QIS 2 - Operational Risk Loss Data – 4 May 2001

1. Introduction

The Committee has outlined proposals for the development of a capital charge to cover operational risk. It has set out 3 approaches of increasing sophistication to assessing the operational risk charge: the Basic Indicator Approach, the Standardised Approach and the Internal Measurement Approach (IMA).

In this tranche of the QIS the Committee is seeking to collect data to allow calibration of the IMA for assessing regulatory capital, determine accurate calibration for the Basic Indicator and Standardised Approaches and so establish an appropriate relationship between the approaches. The data will also inform the development of the IMA framework itself. This data request is the first instalment of an on-going data collection programme that the Committee intends to undertake to further refine the calibration of the operational risk charge. After the preliminary calibration, data collection and analysis will continue well into 2002. A more refined calibration of all three approaches will then be carried out, based on the greater availability of data.

This section of the QIS survey should be returned, via national supervisors, by 1 August 2001. National supervisors may request submission of the data to them in advance of the 1 August deadline. (The confidentiality of banks' data will be maintained when aggregating across institutions.) In order to assist banks in completing the survey and facilitate analysis of the data, the Committee intends to provide banks with an electronic format to submit the data (an *Access* database programme). This will be available for banks in early June. In the meantime, the Committee is providing spreadsheets outlining the information required, so that banks may begin to prepare their data for submission.

2. Background guidance

The Committee's second consultative package on the New Basel Capital Accord (published January 2001 and available on the BIS website: (www.bis.org) provides an overview of the proposed framework for the regulatory capital charge for operational risk. The primary purpose of this survey is to collect granular (event by event) operational risk loss data to help the Committee determine the appropriate form and structure of the IMA approach, as well as to develop an initial calibration of the parameters. In addition, the survey asks for quarterly aggregate loss data grouped by various business line/loss type combinations. To facilitate the collection of comparable loss data at both the granular and aggregate levels across banks, the Committee has developed a detailed framework for classifying losses. Losses are classified in terms of a matrix whose rows comprise 8 standard business lines and whose columns comprise 7 loss event categories (see for example Table S1.2.98(1)[1]) These 7 event categories are then further divided into 21 sub-categories and the Committee would like to receive data on individual loss events classified at this second level of detail. In the light of this level 2 data, the Committee will review the appropriateness of the current separate level 1 categories, in terms of the loss distributions, and hence consider whether categories should be amalgamated or subdivided. To help institutions collect this loss data,

[1] The numbered tables refer to tables in the attached excel file. The annexes are at the end of this document.

the Committee is providing a second matrix that further subdivides the loss data into 6 loss effects (See Tables S1.3.1-8) reflecting different ways in which losses could affect an institution's profit and loss (P&L). A bank can then determine the total loss amount associated with a given loss event or aggregate loss amount by adding up the different loss effects associated with those events. This discipline helps ensure that loss data collection is tied closely to the banks' internal P&L attribution process. The Committee does not require banks to submit this effect data, but the matrix is provided as a worksheet for banks in the preparation of their response.

The Committee also is collecting information about "exposure indicators." The exposure indicator information (e.g. number and value of transactions) serves two purposes. First, exposure indicators are critical to the Committee's effort to aggregate loss data across banking institutions to arrive at an industry loss distribution. Second, the exposure indicators are necessary for banks and supervisors to relate historical loss experience to the current level of business activity. This information also enables banks and supervisors to determine separate frequency and severity distributions for the operational risk loss experience.

The formulas in Annex 3 show how the exposure indicators, transaction data, and historical loss data are related to each other for the purpose of calibrating the regulatory capital charge. It is important to note that loss data is to be collected on an event-by-event basis. Exposure indicators are to be collected on a quarterly basis (consistent with the financial reporting cycle at most firms). Losses over a given quarter will then be scaled by the exposure indicator for that quarter.

Taken together, this information will help in the work to structure the capital charge and will be useful in assessing the likely impact of the charge once the calibration process is underway. While the Committee is seeking detailed data at this stage to allow initial calibration and testing of the IMA, in future, banks will not necessarily need to report all this information for the purpose of calculating their regulatory capital charges on an ongoing basis.

The survey aims to collect a range of data over the past 3 years. Banks should provide data for all or a portion of the cells in the framework, and if banks have relevant data over a longer time scale than the 3 years set out in the survey, they are encouraged to also submit this information. In order for this data to be useful to the calibration exercise, banks must map data both to the business line and event-type framework provided in this survey.

Relationship with the rest of the Basel Capital Accord

Firms should report all operational risk losses as defined in the survey. The Committee recognises that currently there are overlaps between market, credit, and operational risk with regard to the attribution of losses. Specifically, a proportion of the losses currently captured under credit and market risk losses would be more appropriately classified as operational risk losses if more refined and consistent measurement systems were applied. The definitions of what constitutes an operational risk event (Annex 1) are intended to be comprehensive in terms of their coverage of all operational risk losses. It is recognised that there may be some double counting of what is already captured implicitly in market and credit risk losses. However, when completing this survey, firms should not exclude operational losses where such double counting may occur. The purpose of this data collection effort is to begin developing a "clean" database of operational loss experience. This exercise will provide a much clearer picture of what the degree of double counting actually may be and therefore inform the appropriate structuring and overall calibration of the capital charge.

3. Detailed description of the survey

Section 1: Loss data

The Committee is seeking actual loss data to help determine the appropriate form and structure of the IMA approach, as well as to develop an initial calibration of the operational risk charge (for all 3 approaches).

