

WHITEPAPER

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Proposed Capital Framework for Operational Risk

Summary

The Basel Committee on Banking Supervision (BCBS) published its second consultation on the capital measurement for operational risk in March 2016 (d355 regulatory text available at <https://www.bis.org/bcbs/publ/d355.htm>). The proposal replaces the approaches being used earlier with a single standardized measurement approach (SMA) for operational risk. SMA combines the use of business indicator (BI), which is a simple financial statement proxy of operational risk exposure, with bank-specific operational loss data. This provides a bank's capital requirement for operational risk. Under this approach, banks with more effective risk management and lower operational risk losses might hold a comparatively lower operational risk regulatory capital charge. Banks that do not meet the minimum data quality standards are expected to be penalized with a higher capital charge.

Several changes are believed to be made to the earlier Basic Indicator Approach to improve risk-sensitivity and come up with the SMA. The key change was the introduction of historical loss experience as a relevant risk indicator for future operational risk loss exposure. Definition and structure of BI were also improved to address the asymmetric impact on different business models. These include inconsistency in the treatment of dividend income and leasing, and the overcapitalization of banks with a high net interest margin and high fee revenues and expenses. Under the SMA, banks are divided into five buckets according to the size of their BI: interest, lease, dividend, services, and financial. The BCBS emphasizes the importance of quality and integrity of loss data. It requires banks to use 10 years of good-quality loss data to calculate the averages used in the loss component.

The proposed SMA framework is applicable to internationally active banks on a consolidated basis. Its application to non-internationally active institutions is subject to supervisory discretion. The consultation period for this proposed framework ended in June 2016. Several industry groups and banking institutions responded with their comments. Although they largely agreed with the decision to use a single standardized measure for operational risk, most identified flaws in the approach in its current form. They expressed their view that meaningful improvements can be incorporated into the final standard and proposed changes to that effect.

The BCBS is conducting a quantitative impact study (QIS) on the proposals set out in this consultation. The results of this study and comments received are expected to be used as inputs to the final design and calibration of the operational risk framework. Further details on the timeline for implementation of SMA are expected to be provided sometime this year.

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1. Introduction

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events. This definition from the BCBS includes legal risk, but excludes strategic and reputational risk. In March 2016, the BCBS published its second consultation on the capital measurement for operational risk. This second consultation uses the combination of a simple standardized measure of operational risk and bank-specific loss data to provide a sufficiently risk-sensitive measure of operational risk. This combination is expected to improve comparability, consistency, and risk-sensitivity of risk-based capital measures while reducing model complexity.

In October 2014, the BCBS launched a consultation on the revised standardized approach for operational risk, which addressed weaknesses in the existing standardized approach. It also started a review of the costs and benefits of the framework's advanced measurement approach (AMA) for operational risk. Supervisory experience with AMA was mixed. The inherent complexity of AMA, and a wide range of internal modeling practices, has exacerbated the variability in risk-weighted asset calculations. This eroded confidence in risk-weighted capital ratios. Therefore, the BCBS proposed to replace the earlier approaches—the Basic Indicator Approach (BIA), the Standardized Approach, and the internal-modeling-based AMA—with the SMA for operational risk.

The BCBS is conducting a QIS on the proposals set out in this consultation. The results of this study are expected to be the key inputs toward the final design and calibration of the operational risk framework.

2. Applicability and Implementation Timeline

- » The proposed SMA framework is applicable to internationally active banks on a consolidated basis. Also, the application of this proposed SMA framework to non-internationally active institutions is subject to the discretion of supervisors.
- » The consultation period for this proposed framework ended in June 2016. The BCBS plans to review responses to this consultation, along with the results of its QIS, before publishing the final standard and deciding the implementation timeline. The BCBS is expected to provide further details on the timeline for implementation of SMA sometime this year.

3. Overview of Key Changes

The SMA combines the Business Indicator (BI) with bank-specific operational loss data, with BI being a simple financial statement proxy of operational risk exposure. BI is stable and comparable across banks. However, significant differences in the risk profiles of medium to large banks cannot be accounted for fully by an approach based on financial statement proxies. Therefore, other sources were needed to increase risk-sensitivity. The BCBS' analysis supported the introduction of historical loss experience as a relevant risk indicator for future operational risk loss exposure. This approach was one of the key changes proposed in this consultation.

