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# Challenges for Operational Risk Measurement and Management

## AIGOR's LDCE Proposal

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# Agenda

- Overview of the Proposal
  - Summary of Proposal
  - Purpose of the Exercise
  - Data Being Collected
  - Reporting
  - Data Confidentiality & Security
  - Timeline for the Exercise
- Use of LDCE – The Australian Experience
  - Internal Data
  - Scenario Analysis
- Questions

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# Summary of Proposal

- Scope will be an international Loss Data Collection Exercise (LDCE).
  - The exercise is open to any BIA, TSA or AMA bank in a participating jurisdiction and participation would be on a voluntary basis.
  - The LDCE will collect data on individual operational losses as well as information on scenario analysis, external data, and BEICFs. First exercise to include all four AMA data inputs.
- International collection of loss information is expected to provide a richer time series of more robust data than from a series of individual jurisdiction LDCEs.
- Data Confidentiality and security is a priority with differential treatment for various types of collected data.

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## Purpose of the Exercise

- Gain a greater perspective into the banking industry's loss exposure.
- Gain a broader insight into how banks are using scenarios, external loss data, and BEICFs from both risk measurement and risk management perspectives.
- Obtain a better understanding of the completeness of these data elements and their influence on operational risk capital.
- Provide a means to supplement loss analysis through limited range of practice questions and cross-bank comparisons.
- Provide participating institutions with customized reporting allowing them to benchmark themselves against other participants.

# Collected Data

- LDCE Templates for:
  - Time series of internal loss data that participating institutions view as reasonably complete (Internal Loss Data Template).
  - Data for all material scenarios from their most recent scenario process (Scenario Templates).
  - Supplemental questionnaire to better understand the underlying collection practices for both internal and scenario data (Attachment A).
- Exposure Indicators and Capital Estimates (Attachment B).
  - Data on the results of the 31 December 07 calculation of operational risk capital.
  - Data on group-wide and business line exposure indicators.
  - Data not shared, but kept for use by the participating institution's national supervisor.
- Range of Practice Questionnaire (Attachment C)
  - Data that provide context to how operational risk is measured and managed.
  - Supervisors may choose to use supervisory information to complete responses on behalf of participating banks.

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## Reporting

- Aggregate results would be released publicly, and would be broadly similar to results from previous LDCEs.
- Participants would receive customized analysis comparing their institution's results with other banks.
- Results would also include a range of practice for the four elements.

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# Reporting

- Public Report:
  - Methodology/Scope
  - Analysis of Internal Loss Data
  - Analysis of Scenario Loss Data
  - Operational Risk Quantification Observations
  - Analysis of Supplement Range of Practice Data

