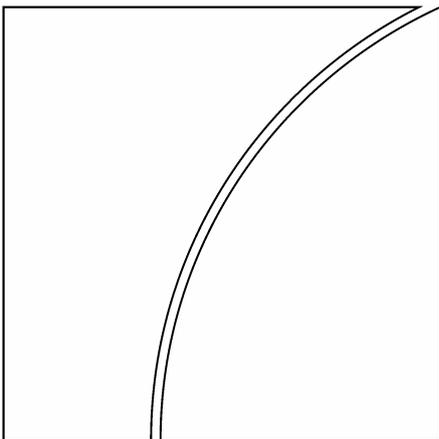


Basel Committee
on Banking Supervision



**Guidance on Paragraph
468 of the Framework
Document**

July 2005



BANK FOR INTERNATIONAL SETTLEMENTS

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ISBN print: 92-9131-691-1
ISBN web: 92-9197-691-1

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Guidance on Paragraph 468 of the Framework Document

Following publication of “International Convergence of Capital Measurement and Capital Standards: A Revised Framework” (the Basel II Framework Document) in June 2004, a number of interested parties including industry associations and national supervisors asked the Basel Committee on Banking Supervision (the Committee) to provide further clarification surrounding the quantification of loss-given-default (LGD) parameters used for Pillar 1 capital calculations. In particular, the Committee was asked to further elaborate on the so-called “downturn LGD” standard described in paragraph 468 of the Framework Document. This paragraph requires that estimated LGD parameters must “reflect economic downturn conditions where necessary to capture the relevant risks.” The same paragraph indicates that “supervisors will continue to monitor and encourage appropriate approaches to this issue.” The LGD Working Group (the Working Group) was established in September 2004 to engage in a dialogue with industry concerning appropriate approaches to meeting the requirements of paragraph 468 and to determine whether it would be useful for the Committee to provide further guidance to industry and supervisors in this area.

Over the last several months, the Working Group has surveyed practitioner and academic research, national supervisors represented on the Working Group have held bilateral discussions with their banks, and the Working Group as a whole has met with a number of banks and industry associations. The following three findings have been drawn from this work. First, the potential for realised recovery rates to be lower than average during times of high default rates may be a material source of unexpected credit losses for some exposures or portfolios. Failing to account for this possibility risks understating the capital required to cover unexpected losses. Second, data limitations pose an important challenge to the estimation of LGD parameters in general, and of LGD parameters consistent with economic downturn conditions in particular. Third, there is currently little consensus within the banking industry with respect to appropriate methods for incorporating downturn conditions in LGD estimates. A significant body of academic and practitioner research on this issue has developed that shows a range of results concerning the potential impact of downturn conditions on LGDs. The extent and manner by which potential dependencies between default rates and recovery rates are reflected in internal economic capital models varies considerably across institutions.

Given these findings, the Committee has determined that a principles-based approach to elaborating on the requirements of paragraph 468 is most appropriate at this time. This approach is intended to ensure that banks have systems in place for identifying downturn conditions and for incorporating these conditions into LGD estimates where appropriate. The principles articulated in this document are designed to be flexible enough to allow for a range of sound practices and to encourage continued work in this area, while also clarifying the Committee’s expectations. These principles are not intended to amend the Revised Framework or to introduce any new rules. The Committee will continue to monitor industry practice through the Accord Implementation Group and may provide additional guidance as industry practices evolve.

This document is organised into six sections. Section I defines terms used throughout this document. Section II articulates a principle for the quantification of LGD parameters consistent with paragraph 468 of the Framework Document. Section III discusses a principle for discounting recovery cash flows used in LGD estimation. Section IV discusses the possibility that for validation purposes supervisors may request that banks provide supplemental information on the average loss rate given default for some exposures. Section V provides guidance to supervisors concerning the development of fallback solutions that might be permitted on a transitional basis in circumstances where banks cannot satisfy the

principle articulated in Section II. Section VI clarifies the relationship between the LGD quantification requirements in paragraph 468 and stress testing requirements discussed in paragraphs 434 and 435 of the Framework Document.

I. Definition of terms

The following terms are used throughout this document.

Default rate. The number of defaults among a group of obligors divided by the number of obligors in the group. Note that unlike a probability of default (PD), the default rate is an *ex post* measure of realised default intensity and is defined with respect to a collection of obligors rather than with respect to a single obligor.

Recovery rate. For a defaulted exposure, the present discounted value at the default date of recoveries received net of material direct and indirect costs associated with collecting on the exposure divided by the amount of the exposure at default.

