

Regulatory brief

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Operational risk capital: Nowhere to hide

Overview

The Basel Committee on Banking Supervision (BCBS) last month proposed revisions to its operational risk capital framework. The proposal sets out a new standardized approach (SA) to replace both the basic indicator approach (BIA) and the standardized approach (TSA) for calculating operational risk capital. In our view, four key points are worth highlighting with respect to the proposal and its possible implications:

- **The proposed new SA would likely increase operational risk capital levels across the industry.** The proposed new SA calculates capital by applying marginal capital requirements to a new “Business Indicator,” which is composed of publicly available revenue and expense data for each bank. Our calculations show that for a sample of 29 global banks, operational risk capital would be on average 55% higher under the SA than under the BIA.¹ For 12 institutions, operational capital would increase by at least half (please see the **Appendix** for further detail).
- **The proposed new SA would only partially remediate perceived shortcomings of the existing BIA and TSA.** Although the SA may address regulators’ concerns that both the BIA and TSA underestimate operational risk capital levels in the global banking system, it does not take into account such factors as improvements in the control environment or historical loss profiles. The SA may also improve risk sensitivity compared to the BIA and TSA, and increase transparency relative to the TSA (since the SA’s calculations are based on publicly available information).
- **The proposal affects US-based AMA banks by supporting the upward pressure on operational risk capital.** Large US banks and their regulators commonly use Basel’s BIA and TSA as comparison and calibration points for operational risk capital calculations under the advanced measurement approach (AMA). If the SA replaced the BIA and TSA, the higher capital required under the SA would exacerbate the upward pressure on operational risk capital which many US-based AMA institutions have been (painfully) experiencing.
- **If adopted, the proposal increases the likelihood that the US capital regime for operational risk is amended within the next three to five years.** The proposed SA may evolve to provide a credible alternative to the AMA which has been resource intensive and cumbersome for US institutions to implement. However, in the eyes of some US regulators the AMA has also resulted in operational risk capital levels that are lower than desired. It is therefore far from certain whether US institutions would experience capital relief as a result of adoption of the SA by US regulators.

This **Regulatory Brief** provides background information on calculation methodologies for operational risk capital, analyzes the proposed SA approach, and describes its anticipated impact on US and non-US banks.

¹ A direct comparison of the SA to the TSA or the AMA is not possible based on publicly available information.

Background

Basel II provides three methodologies for calculating operational risk capital requirements: the BIA, TSA, and AMA. These methodologies are different in terms of complexity of calculation and risk sensitivity, both of which increase from one model to the next, as illustrated

in the graphic below. Theoretically, more “sophisticated” methodologies with greater risk sensitivity should result in more accurate risk calculations and lower regulatory capital levels.

Operational risk models under Basel II

Basic Indicator Approach (BIA)	The Standardized Approach (TSA)	Advanced Measurement Approach (AMA)
Capital requirement = Consolidated Gross Income (GI) x 15%	Capital requirement = Sum of: GI Corporate Finance x 18% GI Sales and Trading x 18% GI Retail Banking x 12% GI Commercial Banking x 15% GI Payment & Settlements x 18% GI Agency Services x 15% GI Asset Management x 12% GI Retail Brokerage x 12%	Capital requirement is based on regulator-approved internal risk models, such as the Loss-Distribution Approach.

The main weakness of the BIA and TSA is their use of Gross Income (GI) as a direct, linear indicator for operational risk exposure. As noted by BCBS, this assumption does not hold under many scenarios, including periods of stress where GI levels may decrease at a time when the bank is facing increased operational risk.

These less sophisticated methodologies also employ limited risk sensitivity in their calculations. For example, these methodologies do not effectively account for differences in operational risk exposure across different business units. Although the TSA attempts to resolve this issue (i.e., by applying a business line-specific approach), it has not produced statistically different outcomes. As a result, many banks using these simpler methodologies are considered undercapitalized.