This data should be provided for the 8 standard business lines and 7 loss event types. A classification of loss events, split into 3 levels, is shown in Annex 1. This is intended to guide institutions in determining the scope of the operational risk charge and classifying events. This survey collects individual loss event data at the level 2 event type. (Banks that only have data available at level 1 should submit this data instead)

This data collection effort is divided into three parts. Part 1 asks for operational loss data on an event-by-event basis. Part 2 focuses on quarterly aggregate loss data grouped by business line/event type combination. Part 3 presents a worksheet that banks can use to decompose the loss event data according to its P&L effects. The details of each of these parts are described below.

Part 1 (Table S1.1)

This part asks banks to report event-by-event operational loss data over the past 3 calendar years. The data should be clearly categorised according the business line/event type combinations (that is, by the 8 standard business lines and 21 event sub-type combinations). Each operational risk event should be classified and recorded as follows:

- Unique loss event reference number (to be specified in electronic submission);
- Date of discovery; (i.e. date that the event is recorded in internal reporting systems (not financial statements). All subsequent loss effects relating to the event would be recorded at this date, regardless of exactly when they crystalise.
- The business line(s) affected. If more than one business line suffered losses as a result of a single event the proportional effects should be shown
- Type of event (based on the both the 7 level 1 categories and the 21 level 2 categories in Annex 1);
- Gross amount of loss;
- The amount of (i) insurance recoveries and (ii) other recoveries);
- If available, a breakdown of the loss event by effect type;
- The *de minimis* limit used for data reporting;
- For each business line event cell for which a bank provides data, discuss whether data is ‘double counted’ internally as part of another broad risk category (for instance, credit risk or market risk), and if so estimate what proportion of the loss event is captured elsewhere.

In reporting these data, it is key that banks make it clear into which business line/loss event type combination the loss event should be grouped. Ideally, the sum of the loss event for each of these combinations for a given quarter should equal the aggregate quarterly figures reported in Part 2. However, the Committee recognises that in some cases banks may have aggregate loss data available over a longer historical period than the period for which event-by-event data are available. In those cases, institutions should report the aggregate loss data in Part 2 and as much of the granular loss data as is available in Part 1. It needs to be clear where banks' submission of loss data for a given business line/event type is incomplete (that is, there may be more losses but the bank was not able to retrieve them for whatever reason). Failure to provide this information would give a misleading picture of the actual loss experience.

Part 2 (Tables S1.2.98(1) to S.1.2.00(4))

In this part, banks are asked to provide aggregate loss data by loss event type, based on 7 level 1 types of loss event and 8 business lines. For each business line/loss event type cell, banks should provide the operational losses for each of the last 3 calendar years on a quarterly aggregate basis. If banks are only able to provide total operational losses for the business line, then this data should be recorded in the appropriate column. Banks should also show the total number of loss events. This may differ from the number of separate event reported in Part 1 of this section, if banks include losses in the total which are below the *de minimis* limit for individual reporting. If banks only have partial data, then they should indicate for what proportion of the business line they are reporting.

Part 3 (Tables S1.3.1-8)

This part seeks a breakdown of the operational loss data reported in Part 2 into six loss effect categories reflecting different ways that an operational loss could affect an institution's P&L. There is one table for each of the eight standard business lines reported in Part 2. In each table, the rows reflect the six operational loss event types and the columns represent six distinct ways in operational risk losses could affect an institution's P&L. The purpose of this table is as a "work sheet" for banks to aggregate all the loss amounts associated with a given loss event within a business line. It need not be submitted to the Committee.

To assist banks in constructing this breakdown, below is a list showing a classification of 6 loss effect types. Annex 5 provides more details on the classification of loss effects.

Operational risk effect types:

Write-downs	Direct reduction in value of assets due to theft, fraud, unauthorised activity or market and credit losses arising as a result of operational events
Loss of Recourse	Losses experienced when a third party does not meet its obligations to the bank, and which are attributable to an operational mistake or event
Restitution	Payments to third parties on account of operational losses for which the bank is legally responsible
Legal Liability	Judgements, settlements and other legal costs
Regulatory & Compliance (including Taxation)	Fines, or the direct cost of any other penalties, such as license revocations
Loss of or Damage to Assets	Direct reduction in value of physical assets, including certificates, due to some kind of accident (e.g. neglect, accident, fire, earthquake).

Section 2: Exposure indicators and scaling factors

In this section, the Committee is seeking data on exposure indicators and other components of the capital calculation. Annex 3 presents the stylised version of the formula for determining the Expected Loss for each business line/event type combination. In each cell, the formula requires information on the appropriate Exposure Indicator (EI) as well as some transaction information. The EI and transaction information are to be reported quarterly (an end of quarter stock or a full quarter flow). The EIs will be used to scale the event-by-event loss data submitted by the institution and should therefore cover the quarters for which loss data is being submitted. The transaction information is used in the calculation of both the loss frequency and loss severity. In helping the Committee decide on the appropriate indicators, the survey asks banks to provide three types of EI/Transaction information:

Type 1 indicator: Financial statement figures. These types of indicators (gross income and assets) are expected to be collected from financial statements and should be comparable across institutions. As can be seen in the table, both the value and frequency of transactions are approximated through information that should be readily accessible in all banks, such as total retail assets and the number of retail accounts. All banks must provide this information for all of the business line/event type cells. Some information on Type 1 indicators was requested in the first tranche of QIS2. It is repeated in this tranche for the sake of completeness. (Tables S2.1.1-8)

Type 2 indicator: Actual value of transaction figures: The Committee is also seeking information on the number and value of transactions for a number of business lines. Definitions of 'transaction' for the relevant business lines are provided below to ensure comparability of reported information across institutions. All banks are strongly encouraged to provide this information where it is accessible within their institutions. (Tables S2.2.1-)

Type 3 indicator: In addition, if an institution wishes to suggest an alternative to either type 1 or 2, the Committee would be interested in receiving these data. The basis of the indicator must be clearly and fully defined.

