Consultative Document on Standardised Measurement Approach (SMA) for operational risk

Basel Committee on Banking Supervision (BCBS)

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Introduction

The BCBS published in March 2016 a second consultative document which develops the Standardised Measurement Approach for the estimation of the operational risk

Introduction

- One of the main priorities of the Basel Committee is to establish consistency in the application of global bank standards as it will improve the resilience of the global banking system, promote public confidence in regulatory capital ratios and encourage a level playing field for internationally active banks.
- In October 2014 the BCBS published for consultation a revised Standardised Approach for operational risk that sought to address weaknesses in the existing standardised approaches. In the light of this revision, the BCBS has decided to standardise the estimation of regulatory capital for the entire operational risk framework and it has therefore determined that the **withdrawal of internal modelling approaches for operational risk regulatory capital** from the Basel framework is warranted.

- Building on these decisions, the BCBS has published a consultative document which develops the **Standardised Measurement Approach (SMA)** and provides a single non-model-based method for the estimation of operational risk capital.
- The proposed approach combines the main elements of the **previously consulted standardised approach** (e.g. the Business Indicator substitutes the Gross Income as the proxy indicator for operational risk exposure) **with bank's internal loss experience**, which was a key component of the Advanced Measurement Approach (AMA).
- During the course of 2016, the BCBS will provide further details on the timeline for the **withdrawal of the AMA**, and the **implementation of the SMA**.

This document analyses the new standardised framework for operational risk proposed by the BCBS and gives detail on the main components necessary for the SMA's calculation.

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Executive Summary

The revised operational risk framework develops the Standardised Measurement Approach (SMA) providing a single non-model-based method for the estimation of operational risk capital which will withdrawal the AMA

Executive summary

Scope of application

- **Internationally active banks** on a consolidated basis.
- Supervisors could apply the SMA framework to **non-internationally active institutions**.

Regulatory context

- **International Convergence of Capital Measurement and Capital Standards** – Basel II, published by the BCBS in June 2006.
- **CP on operational risk - revision to the simpler approaches**, published by the BCBS in October 2014.

Next steps

- Comments should be uploaded by **3 June 2016**.
- The BCBS will conduct a **QIS** in 2016.

Main content

SMA for operational risk

- The revised operational risk framework will be based on the **Standardised Measurement Approach (SMA)** which is a single non-model-based method for estimating the operational risk capital.

Business Indicator (BI)

- Banks have to calculate their BI which is made up of almost the **same P&L items that compose the Gross Income** (GI), although the BI uses positive value of its components.

BI Component

- Banks are divided into **5 buckets** according to the size of their BI.
- Each bucket has an **associated increasing function of the BI**.

Loss Component

- Includes **annual losses**. It distinguishes between loss events above €10 million and €100 million and, in general terms, it uses10 years of good-quality loss data.

Internal Loss Multiplier

Ln (exp(1) – 1 + (loss component/ BI component).

SMA requirement

- **Banks in bucket 1**: it corresponds solely to the BI component.
- **Banks in buckets 2-5**: it results from multiplying the BI component by the internal loss multiplier.

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Detail

SMA for operational risk

The SMA capital requirement will be calculated by considering the business indicator (BI) and the internal loss multiplier (ILM) as inputs. The formula used would vary across buckets assigned to each entirty

SMA framework

- The SMA combines the **Business Indicator (BI)**, a simpler financial statement proxy of operational risk exposure, with **bank-specific operational loss data**.

Components of the capital requirement

Business Indicator (BI)

1. **Calculation BI = ILDC + SC + FC**
   - ILDC: interest, lease and dividend component.
   - SC: services component.
   - FC: financial component.
2. **Calculation BI component**: is based on the BI assigned to each bucket.

Internal Loss Multiplier (ILM)

1. **Calculation of loss component (LC)**: based on annual losses. It distinguishes between loss events above €10 million and the €100 million.
2. **Calculation ILM**:

$$\mathrm{ILM} = \mathrm{Ln}\left(\exp(1) - 1 + \frac{\text{Loss component}}{\text{BI component}}\right)$$

SMA capital requirement (RC)

Banks in bucket 1[1]	**RC = 0,11* BI**
Banks in bucket 2-5	**RC[2] =** $€110m + (\,BI\ component\ - €110m) * Ln\left(exp(1) - 1 + \frac{Loss\ component}{BI\ component}\right)$

1. Banks with BI < €1.000m.
2. The amount of €100m corresponds to banks in bucket 2. For banks in buckets 3-5 the amount will be different, as specified in the table of slide 11.

