

The 2004 Loss Data Collection Exercise

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What is the LDCE?

- A voluntary survey that asked participants to report data on individual operational losses.
- The primary purpose to aid supervisors in better understanding institutions' QIS4 results, as well as the completeness of the internal loss data on which those results are based.

Summary of presentation.

- Background
- Description of the data collected.
- Preliminary data analysis.
- Conclusions and next steps.

Information requested in LDCE

- Full internal loss data underlying the QIS4 results, including insurance and legal entity information.
- We requested all years of data that were used for QIS purposes.
- Additional worksheets requested, including:
 - Business line and event type mappings.
 - Reporting thresholds.
 - Information regarding data completeness.

Logistics

- Approximately 30 institutions were invited to participate. Others were welcome.
- A voluntary exercise, issued in November 2004 on FFIEC website.
- Requested data through 2Q04 or 3Q04.
- We received 23 LDCE responses between December 2004 and April 2005.
- Two prior LDCEs were sponsored by the RMG.

Key questions for LDCE.

- What does LDCE tell us about progress of data collection efforts?
- What does LDCE tell us about data completeness at participating institutions?
- What differences do we see across different business lines and different institutions?
- How can banks and supervisors use the results?
- Can LDCE results help us understand QIS results?

Description of the Data Collected

Data preparation

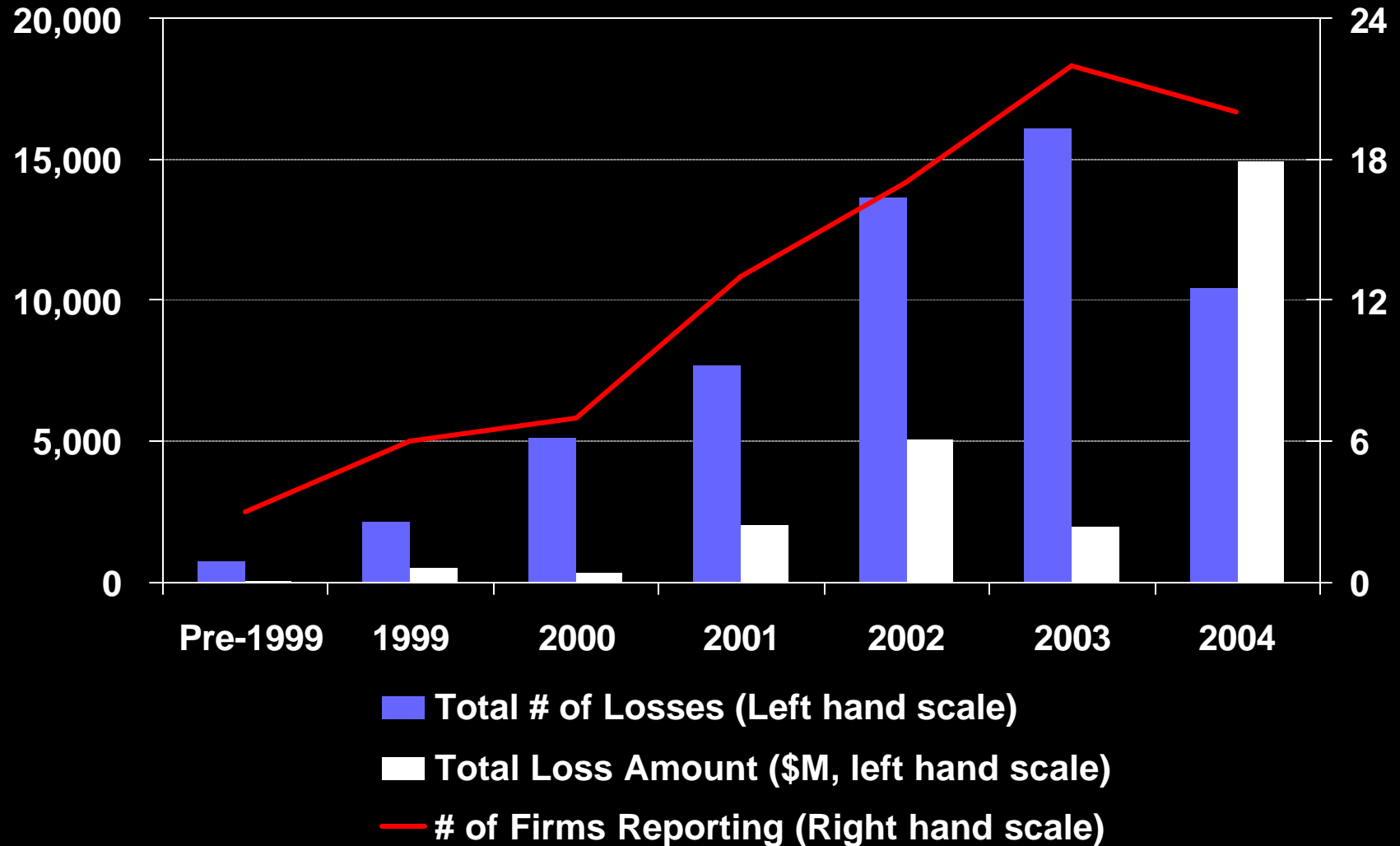
- Business line mapping.
- Application of uniform data threshold.