Observed (or realised) loss rate. For an exposure that defaulted in the past and is included in a historical database, one minus the observed recovery rate. Note that unlike LGD, observed loss rate is an *ex post* realised measure of loss severity.

LGD or LGD estimate. For an exposure in a bank's portfolio, the LGD parameter used for Pillar 1 calculations as defined in paragraphs 468 through 473 of the Framework Document.

Long-run default-weighted average loss rate given default. The estimate of the average economic loss¹ rate that is expected to be incurred in the event of default, measured over the long-run.

II. Principle for the quantification of LGD parameters consistent with economic downturn conditions

Paragraph 468 of the Framework Document requires that the LGD parameters used in Pillar 1 capital calculations must “reflect economic downturn conditions where necessary to capture the relevant risks.” The purpose of this requirement is to ensure that LGD parameters will embed forward-looking forecasts of recovery rates on exposures that default during conditions where credit losses are expected to be substantially higher than average. Under such conditions default rates are expected to be high so that if recovery rates are negatively related to default rates, LGD parameters must embed forecasts of future recovery rates that are lower than those expected during more neutral conditions. In those cases where future recovery rates are expected to be independent of future default rates there is no supervisory expectation that the forward-looking forecasts of recovery rates embedded in LGD parameters will differ from those expected during more neutral conditions.

To meet the standard set forth in paragraph 468 a bank's quantification and validation system must comply with the following principle.

¹ The concept of economic loss referred to here is defined in paragraph 460 of the Revised Framework.

Principle 1

The bank must have a rigorous and well documented process for assessing the effects, if any, of economic downturn conditions on recovery rates and for producing LGD estimates consistent with downturn conditions. The process must consist of the following integrated components:

(a) Identification of appropriate downturn conditions for each supervisory asset class within each jurisdiction.

Appropriate downturn conditions might be characterised, for example, by the following:

- For a well diversified wholesale portfolio, periods of negative GDP growth and elevated unemployment rates.
- Periods in which observed historical default rates have been elevated for a portfolio of exposures that is representative of the bank's current portfolio.
- For exposure where common risk drivers (e.g. collateral values) influence the default rates and the recovery rates, periods where those drivers are expected to be distressed.

At a minimum, the bank's quantification process must identify separate downturn conditions for each supervisory asset class, and with some exceptions, within each jurisdiction. Since, all else equal, greater granularity in defining downturn conditions will tend to result in more conservative LGD estimates, the bank may identify downturn conditions at a more granular level if such an approach is more risk sensitive. Appropriate downturn conditions are those in which the relevant drivers of default rates are consistent with conditions where credit losses for the supervisory asset class are expected to be substantially higher than average.

Where recovery rates of exposures are sensitive to local economic conditions, the bank must identify separate downturn conditions for each jurisdiction. However, in those cases where a bank can demonstrate that exposures in the same asset classes in different jurisdictions exhibit strong co-movement in recovery rates, the bank can group those jurisdictions together for the purpose of defining downturn conditions. Where recovery rates of exposures are not sensitive to local economic conditions (e.g. exposures to internationally diversified obligors), the bank may identify downturn conditions appropriate to the exposures, which may span national boundaries.

(b) Identification of adverse dependencies, if any, between default rates and recovery rates.

Those adverse dependencies might be identified, for example, by some or all of the following:

- A comparison of average recovery rates with recovery rates observed during appropriate downturn periods identified according to (a).
- A statistical analysis of the relationship between observed default rates and observed recovery rates over a complete economic cycle.
- For secured exposures where default is shown to be highly correlated with collateral values
 - A comparison of recovery rate forecasts derived from robust statistical models that use both "typical" assumptions about collateral value changes and appropriate "downturn" conditions identified according to (a).

- A comparison of observed recovery rates for defaulted exposures given typical collateral values with those observed under conditions identified according to (a) where collateral values are depressed.
 - Identification of the underlying factors (risk drivers) that determine recovery rates and analysis of the relationship between those factors and default rates, combined with an assessment of the net impact of those factors on recovery rates under “downturn” conditions.
- (c) Incorporation of adverse dependencies, if identified, between default rates and recovery rates so as to produce LGD parameters for the bank’s exposures consistent with identified downturn conditions.**

For example, for those exposures for which adverse dependencies between default rates and recovery rates have been identified through analysis consistent with (b), the LGD estimates may be based on averages of observed loss rates during downturn periods identified according to (a) or they may be derived from forecasts based on stressing appropriate risk drivers in a manner consistent with downturn conditions identified according to (a). If no material adverse dependencies between default rates and recovery rates have been identified through analysis consistent with (b), the LGD estimates may be based on long-run default-weighted averages of observed loss rates or they may be derived from forecasts that do not involve stressing appropriate risk drivers.

