Enhancing Risk Management and Governance in the Region's Banking System to Implement Basel II and to Meet Contemporary Risks and Challenges Arising from the Global Banking System

Training Program ~ 8 – 12 December 2008
SHANGHAI, CHINA

Session 6.1

Operational Risk Management and Capital Regulation

Mr Luo Ping
CBRC

Operational Risk Management and capital regulation

A perspective of Chinese banking regulator

Luo Ping

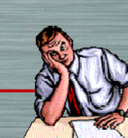
Luoping@cbrc,gov.cn

China Banking Regulatory Commission

At APEC workshop Shanghai, Dec 10 2008

outline

- What is Op risk?
- Internal governance for ORM
- Key risk indicator
- Capital requirement for OR
- Loss distribution for OR
- Issues to implement ORM of Basle II



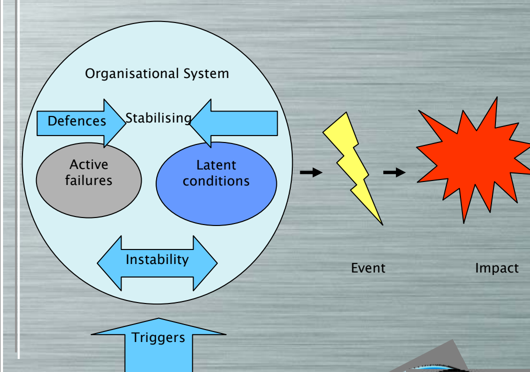
What is operational risk?

Operational Risk (OR) is the risk of loss resulting from inadequate or failed internal processes, human behaviour, systems, or from external events. The definition includes legal Risk but excludes strategic and reputational risk

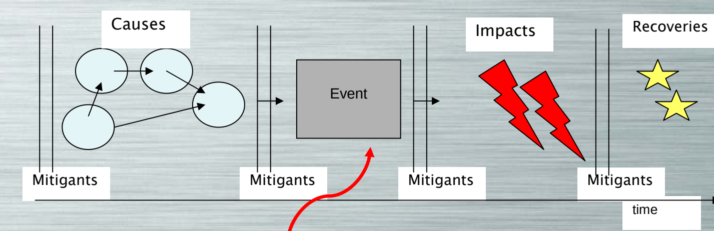
Nature of operational risk

f(people, processes, systems and external)
f(complexity and volume)
Nature of OR
- *Endogenous*
- *Diverse*
- *Dynamic / Non-stationary*
- *HFLS vs LFHS (cost / going-concern)*
- *Non FLLP*

Impacts
Causes
Events
Complex causality



Causality



- Basel Event type Category

Internal Fraud, External Fraud, Employment Practices & Workplace Safety,

Clients, Products & business practices, Damage to Physical Assets,

Business Disruption & System Failure, Execution, Delivery & Process Management

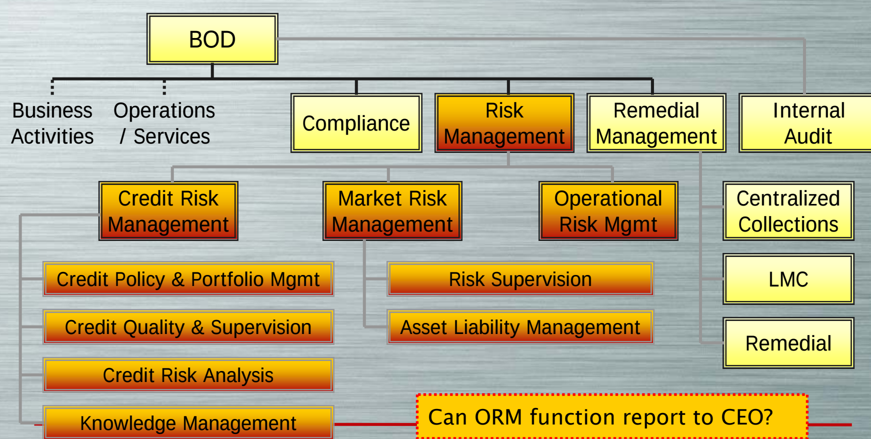
It is important to identify systematically the causes, events and impacts of Operational risk

Outline

- What is Op risk?
- Internal governance for ORM
- Key risk indicator
- Capital requirement for OR
- Loss distribution for OR
- Issues to implement ORM of Basle II

Developing an appropriate

Risk governance environment



Roles and responsibilities of each

Different level of authority will have different roles & responsibilities that need to be set clearly. For example:

Operational Risk Committee

- Assists the BOD to ensure op risks are managed in a manner consistent with the overall ORM policy as approved by the BOD.
- Initiates the development of minimum control standards to manage op risk.
- Evaluates control weaknesses and agrees on appropriate mitigation plans.

