QIS-4 Questionnaire

The purpose of this questionnaire is to support the interpretation of QIS-4 survey results by providing an overview of how the data reflected in QIS-4 responses were developed. Emphasis is placed on the data sources and computations used to develop estimates, on key decisions regarding the slotting of particular types of exposure or business lines, and on identifying key assumptions or approximations that materially influence the results. Ultimately, the aim of the questionnaire is to ensure a more complete understanding of the degree of precision in the reported information in the QIS-4.

Respondents should provide any information they believe is needed by supervisors to better understand, evaluate and analyze data submissions. Respondents should also respond clearly and concisely to the questions below. Please refer to draft supervisory guidance for additional context underlying these questions.[1]

Responses that are candid and informative will best support interpretation of the numbers. It is recognized that data and systems relevant to AIRB are still in development at many institutions, and supervisors understand that institutions will be assembling estimates on a best efforts basis to approximate quantitative information that would be available using a more complete AIRB or AMA infrastructure. In that regard, throughout this questionnaire, institutions should note where simplifying assumptions or approximations were necessary given current system constraints

Respondents are encouraged to attach any documentation (such as internal policies or analyses) that might support interpretation of the QIS-4 results; such documents may help reduce the need for follow-up discussions.

General

The questions in this section apply to both wholesale and retail worksheets.

1. Describe material instances in which exposure amounts included in each worksheet were approximated based on available information because systems were not adequate for generating exposure data in the specific form requested.
2. For each portfolio type, describe material instances where the IRB inputs (PD, LGD, BEEL, M, or EAD) had to be estimated on a best-efforts basis and these estimates are subject to greater than usual uncertainty. (Such instances may arise when data or systems limitations require that the institution develop best-efforts workarounds in order to provide more complete portfolio coverage in QIS-4.)
3. Identify material credit portfolios or obligor types, if any, where implied third-party support (support that is inferred but not backed by enforceable written agreements) is a material factor in assigning obligor or facility ratings/estimates. For each such portfolio or obligor type identified, indicate:
    a. The types of implied support considered (e.g., support agreements, keep well letters, verbal assurances, etc.), and

[1] For draft corporate and operational risk guidance, see 68 Fed. Reg. 45949 (August 4, 2003). For draft retail guidance, see 69 Fed. Reg. 62748 (October 27, 2004).

   b. Whether the inclusion of such support had a material impact on the assigned ratings i.e., produced more favorable ratings.
4. For each of the wholesale and retail worksheets, describe the process for PD quantification, with particular emphasis on the following:
   a. Describe the characteristics of the data used for estimation – defined in the draft corporate and retail guidance as "reference data" – particularly with regard to scope and coverage (e.g., time periods, geographic scope, industry coverage, etc.). Describe the internal and external reference data sources used. For corporate portfolios, describe what adjustments, if any, were made to the reference data for sub-portfolios such as middle market, asset-based lending, non-retail small business, etc.
   b. If reference data sources cover multiple time periods, how were data or results from the different time periods been combined?
   c. If multiple data sources were used, how were the results combined?
   d. How, if at all, does the definition of default in the historical reference data set differ from the IRB definition outlined in the QIS-4 instructions?
   e. Describe how you calculated the PD estimate from the reference data set, including significant judgmental adjustments.
   f. To what extent do the resulting PD estimates reflect a "long-run average" in the sense used in the draft corporate and retail guidance?
5. How did your definition of default for wholesale and retail exposures in the existing portfolio differ, if at all, from the definitions given in the QIS-4 instructions?
6. For each of the wholesale and retail worksheets, describe the process for LGD estimation, with particular emphasis on the following:
   a. Consider the same factors noted in (a) through (c) of question 6 above.
   b. Provide a general description of the process that produced estimates of LGD from the underlying reference data. In particular, describe how seniority, collateral, facility type, third party enhancements, or other factors were incorporated into the LGD estimation process.
   c. To what extent do the data incorporate opportunity costs or discounting to measure economic loss? To what degree are material direct and indirect workout costs reflected in the estimates?
   d. Describe any adjustments, including significant judgmental adjustments, made to the LGD estimates to account for factors that are not reflected in the reference data set, but which affect the estimate of the economic downturn LGD.
   e. The QIS instructions state that institutions may use "averages of loss severities observed during periods of high credit losses, forecasts based on appropriately conservative assumptions, or other similar methods" to estimate downturn LGDs. For each portfolio describe the period of high credit losses or forecast assumptions used to estimate downturn LGDs.
   f. For each portfolio describe with as much specificity as possible the relationship between your estimates of economic downturn LGDs and corresponding long-run default-weighted average LGDs.
   g. Describe any portfolios where LGD is not expected to vary with the economic cycle.
7. For each of the wholesale and retail worksheets, describe the process for applying LGD estimates to exposures (e.g., loss severity grades, LGD models, etc.).