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# Reporting

- Customized Reports

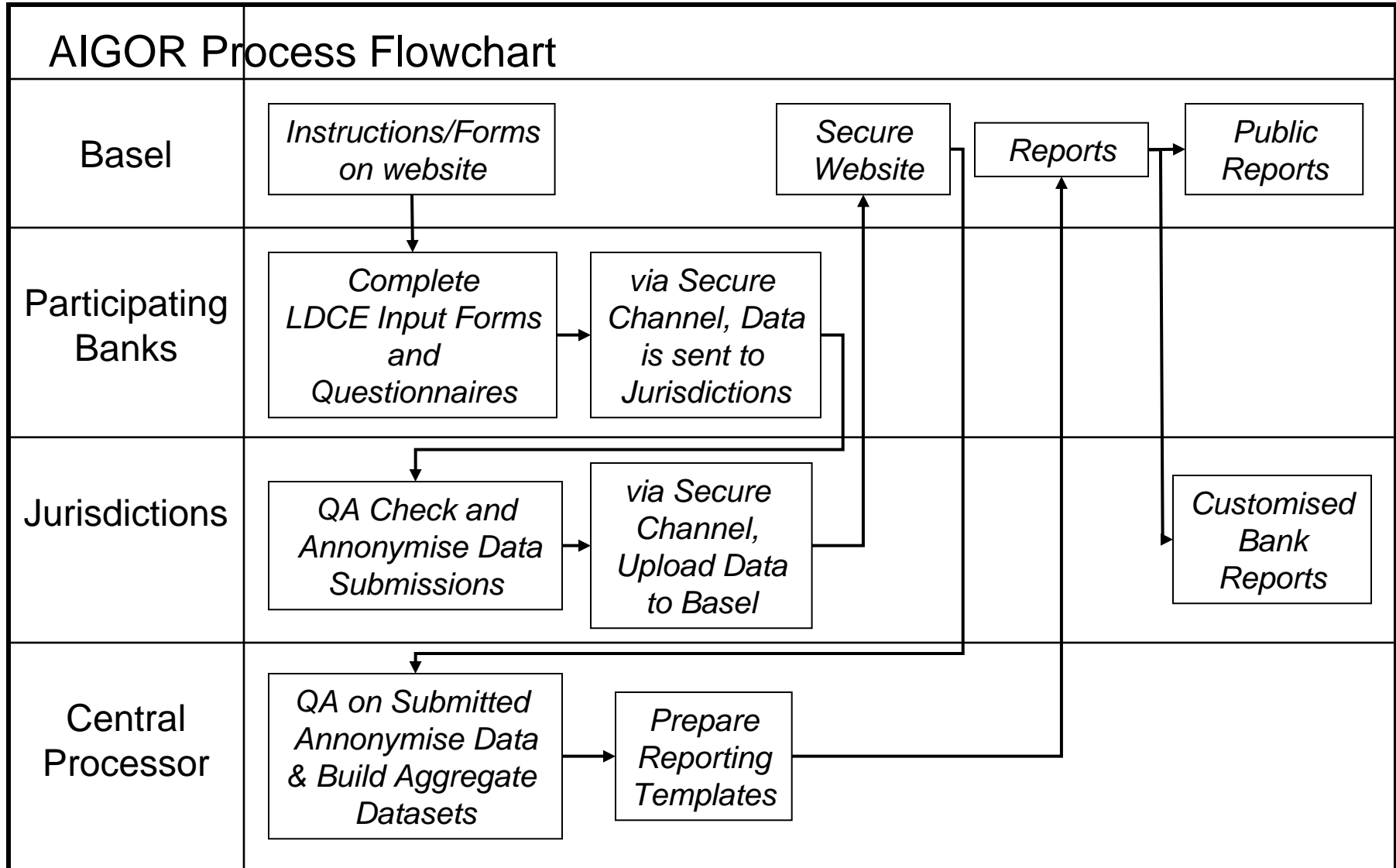
- Internal Loss and Scenario Data
  - Summary of Findings
  - Comparisons with industry and national/regional benchmarks
- Operational Risk Quantification
  - Qualitative comparisons
  - Quantitative comparisons
- Range of Practice Comparisons



# Data Confidentiality & Security

- Data confidentiality and security was a priority in developing the exercise
  - Data will be handled in a manner similar to the 2002 LDCE, with some additional controls.
  - Data with participant name will have access restriction to only authorized staff of the institution's national supervisor.
  - Differential treatment to each of the three sets of submitted data.
    - Internal Loss and Scenario data and Attachment A anonymised, and will be shared with AIGOR members.
    - Individual exposure data (Attachment B) will not be shared outside approved staff of the national supervisor.
    - Range of Practice (Attachment C) anonymised, and will be shared with AIGOR members
- Data will be 'anonymised' by the National Supervisor:
  - Bank name replaced on all templates and attachments with a country or regional identifier.
  - For internal loss data, country of loss replaced by regional/geographic codes.
  - Internal loss and scenario data translated into Euros.
  - Scenario descriptions redacted to eliminate bank, country, etc. identifiers.
- Basel Secretariat is Custodian for all data used in the exercise.