Head of Risk Management

- Is an integral member of the senior management team and reports to risk management committees.
- Ensures that all identified risks are managed effectively within appropriate and agreed risk parameters.

Head of Operational Risk

- Is the overall facilitator for ORM.
- Reviews op risk profile and carries out quality assurance reviews of control standards.
- Monitors and analyses risk indicators / loss data.

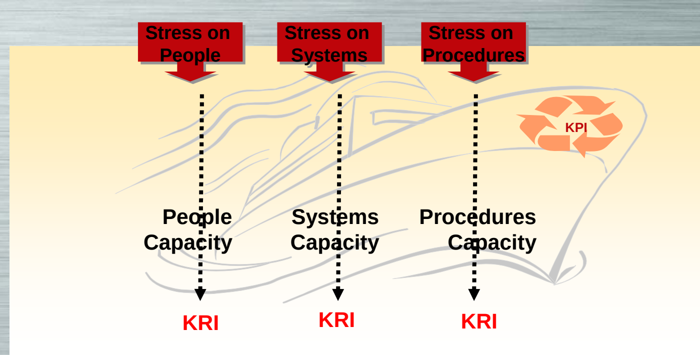
Outline

- What is Op risk?
- Internal governance for ORM
- Key risk indicator
- Capital requirement for OR
- Loss distribution for OR
- Issues to implement ORM of Basle II

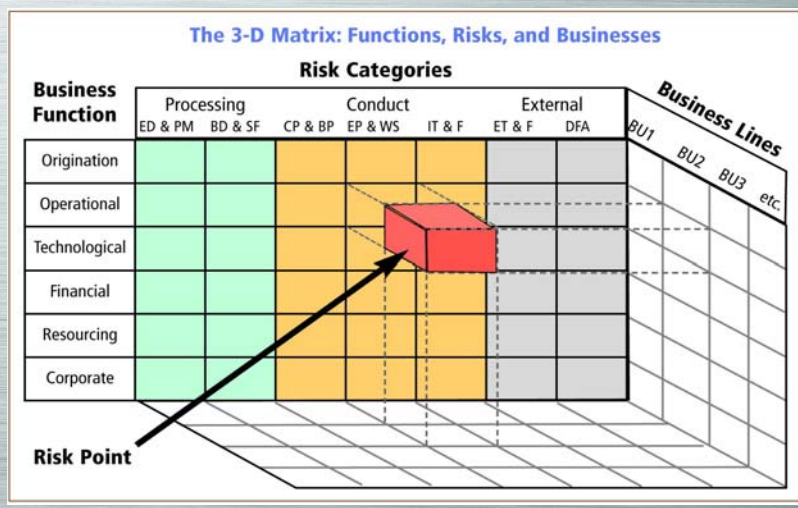
Monitor and report, Key Risk Indicators

KRI are sets of parameters for a business process which are assumed to be highly predictive regarding changes in the operational risk and control profile of that process

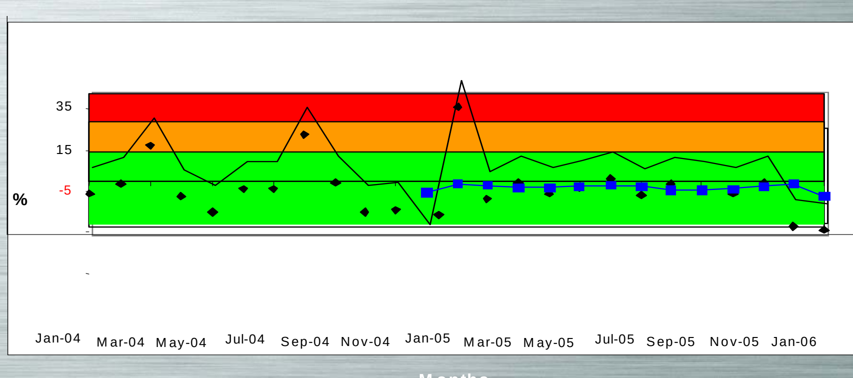
- Key Risk Indicators allow the bank to pro-actively monitor the operational risk status
- Where do Key Risk Indicators come from?



