External Data for Operational Risk Management

Bank of Japan Workshop
19th March 2008
Positioning Statement

RiskBusiness is an advisory services firm:

- Consisting of industry practitioners with many years hands-on risk management experience
- Focussed on operational risk within an enterprise risk environment
- Continuously invests in extending industry initiatives, content, developing the “Toolkit” for Op Risk Practitioners
- Developed and delivers KRI Services for the RMA – including KRI Benchmarking & Monitoring Services
- Developed and deployed a range of ASP solutions for its clients, including a loss data consortium service
- Is not solely in the loss data consortium business itself
Geographic Coverage

- Staff located in:
  - London (business)
  - Birmingham (technical)
  - New York (business)
  - Toronto (business)
  - Zurich (business and analytical)
  - Auckland (business)
  - Sydney (analytical)
  - Hong Kong (business)
  - Nicosia (analytical)
  - Mumbai (business and technical)
Background Information

- A **sound operational risk management** framework relates not only to a bank’s ability to keep records of internal loss data but also to **access to comprehensive and relevant external loss data**.

- External loss data has **two forms**:
  - Public loss data, derived from public information by research
  - Pooled or consortium loss data, provided by participants for mutual use

- Commercial **public loss data offerings** usually cover high-profile public events often **characterised by high-severity** (e.g. above 1 million USD) and **low-frequency**.
  - Not comprehensive !
  - Often inaccurate !
  - Not necessarily relevant !
  - Usually biased in one way or another !
Benefits (Uses) of External Loss Data

External loss data can be used for:

- **Complementing internal loss data** in business areas or risk categories (e.g. fraud) where internal data are scarce;

- **Capital Modelling** – inclusion of data for establishing tail parameters;

- **Scenario analysis:**
  - Generating potential events that occurred in peer banks;
  - Reducing subjectivity of scenario loss and frequency values provided by business analysts / process owners in scenario analysis/ RCSA workshops.

- **Assessing effectiveness** of internal controls;
Benefits (Uses) of External Loss Data

External loss data can be used for:

- **Refining existing key risk indicators** and developing new ones;

- **Benchmarking** of own loss profile with peer firms;

- **Risk Management** through provision of valuable analysis and insights derived from scaling; e.g.
  - most frequent/severe risk category,
  - losses as % of gross income
  - # of $ mm losses per $ Bn of Assets etc.
Benefits (Uses) of External Loss Data

Table 1: Losses as % of Gross Income

<table>
<thead>
<tr>
<th></th>
<th>Q1 07</th>
<th>Q2 07</th>
<th>Q3 07</th>
<th>Q4 07</th>
<th>FY07</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>0.50%</td>
<td>0.75%</td>
<td>0.80%</td>
<td>0.65%</td>
<td>0.68%</td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Local Data Consortium

Global Comparative

- Comparison of local consortium or individual bank data to global comparatives is interesting but also of limited value

Table 2: Losses as % of Gross Income

<table>
<thead>
<tr>
<th>Bank A</th>
<th>Bank B</th>
<th>Bank C</th>
<th>Bank D</th>
<th>Bank E</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.44%</td>
<td>0.39%</td>
<td>0.21%</td>
<td>0.59%</td>
<td>0.18%</td>
</tr>
</tbody>
</table>

Local Data Consortium

Local Data Consortia

- Comparison of individual bank data with local consortium has direct relevance to local risk management and capital measurement
Benefits of a Local Consortium

- Far more relevant than foreign external data.
- Statistically more complete than data derived from public sources.
- Data tends to be more homogeneous, mainly because of similar business mix, business environment and business volumes.
- Higher data quality as data is under consortium member’s control and governance.
- Can address the specific needs and requirements of consortium members through local governance:
  - Data categorisation issues, anonymity issues, scaling issues,…
- Co-operation can be leveraged into other spheres
  - Pricing e.g. insurance, then using collective bargaining to secure better cover at lower cost.
  - Risk types e.g. credit risk - PD, LGD, EL etc
  - Other industries e.g. cross industry issues such as electronic fraud.
Lessons Learned – In General…..

- Lessons have been learned the hard way!
- Data quality in the first few submission cycles is usually poor but it improves significantly from one cycle to the next cycle;
- Use of established Consortiums can help participants avoid repeating others’ past mistakes and omissions;
- Concerns around competitive advantage, confidentiality and discoverability are misleading tangents;
Lessons Learned – On Data….

- Typical data quality issues include:
  - **Not all losses are reported** for a specific risk category and business line; **midrange losses often missing in relation to large losses**. As a result, loss volatility is high whereas average loss values are relatively small:
    - A Consortium will ensure that submitted loss rates are exhaustive and statistically complete.
  - **Risk category misclassification** issues:
    - A Consortium can provide banks with classification trees (taxonomy) to ensure consistent classification of data (e.g. event type classification trees).
  - **Operational risk exposures are likely to be different across countries or regions**:
    - Hence establishment of ‘local’ consortia between participants with similar business mix, business environment, and business volumes.
Lessons Learned – On Data……

Typical data quality issues include:

- Some banks submit data according to their own 
  **internal loss reporting thresholds:**
  - The Consortium will agree with participating banks on the use 
    of the **lowest common reporting threshold** possible for data 
    submission purposes.