Detail
Business indicator (BI)

The structure of the business indicator (BI) has been adjusted in order to address the shortcomings identified in the 2014 first consultation document

Business Indicator (1/2)

Composition

- The BI has been revised by introducing **bucket thresholds** and the proposed calibration includes progressively increasing marginal coefficients for the BI.
- It is made up of **almost the same P&L items** that are found in the **Gross Income (GI)**. However, the main difference relates to how the items are combined:
  - **Positive values**: the BI uses positive values of its components, avoiding counterintuitive negative contributions from banks to the capital charge (e.g. negative P&L on the trading book).
  - **Income statement items**: the BI includes the items related to the activities that produce operational risk that are **omitted** (e.g. P&L on the banking book) **or netted** (e.g. fee expenses, other operating expenses) in the GI.

Business indicator adjusted structure

Shortcomings identified in the 2014 CP[1]	Proposed solutions
Asymmetric impact on the "only distribute" and the "originate to distribute" business models.	• The **services component** is modified: Max (Fee Income; Fee expense) + Max (Other Operating Income; Other Operating Expense).
Inconsistency in the treatment of **dividend income**.	• Dividend is included in the **interest component** of the BI.
Overcapitalisation of banks with a **high net interest margin (NIM)**.	• The **BI interest component** is adjusted by the ratio of the net interest margin (NIM) cap, set to 3.5% to the actual NIM.
Overcapitalisation on banks with **higher fee revenues and expenses**.	• The BI for high fee banks (share of fees > 50% of the unadjusted BI) is accounting only **10% of fees** in exceed of the **50% of unadjusted BI**.
Inconsistent treatment for leasing compared with credit.	• All financial and operating lease income and expenses are netted and included in absolute value into the **interest component**.

1. In response to comments received during the first consultation document (CP), the BCBS adjusted the structure of the BI to address the issues mentioned.

Detail

Business indicator (BI)

The BI component is calculated using an increasing function of the BI (which is computed through the sum of the interest, lease and dividend component, the services component and the financial component) that is different for each of the 5 buckets of BI range

BI Calculation process (2/2)

1 Calculation of the BI

$$\mathrm{BI}^{1} = ILDC_{Avg} + SC_{Avg} + FC_{Avg}$$

Interest, Lease and Dividend component[2]

(including interest income/expenses; interest earnings assets; lease income/expenses and; dividend income)

Services component[2]

(including other operating income/expenses; fee and commission income/expenses; and unadjusted Business Indicator)

Financial component[2]

(including profit and losses; trading book and banking book)

2 Calculation of the BI component

- Banks will first identify their **assigned bucket** based on their **BI value**.
- The BI component shall be calculated using the formula associated with the **bucket of each institution**.

Buckets	BI range	BI component
1	€0 to €1 bn	0.11*BI
2	€1 bn to €3 bn	€110 m + 0.15 (BI - €1bn)
3	€3 bn to €10 bn	€410 m + 0.19 (BI - €3bn)
4	€10 bn to €30bn	€1.74 bn + 0.23 (BI - €10bn)
5	€30 bn to +∞	€6.34 bn + 0.29 (BI - €30bn)

The BI component increases **linearly within buckets**, but the marginal effect of the BI on the BI component is greater for the higher buckets than the lower ones.

1. The formula of each component is provided in annex 1.
2. Definitions of the revised BI are provided in annex 2(1); annex 2(2); annex 2(3); and annex 2(4).

Detail
Internal Loss Multiplier

The Internal Loss Multiplier builds on the assumption that the relationship between the loss component (it reflects the operational loss exposure that can be inferred from its internal loss experience) and the BI component

Internal Loss Multiplier (ILM)

1 Calculation of loss component

$$\textbf{\textit{Loss Component}}\ (\textbf{\textit{LC}}) = 7 * Average\ total\ annual\ loss$$
$$+7 * Average\ total\ annual\ loss\ only\ including\ loss\ events\ above\ €10\ million$$
$$+5 * Average\ total\ annual\ loss\ only\ including\ loss\ events\ above\ €100\ million$$

- It reflects the operational loss exposure of a bank that can be inferred from its internal loss experience.
- **Loss events**: the loss component distinguishes between loss events above €10 million and €100 million and smaller loss events to differentiate between banks with different loss distribution tails but similar average loss totals.
- **Data**: banks should use 10 years of good-quality loss data to calculate the averages used in the loss component.
- Banks with <10 years of good-quality data may use a minimum of 5 years whereas banks with <5 years of data must calculate the capital requirements based solely on the BI component. Maximum threshold of €10m on gross loss (€20m first application).
- **Minimum loss data standards**: if a bank uses the SMA's loss component it must adhere to minimum loss data standards[1] (i.e. general and specific criteria) under Pillar 1. If these standards regarding procedures, policies, etc. are not met, capital would at a minimum equal 100% of the BI component.