In further developing the IMA, the Committee will review the information on exposure indicators, considering the trade-off between how well the indicator measures the exposure base at risk and the practicability of implementation within and across institutions. The Committee would welcome additional comment on the suitability of indicators as part of banks' responses.

4. General Background Information

This section provides a brief discussion of several issues intended to further clarify the Committee's data requests for Sections 1 and 2 (loss data and exposure indicators, respectively) of the operational risk survey.

Scope: Losses should include the following costs which result from the event: all out of pocket expenses connected with the event, but not investment programmes, opportunity costs or revenue foregone. For example, if a computer fault results in a break in trading and a position moves against the bank in the meantime, then included would be: losses resulting from unwinding the position, any payments to clients, costs of employing a consultant specifically engaged for this problem and overtime payments. If, in the light of the event, the bank decided that an investment in hardware is needed, then this would not be included in the loss.

Cross business line losses: Where a loss event occurs in a centralised activity, it should be apportioned across business lines according to internal management accounting techniques. If an event impacts more than one business line, the same reference number (in Table S1.1) should be used to report the event in each of the business lines affected.

Limits and standards: The Committee believes that a *de minimis* limit should apply to the reporting of individual operational loss events. This has been set at $10,000 per event, except in the case of retail banking and retail brokerage, where the limit is $1,000. In the case of Commercial Banking, a limit of either $1,000 or $10,000 may be used, depending on the nature of the bank's data. The bank must specify which has been used. If a bank has an internal limit in excess of those described above, which prevents it from reporting data at the limit prescribed, it should state this and report its own limit for that business line.

Reporting currency: All data should be reported in domestic currencies. The units used must be clearly stated in the response.

Data coverage: Both indicator and loss data should ideally cover 100% of a bank's business activities. However, considering the limited timeframe and burden on participants of completing the survey, exposure indicators, especially type 2 indicators, may be estimated based on sample data. It is noted that this kind of sampling method also applies to the credit risk part of the QIS. For example, a bank could estimate its total transaction amount within a certain observation period, based on transaction data that covers a part of its business activities from a couple of sample days. If a bank uses such a sampling method, it is required that a significant part (at least 50%) of business activities must be captured (percentage of data coverage could be measured based on the percentage of gross income), and "sample days" must be selected in an unbiased way. The sampling method used should be briefly explained. It is important to note that sampling for the purposes of this survey does not imply that an eventual capital charge may be based on sample data.

Outsourced operations: As outsourced business activities can still expose banks to operational risks, exposure indicators and loss data of the outsourced operations should be included in the data.

GAAP: Where banks are given the option to use a GAAP definition, this means that local GAAP rules may be applied, with accompanying definition.

5. Definitions

1. **Operational risk event:** Any occurrence specified in Annex 1, which gives rise to one or more of the loss effects set out above and explained in Annex 5. Every individual event shall be separately reported, subject to the guidance specified below:

'Internal fraud': multiple dishonest/fraudulent acts committed by the same employee and categorised in the same level 2 category shall be counted as a single event.

'External fraud': multiple criminal acts committed by the same person/party and categorised in the same level 2 category shall be counted as a single event. A series of losses involving unidentified person/party but arising from the same method of operation shall be deemed to involve the same person/party.

'Employment Practices and Workplace safety' and 'Clients, Products & Business practices': claims, litigation and payments of restitution arising from the same cause shall be counted as a single event.

'Damage to physical assets': two or more natural hazards (i.e. earthquake, typhoon, hurricane, windstorm, flood etc) which occurred within 72 hours, shall be deemed as a single event except in the case where the affected areas do not coincide entirely.

'Business disruption and system failure': any one event or a series of event resulting from the same cause (e.g. mechanical breakdown of the same parts, error in the specific program) shall be deemed as a single event.

2. Exposure Indicators

In order to develop the formula for the IMA and combine data from different institutions a series of exposure indicators and associated scaling factors are requested., the following section sets out Type 1 and Type 2 indicators and scaling factors separately, to ensure that data are collected on a consistent basis. Although there is a certain amount of overlap in the scaling factors associated with each type of indicator the Committee believes this duplication is justified to ensure that the data is collected in a comparable and usable format. The overlapping items, such as number of transactions, should be measured on the same basis.

A. Type 1 Indicators

- **Gross Income (for all business lines – Tables S2.1.1-8)**

Gross income: net interest income (interest received minus interest paid) + net fees and commissions (fees and commissions received minus fees and commissions paid) + net trading income + gross other income. Income should be reflected gross of any provisions (e.g. for unpaid interest) and gross of any operational costs and losses. Income should exclude extraordinary or irregular items and income derived from insurance. Banks may in addition report Gross Income according to the GAAP standards of their home country or according to U.S. GAAP, and should specify which definition has been used.

- **Assets (for retail banking, commercial banking, agency services and asset management)**

Retail and commercial banking business lines: assets at quarter end, for each of the past 3 calendar years. (Tables S2.1.3-4)

Agency Services/custody business line: assets in custody for external clients at quarter end, for each of the past 3 calendar years. (Table S2.1.6)

Asset management business line: assets under management at quarter end, for each of the past 3 calendar years. (Table S2.1.7)

- **Number of employees (for all business lines – Tables S2.1.1-8)**

Actual number (not budgeted number) of permanent employees and contractors of > 6 months duration on payroll, at quarter end. Employees in centralised activities should be allocated to business lines according to management accounting policies.