- **Confidentiality versus Data Usefulness trade-off**
  - **Event description:** Event type level 2 does not provide 
    adequate information:
    - Consortiums typically like to use event types level 3 and 
      level 4 that are granular enough, easy to understand, 
      without disclosing event details
  - **Scaling factors:** Average Gross Income or other averaged 
    scaling factors are of additional value to participants e.g.
    - scaling to an ‘average bank’ and to ‘your bank’.
Lessons Learned - From Experience…

➤ Experience tells us:
  ▪ **Low level of classification attributes** in data taxonomy – restricts analytical opportunities.
  ▪ **Major effort to add further classification** attributes post fact.
  ▪ **Over-concern on secrecy and confidentiality** comes at a very high price.
  ▪ **Inadequate data quality assurance** – spoilt market image, restricted use.
  ▪ Selecting a **non-standard, causal approach** makes data less useful.
Lessons Learned - From Experience…

Experience suggests:

- **Higher upfront effort is rewarded** with richer data content;
- **High functionality can be achieved quickly** (less than 3 months) and reasonably;
- **Local “cohesiveness” facilitates easier agreement** on taxonomy issues, parameter setting and approach;
- Offering show allow individual members can **select the level of service** they are prepared to pay for;
- **Real-time data capture and data pooling** on an additive basis is far more useful than periodic submissions;
Scaling Broadens Consortium Appeal

➢ The capture of additional “scaling” factors enables comparative analysis and facilitates “benchmark” reporting.

➢ Collection of scaling factors is optional

➢ Enables the comparison of small and large institutions on a “like for like” basis.

➢ Eliminates “size bias” and broadens membership of Consortium across the whole industry.

➢ Types of scalers can include:
  ▪ Gross Income & Total Asset,
  ▪ Headcount, Transaction Volumes
  ▪ Client Accounts etc, etc.
Loss Data Consortium Service

In response to market demand, Risk Business developed its Loss Data Consortium Service:

- **A subscription service** which delivers a complete LDC “in a box”, including all necessary data standards, contracts, etc. to a banking association;

- It **facilitates** “real-time” on-line data submission, quality assurance, anonymisation, analysis and reporting;

- It is typically deployed as an ASP solution with **no set-up costs**, **no ongoing running costs**, but simply an annual subscription;

- It is always provided through a **local “facilitator”** who **owns the local data** on behalf of the local market;

- It can also be used to **collect credit exposures and credit default data**, operational losses “near” misses, and operational exposure data pooling.
Existing Consortia

- RiskBusiness is currently establishing **6 regional or country based consortiums** around the globe.
  - Europe
  - Middle East
  - Southern Africa
  - Asia Pacific

- Across these consortia there are **approximately 200 member participants**

- **Data sharing** between individual consortia or across all consortia can be facilitated
Overview of RBI Offering:

- The Loss Data Consortium Service employs the following core principles:
  - **Data confidentiality** through the separation of identifiable data from values used for analysis, with identifiable data encrypted under control of the member.
  - **Data quality**, achieved through collaborative taxonomy evolution, submission assessment, analytical assessment and annual attestation.
  - **Data standardisation** through the use of deeper levels of classification, a broader set of classification structures and associated tools to facilitate the standardisation of classification.
  - **Global reach** through co-operation between serviced facilitators on data sharing.
Highlights of the RBI Offering

- The Loss Data Consortium Service:
  - An on-line solution supporting periodic data submission or “drip-feed” reporting thus potentially facilitating proactive assessment;
  - Parameter driven, allowing enormous flexibility
  - Employs an independent Taxonomy for the population of many data fields;
  - Has a “User Definable” Taxonomy that can be mapped to industry or regulatory taxonomy
  - Is provided with a comprehensive Software Development Kit (SDK) to facilitate members building their own interfaces;
  - Includes a sophisticated scaling methodology and filtering capability.
Highlights of the RBI Offering

- The Loss Data Consortium Service:
  - Can facilitate local language requirements in terms of analytical reporting and data capture;
  - Local Data Ownership for Consortium appeases issues associated with Data and Regulatory Compliance;
An Extensible Data Model

Member Demographics

Business Line

Control Type

Level 1

Level 2

Level 3

Level 4

Product

Geography

Level 4

Process

Cause

Risk Category

© 2008 RiskBusiness International Limited
Additional Fields offer “Value Add”

- “Added Value” analysis and reporting for improved risk management can be achieved through the capture of (optional) additional data fields.
  - Description of Loss Event
    - a short qualitative overview of the nature of the event without compromising confidentiality via online quality assurance review
  - Cause of Loss
    - selection from a pre-defined known causes or free form
  - Primary Control Type Failure
    e.g. Confirmation Matching Failure, New Customer Checklist etc
Currency of Event vs Reporting

- The Loss Data Consortium Service supports the specification of a default consortium currency, as well as default currencies for each member and any part of the member organisation.
  - These default currencies are only used to pre-populate data fields and can be changed at will.

- Loss events should be recorded in actual currency and are stored in that currency.

- The application maintains a complete currency exchange rate database.

- For reporting and analysis, the user may select desired currency and dates to be used.
Filtering for Reporting Relevance

• The Loss Data Consortium Service provides a standard set of reports.

• **Data can be filtered** using user defined filters and the **results downloaded** for member analysis
  - No identifiable data is ever downloaded
  - Parameters control if details may be downloaded or if scaling should be enforced

• An encrypted system linkage table facilitates the Analytical Agent accessing data grouped by member **without knowledge of identity**
Thank you

➢ Any Questions

➢ RiskBusiness Contacts:
  ▪ Asia Pacific
    ◆ Garth Hinton – Executive Director
      (garth.hinton@riskbusiness.com)
    ◆ +64 21 995 134
  ▪ Europe, Middle East and Africa
    ◆ Mike Finlay – Managing Director
      (mike.finlay@riskbusiness.com)
    ◆ +44 7721 969224