2 Calculation of internal loss multiplier

$$\textbf{\textit{Internal Loss Multiplier}}\ (\textbf{\textit{ILM}}) = \textbf{\textit{Ln}}\left(\textbf{\textit{exp}}(\mathbf{1}) - \mathbf{1} + \frac{\textbf{\textit{Loss component}}}{\textbf{\textit{BI component}}}\right)$$

Use

- **Banks in bucket 1**: should not use the internal losses as a internal loss multiplier's component.
- **Banks in buckets 2-5**: should use the internal losses as a internal loss multiplier's component.

1. These standards are described in annex 3(1) y annex 3(2).

The SMA capital requirement

The capital requirement for banks in bucket 1 corresponds solely to the BI component whereas for banks in buckets 2-5 it results from multiplying the BI component by the internal loss multiplier

Calculation of SMA capital requirement

- The operational risk capital requirement is determined by considering the **Business Indicator**, the **BI component** and the **internal loss multiplier**.

Banks in bucket 1

Capital requirement (CR) = BI Component

Where, **BI component**:

Bucket	BI component
1	0.11*BI

Banks in buckets 2-5

Capital requirement (CR) =

$$110m + (BI\ Component\ - 110m) * ILM$$

Where, **BI component**:

Buckets	BI component
2	€110 m + 0.15 (BI - €1bn)
3	€410 m + 0.19 (BI - €3bn)
4	€1.74 bn + 0.23 (BI - €10bn)
5	€6.34 bn + 0.29 (BI - €30bn)

Where, the **ILM**:

$$Ln\left(exp(1) - 1 + \frac{Loss\ component}{BI\ component}\right)$$

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Next steps

The BCBS will conduct a Quantitative Impact Study (QIS) in 2016 to determine the final design and calibration of the operational risk framework. Moreover, it will provide further details on the timeline for the withdrawal of the AMA and the implementation of the SMA

Calendar

Oct.14 – First CP published by the BCBS

Revision of the **Standardised Approach (SA)**, attempting to improve the calibration while assessing the weaknesses of the existing approaches. In particular, it introduces:

- The **business indicator** (five-bucket structure).
- A cap/floor to the **net interest margin (NIM)**.

Mar.16 – Second CP published by the BCBS

Development of the **Standardised Measurement Approach (SMA)**, providing a single non-model-based method for the estimation of operational risk capital.

- The consultation period closes on **3 June 2016**.

To be determined – Quantitative Impact Study (QIS)

During 2016, the BCBS will conduct a key input to the **final design** and **calibration** of the operational risk framework.

To be determined – Withdrawal AMA / implementation SMA

During the course of 2016, the BCBS will provide further details on the timeline for the **withdrawal of the AMA** and the **implementation of the SMA**.

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Annex 1
Formula of the business indicator

The formula and the list of abbreviations provided explains each component of the business indicator's formula

Formula of the business indicator

- $\boldsymbol{ILDC_{Avg}} = Min[Abs(II_{Avg} - IE_{Avg}); 0.035 * IEA_{Avg}] + Abs(LI_{Avg} - LE_{Avg}) + DI_{Avg}$
- $\boldsymbol{SC_{Avg}} =$
  $Max(OOI_{Avg}; OOE_{Avg}) +$
  $Max\{Abs(FI_{Avg} - FE_{Avg}); Min[Max(FI_{Avg}; FE_{Avg}); 0.5 * uBI + 0.1 * (Max(FI_{Avg}; FE_{Avg}) - 0.5 * uBI)]\}$ where:
  - $uBI = ILDC_{Avg} + Max(OOI_{Avg}; OOE_{Avg}) + Max(FI_{Avg}; FE_{Avg}) + FC_{Avg}$
- $\boldsymbol{FC_{Avg}} = Abs(Net\ P\&L\ TB_{Avg}) + Abs(Net\ P\&L\ BB_{Avg})$

