

etc) to the extent that they are known; and

- Sufficient information about the reporting institution to facilitate comparison to its own organization.

Institutions may obtain external loss data in any reasonable manner. There are many ways to do so; some institutions are using data acquired through membership with industry consortia while other institutions are using data obtained from vendor databases or public sources such as court records or media reports. In all cases, management will need to carefully evaluate the data source to ensure that they are comfortable that the information being reported is relevant and reasonably accurate.

C. Business Environment and Internal Control Factor Assessments

Supervisory Standards

S 22. The institution must have a system to identify and assess business environment and internal control factors.

S 23. Management must periodically compare the results of their business environment and internal control factor assessments against actual operational risk loss experience.

While internal and external loss data provide a historical perspective on operational risk, it is also important that institutions incorporate a forward-looking element to the operational risk measure. In principle, an institution with strong internal controls in a stable business environment will have less exposure to operational risk than an institution with internal control weaknesses that is growing rapidly or introducing new products. In this regard, institutions will be required to identify the level and trends in operational risk in the institution. These assessments must be current, comprehensive across the institution, and identify the critical operational risks facing the institution.

The business environment and internal control factor assessments should reflect both the positive and negative trends in risk management within the institution as well as changes in an institution's business activities that increase or decrease risk. Because the results of the risk assessment are part of the capital methodology, management must ensure that the risk assessments are done appropriately and reflect the risks of the institution. Periodic comparisons should be made between actual loss exposure and the assessment results.

The framework established to maintain the risk assessments must be

sufficiently flexible to encompass an institution's increased complexity of activities, new activities, changes in internal control systems, or an increased volume of information.

D. Scenario Analysis

Supervisory Standards

S 24. Management must have policies and procedures that identify how scenario analysis will be incorporated into the operational risk framework.

Scenario analysis is a systematic process of obtaining expert opinions from business managers and risk management experts to derive reasoned assessments of the likelihood and impact of plausible operational losses consistent with the regulatory soundness standard. Within an institution's operational risk framework, scenario analysis may be used as an input or may, as discussed below, form the basis of an operational risk analytical framework.

As an input to the institution's framework, scenario analysis is especially relevant for business lines or loss event types where internal data, external data, and assessments of the business environment and internal control factors do not provide a sufficiently robust estimate of the institution's exposure to operational risk. In some cases, an institution's internal loss history may be sufficient to provide a reasonable estimate of exposure to future operational losses. In other cases, the use of well-reasoned, scaled external data may itself be a form of scenario analysis.

The institution must have policies and procedures that define scenario analysis and identify its role in the operational risk framework. The policy should cover key elements of scenario analysis, such as the manner in which the scenarios are generated, the frequency with which they are updated, and the scope and coverage of operational loss events they are intended to reflect.

VIII. Risk Quantification

A. Analytical Framework

Supervisory Standards

S 25. The institution must have a comprehensive operational risk analytical framework that provides an estimate of the institution's operational risk exposure, which is the aggregate operational loss that it faces over a one-year period at a soundness standard consistent with a 99.9 percent confidence level.

S 26. Management must document the rationale for all assumptions

underpinning its chosen analytical framework, including the choice of inputs, distributional assumptions, and the weighting across qualitative and quantitative elements. Management must also document and justify any subsequent changes to these assumptions.

S 27. The institution's operational risk analytical framework must use a combination of internal operational loss event data, relevant external operational loss event data, business environment and internal control factor assessments, and scenario analysis. The institution must combine these elements in a manner that most effectively enables it to quantify its operational risk exposure. The institution can choose the analytical framework that is most appropriate to its business model.

S 28. The institution's capital requirement for operational risk will be the sum of expected and unexpected losses unless the institution can demonstrate, consistent with supervisory standards, the expected loss offset.

The industry has made significant progress in recent years in developing analytical frameworks to quantify operational risk. The analytical frameworks, which are a part of the overall operational risk framework, are based on various combinations of an institution's own operational loss experience, the industry's operational loss experience, the size and scope of the institution's activities, the quality of the institution's control environment, and management's expert judgment. Because these models capture specific characteristics of each institution, such models yield unique risk-sensitive estimates of the institutions' operational risk exposures.

While the Agencies are not specifying the exact methodology that an institution should use to determine its operational risk exposure, minimum supervisory standards for acceptable approaches have been developed. These standards have been set so as to assure that the regulation can accommodate continued evolution of operational risk quantification techniques, yet remain amenable to consistent application and enforcement across institutions. The Agencies will require that the institution have a comprehensive analytical framework that provides an estimate of the aggregate operational loss that it faces over a one-year period at a soundness standard consistent with a 99.9 percent confidence level, referred to as the institution's operational risk exposure. The institution will multiply the exposure estimate by 12.5 to obtain risk weighted assets for operational risk,