The KRI Framework



KRIs are monitored against Thresholds



OPERATIONAL RISK

MANAGEMENT PROCESS

Prevention measures are most important

High likelihood & high level of operational risk (To Avoid)

- Can put banks out of business or severe reputational harm.
- Difficult to understand.
- Similar issues facing other industries.

Frequency

Impact	Low	High
High	LFHI (D)	HFHI (A)
Low	LFLI (C)	HFLI (B)

Small losses & low probability are acceptable if high costs of prevention

Not risk area. Problems in process, system design & quality mgmt.

outline

- What is Op risk?
- Internal governance for ORM
- Key risk indicator
- Capital requirement for OR
- Loss distribution for OR
- Issues to implement ORM of Basle II

BASIC INDICATOR APPROACH

- Capital charge is based on the average of a fixed percentage (alpha) of positive annual gross income (GI) over the previous 3 years

Capital charge = $[\sum(GI_{1..n} \times \alpha)] / n$

- GI : net interest income + net non-interest income as defined by national supervisors and/ or national accounting standards
- $\alpha = 15\%$

- No qualifying criteria – encouraged to comply with sound practices paper

- Not expected to be used by internationally active banks or banks with Significant operational risk exposures

THE STANDARDISED APPROACH

- Bank activities mapped to 8 business lines framework
- Capital charge for each business line calculated by multiplying an indicator by a factor assigned to that business line

– Indicator: annual GI (as described in BIA)

– Factor: beta (β) established by the BCBS

- Total capital charge is based on the 3 year average of the simple summation of the regulatory capital charges across each of the Business lines in each year

Capital charge = $\{\sum_{\text{years } 1-3} \max[\sum(GI_{1-8} \times \beta_{1-8}),0]\} / 3$

ALTERNATIVE STANDARDISED APPROACH

- Option available at national discretion
- Same as TSA except for two business lines
- For retail banking (RB) and commercial banking use' loans & advances' Instead of gross income
- The multiplier is set at 0.035

RB Capital charge = $LA_{RB} \times 3.5\% \times \beta_{RB}$

- Capital for those other 6 business lines remain the same.

AMA & APPROACHES

Concept	Main input	Advantages	Disadvantages
Loss Distribution Approach (mainly top down)	Internal and / or External data	▪ Objective, if data is representative and sufficient, complete and accurate. ▪ Well known statistical concepts can be used to establish the capital charge.	▪ Data might not be representative ▪ Data scarcity ▪ Statistical concepts ▪ Backward looking
Scorecard approach (mainly bottom up)	Risk and Control assessments	▪ Forward looking, if leading risk information (e.g. KRIs) is used. ▪ Utilises business experience and intelligence.	▪ Subjective ▪ Aggregation issues ▪ Statistical concepts less well developed
Scenario approach (Top down and / or Bottom up)	Scenarios	▪ Utilises expert experience and their views methodologically to reduce bias.	▪ Remains subjective ▪ Aggregation issues ▪ Issue of completeness (e.g. how many scenarios?

Outline

- What is Op risk?
- Internal governance for ORM
- Key risk indicator
- Capital requirement for OR
- Loss distribution for OR
- Issues to implement ORM of Basle II