Abbreviation	Concept
Abs	Absolute value of the items within the bracket
BB	Banking Book
BI	Business Indicator
DI	Dividend Income
FC	Financial Component
IEA	Interest Earning Assets
IE	Interest Expenses (except for financial and operating leases)
II	Interest Income (except for financial and operating leases)
ILDC	Interest, Lease and Dividend Component
LE	Lease Expenses

Abbreviation	Concept
LI	Lease Income
Max	Maximum Value of the items in the bracket
Min	Minimum Value of the items in the bracket
OOE	Other Operating Expenses
OOI	Other Operating Income
P&L	Profit & Loss
SC	Services Component
TB	Trading Book
uBI	Unadjusted Business Indicator (i.e. with no high fees adjustment)

Annex 2

Business indicator's definitions

The interest, operating lease and dividend component (ILDC) considers the following P&L or balance sheet items: interest expense/income; interest earning assets; financial and operating lease income/expenses and dividend income

ILD component – Definitions

BI Component	P&L or balance sheet items	Description	Typical sub-items
Interest, operating lease and dividend	Interest income, except for financial and operating lease	Interest income from all financial assets and other interest income (interest income from financial and operating leases should be excluded)	• Interest income from loans and advances, assets available for sale, assets held to maturity, and trading assets. • Interest income from hedge accounting derivatives. • Other interest income.
	Interest expenses, except for financial and operating lease	Interest expenses from all financial liabilities and other interest expenses (interest income from financial and operating leases should be excluded)	• Interest expenses from deposits. • Interest expenses from debt securities issued. • Interest expenses from hedge accounting derivatives. • Other interest expenses.
	Interest earning assets (balance sheet item, not P&L)	Total gross outstanding loans, advances, and interest bearing securities (including government bonds) measured at the end of each financial year.	
	Financial and operating lease income	• Interest income from financial leases. • Interest income from operating leases. • Profits from leased assets.	
	Financial and operating lease expenses	• Interest expenses from financial leases. • Interest expenses from operating leases. • Losses from leased assets. • Depreciation and impairment of operating leased assets.	
	Dividend income	Dividend income from investments in stocks and funds not consolidated in the bank's financial statements, including dividend income from non-consolidated subsidiaries, associates and joint ventures.	

Annex 2
Business indicator's definitions

The services component considers the following P&L or balance sheet items: fee and commission income/expenses; and other operating income/expenses

Services component – Definitions

BI Component	P&L or balance sheet items	Description	Typical sub-items
Services	Fee and commission income	Income received from providing advice and services. Includes income received by the bank as an outsourcer of financial services.	Fee and commission income from: • Securities (issuance, origination, reception, transmission, execution of orders on behalf of customers) • Clearing and settlement. • Servicing of securitisations. • Asset management. • Loan commitments and guarantees. • Custody. • Foreign transactions . • Fiduciary transaction. • Payment services . • Structured finance.
	Fee and commission expenses	Expenses paid for receiving advice and services. Includes outsourcing fees paid by the bank for the supply of financial services, but not outsourcing fees paid for the supply of non-financial services (e.g. logistical, IT, human resources)	Fee and commission expenses from: • Clearing and settlement. • Foreign transactions. • Servicing of securitisations. • Custody. • Loan commitments and guarantees.
	Other operating income	Income from ordinary banking operations not included in other BI items but of similar nature (exc. income from operating leases)	• Rental income from investment properties • Gains from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations (IFRS 5.37)
	Other operating expenses	Expenses and losses from ordinary banking operations not included in other BI items but of similar nature and from operational loss events (expenses from operating leases should be excluded)	• Losses from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations (IFRS 5.37) • Losses incurred as a consequence of operational loss events (e.g. fines, settlements, replacement cost of damaged assets), which have not been provisioned/reserved for in previous years. • Expenses related to establishing provisions/reserves for operational loss events

Annex 2
Business indicator’s definitions

The financial component considers the following P&L or balance sheet items: net profit (loss) on the trading book/banking book

Financial component – Definitions

BI Component	P&L or balance sheet items	Description	Typical sub-items
Financial	Net profit (loss) on the trading book	• Net profit/loss on trading assets and trading liabilities (derivatives, debt securities, equity securities, loans and advances, short positions, other assets and liabilities) • Net profit/loss from hedge accounting • Net profit/loss from exchange differences	
	Net profit (loss) on the banking book	• Net profit/loss on financial assets and liabilities measured at fair value through profit and loss • Realised gains/losses on financial assets and liabilities not measured at fair value through profit and loss (loans and advances, assets available for sale, assets held to maturity, financial liabilities measured at amortised cost) • Net profit/loss from hedge accounting • Net profit/loss from exchange differences	