- **Total compensation (for all business lines – Tables S2.1.1-8)**

Total compensation paid in quarter, including salaries, benefits and bonuses. Compensation in centralised activities should be allocated to business lines according to management accounting policies.

- **Book value of physical assets per GAAP (for all business lines – Tables S2.1.1-8)**

Book value of physical assets (lands, buildings and equipment). In some business lines it will include the value of gold bullion, CDs and other certificates. Physical assets in centralised activities should be allocated to business lines according to management accounting policies.

- **Number of transactions (for corporate finance, trading and sales, payment and settlement and retail brokerage)**

Corporate Finance business line: number of deals completed in the quarter (M&A, Project finance, syndications, underwriting, etc.). The number should be based on the table in Section B below showing value of deals. (Table S2.1.1)

Trading and Sales business line: number of trades executed in the quarter. The number should be based on the table in section B below showing value of trades. (Table S2.1.2)

Payment and Settlement business line: average daily number of payment and settlement transactions. (Table S2.1.5) (Note that the Payment and Settlement business line only covers payments executed for third parties. Payment losses related to the firm's own business activities would be captured in the business lines to which the payments are attached.)

Retail Brokerage business line: number of transactions executed for external clients (Table S2.1.8)

- **Number of accounts (for retail banking, commercial banking, agency services and asset management)**

The number of customer accounts should be reported at the quarter end date. Each account should be reported separately, regardless of whether it is held by the same customer. Internal accounts should not be reported. (Tables S2.1.3, S2.1.4, S2.1.6 and S2.1.7)

- **Deposits (for retail banking)**

For retail banking, the value of sight and time deposits should be reported at quarter end. (Table S2.1.3)

B. Type 2 Indicators: Transactions

- **Value of transactions (for corporate finance, trading and sales, retail banking, commercial banking, payment and settlement and retail brokerage)**

When using sampling methods in estimating the exposure indicators, samples must represent at least 50% of business activities within the business line. (The percentage of data coverage could be measured based on the percentage of gross income earned by the business activities captured). Also, sample days must be chosen in an unbiased way. For example, banks could take the average transaction amount of a day with highest transaction and another day with the lowest transaction of each month and multiply the figure by the number of business days within the month.

Corporate Finance business line: Value of deals completed in the quarter. (Table S2.2.1) The definition of deal amount in the table below is consistent with the market practice of reporting for "League Tables".

Sub-category	EI	Definitions
M&A	Deal amount	The combined market value of merged companies
Project finance / Syndication	Deal amount	The amount of commitment line established (applied only by the lead manager)
Other corporate finance deals	Deal amount	The market value of deals concerned

Trading and Sales business line: Value of trades executed in the quarter. (Table S2.2.2) This is further defined in the table below:

Sub-category	EI	Definitions
Cash deliveries (Trade of securities)	Amount paid out / in	The amount of money paid in / out (principal/interest), including securities lending/borrowing.

Derivatives	Potential exposure (without netting) of the new deals	Sum of potential exposures (without netting) of the new deals entered into in the period concerned

(Please see "Treatment of potential exposure for off-balance sheet items" released by Basel Committee in April 1995 for the definition of potential exposure in the table)

Retail and Commercial banking business lines: value of transactions in retail and commercial banking as set out in the table below. (Tables S2.2.3-4)

Sub-category	EI	Definitions
Deposit / Money transfer	Amount paid out	The amount of money paid out (by cash / book transfer) of customer deposits (ordinary / checking accounts).
	Amount paid in	The amount of money paid into (by cash / by book transfer) customer deposits (ordinary / checking accounts).
	Amount transferred	The amount of outgoing / incoming money transfer by cash / book transfer. Book transfer between accounts.
Credit/loans	Amount of credit/loans disbursed or drawn down	Crediting borrowers' accounts for loans.
	Amount collected (principal/interest)	The amount of collection of loans by cash or debiting borrowers' accounts.
	Amount of loans sold	The amount of loans sold to the third party.
Card loan	Change in limit amount for card loan (*20%)	The amount of credit limit established at the opening of a card loan account and cancelled, plus the change in the limit amount. 20% conversion factor is applied.
	Amount paid in / out (Draw-down / Repayment)	The amount of loan drawn down from the borrowers' accounts (amount of regular payment). The amount credited to the borrowers' accounts for repayment.
Commitment	Change in amount of commitment line (*20%)	The amount of commitment line established and cancelled, plus the change in the commitment amount. 20% conversion factor is applied.
	Amount drawn-down / repayment	The amount of commitment drawn down and repayment, including principal and interest
Guarantee	Change in notional amount of guarantee (*20%)	The notional amount of guarantee established and cancelled, plus the change in the amount of guarantee. 20% conversion factor is applied.
Foreign Exchange		
	Transaction amount	Foreign cash exchange, Export collection, Export bill purchase, Import, Pay-in / out of ordinary deposits in foreign currencies, New opening / cancellation of term deposits in foreign currencies, Forward foreign exchange contract, Loans in foreign currencies. Spot transaction: the amount of foreign currency. Forward transaction: the amount of the initial exchanged foreign currency. Cross currency transaction: the amount of the initial exchanged foreign currency.
Payment services	Amount paid in/out	The amount of cash paid out of/into ATM. Money change (cash).

Derivatives	Potential exposure (without netting) of the new deals	Sum of potential exposures (without netting) of the new deals entered into in the period concerned

Payment and Settlement business line: average daily value of payment and settlement transactions. (Table S2.2.5)

Retail Brokerage business line: value of transactions executed for external clients (Table S2.2.8)

- **Number of transactions (for corporate finance, trading and sales, retail banking, commercial banking, payment and settlement and retail brokerage)**

Corporate Finance business line: number of deals executed in the quarter. (Table S2.2.1) As defined in the Table above on value of deals.