Although the more sophisticated AMA methodology endeavors to address these issues, it also requires more expansive data collection and modeling than the formulaic BIA and TSA, and is thus more costly. As a result, the AMA is generally suitable for large and complex firms that can derive benefit from its precision and are better able to absorb its higher associated costs of implementation. For this reason, in the US, the AMA is used, subject to regulatory approval, by Advanced Approaches firms.² The BIA and TSA methodologies are nevertheless used by these firms (and regulators) to benchmark and calibrate capital requirements calculated under the AMA.

The SA methodology

The SA methodology employs variables that should better explain changes in operational risk exposure. Unlike the BIA and TSA that rely solely on GI as an indicator of risk exposure, the SA methodology uses an enterprise-wide approach (called the “Business Indicator”). The Business Indicator includes net income from interest, services, and trading and banking activities. Notably, the Business Indicator excludes dividend income (which is included as part of GI under the BIA and TSA) but includes net banking book income (which is excluded from the GI).

The Business Indicator also uses *absolute values* of net income/loss from interest, trading activities, and banking activities (i.e., it uses the highest amount regardless of whether the amount is positive or negative). This will require banks to hold capital even in years where income is negative and are therefore operating in an environment that is more likely to require capital. The use of absolute value does not, however, address the scenario where a bank “breaks even” and has no capital requirement. The intent of the regulators to better capture business activity as a driver of operational risk may have been more accurately achieved by utilizing the absolute value of income *or* expenses, whichever is higher.

The following table lays out the components of the Business Indicator:

² Generally those firms with either at least \$250 billion in consolidated total assets, or with at least \$10 billion in on-balance sheet consolidated foreign exposure.

Business Indicator components

Interest	Absolute Value (Interest Income – Interest Expense)
Services	Fee Income + Fee Expenses + Other Operating Income + Other Operating Expenses
Financial	Absolute Value (Net P&L on Trading Book) + Absolute Value (Net P&L on Banking Book)

The SA also takes into account the firm's size by taking a tiered approach to calculating operational risk capital requirements, ranging from 10% to 30% of the Business Indicator. As depicted below, the capital requirement progressively increases as the Business Indicator exceeds certain levels, leading to a range of effective capital requirements.

Business Indicator (€ millions)	Capital requirement	Effective capital requirement
0 - 100	10%	10%
100 - 1,000	13%	10% - 12.7%
1,000 - 3,000	17%	12.7% - 15.6%
3,000 - 30,000	22%	15.8% - 21.4%
>30,000	30%	21.4% - 30%

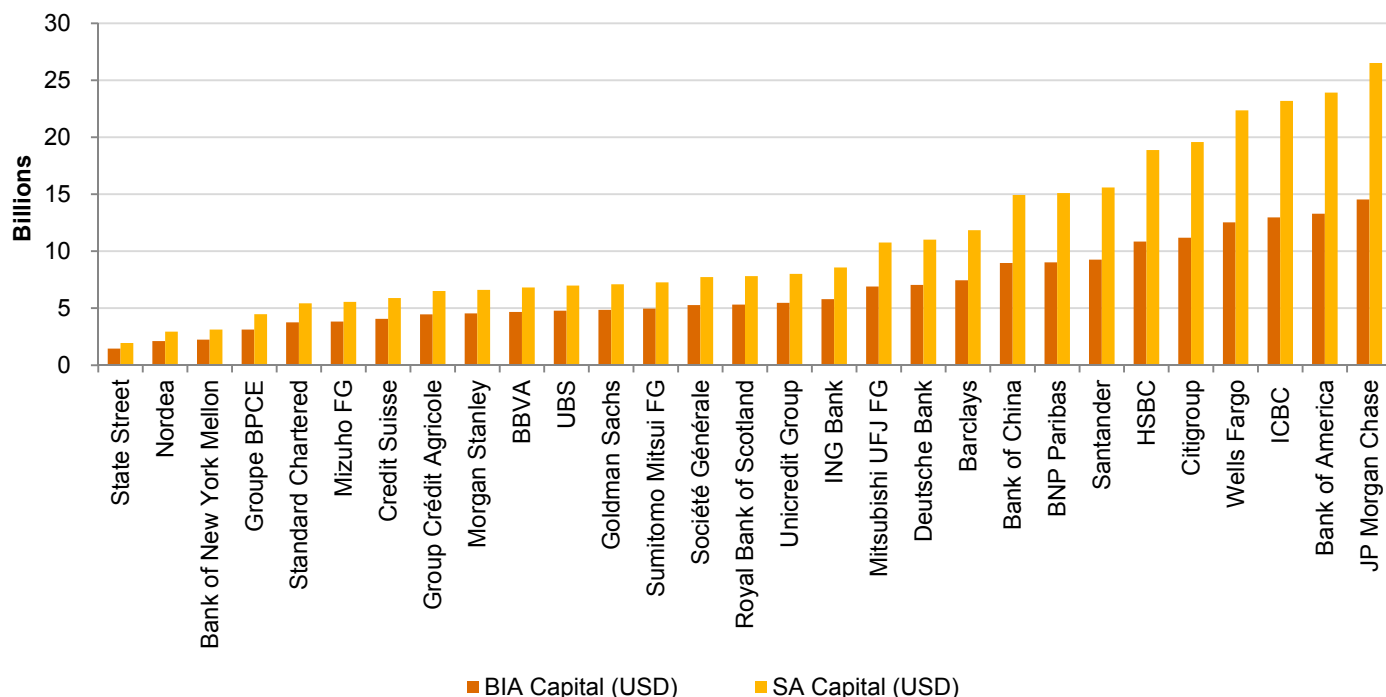
³ The SA approach generally captures operational risk capital more accurately than the BIA and TSA.