    a. Briefly describe the criteria employed by the severity grades or model to estimate LGD
    b. To what extent were simplifying assumptions made regarding LGD estimates due to IT system limitations regarding facility characteristics such as collateral values, etc.?
8. Describe the process used to develop best estimates of material economic loss (BEEL) for exposures to obligors in default (corporate) or defaulted exposures (retail).
9. Describe the process used to develop estimates of potential LGD (PLGD) for exposures to obligors in default (corporate) or defaulted exposures (retail).
10. Provide a general description of the method used to estimate EADs and CCFs, with particular emphasis on the following:
    a. Consider the same factors noted in (a) through (d) of question 6 above.
    b. Provide a general description of the process that produced estimates of CCF from the underlying reference data including significant judgmental adjustments.
    c. Describe the nature of any adjustments made to the EAD estimates to reflect factors that are not reflected in the reference data set, but which reflect the impact of economic downturns on additional usage of undrawn lines.

The following questions apply to the wholesale worksheets

11. For each wholesale worksheet, to what extent do the rows of the spreadsheet (the distinct PD levels) correspond to internal obligor risk ratings used by the institution? If the rows do correspond to internal risk ratings, address the following:
    a. Were some grades combined into a single row for QIS-4 reporting purposes?
    b. If the internal risk rating systems differ for some of the exposures included in the worksheet, how was a correspondence established between different systems to allow the exposures to be reported in a unified way?
12. If the PD rows discussed in the previous question do not correspond to internal obligor grades, how were the exposures in a particular row determined to have the PD indicated for that row?
13. For each of the wholesale worksheets, to what extent do the column headings (the distinct LGD levels) correspond to internal loss-severity risk ratings used by the institution? If the columns do correspond to internal risk ratings, address the following:
    a. Were some grades combined into a single column for QIS-4 reporting purposes?
    b. If the severity rating systems differ for some of the exposures included in the worksheets, how was a correspondence established between different systems to allow the exposures to be reported in a unified way?
14. If the LGD columns discussed in the previous question do not correspond to internal loss severity grades, how were the exposures in a particular column determined to have the LGD indicated for that column?
15. For the wholesale worksheets, describe the process used to complete the effective maturity matrix (the block of cells from AT30 to BH49).
16. For the wholesale worksheets, what proportion of total corporate exposure is hedged by (a) single-name credit default swaps, (b) basket credit derivatives (excluding synthetic securitizations), (c) total rate of return swaps, (d) other credit derivative instruments, (e) guarantees, (f) letters of credit, and (g) other credit risk mitigants? Is any portion of these credit risk mitigants not reflected in your QIS-4 results?

17. Describe how undrawn advised lines were quantified.

Sovereign-Bank-Corporate

18. Is translation risk taken into account by directly adjusting the obligor PD or through a facility LGD adjustment?
19. In estimating PFE for repo-style transactions, which of the three methods (a VaR model, own-estimate haircuts, or supervisory haircuts) did you use?
20. Provide the total dollar volume by portfolio of project, object, and commodity finance included in the "**Sov-Bank-Corp**" worksheet.

SME Corporate

21. Describe how SME credits were identified and slotted into the six reporting categories.

HVCRE and IPRE

22. Explain how PD and LGD estimates for ADC lending were derived.
23. Indicate if ADC loans are rated using the corporate loan rating system and then assigned PDs that correspond to the corporate rating.
24. Do the PD and LGD estimates for ADC lending include the mini-perm phase, or are they limited to the construction phase?

General Retail Questions

In addition to these questions that relate directly to retail, please be sure to answer the relevant questions in the **General** section that also pertain to retail exposures. For the following questions, please provide a separate set of answers for each significant retail worksheet category.