Trading and Sales business line: number of trades completed in the quarter. (Table S2.2.2) As defined in the Table above on value of transactions.

Retail and Commercial banking business lines: number of transactions in retail and commercial banking as set out in the table above on the value of transactions. (Tables S2.2.3-4)

Payment and Settlement business line: average number of payment and settlement transactions. (Table S2.2.5)

Retail Brokerage business line: number of transactions executed for external clients (Table S2.2.8)

- **Standard deviation of value of transactions within quarter (for corporate finance, trading and sales, retail banking, commercial banking, payment and settlement and retail brokerage)**

Banks are requested to report the standard deviation of transaction amounts within each quarter. (Tables S2.2.1, S2.2.2, S2.2.3, S2.2.4, S2.2.5 and S2.2.8)

- **Number of accounts (for retail banking, commercial banking, agency services and asset management)**

The number of customer accounts should be reported at the quarter end date. Each account should be reported separately, regardless of whether it is held by the same customer. Internal accounts should not be reported. (Tables S2.2.3, S2.2.4, S2.2.6 and S2.2.7)

- **Average balance of accounts (for retail banking, commercial banking, agency services and asset management)**

The balance of customer accounts should be reported at the quarter end date. Each account should be reported separately, regardless of whether it is held by the same customer. Internal accounts should not be reported. (Tables S2.2.3, S2.2.4, S2.2.6 and S2.2.7)

- **Deposits (for retail banking)**

For retail banking, the value of sight and time deposits should be reported at quarter end. (Table S2.2.3)

3. Other definitions

- **Derivatives:** unless otherwise specified, derivative transactions should be included in the data as appropriate, based on the gross current exposure and gross potential exposure of the transaction as calculated using the conversion factors specified in the Basel Accord.

- **Commitments:** unless otherwise specified, commitments should be included in the reported data as appropriate, based on amount drawn, plus 20% of the undrawn amount.
- **Guarantees:** unless otherwise specified, guarantees should be included in the reported data as appropriate, based on the credit conversion factors in the standardised approach to credit risk.

Annex 1: Loss event type classification

Event-Type Category (Level 1)	Definition	Categories (Level 2)	Activity Examples (Level 3)
Internal fraud	Losses due to acts of a type intended to defraud, misappropriate property or circumvent regulations, the law or company policy, excluding diversity/ discrimination events, which involves at least one internal party.	Unauthorised Activity	Transactions not reported (intentional) Trans type unauthorised (w/monetary loss) Mismarking of position (intentional)
		Theft and Fraud	Fraud / credit fraud / worthless deposits Theft / extortion / embezzlement / robbery Misappropriation of assets Malicious destruction of assets Forgery Check kiting Smuggling Account take-over / impersonation / etc. Tax non-compliance / evasion (wilful) Bribes / kickbacks Insider trading (not on firm's account)
External fraud	Losses due to acts of a type intended to defraud, misappropriate property or circumvent the law, by a third party	Theft and Fraud	Theft/Robbery Forgery Check kiting
		Systems Security	Hacking damage Theft of information (w/monetary loss)
Employment Practices and Workplace Safety	Losses arising from acts inconsistent with employment, health or safety laws or agreements, from payment of personal injury claims, or from diversity / discrimination events	Employee Relations	Compensation, benefit, termination issues Organised labour activity
		Safe Environment	General liability (slip and fall, etc.) Employee health & safety rules events Workers compensation
		Diversity & Discrimination	All discrimination types
Clients, Products & Business Practices	Losses arising from an unintentional or negligent failure to meet a professional obligation to specific clients (including fiduciary and suitability requirements), or from the nature or design of a product.	Suitability, Disclosure & Fiduciary	Fiduciary breaches / guideline violations Suitability / disclosure issues (KYC, etc.) Retail consumer disclosure violations Breach of privacy Aggressive sales Account churning Misuse of confidential information Lender Liability
		Improper Business or Market Practices	Antitrust Improper trade / market practices Market manipulation Insider trading (on firm's account) Unlicensed activity Money laundering

Event-Type Category (Level 1)	Definition	Categories (Level 2)	Activity Examples (Level 3)
		Product Flaws	Product defects (unauthorised, etc.) Model errors
		Selection, Sponsorship & Exposure	Failure to investigate client per guidelines Exceeding client exposure limits
		Advisory Activities	Disputes over performance of advisory activities
Damage to Physical Assets	Losses arising from loss or damage to physical assets from natural disaster or other events.	Disasters and other events	Natural disaster losses Human losses from external sources (terrorism, vandalism)
Business disruption and system failures	Losses arising from disruption of business or system failures	Systems	Hardware Software Telecommunications Utility outage / disruptions
Execution, Delivery & Process Management	Losses from failed transaction processing or process management, from relations with trade counterparties and vendors	Transaction Capture, Execution & Maintenance	Miscommunication Data entry, maintenance or loading error Missed deadline or responsibility Model / system misoperation Accounting error / entity attribution error Other task misperformance Delivery failure Collateral management failure Reference Data Maintenance
		Monitoring and Reporting	Failed mandatory reporting obligation Inaccurate external report (loss incurred)
		Customer Intake and Documentation	Client permissions / disclaimers missing Legal documents missing / incomplete
		Customer / Client Account Management	Unapproved access given to accounts Incorrect client records (loss incurred) Negligent loss or damage of client assets
		Trade Counterparties	Non-client counterparty misperformance Misc. non-client counterparty disputes
		Vendors & Suppliers	Outsourcing Vendor disputes