Loss distribution for LDCE

% of total gross loss amounts

% of total # of loss events

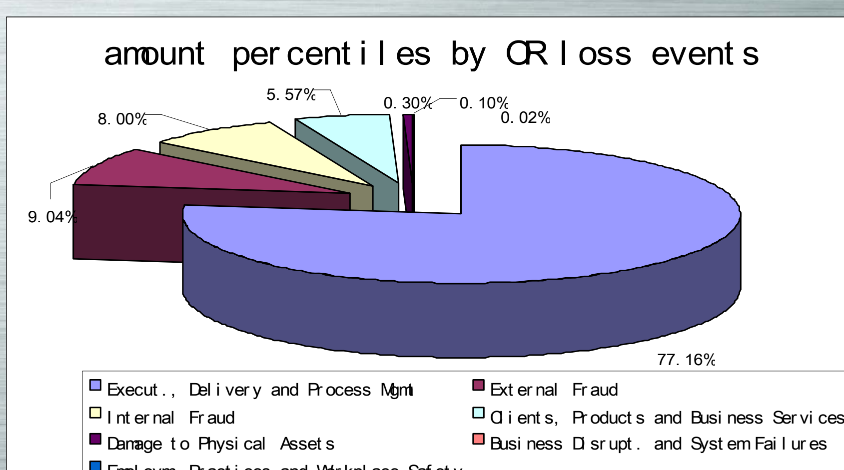
LOSS EVENT TYPE / BUSINESS LINE	Intl Fraud	Extl Fraud	Employ. practices and Workplace Safety	Clients, Products and Business Services	Damage to Physical Assets	Business Disrupt. and System Failures	Execut., Delivery and Process Mgmt	Total
Corporate Finance	0.04% / 0.63%	0.04% / 0.06%	0.15% / 0.03%	0.15% / 2.03%	0.03% / 0.10%	0.02% / 0.01%	0.45% / 0.64%	**0.89%** / **3.51%**
Trading and Sales	0.10% / 0.76%	0.20% / 0.52%	0.21% / 0.83%	0.23% / 2.48%	0.07% / 1.13%	0.29% / 0.23%	9.74% / 8.96%	**10.9%** / **14.9%**
Retail Banking	2.68% / 4.26%	36.2% / 10.1%	4.36% / 4.36%	4.50% / 3.26%	1.10% / 1.12%	0.34% / 0.34%	11.2% / 5.45%	**61.1%** / **29.4%**
Commercial Banking	0.18% / 0.27%	3.81% / 4.17%	0.17% / 0.26%	0.65% / 2.01%	0.11% / 13.8%	0.10% / 0.23%	2.14% / 7.95%	**7.22%** / **29.0%**
Payment and Settlement	0.05% / 0.29%	0.68% / 0.27%	0.11% / 0.15%	0.05% / 0.13%	0.02% / 0.19%	0.17% / 1.01%	2.82% / 1.20%	**3.92%** / **3.25%**
Agency and Custody Services	0.01% / 0.00%	0.03% / 0.05%	0.04% / 0.10%	0.06% / 0.06%	0.02% / 1.28%	0.07% / 0.51%	2.92% / 2.23%	**3.15%** / **4.25%**
Asset Management	0.06% / 0.08%	0.09% / 0.06%	0.08% / 0.13%	0.28% / 0.99%	0.01% / 0.03%	0.03% / 0.03%	1.77% / 1.45%	**2.35%** / **2.78%**
Retail Brokerage	0.12% / 0.79%	0.04% / 0.02%	1.68% / 0.65%	1.14% / 2.03%	0.01% / 6.58%	0.11% / 0.36%	3.75% / 1.25%	**6.91%** / **11.7%**
Total	**3.31%** / **7.23%**	**42.4%** / **15.5%**	**8.52%** / **6.76%**	**7.17%** / **13.1%**	**1.40%** / **24.3%**	**1.14%** / **2.73%**	**35.1%** / **29.4%**	**100%** / **100%**

* Sample of 89 banks, 47,269 loss events and €7.8 billion in OR-related losses reported in 'The 2002 Loss Data Collection Exercise.

Loss distribution for some local banks

Loss causes	Event numbers	Number percentile	Amount percentile
Human factors	1982	41.44%	54.66%
Internal process	1756	36.71%	32.69%
External events	525	10.96%	12.55%
System factors	521	10.89%	0.10%

Loss distribution for some local banks



Note: it is only for reference.

outline

- What is Op risk?
- Internal governance for ORM
- Key risk indicator
- Capital requirement for OR
- Loss distribution for OR
- Issues to implement ORM of Basle II

10 implementation issues

Processes, systems and capital allocations are easy

– the problems are the "people issues":

1. Creating **the framework** – consensus on the right risk categorisation structure
2. Getting **user involvement** – the necessary amount from the right people
3. Deciding on **how much data** to collect – too little = poor statistics, too much = inaccurate data
4. Gaining **regulatory approval** – different interpretations/numerics in different jurisdictions
5. Building a **risk culture** – everyone knows what risk is
6. Achieving **user acceptance** – "why am I doing this?" "I have better things to do!"
7. Ensuring **clean data** –completing data correctly
8. Integrating **feedback** and statistics – to improve the system
9. **Cleaning previous data** – which may be incomplete
10. **Updating the system** – changing processes, risk categories (framework) and upgrading systems

Thanks!