" used for the CBD-based indicator are (very similar to the FSI definition):

- Cash and cash balances with central banks
- Financial assets held for trading

Financial Soundness Indicators versus CBD measures

Table 1b

Encouraged FSIs for Deposit Takers	Similar indicator published in/from the CBD
Capital to Assets	Total equity [% of total assets]
Large Exposures to Capital	
Geographical Distribution of Loans to Total Loans	
Domestic Economy	
Advanced Economies, excluding China	
Other Emerging Market and Developing Countries, including China	
Africa	
Of which: Sub-Saharan Africa	<i>No counterpart information for the instruments issued by credit institutions is available in the CBD</i>
Central and Eastern Europe	
Commonwealth of Independent States and Mongolia	
Developing Asia, including China	
Middle East	
Western Hemisphere	
Gross Asset Position in Financial Derivatives to Capital	
Gross Liability Position in Financial Derivatives to Capital	
Trading Income to Total Income	Trading and foreign exchange results [% of total income]
Personnel Expenses to Non-interest Expenses	Staff expenses [% of total expenses]
Spread Between Reference Lending and Deposit Rates (Basis Points)	
Spread Between Highest and Lowest Interbank Rate (Basis Points)	<i>No information on interest rates in the CBD</i>
Customer Deposits to Total (Non-interbank) Loans	<i>Total deposits other than from credit institutions [% of total assets] may be a proxy. The exact indicator could be however compiled taking the item Total loans and advances as the denominator.</i>
Foreign-Currency-Denominated Loans to Total Loans	
Foreign-Currency-Denominated Liabilities to Total Liabilities	<i>No data on foreign currency in the CBD</i>
Net Open Position in Equities to Capital	<i>No information is collected directly on 1. on-balance-sheet holdings of equities and 2. notional positions in equity derivatives under the CBD framework.</i>

Key Risk Indicators versus CBD measures

Table 2a

Solvency Indicators	Similar indicator published in/from the CBD
Tier 1 capital ratio	Tier 1 ratio
Total capital ratio	Overall solvency ratio
Tier 1 ratio (excluding hybrid instruments)	
Credit risk capital requirements of total capital requirements	
Standardised approach capital requirements of total capital requirements	
Securitisation capital requirements of total capital requirements	
IRB approach capital requirements of total capital requirements	
Market risk capital requirements of total capital requirements	
Operational risk capital requirements of total capital requirements	
Settlement and delivery risk capital requirements of total capital requirements	
Other capital requirements of total capital requirements	
<i>The exact indicators are not available. However, they could be compiled from the CBD templates.</i>	
Credit Risk and Asset Quality Indicators	Similar indicator published in/from the CBD
Past due (>90 days) loans to total loans and advances	<i>The exact indicator is not available. However, it could be compiled from the CBD templates, using non-performing loans as a proxy.</i>
Impaired loans to total loans	Gross impaired loans and advances [% of carrying amount of loans and advances incl allowances]
Coverage ratio (specific allowances for loans to total gross impaired loans)	Gross impaired loans and advances [% of carrying amount of loans and advances incl allowances] – nominator and denominator are switched in the CBD.
Past due (>90 days) loans and debt instruments to total loans and debt instruments	<i>The exact indicator is not available. However, it could be compiled from the CBD templates, using non-performing loans as a proxy.</i>
Coverage ratio (specific allowances for loans and debt instruments to total gross impaired loans and debt instruments)	Gross impaired loans, debt instruments and loans and advances [% of carrying amount of debt instruments, loans and advances incl allowances] - nominator and denominator are switched in the CBD.
Coverage ratio (all allowances for loans and debt instruments to total gross impaired loans and debt instruments)	
Impaired financial assets to total assets	<i>The exact indicators are not available. However, they could be compiled from the CBD templates.</i>
Impaired debt instruments to total debt instruments	
Accumulated impairments on financial assets to total (gross) assets	
Impairments on financial assets to total operating income	

Key Risk Indicators versus CBD measures

Table 2b

Earning Risk Indicators	Similar indicator published in/from the CBD
Return on equity	Return on equity [%]
Return on regulatory capital requirements	<i>The exact indicator could be compiled.</i>
Cost-income ratio	Cost-to-income ratio [%]
Return on assets	Return on assets [%]
Net interest income to total operating income	
Net fee and commission income to total operating income	
Dividend income to total operating income	
Net realised gains (losses) on financial assets & liabilities not measured at fair value through profit and loss to total operating income	<i>The exact indicators are not available. However, they could be compiled from the CBD templates.</i>
Net gains on financial assets and liabilities held for trading to total operating income	
Net gains on financial assets and liabilities designated at fair value through profit or loss to total operating income	
Net other operating income to total operating income	
Net income to total operating income	
Balance Sheet Structure	Similar indicator published in/from the CBD
Loan-to-deposit ratio	
Customer deposits to total liabilities	
Tier 1 capital to (total assets - intangible assets)	
Debt securities to total liabilities	
Deposits from credit institutions to total liabilities	
Equity to total liabilities and equity	
Cash and trading assets to total assets	<i>The exact indicators are not available. However, they could be compiled from the CBD templates.</i>
Cash, trading, and AFS assets to total assets	
Financial assets held for trading to total assets	
Financial liabilities held for trading to total liabilities and equity	
Loans and advances (excl. Trading book) to total assets	
Debt-to-equity ratio	
Off-balance sheet items to total assets	
Growth rates (%) per annum	Similar indicator published in/from the CBD
Total assets	
Total loans	<i>The exact indicators are not available. However, they could be compiled from the CBD templates.</i>
Total customer deposits	
Total operating income	
Impairments on financial assets	
Past due (>90 days) loans and debt instruments; total gross impaired loans and debt instruments	<i>The exact indicator is not available. However, it could be compiled from the CBD templates, using non-performing loans as a proxy.</i>
Risk weighted assets	<i>The exact indicator is not available. However, it could be compiled from the CBD templates.</i>

References

Borgioli S., Gouveia A. and Labanca C. (2013), "Financial stability analysis: insights gained from consolidated banking data for the EU", *Occasional Paper Series*, No. 140, ECB, Frankfurt am Main, January.

Bürgi-Schmelz A. (2009), "Further statistical work in the light of the financial crisis both within the IMF and with other international agencies", *Conference paper*, IFC Bulletin No. 31, Durban, July.

Commission Implementing Regulation (EU) No 680/2014 of 16 April 2014 laying down implementing technical standards with regard to supervisory reporting of institutions according to Regulation (EU) No 575/2013 of the European Parliament and of the Council (OJ L 191, 28.6.2014, p.1).

European Central Bank (2013), *Banking Structures Report*, Frankfurt am Main, November.

Financial Soundness Indicators: Compilation Guide (March 2006), IMF, Washington.

San Jose A. and Georgiou A. (2008) *Financial soundness indicators (FSIs): framework and implementation*, Conference paper, IFC Bulletin No. 31, Basel, August.

Israel J-M., Sandars P., Schubert A., and Fischer B. (2013), "Statistics and Indicators for Financial Stability Analysis and Policy", *Occasional Paper Series*, No. 145, ECB, Frankfurt am Main, April.

Keunig S. (2009), "Statistical need emanating from the financial crisis and the ECB's initiatives for more comprehensive financial statistics", *Conference paper*, IFC Bulletin No. 31, Durban, July.

PricewaterhouseCoopers' website (2013), *IFRS pocket guide*, available at https://www.pwc.com/jm/en/assets/document/ifrs_pocket_guide_2013.pdf.