Annex 2: Example mapping of business lines

Business Unit	Level 1	Level 2	Activity Groups
INVESTMENT BANKING	Corporate Finance	Corporate Finance	Mergers and Acquisitions, Underwriting, Privatisations, Securitisation, Research, Debt (Government, High Yield) Equity, Syndications, IPO, Secondary Private Placements
		Municipal/Government Finance	
		Merchant Banking	
		Advisory Services	
	Trading & Sales	Sales	Fixed Income, equity, foreign exchanges, commodities, credit, funding, own position securities, lending and repos, brokerage, debt, prime brokerage
		Market Making	
		Proprietary Positions	
		Treasury	
BANKING	Retail Banking	Retail Banking	Retail lending and deposits, banking services, trust and estates
		Private Banking[2]	Private lending and deposits, banking services, trust and estates, investment advice
		Card Services	Merchant/Commercial/Corporate cards, private labels and retail
	Commercial Banking	Commercial Banking	Project finance, real estate, export finance, trade finance, factoring, leasing, lends, guarantees, bills of exchange
	Payment and Settlement[3]	External Clients	Payments and collections, funds transfer, clearing and settlement
	Agency Services	Custody	Escrow, Depository Receipts, Securities lending (Customers) Corporate actions
		Corporate Agency	Issuer and paying agents
		Corporate Trust	
OTHERS	Asset Management	Discretionary Fund Management	Pooled, segregated, retail, institutional, closed, open, private equity
		Non-Discretionary Fund Management	Pooled, segregated, retail, institutional, closed, open
	Retail Brokerage	Retail Brokerage	Execution and full service

[2] Private banking has been allocated to the retail banking business line. The Committee intends to consider if, given the nature of private banking, it might be more appropriate to include some (or all) private banking functions in the asset management business line.

[3] Payment and settlement losses related to a bank's own activities would be incorporated in the loss experience of the affected business line.

Annex 3: Proposed formulae by business line/event type

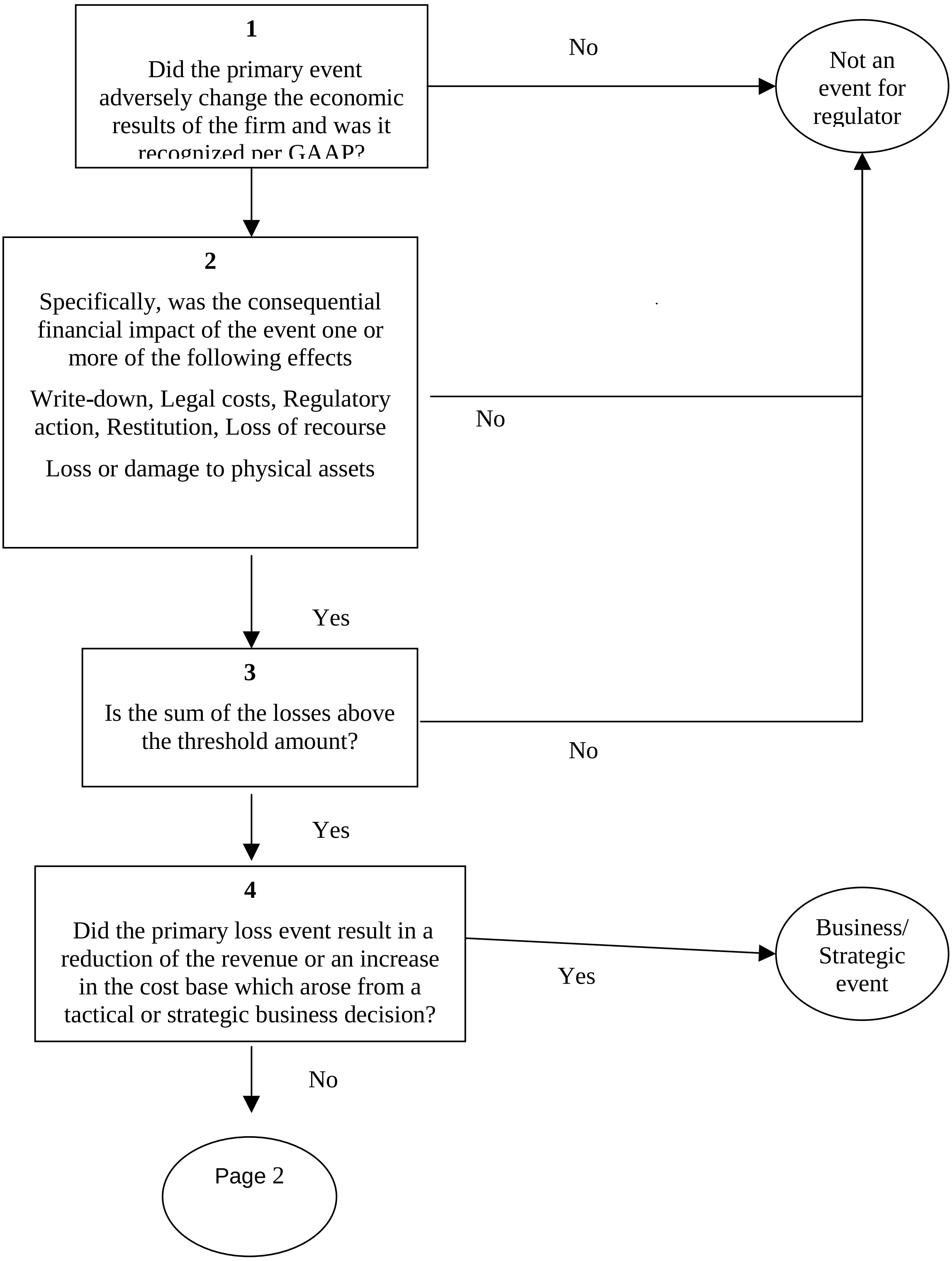
Business line	Internal and External Fraud, Theft & Unauthorised Events[4]	Employment practices and workplace safety[5]	Damage to physical assets
Corporate Finance	EI_{curr} * (# Loss Events/ # Deals) * (Average Loss per event/(EI/ # Deals))	EI_{curr} * (# Loss Events/ # Deals) * (Average Loss per event/(EI/ # Employees))	Book value of fixed assets per $GAAP_{curr}$ * (Total losses/Book value of fixed assets per GAAP)
Trading & Sales	EI_{curr} * (# Loss Events/ # Trades) * (Average Loss per event/(EI/ # Trades))	EI_{curr} * (# Loss Events/ # Trades) * (Average Loss per event/(EI/ # Employees))	Book value of fixed assets per $GAAP_{curr}$ * (Total losses/Book value of fixed assets per GAAP)
Retail Banking[6]	EI_{curr}* (# Loss Events/ #Accounts) * (Average Loss per event/EI/ # Accounts))	EI_{curr}* (# Loss Events/ # Customers) * (Average Loss per event/(EI/ # Employees))	Book value of fixed assets per $GAAP_{curr}$ * (Total losses/Book value of fixed assets per GAAP)
Commercial Banking	EI_{curr} * (# Loss Events/ # Accounts) * (Average Loss per event/(EI/ # Accounts))	EI_{curr} * (# Loss Events/ # Customers) * (Average Loss per event/(EI/ # Employees))	Book value of fixed assets per $GAAP_{curr}$ * (Total losses/Book value of fixed assets per GAAP)
Payment and Settlement	EI_{curr}* (# Events per day/ # Transactions per day) * (Average Loss per event/(EI/ # Transactions per day))	EI_{curr} * (# Events per day/ # Transactions per day) * (Average Loss per event/(EI/ # Employees))	Book value of fixed assets per $GAAP_{curr}$ * (Total losses/Book value of fixed assets per GAAP)
Agency Services	EI_{curr} * (# Loss Events/ # Accounts) * (Average Loss per event/(EI/ # Accounts))	EI_{curr} * (# Loss Events/ # Customers) * (Average Loss per event/(EI/ # Employees))	Book value of fixed assets per $GAAP_{curr}$ * (Total losses/Book value of fixed assets per GAAP)
Asset Management	EI_{curr} * (# Loss Events/ # Accounts) * (Average Loss per event/(EI/ # Accounts))	EI_{curr} * (# Loss Events/ # Accounts) * (Average Loss per event/(EI/ # Employees))	Book value of fixed assets per $GAAP_{curr}$ * (Total losses/Book value of fixed assets per GAAP)
Retail Brokerage	EI_{curr} * (# Loss Events/ # Accounts) * (Average Loss per event/(EI/ # Accounts))	EI_{curr} * (# Loss Events/ # Accounts) * (Average Loss per event/(EI/ # Employees))	Book value of fixed assets per $GAAP_{curr}$ * (Total losses/Book value of fixed assets per GAAP)