25. Describe the segmentation system and risk drivers used to assign loans to different segments (homogeneous pools) for purposes of estimating PDs, LGDs, and EADs. Discuss the process used to aggregate the segment level PD, LGD, and EAD estimates into the worksheets. Discuss how the institution chose the cut-off values for PD/LGD bands and the PD/EAD bands.
26. Discuss how seasoning and prepayments were incorporated into PD estimation.
27. How were future unpaid accrued interest and fees included in the EAD estimates for HELOCs and QREs?

Residential Mortgages

28. What dollar amount of the bank's total residential mortgage portfolio has PMI coverage? For loans with PMI coverage, how much did the average LGD decrease (in percentage points – not the percent decrease) compared to what the average LGD would have been absent PMI coverage?

Retail Business Exposures

29. Describe any difficulty in distinguishing sub-portfolios that should be treated as a retail exposure from the treatment of larger business loans that involve more individual treatment and judgmental underwriting?

Other Retail Exposures

30. Identify the significant product types at your institution – including retail leases, if they are segmented separately – reported in the "**Other Retail**" worksheet. What percentage does each represent of the total exposures reported in this worksheet? For each of these significant portfolios, list the average PD, average LGD, and total EAD. (For leases, EAD is equal to the discounted remaining lease payment stream.)

Dilution Risk

31. Does your institution conduct material activities other than factoring that incur dilution risk, and to what degree were such dilution risks reflected in your QIS-4 results?

Securitization

32. Please describe any material assumptions made to complete the "**Securitization**" worksheet.
33. For liquidity facilities to ABCP programs on an aggregate basis, what is the proportion of the total notional amount and the amount that can be drawn as of the report date?
34. Did you have any non-rated exposures for which an inferred rating was used? If so, for what types of structures were inferred ratings used?
35. Did you have exposures for which you had sufficient information to use either the SFA *or* the IAA? If so, which approach did you choose to use?
36. How often did the K_{IRB} cap apply? If applicable, please describe the methodology used to exclude exposures from risk weighting or deduction. Were there particular asset types or securitization vehicles for which the maximum capital requirement was applicable more often?
37. Did you choose to deduct the entire CEIO from Tier 1 rather than deduct gain-on-sale from Tier 1 and the remaining portion of the CEIO equally from Tier 1 and Tier 2?
38. What were the types of exposures (e.g., synthetic securitizations, liquidity facilities) for which you used the SFA? What was the predominant exposure type for which you used the SFA?
39. What proportion of the exposures where you used the SFA involved ABCP programs?
40. For roughly what proportion of SFA exposures did you use the simplified methods for computing N or LGD?
41. For any non-rated securitization exposures acquired as an investor, were you able to apply the SFA, and if so, what process was implemented to obtain the required inputs, especially K_{IRB} and the pool's exposure-weighted average LGD?
42. What types of exposures constituted the largest proportion reported in the non-IRB treatment section?

43. Were there any transactions or exposures for which you could not apply any of the IRB securitization approaches? If so, what types of exposures were involved and what were the reasons that none of the approaches were applicable?
44. Outside of credit card securitizations, did you have any other structures that were subject to the early amortization capital charges? What types of structures were affected and what are the triggers? Do you have securitizations for which an early amortization trigger is exclusively based on a performance factor other than excess spread?
45. For securitization exposures subject to the early amortization charge, did the K_{IRB} cap apply?

Equity

46. Did you apply the definition of equity exposures contained in the QIS-4 instructions to all of the institution's equity holdings? If not, please detail the types of holdings for which the definitions were not applied and the reasons for diverging from the instructions. Please identify the characteristics of instruments that you found difficult to characterize clearly as either a debt or equity holding.
47. Under the internal models approach, how were potential losses on equity exposures calculated? How were offsetting values for equity exposures calculated? How were hedges with maturity mismatches recognized in calculating offsetting values?