The BCBS' analysis and the feedback received on the 2014 consultation had raised certain concerns. It addressed these by adjusting the structure of the BI, as explained in Table 1.

Table 1: Changes Proposed to the Structure of BI

Concern raised	Change proposed
Asymmetric impact on two business models: "distribute only" and "originate to distribute." Banks distributing products bought from third parties included both the fee income and fee expense in BI, leading to higher capital. Banks producing the products themselves included only fee income. Both banks face similar operational risks.	Change the services component from "fee income + fee expense + other operating income + other operating expenses," to "maximum of fee income and fee expense + maximum of other operating income and other operating expense."
Inconsistency in the treatment of dividend income: The treatment of dividend income in financial statements varies significantly across jurisdictions, leading to inconsistencies or arbitrage in BI determination. For example, some jurisdictions include dividend income within the interest component, others as a separate income statement component.	Include dividend income in the interest component of the BI.
Overcapitalization of banks with a high net interest margin (net interest income/interest-earning assets): these banks have high BI values, leading to conservative regulatory capital relative to their operational risk.	Adopt linear normalization ratio for high-margin banks (larger than 3.5%); adjust BI's interest component by the ratio of the net interest margin cap, set to 3.5%, to the actual net interest margin.
Overcapitalization of banks with high fee revenues and expenses: these banks produce high BI values, leading to relatively conservative regulatory capital.	Modify BI for high-fee banks (with share of fees >50% of unadjusted BI) by accounting for only 10% of fees more than 50% of the unadjusted BI (with absolute value of net fee income as a floor to avoid unintended capital reductions).
Inconsistent treatment of leasing compared with credit: business models based on credit finance, financial leasing, or operating leasing face similar operational risks. Thus, contributions to the BI by income and expense from financial and operating leases, should be consistent with contribution of credit finance, regardless of accounting treatment	Net all financial and operating lease income and expenses and then include as an absolute value into the interest component—for consistency of treatment across banks and jurisdictions.

4. Proposed Standardized Measurement Approach

With the proposed SMA, banks with more effective risk management and low operational risk losses are required to hold a comparatively lower operational risk regulatory capital. This approach combines the BI approach with a bank's internal loss data (for medium and large banks). It improves risk-sensitivity and provides incentive for banks to improve their operational risk management. To calculate the operational risk capital requirement, the BCBS has proposed a standardized formula, with BI and loss component being the two key elements.

4.1 CALCULATION OF BUSINESS INDICATOR COMPONENT

The BI component includes income statement items related to activities producing operational risk that are omitted or netted in the gross income. BI comprises interest, lease, and dividend component (ILDC); services component (SC); and financial component (FC)¹.

Table 2: BI Buckets in the BI Component

Bucket	BI range (€ billion)	BI component
1	0–1	0.11*BI
2	1–3	€110 m + 0.15(BI – €1 bn)
3	3–10	€410 m + 0.19(BI – €3 bn)
4	10–30	€1.74 bn + 0.23(BI – €10 bn)
5	30– $+\infty$	€6.34 bn + 0.29(BI – €30 bn)

Under the SMA, banks are divided into five buckets according to the size of their BI (as shown in Table 2). For banks in bucket 1, capital is an increasing linear function of the BI and does not depend on internal losses. For banks in buckets 2 through 5, capital is calculated in two steps:

- » Calculate a baseline level of capital using the BI component
- » The portion of the BI component above the threshold separating buckets 1 and 2 is multiplied up or down by a function that depends on the banks' internal losses, to differentiate between banks with different risk profiles

¹ This implementation date was revised in CP09/14 issued in June 2009. The previous date was October 2009.