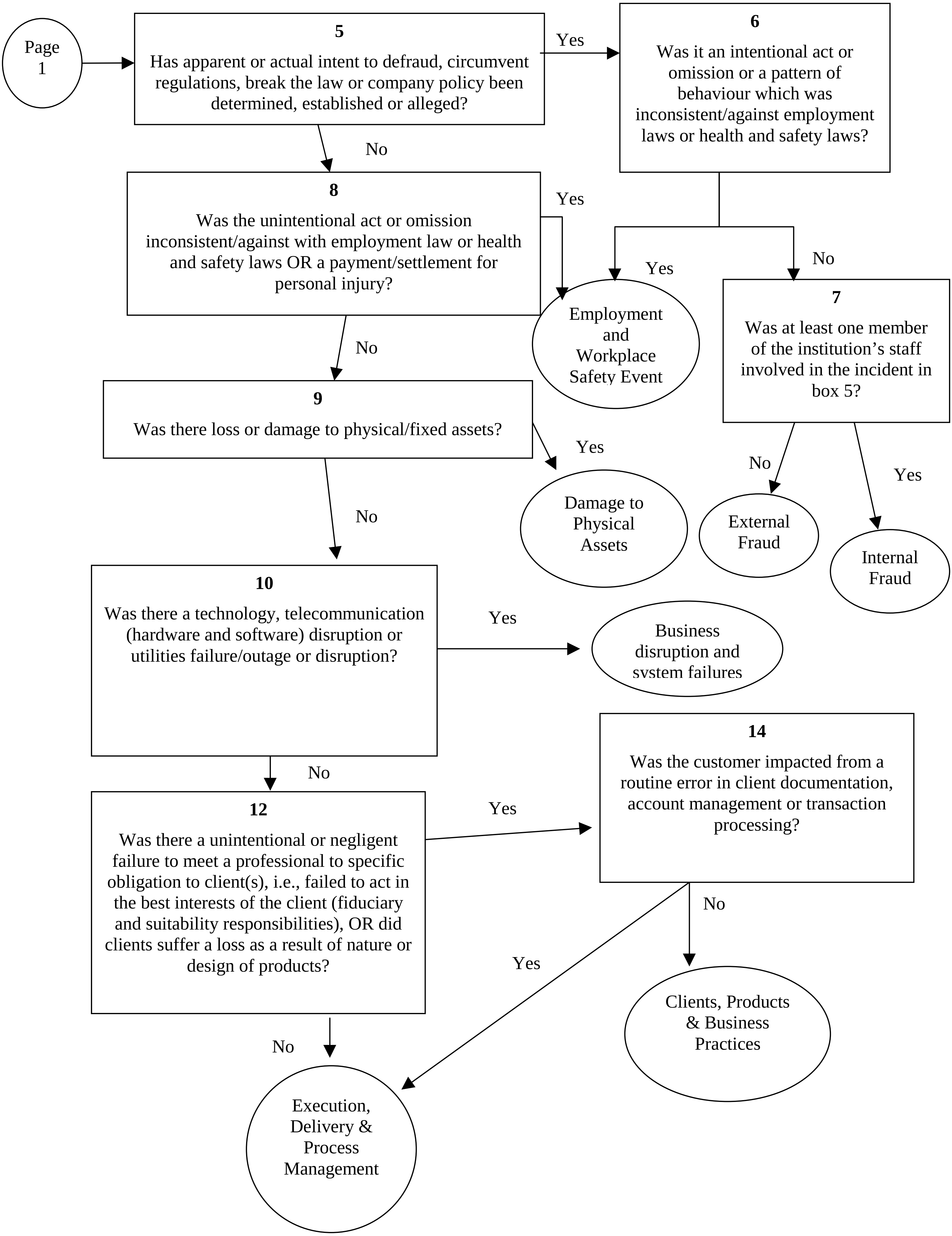
[4] Same formula applies for: (i) clients, products and business practices, (ii) business disruption and system failures, and (iii) execution delivery and process management