By adopting this formulaic approach that looks to better capture and reflect the drivers of operational risk while limiting implementation costs, the SA methodology seeks to optimize the balance between accuracy and simplicity.³ In addition, the SA methodology enhances transparency by developing an approach that would be difficult to game, and improves comparability of capital levels across different firms by reducing the number of available approaches.

Anticipated impact to banks

The introduction of the SA is likely to have a significant impact on firms. For US banks, we expect continued upward pressure on their regulatory capital levels, as regulators use the SA as a benchmark to assess the firms' regulatory capital. As illustrated in the graphic below, some banks will experience an increase of more than 75% in their BIA benchmark levels. In addition, non-US banks that currently use either the BIA or TSA to calculate their operational risk capital are likely to face an uptick in their regulatory capital requirements under the SA, driven in large part by the size of their organization.

Operational Risk Capital Charges – BIA vs SA



Appendix: Percent increase in operational risk capital – BIA vs. SA

The below table shows that for a sample of 29 global banks, operational risk capital would be higher under the SA than under the BIA. For 12 institutions, operational capital would increase by over 50%.

Bank	Capital increase from BIA to SA	Bank	Capital increase from BIA to SA
State Street	33%	Unicredit Group	47%
Nordea	39%	ING Bank	48%
Bank of New York Mellon	40%	Mitsubishi UFJ FG	56%
Groupe BPCE	43%	Deutsche Bank	56%
Standard Chartered	44%	Barclays	59%
Mizuho FG	45%	Bank of China	67%
Credit Suisse	45%	BNP Paribas	67%
Group Crédit Agricole	46%	Santander	68%
Morgan Stanley	46%	HSBC	74%
BBVA	46%	Citigroup	75%
UBS	46%	Wells Fargo	78%
Goldman Sachs	46%	ICBC	79%
Sumitomo Mitsui FG	47%	Bank of America	80%
Société Générale	47%	JP Morgan Chase	82%
Royal Bank of Scotland	47%		

Additional information

For additional information about this Regulatory Brief or PwC's Financial Services Regulatory Practice, please contact:

Dan Ryan

Financial Services Advisory Leader
646 471 8488
daniel.ryan@us.pwc.com

Shyam Venkat

Partner, Financial Services Risk Advisory
646 471 8296
shyam.venkat@us.pwc.com

Dietmar Serbee

Partner, Financial Services Risk Advisory
646 471 7270
dietmar.d.serbee@us.pwc.com

Armen Meyer

Director of Regulatory Strategy
646 531 4519
armen.meyer@us.pwc.com

Contributors: Dietmar Serbee, Helene Katz, and Geoffrey Allbutt.

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