The BI Component increases linearly within buckets, but marginal effect of BI on the BI component is greater for the higher buckets than for the lower ones. The marginal increase of BI component resulting from one unit increase in the BI is 0.11 in bucket 1, 0.15 in bucket 2, 0.19 in bucket 3, 0.23 in bucket 4, and 0.29 in bucket 5. The constants added to the BI component in buckets 2 to 5 are necessary to ensure that the BI component is continuous. They reflect the value of BI component at the top of the range of the bucket directly below. To calculate BI for year t, a bank must determine the three-year average of the BI, as the sum of the three-year average of its components. The formula for BI follows:

$$BI = ILDC_{Avg} + SC_{Avg} + FC_{Avg}$$

Where:

Avg = Average of the years t, t-1, and t-2

$$ILDC_{Avg} = \text{Min}[\text{Abs}(\text{Interest Income}_{Avg} - \text{Interest Expenses}_{Avg}); 0.035 * \text{Interest Earning Assets}_{Avg}] + \text{Abs}(\text{Lease Income}_{Avg} - \text{Lease Expense}_{Avg}) + \text{Dividend Income}_{Avg}$$

$$FC_{Avg} = \text{Abs}(\text{Net P\&L in Trading Book}_{Avg}) + \text{Abs}(\text{Net P\&L in Banking Book}_{Avg})$$

$$SC_{Avg} = \text{Max}(\text{Other Operating Income}_{Avg}; \text{Other Operating Expenses}_{Avg}) + \text{Max}\{\text{Abs}(\text{Fee Income}_{Avg} - \text{Fee Expense}_{Avg}); \text{Min}[\text{Max}(\text{Fee Income}_{Avg}; \text{Fee Expense}_{Avg}); 0.5 * \text{Unadjusted BI}] + 0.1 * (\text{Max}(\text{Fee Income}_{Avg}; \text{Fee Expense}_{Avg}) - 0.5 * \text{Unadjusted BI})\}$$

Where,

$$\text{Unadjusted BI} = ILDC_{Avg} + \text{Max}(\text{Other Operating Income}_{Avg}; \text{Other Operating Expenses}_{Avg}) + \text{Max}(\text{Fee Income}_{Avg}; \text{Fee Expense}_{Avg}) + FC_{Avg}$$

4.2 CALCULATION OF LOSS COMPONENT

The loss component reflects the operational loss exposure of a bank that can be inferred from its internal loss experience. The addition of loss component to BI improves the risk-sensitivity of SMA. Internal loss experience is introduced to the SMA through the internal loss multiplier (ILM). A bank with the loss component equal to the BI component is a bank with exposure at the average of the industry. Therefore, under the proposed formula, its ILM is 1 and its SMA capital corresponds to the BI Component. Banks with loss experience above the industry average will have a loss component above the BI component and their SMA capital will be above the BI component. Similarly, banks with loss experience below the industry average will have a loss component below the BI component. Their SMA capital will be below the BI component. The formula of the ILM is presented below:

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

Where:

$$\text{Loss Component} = 7 * \text{Average Total Annual Loss} + 7 * \text{Average Total Annual Loss only including loss events above €10 million} + 5 * \text{Average Total Annual Loss only including loss events above €100 million}$$

The ILM is bounded below by $L(e(1)-1) \approx 0.541$. The logarithmic function used to calculate the ILM means that it increases at a decreasing rate with the loss component. The BCBS is open to considering alternative adjustments to the methodology that appropriately incorporate the impact of extreme loss events.

4.3 CALCULATION OF CAPITAL REQUIREMENT

The BI and loss components calculated earlier are used to calculate the capital requirement for operational risk. Capital for banks in bucket 1 corresponds solely to the BI component. For banks in buckets 2 through 5, capital results from multiplying the BI component by the ILM. However, for continuity of the capital requirement, as banks move from bucket 1 to bucket 2, the portion of the BI component relative to the first €1 billion of the BI (that is, €110 million) is not multiplied by the ILM.

$$\text{SMA Capital} = \begin{cases} \text{BI Component, if Bucket 1} \\ 110\text{Mn} + (\text{BI Component} - 110\text{Mn}) \cdot \text{Ln} \left(\exp(1) - 1 + \frac{\text{Loss Component}}{\text{BI Component}} \right), \text{ if Buckets 2-5} \end{cases}$$

At the consolidated level, SMA calculations use fully consolidated BI figures, which net all the intragroup income and expenses. However, at the sub-consolidated level, SMA calculations use BI figures for the banks consolidated at that particular sublevel. SMA calculations at the subsidiary level use BI figures from the subsidiary. Similar to the bank holding companies, when BI figures for sub-consolidated or subsidiary banks reach bucket 2, these banks use loss experience in SMA calculations. A sub-consolidated bank or a subsidiary bank uses only the losses it has incurred in SMA calculations (and does not include losses incurred by other parts of the bank holding company). If the subsidiary of a bank belonging to bucket 2 or higher and does not meet the qualitative standards for the use of the loss component, this subsidiary calculates the SMA capital by applying 100% of the BI component.