# Data Confidentiality & Security



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## Timeline

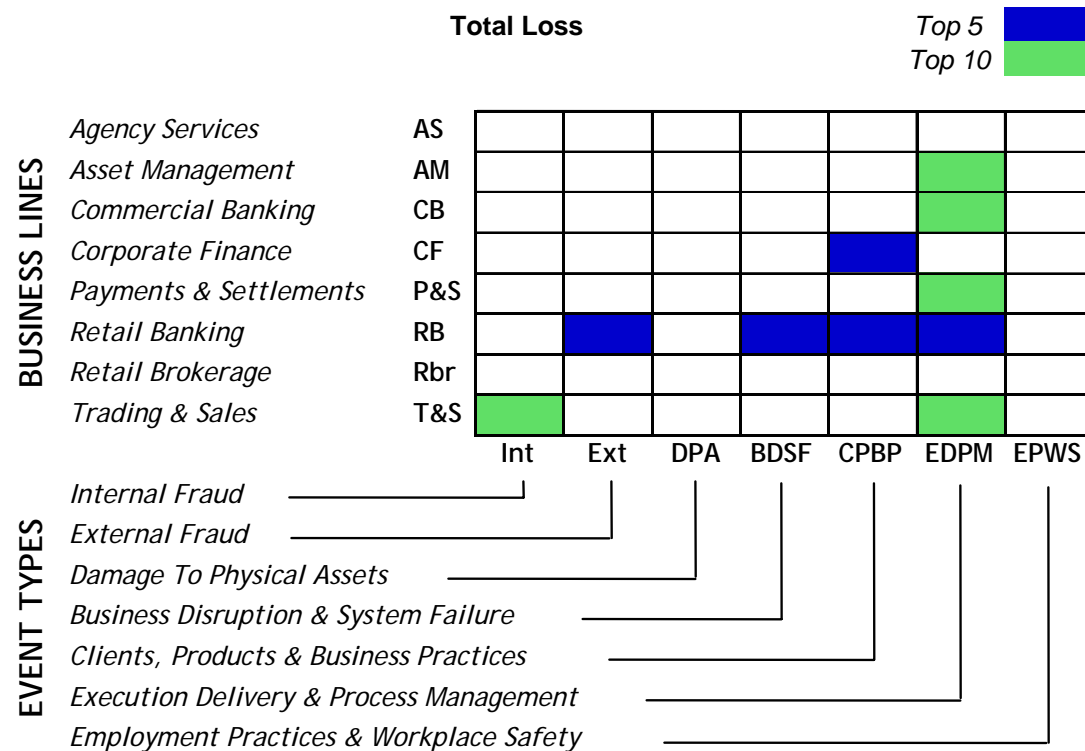
- 1 May 2008 public release of LDCE to participating banks through participating national supervisors.
- By 30 June 2008, participating banks submit data to participating national supervisors.
- By 31 July 2008, National Supervisors ‘anonymise’ data and send to Basel Secretariat.
- By 1 September 2008, Secretariat distributes ‘anonymised’ data to national supervisors and “Central Processor.”
- By 1Q09, Public LDCE report issued
- By 2Q09, national supervisors discuss individual reports with participating institutions.

# Use of LDCE – The Australian Perspective

## ILD Benchmarking

Many banks use qualitative assessments and judgements to monitor and control their operational risk exposure. Over the recent past, the number of international large scale unexpected operational risk losses has created some global unease about the soundness of traditional operational risk management practices. Australian AMA banks have used ILD to

improve their risk management practices through the identification of emerging trends in their loss profile and for consideration in the scenario elicitation process in the capital calculation.



The adjacent chart depicts the top 5 (by loss severity) Basel Business Line /Event Type combinations experienced by Australian AMA banks.