Threshold	# of Firms	% of all Losses
\$0	6	96.3%
= \$1,000	4	0.8%
\$5,000	4	1.3%
\$10,000	6	0.4%
> \$10,000	3	1.1%
Total	23	100.0%

Descriptive statistics

# of Losses = \$10,000	# of Firms	# of Firms with Comprehensive Data	Total # of Losses = \$10,000	Total Loss Amt. (\$M)
0 – 250	6	2	640	\$212
250 – 1,000	5	2	2,253	\$283
1,000 – 2,500	8	5	13,404	\$8,151
2,500+	4	1	39,469	\$17,275
Total	23	10	55,766	\$25,920

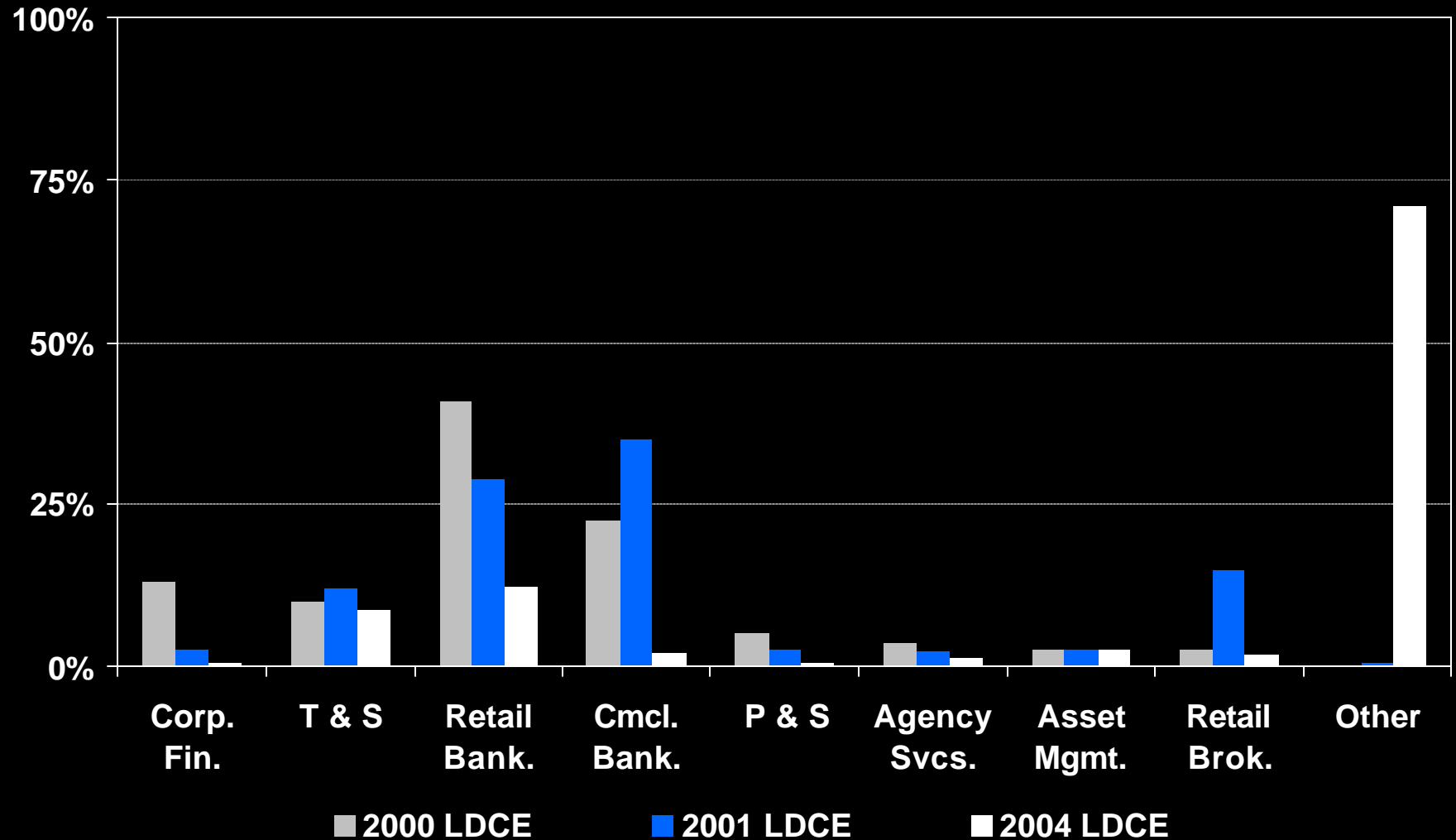