Operational Risk

48. What analytical framework was used to quantify operational risk exposure?
49. What was the unit of measurement in the assessment of operational risk exposures (e.g., major business lines, second level business lines, across all loss types, etc.)?
50. Describe how the following elements were individually incorporated into this framework:
    a. *Internal data*. How were internal data incorporated into the model? Are there components of the model that rely solely on internal data? If so, how did you assess data sufficiency?
    b. *External data*. Were external data a direct input to your model? If so, describe the process for determining when external data were included. If external data were not used as a direct data input, how were they used (e.g. scenario analysis, fit severity distributions, and/or understanding industry experience, etc.)?
    c. *Scenario analysis*. Describe how scenario analysis was used in the analytical framework. Were scenarios a direct input into your model? If so, describe the process used to determine when scenarios were included.
    d. *Business environment and internal control factor assessments* (and any other qualitative adjustment factors). Were business environment and internal control factor assessments included in your model? What parameters did you incorporate into your model to adjust the operational risk exposure number to reflect these qualitative assessments?
51. What weighting scheme or methodology was used to incorporate each of the four components listed above? Did the weighting vary by business line and/or event type, or for different units of measurement?

52. What specific statistical distributions (e.g., frequency and severity) were used to fit loss data? Did these vary by data type (i.e. internal, external, scenario), business line, or event type? If so, how?
53. Were adjustments made to internal or external data to account for changes in the scale or scope of the business, or factors such as inflation?
54. Describe any correlation and diversification benefit assumptions used as part of the operational risk exposure calculation. Specifically, what model parameters were used as they relate to these assumptions (e.g., an x% correlation in operational losses across different business units)? Describe how you arrived at these assumptions. If there is a diversification benefit, is that amount held at the consolidated entity level or allocated back to the business line? If so, how?
55. Does the operational risk exposure number, reflected in cell G104 represent the sum of expected losses (EL) plus unexpected losses (UL), or UL only?
56. If the operational risk exposure number represents UL only, provide the following information:
    a. Provide the EL amounts, and describe how EL is derived (e.g. statistically measured, subjective estimation, etc.).
    b. Describe how EL is accounted for. In particular, describe if operational risk EL is addressed through GAAP-compliant reserves/provisions, pricing or other internal business practices.
    c. Cells G114 and G115 seek specific information on fraud-related losses. Describe the methodology used to categorize these losses as UL or EL?
57. What loss data thresholds were used to collect the internal data underlying the calculations reported? Please be as specific as possible. If different thresholds were used for different business lines and/or event types, then each threshold should be listed together with a brief rationale for why that threshold value was chosen. Was there a mechanism through which losses under the threshold were reflected in either EL or in the estimate of the operational risk exposure (EL+UL)?
58. Describe the methodology used to take account of the effects of insurance.

Legal Entity Information

59. Does your institution currently have the following information for each insured subsidiary?
    a. Estimates of minimum capital requirements – as determined under the AIRB, AMA and Market Risk formulas; and
    b. Estimated weighted average risk parameters (PD, LGD, EAD, M) for significant credit portfolios.
60. If the information in the question above is not currently available, provide an estimate of when your MIS will be modified to supply it.
61. Do all of your insured subsidiaries use the same types of obligor rating philosophies – such as a "point-in-time" system or "through-the-cycle" system – to the same extent and manner as the reporting entity?
62. Do all of your insured subsidiaries compensate for any lack of LGD data to the same extent and manner as the reporting entity?

63. Do all of your insured subsidiaries use the same types of reference data sets, or sources of data, from which parameters are estimated to the same extent and manner as the reporting entity?
64. Do all of your insured subsidiaries use credit risk mitigants to the same extent and manner as the reporting entity?

Compliance Costs

65. Have you budgeted funds specifically for Basel II compliance? If so, please provide budget figures.
66. Are you investing in new IT systems that you will use for Basel II?
67. How much do you expect to spend on implementing Basel II (including the cost of personnel engaged in developing and operating Basel II systems)? If you have separate estimates for activities such as the following, please provide them:
    a. Upgrading or modifying internal rating systems and risk management and control systems for credit risk and for operational risk
    b. Upgrading or modifying IT systems
    c. Reconstituting historic databases
    d. Requirements going forward to preserve data on transactions
    e. Making Pillar III disclosures
68. Please indicate what portion of each of the costs in the previous question you think you would incur only if Basel II is adopted, and what fraction you would incur for internal risk management purposes even if Basel I remained in effect?
69. If you have separate estimates of one-time costs and recurring costs, please provide them.
70. If one-time costs are spread over several years, please indicate the time period and the approximate fraction of costs falling in each year.
71. How much of the funds allocated to Basel II implementation has already been spent?