# Use of LDCE – The Australian Perspective

## KRIs and BEICFs

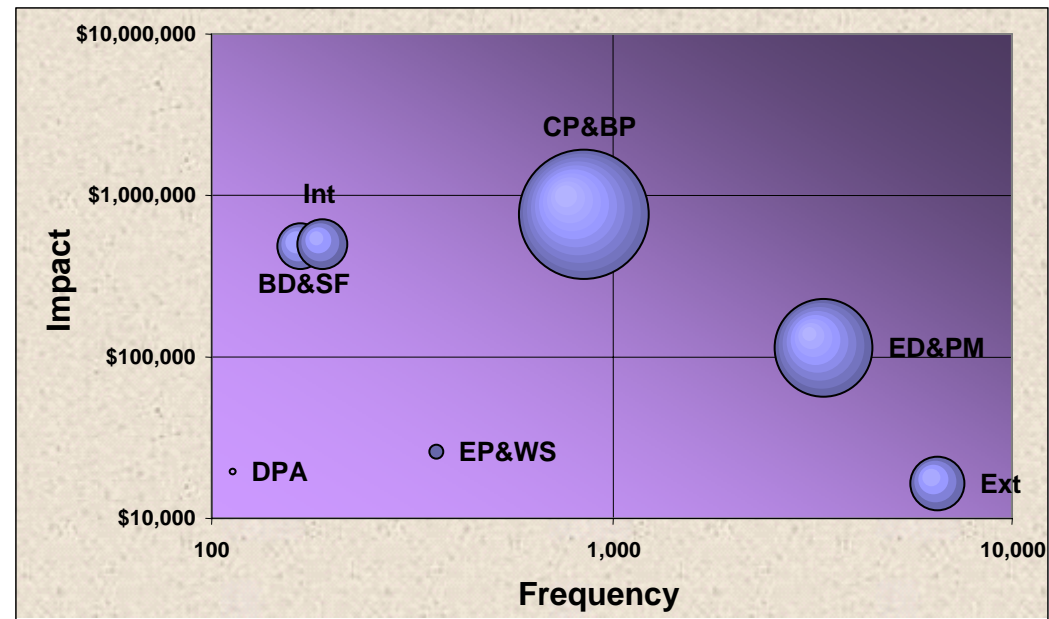
Using ILD as an input into KRIs and BEICFs, Australian AMA banks are able to closely monitor the key risks in their business and track outstanding items. Oversight reports, such as the one below, form an integral part of the risk management process for AMA banks.

Risk Category	Bank Rating Trend		Estimated Losses % of total	Economic Capital % of total	Status and actions
	Feb-07	Dec-07			
Staff fraud and unethical behaviour	A →	A →	32.6	27.2	The ongoing investigation of fraudulent credit card applications perpetrated by former staff members has determined the fraud loss is \$5m with 120 customers impacted between October 2005 and 2007.
External fraud	R →	R →	50	8.2	\$4m of estimated losses were identified during the period. fraud write offs totalled \$9m, which continues the low trend from the prior period
IT Security	A ↓	A →	0	0.9	Update: High – Review of Database Control Framework. Actions are continuing to address deficiencies in the database control framework to improve confidentiality, integrity and availability of data.