Data collection by year



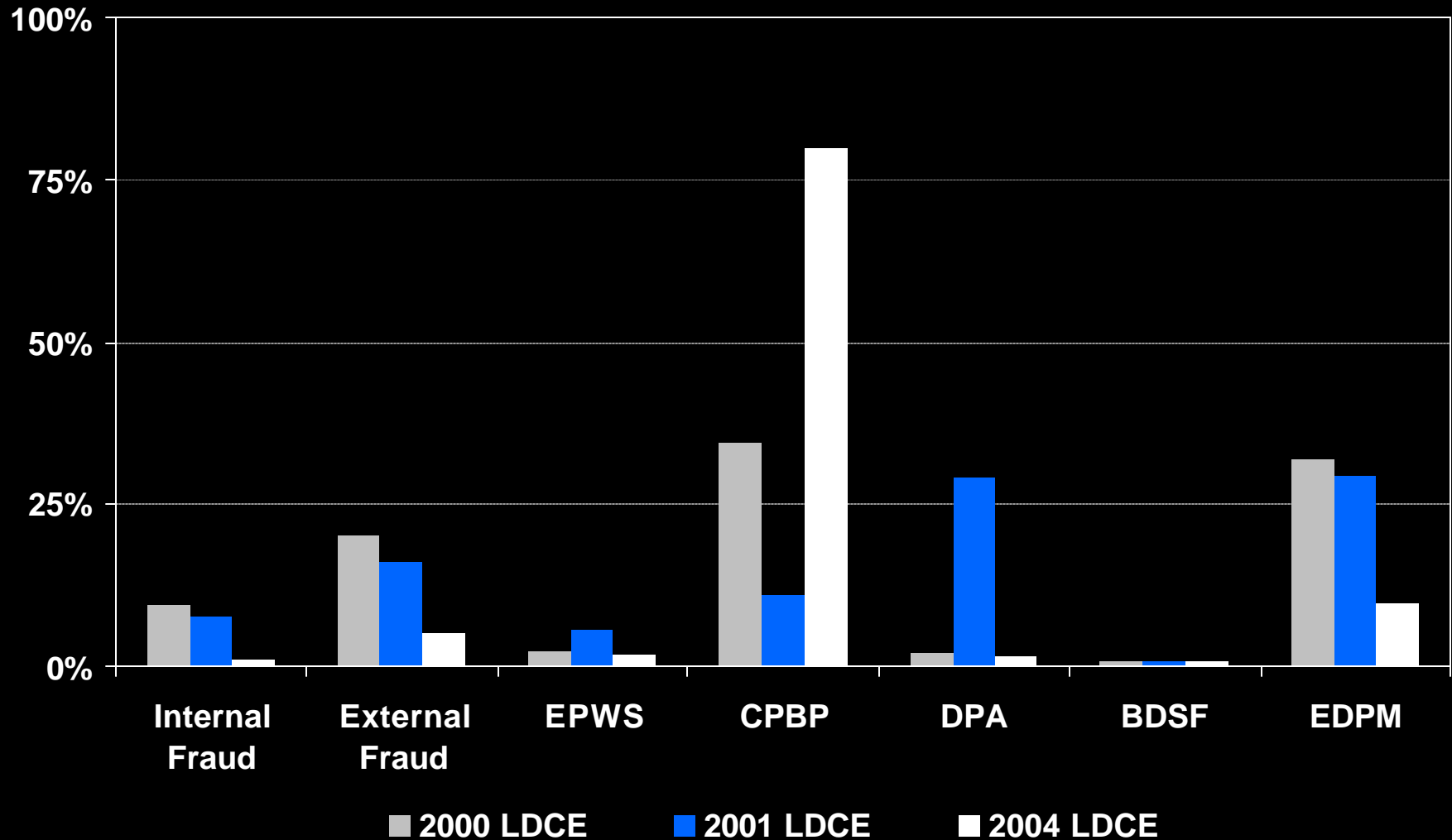
Distribution of loss frequency

- Distribution of loss frequency is largely the same as two previous LDCEs.
- With respect to business line, most losses (60%) occur in Retail Banking.
- With respect to event type, the highest number of losses occurs (39%) in External Fraud, and the second highest (35%) in EDPM.

Loss severity by business line