Ideally, banks should use 10 years of good-quality loss data to calculate the averages used in the loss component. In the transition period, banks that do not have 10 years of data can use a minimum of five years of data to calculate the loss component. As banks accumulate more years of good-quality loss data, the number of years for the averages used in the loss component should increase until it reaches 10 years. Banks that do not have five years of good data (or in general fail to meet the qualitative requirements) must calculate the capital requirement based solely on the BI component. However, banks with heavy losses could seek to arbitrage Pillar 1 capital by choosing not to meet these requirements. To address such issues, supervisors will ensure that such banks apply a multiplier to the BI component.

4.4 ADDITIONAL STANDARDS FOR LOSS DATA TREATMENT

Overall, data quality and integrity are crucial under the SMA, as medium to large banks are required to use loss data as a direct input to capital calculations. The BCBS proposed minimum loss data standards under Pillar 1 for banks using the SMA's loss component and these banks must:

- » Document policies, procedures, and processes for identification, collection, and treatment of internal loss data (ILD).
- » Have an internal loss data policy that establishes criteria for deciding the circumstances, types of data, and methodology for grouping data as appropriate for its business, risk management, and SMA regulatory capital calculation needs.
- » Be able to map its historical ILD into the relevant Level 1 supervisory categories and to provide this data to supervisors on request.
- » Have minimum threshold of EUR 10,000 for capturing ILD, with a EUR 20,000 threshold being acceptable when a bank moves to the SMA.

- » Collect loss data information such as gross loss², recoveries, reference dates (date of occurrence, discovery, and accounting), drivers, and causes of the loss event.
- » Operational risk losses related to credit risk that have historically been included in banks' credit risk databases (e.g. collateral management failures) will continue to be treated as credit risk and therefore such losses will not be subject to the SMA regulatory capital. Operational risk losses related to market risk are treated as operational risk for the purposes of calculating minimum regulatory capital under this framework and will therefore be subject to the SMA regulatory capital.
- » Group losses due to a common operational risk event or related operational risk events over time and enter them into the SMA loss dataset as a single loss.

Thus, the BCBS emphasizes the importance of data quality and integrity in calculating operational risk capital requirements using the SMA. Through this consultation, the BCBS seeks industry views, highlighting that it is open to further refinements of its approach for calculating operational risk capital requirements.

5. Industry Response to Proposal

The BCBS believes that the impact of this framework will vary from bank to bank and the framework might lead to an increase in minimum capital requirements for some banks. The findings of an impact study conducted by the Operational Risk data eXchange Association (ORX) corroborate this belief to an extent. This study, based on data submitted by 54 banks during March 2016, reveals that larger banks experience the largest impact from the loss component. However, the study also reveals that, under the SMA, Pillar I operational risk capital requirements are expected to increase for most banks. In particular, 75% of banks would face an increase in capital requirements under the SMA (amounting to an additional EUR 115 billion Pillar I capital) while 25% will see a capital reduction, when compared to current regulatory approved capital for 2013–15.

Several industry organizations worldwide, such as the Clearing House, American Bankers Association, and Deutsche Börse Group, have submitted their comments to the BCBS, recommending changes to improve the effectiveness of the SMA approach. Although the industry at large seems to agree with replacement of the earlier approaches with the SMA, views on the effectiveness of the SMA approach in its current form differ. Specifically, the Institute of International Finance (IIF) and the Global Financial Markets Association (GFMA), in their comments to the BCBS, highlight their view that meaningful improvements can be incorporated into the final standard and propose changes to that effect.