III. Principle for the discounting of recovery cash flows used in LGD estimation

Most approaches to quantifying LGDs either implicitly or explicitly involve the discounting of streams of recoveries received after a facility goes into default in order to compare the net present value of recovery streams as of a default date with a measure of exposure at default. Discount rates reflected in estimates of LGD must comply with the following principle.

Principle 2

For the estimation of LGDs, measures of recovery rates should reflect the costs² of holding defaulted assets over the workout period, including an appropriate risk premium.

When recovery streams are uncertain and involve risk that cannot be diversified away, net present value calculations must reflect the time value of money and a risk premium appropriate to the undiversifiable risk. In establishing appropriate risk premiums for the estimation of LGDs consistent with economic downturn conditions, the bank should focus on the uncertainties in recovery cash flows associated with defaults that arise during the economic downturn conditions identified under Principle 1. When there is no uncertainty in recovery streams (e.g., recoveries derived from cash collateral), net present value calculations need only reflect the time value of money, and a risk free discount rate is appropriate.

² The concept of cost referred to here must be consistent with the concept of economic loss as described in paragraph 460 of the Revised Framework. This is not the accounting concept of cost.

These measures of recovery rates can be computed in several ways, for example,

- by discounting the stream of recoveries and the stream of workout costs by a risk-adjusted discount rate which is the sum of the risk free rate and a spread appropriate for the risk of the recovery and cost cash flows,
- by converting the stream of recoveries and the stream of workout costs to certainty equivalent cash flows³ and discounting these by the risk free rate, or
- by a combination of adjustments to the discount rate and the stream of recoveries and the stream of workout costs that are consistent with this principle⁴.

IV. Information for supervisory review

Given the substantial flexibility in identifying downturn conditions and incorporating the effects of identified downturn conditions in LGD estimates and the requirement of paragraph 468 that LGD estimates be no lower than the long-run default-weighted average loss rate given default for a facility type, it is important that banks and their supervisors be able to compare long-run default-weighted average loss rates given default with LGD estimates.

For each exposure to which an estimated LGD is assigned as part of the Pillar 1 capital calculations, banks also must be prepared to provide an estimate of long-run default-weighted average loss rate given default to supervisors if requested.

Supervisors may not wish to request this information if the bank can demonstrate that its estimates of loss rates given default under downturn conditions are consistent with the principles articulated above and that reporting separate estimates of long-run default-weighted average loss rates given default would not be practical. In no case may the LGD for an exposure used for Pillar 1 calculations be lower than the corresponding long-run default-weighted average loss rate given default for that exposure, but in some cases the two parameters may be the same.

V. Interim fallback solutions

Banks are expected to meet the principles described in this document to be eligible to use own-estimates of LGDs for regulatory purposes. However, in some circumstances, certain banks may temporarily not be able to comply with the principles above to the satisfaction of their supervisors for certain asset classes, but may be able to estimate the long-run default-weighted average loss rates given default for that asset class and be otherwise compliant with the minimum requirements of the IRB approaches. If supervisory provided LGDs are available for the relevant asset class in that jurisdiction, these banks should use the supervisory parameters for the entire asset class. For asset classes for which supervisory LGDs are not provided in that jurisdiction, supervisors may choose, at national discretion, to

³ A certainty-equivalent cash flow is defined as the cash payment required to make a risk averse investor indifferent between receiving the cash payment with certainty at the payment date and receiving an asset yielding an uncertain payout whose distribution at the payment date is equal to that of the uncertain cash flow.

⁴ A bank may use an “effective interest rate” in accordance with IAS 39 as the discount rate, but in that case should adjust the stream of net recoveries in a way that is consistent with this principle.

establish conservative and temporary measures for these banks. These measures should be conservative so that banks will have a strong incentive to work towards meeting the principles above. Any bank that is allowed to use these temporary measures will be required to produce a plan to become fully compliant with these principles, and have that plan approved by its supervisor.

VI. Relationship with stress tests

There is no expectation that the stress tests referred to in paragraph 434 or 435 will necessarily produce an LGD that is either lower than or higher than the LGD estimated according to paragraph 468. To the extent that the identification of downturn periods under paragraph 468 coincides with the stress tests in paragraph 434 or 435, the calculation might turn out to be similar. More generally, some stress test calculations under paragraph 434 or 435 may function as one tool for assessing the robustness of the LGD estimation under paragraph 468.