Annex 2
Business indicator's definitions

Some P&L items (e.g. administrative expenses or expenses of premises and fixed assets) are excluded from the BI's calculation

Items excluded from the BI – Definitions

Items excluded

- The following **P&L items** should not contribute to any of the items of the BI:
  - Income and expenses from **insurance** or **reinsurance** businesses.
  - **Premiums** paid and **reimbursements/payments** received from insurance or reinsurance policies purchased.
  - **Administrative expenses**, including staff expenses, outsourcing fees paid for the supply of non-financial services (e.g. logistical, IT, human resources), and other administrative expenses (e.g. IT, utilities, telephone, travel, office supplies, postage).
  - **Recovery of administrative expenses** including recovery of payments on behalf of customers (e.g. taxes debited to customers).
  - **Expenses of premises and fixed assets** (except when these expenses result from operational loss events).
  - **Depreciation/amortisation of tangible and intangible assets** (except depreciation related to operating lease assets, which should be included in financial and operating lease expenses).
  - **Provisions/reversal of provisions** (e.g. on pensions, commitments and guarantees given) except for provisions related to operational loss events.
  - Expenses due to **share capital repayable** on demand.
  - **Impairment/reversal of impairment** (e.g. on financial assets, non-financial assets, investments in subsidiaries, joint ventures and associates).
  - **Changes in goodwill** recognised in profit or loss.
  - **Corporate income tax** (tax based on profits including current tax and deferred tax).

Annex 3

Minimum standards for the use of loss data under SMA

The general criteria for the use of the Loss component in the SMA requires a 10-year observation period for internally generated loss calculations and documentation on procedures and processes for the identification, collection and treatment of internal loss data, among others

Standards for the use of the Loss component in the SMA (1/2)

General criteria

- The proper identification, collection and treatment of internal loss event data are essential prerequisites to capital calculation under the SMA. The use of the Loss component in the SMA requires:
    - **Internally generated loss** calculations used for SMA regulatory capital purposes must be based on a **10-year** observation period. A period of 5 years will be acceptable if no good-quality data is available.
    - Banks must have documented **procedures** and **processes** for the identification, collection and treatment of internal loss data.
    - A bank must be able to **map its historical internal loss data** into the relevant Level categories of the Basel II accord and to provide this data to supervisors upon request.
    - A bank must have an appropriate **de minimis gross loss threshold** (it may vary somewhat between banks and within a bank across event types but not higher than €10,000) for internal loss data collection.
    - The bank must collect information about the references dates of the operational risk event, including the **date of occurrence**, the **date of discovery** and the **date of accounting**.
    - A bank must develop specific criteria for assigning loss data arising from an event in a **centralised function**.
    - **Operational risk losses related to credit risk** will continue to be treated as credit risk so such losses **will not** be subject to the **SMA regulatory capital**.
    - **Operational risk losses related to market risk** are treated as operational risk and such losses **will therefore** be subject to the **SMA regulatory capital**.

Annex 3

Minimum standards for the use of loss data under SMA

The specific criteria is focused on building a proper SMA loss data set from the available internal data. This objective requires to develop policies and procedures to address several features such as gross loss definition, reference date and grouped losses

Standards for the use of the Loss component in the SMA (2/2)

Specific criteria

- **SMA loss data set**: the bank must have a policy that determines criteria for when a loss or an operational risk event recorded in the internal loss event database should be included for the calculation of SMA regulatory capital.

Gross loss, net loss and recovery

- **Gross loss**: is a loss before recoveries of any type.
- **Net loss**: is the loss after taking into account the impact of recoveries.
- **Recovery**: is an independent occurrence, related to the original loss event, separate in time, in which funds or inflows of economic benefits are received from a third party.
- **Items included in the gross loss** computation of the SMA loss data set: direct charges; cost incurred as a consequence of the event including external expenses with a direct link to the operational risk event; provisions or reserves accounted for in the P&L against the potential operational loss impact; losses stemming from operational risk events with a definitive financial impact; and negative economic impacts booked in a financial accounting period.
- **Items excluded from the gross loss** computation of the SMA: cost of general maintenance contracts on property, plan or equipment; internal or external expenditures to enhance the business after the operational risk event; and insurance premiums.

Reference date

- The bank must use either the **date of discovery** or **date of accounting** for building the SMA loss data set.

Grouped losses

- Losses caused by a **common operational risk event** or by related operational risk events over time must be grouped and entered into the SMA loss data set as a single loss.