The IIF and GFMA, in general, agreed with the structure and definition of BI but believe that this component in its current form is too high and penalizes larger banks. Therefore, among other changes, they recommend that the BCBS recalibrate the BI according to the new QIS data, make the BI buckets much less progressive, and review the 3.5% interest cap of the interest component of the BI so that it only applies to high-yield products/business areas. These associations suggest that inclusion of loss data be redefined in the context of SMA, ILM thresholds be commensurate with the size of the institution, and some losses be reconsidered in the loss history. For instance, the predictable "high frequency low impact" type of losses are higher in the loss component and they should not attract capital as they are typically provisioned and considered in pricing and budget. Overall, the BCBS plans to consider the industry response before coming up with the final standard and will announce the implementation timeline sometime this year.

² Gross loss is loss before recoveries while net loss is the loss after accounting for the impact of recoveries. Gross loss computation must include direct charges to bank's P&L and write-downs due to operational risk events; costs such as external expenses and repair or replacement; provisions or reserves against the potential operational loss impact; pending losses; and timing losses. The computation must exclude costs of maintenance contracts on plant, property, and equipment; upgrades, improvements, risk assessment initiatives and enhancements; and insurance premiums.

Appendix: Description of BI Components

The three key BI components are the interest, operating lease, and dividend component, services component, and financial component, which are described in detail in Tables 3–5.

Table 3: Interest, Operating Lease, and Dividend Component or ILDC

P&L or balance sheet items	Description
Interest income from all financial assets and other interest income, except for financial and operating lease	<ul style="list-style-type: none"> » 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 expense from all financial liabilities and other interest expense, except for financial and operating lease	<ul style="list-style-type: none"> » Interest expense from deposits » Interest expense from debt securities issued » Interest expense from hedge accounting derivatives » Other interest expense
Interest-earning assets	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	<ul style="list-style-type: none"> » Interest income from financial leases » Interest income from operating leases » Profits from leased assets
Financial and operating lease expenses	<ul style="list-style-type: none"> » Interest expense from financial leases » Interest expense from operating leases » Losses from leased assets » Depreciation and impairment of operating leased assets
Dividend income	Dividend income from stocks and funds not consolidated in the bank's financial statements, including dividend income from non-consolidated subsidiaries, associates, and joint ventures.

Table 4: Services Component or SC

P&L or balance sheet items	Description
Fee and commission income	Fee and commission income from securities (issuance, origination, reception, transmission, execution of orders on behalf of customers), clearing and settlement, asset management, custody, fiduciary transactions, payment services, structured finance, servicing of securitizations, foreign transactions, and loan commitments and guarantees given
Fee and commission expenses, including outsourcing fees paid by the bank for the supply of financial services, but not outsourcing fees paid for non-financial services, for example, logistical, IT, or human resources	Fee and commission expenses from servicing of securitizations; clearing and settlement; custody; foreign transactions; and loan commitments and guarantees received
Other operating income, excluding income from operating leases	Rental income from investment properties and 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 from operational loss events (excluding expenses from operating leases)	Losses from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations (IFRS 5.37); losses incurred due to operational loss events (for example fines, penalties, settlements, replacement cost of damaged assets), which have not been provisioned/reserved for in previous years; and expenses related to establishing provisions/reserves for operational loss events

Table 5: Financial Component or FC

P&L or balance sheet items	Description
Net profit (loss) on the trading book	<ul style="list-style-type: none"> » Net profit/loss on trading assets and trading liabilities (derivatives, debt securities, equity securities, loans and advances, short positions, other assets and liabilities) Interest income from hedge accounting derivatives » Net profit/loss from hedge accounting » Net profit/loss from exchange differences
Net profit (loss) on the banking book	<ul style="list-style-type: none"> » Net profit/loss on financial assets and liabilities measured at fair value through profit and loss » Realized 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 amortized cost) » Net profit/loss from hedge accounting » Net profit/loss from exchange differences

The following P&L items should not contribute to BI:

- » Income and expense 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, and other administrative expenses, like IT, utilities, telephone, travel, office supplies, or postage
- » Recovery of administrative expenses, including recovery of payments on behalf of customers
- » Expenses of premises and fixed assets, except when these expenses result from operational loss events
- » Depreciation/amortization 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, for example, 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, for example, on financial assets, non-financial assets, investments in subsidiaries, joint ventures, and associates
- » Changes in goodwill recognized in profit or loss
- » Corporate income tax or tax based on profits, including current tax and deferred tax

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