# Use of LDCE – The Australian Perspective

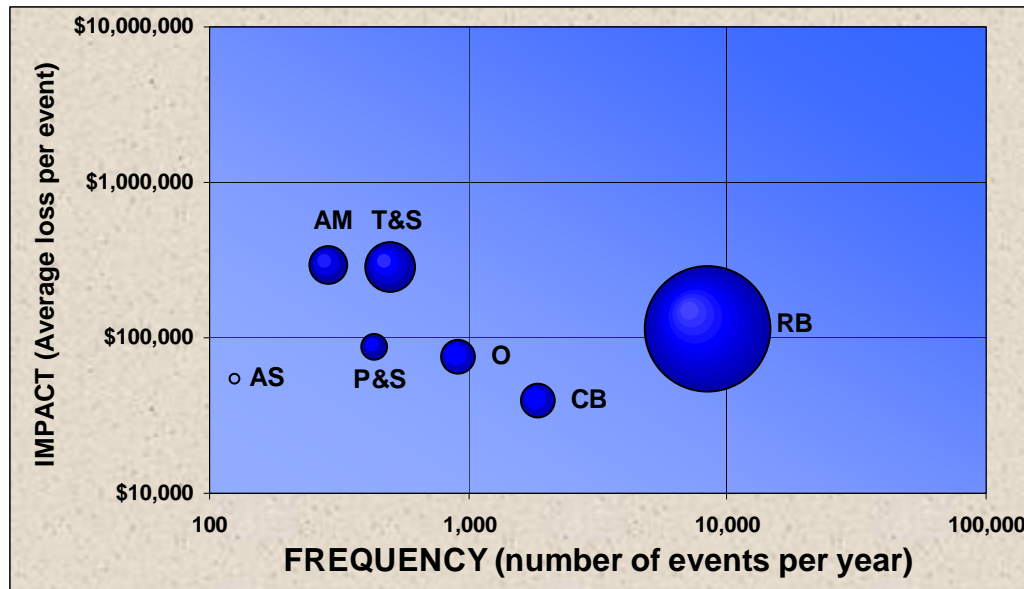
## Event Type Analysis

Throughout the accreditation process [Oct 05 – Dec 07] APRA collected loss data from each AMA bank. Using the data, APRA compared the loss experience of the AMA banks and focused on areas of concern. The analysis allowed for benchmarking across the AMA banks and identified emerging risk types and trends in the industry.



- The size of the bubble represents the total impact of losses from that Business Line.
- The position of the bubble on the impact axis represents the average impact of each loss.
- The position of the bubble on the frequency axis represents the average number of data points per year that have been collected for that business line

# Use of LDCE – The Australian Perspective



## Business Risk

APRA assessed whether data sources included in the AMA capital calculation adequately reflected the amount of risk in each business line.

Banks have identified which business lines and risk types are prone to losses. This has resulted in more effective capital and focussed risk management.

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- The position of the bubble on the impact axis represents the average impact of each loss.
- The position of the bubble on the frequency axis represents the average number of data points per year that have been collected for that business line.

# Use of LDCE – The Australian Perspective

## Scenario Analysis

Whilst Australian AMA banks place varying importance on the use of scenarios, they are a dominant influence in the calculation of AMA regulatory capital. The collection of robust scenario analysis data through the LDCE should allow for easier benchmarking across institutions.

	No. of Australian AMA Banks
Percentile Approach	3
Interval Approach	2
Individual Scenario	1

Given that no industry consensus on the best approach to elicit information in scenario workshops has evolved, a standard statistical comparison between banks may be difficult. However, great benefit can be obtained through the comparability between the types of scenarios elicited by each bank. Although each bank will elicit scenarios which are unique to their business strategy and risk profile, commonality can be obtained between the Business line/ Event type combinations.



# Use of LDCE – The Australian Perspective

## Scenario Analysis Benchmarking

The table below shows the approximate percentage impact of each event type on the Scenario Analysis component of the total operational risk capital for a sample of Australian AMA banks.

	Bank A	Bank B	Bank C	Bank D
Execution, Delivery & Process Management	30	32	46	22
Internal Fraud	33	28	17	13
Clients, Products & Business Practices	31	5	19	24
External Fraud	-	20	9	11
Business Disruption & Systems Failures	6	10	4	23
Damage to Physical Assets	1	3	-	3
Employment Practices & Work Safety	-	2	3	4
	100	100	100	100
Scenario percentage of total OpRisk Capital	100	50	54	98

‘Clients, Products & Business Practices’ accounts for a large proportion of the impact in the scenario analysis component of operational risk capital. APRA compared this type of analysis to the AMA banks’ risk profiles to determine if sufficient emphasis was being placed on key risk types.

# Use of LDCE – The Australian Perspective

## Scenario Analysis Benchmarking

APRA conducted further analysis to ensure the range of scenarios elicited were commensurate with the bank's risk profile.

### Bank B – Top 4 Risks

Level 1	Lvl 1 % Impact on SA Capital	Level 2	Lvl 2 % Impact on SA Capital
Execution, Delivery & Process Mgmt	32	Unauthorised Processing	10
		Failure to Adhere to Credit Policy	4.5
Internal Fraud	28	Intent to Commit by Bank Staff	20.7
		Undetected Deceptive Practices	3.6
External Fraud	20	Intent to Commit by External Parties	16.4
		Collusion	3.6
Business Disruption and System Failure	10	Insufficient System Capabilities	7.8

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Questions?

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