[5] An alternative denominator of PE and LGE is the number of trades/deals/accounts.

[6] For retail banking, commercial banking and retail brokerage an alternative denominator of PE and LGE in column 1 is number of transactions.

Annex 4: Decision trees to determine event categorisation




Page 1
5
Has apparent or actual intent to defraud, circumvent regulations, break the law or company policy been determined, established or alleged?
Yes
6
Was it an intentional act or omission or a pattern of behaviour which was inconsistent/against employment laws or health and safety laws?
No
8
Was the unintentional act or omission inconsistent/against with employment law or health and safety laws OR a payment/settlement for personal injury?
Yes
Yes
No
Employment and Workplace Safety Event
7
Was at least one member of the institution's staff involved in the incident in box 5?
No
9
Was there loss or damage to physical/fixed assets?
Yes
Damage to Physical Assets
No
External Fraud
Yes
Internal Fraud
No
10
Was there a technology, telecommunication (hardware and software) disruption or utilities failure/outage or disruption?
Yes
Business disruption and system failures
No
12
Was there a unintentional or negligent failure to meet a professional to specific obligation to client(s), i.e., failed to act in the best interests of the client (fiduciary and suitability responsibilities), OR did clients suffer a loss as a result of nature or design of products?
Yes
14
Was the customer impacted from a routine error in client documentation, account management or transaction processing?
No
Yes
Clients, Products & Business Practices
No
Execution, Delivery & Process Management

Annex 5: Loss effect types

Effect Types: Definitions & Examples		
Category	**Definition / Discussion**	**Includes**
Legal Liability	*Judgements, settlements and other legal costs*.	• Costs incurred in connection with litigation in a court proceeding or arbitration (including external attorneys' fees, settlements, judgements paid, etc.) • External Legal costs directly associated with event • Write-down based on GAAP
Regulatory Action	*Fines, or the direct payment of any other penalties, such as license revocations*.	• Fine paid for regulatory violation • Attorneys' fees paid for representation at hearing on regulatory violation
Loss or Damage to Assets	*Direct reduction in value of physical assets due to some kind of accident (e.g., neglect, accident, fire, earthquake)*.	• Cost to relocate short-term, business continuity • Use of 3rd party supplier to continue business • Costs associated with making premises fit for business after fire, flood or other disaster • Write-downs / write-offs of assets due to fire, flood or other natural disaster • Loss/destruction of intangible property (e.g., data)
Restitution	*Payments to third parties on account of operational losses for which the bank is legally responsible*	• Claim from client due to business interruption loss (for which bank is are responsible) • Pricing error results in claim from client for compensation by the bank • Net interest cost due to delays in settlement • Confidential client information lost in burglary, client suffers loss and claims against bank • Employee fraud results in bank replacing lost client funds/assets • External fraud results in loss of client funds requiring the bank to make a payment to the client to make good the loss
Loss of Recourse	*Losses experienced when a third party does not meet its obligations to the bank, and which are attributable to an operational mistake or event (i.e., which could have been avoided even though the counterparty refused or was unable to pay)*	• Funds transferred by mistake to incorrect or duplicate payments made, unable to be recovered. • Credit-related operational loss: loan documentation errors, monitoring inadequacies, failure to perfect security interest [subject to discussion] • Inability to enforce netting agreement due to inadequacies in documentation or failure to verify counterparty [subject to discussion re status as credit vs. operational loss]
Write-down	*Direct reduction in the value of assets due to theft, fraud, unauthorized activity or market or credit losses arising as a result of operational events*.	• Failure to deliver / acquire asset in time and market price moves • Losses from unauthorised trade ("rogue trading") • Loss from excession trades (in excess of established market exposure limits) • Pricing error results in lower-than-expected revenue • Employee fraud results in bank writing-off the loss • External fraud or theft results in loss of bank assets/revenues • External security breach results in hiring of consultants to determine nature of problem and fix it
Further Considerations (not category specific)		• Costs related to consultants / third parties to investigate/fix (may be in various categories) • Costs associated with failed outsourcing assignment (may be in various categories) • Control breakdown that leads to an operational loss, requiring consultants to understand the cause of the problem and propose remedies (may be in various categories)