Loss severity by event type

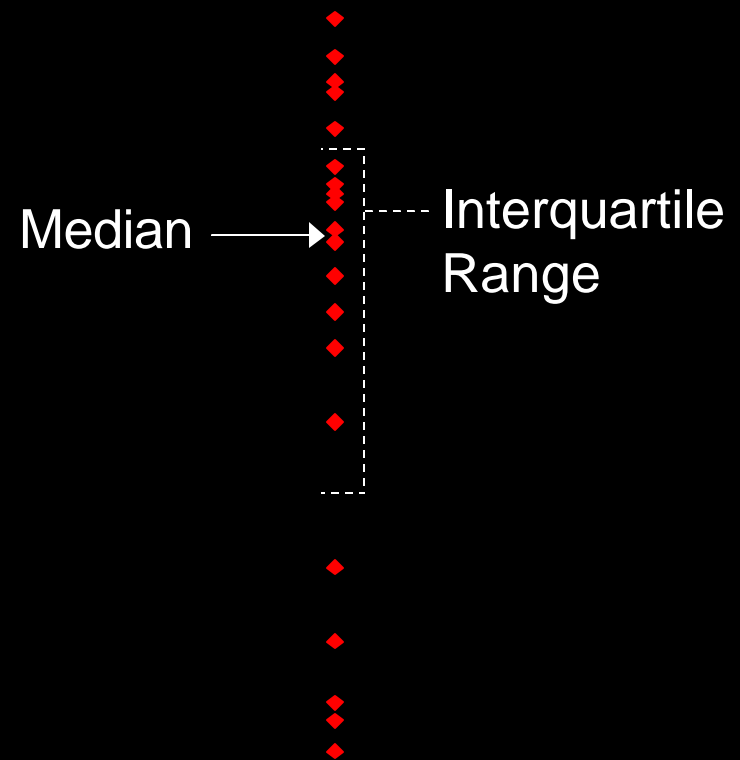


Data Analysis

Key features of the analysis

- Used cross-firm medians in addition to cross-firm aggregates.
- Used the interquartile (IQ) range to characterize cross-firm dispersion.
- Classified participating firms into two groups, based on number of loss observations submitted.
 - Not a judgement on data completeness or quality.

Hypothetical data for 20 firms

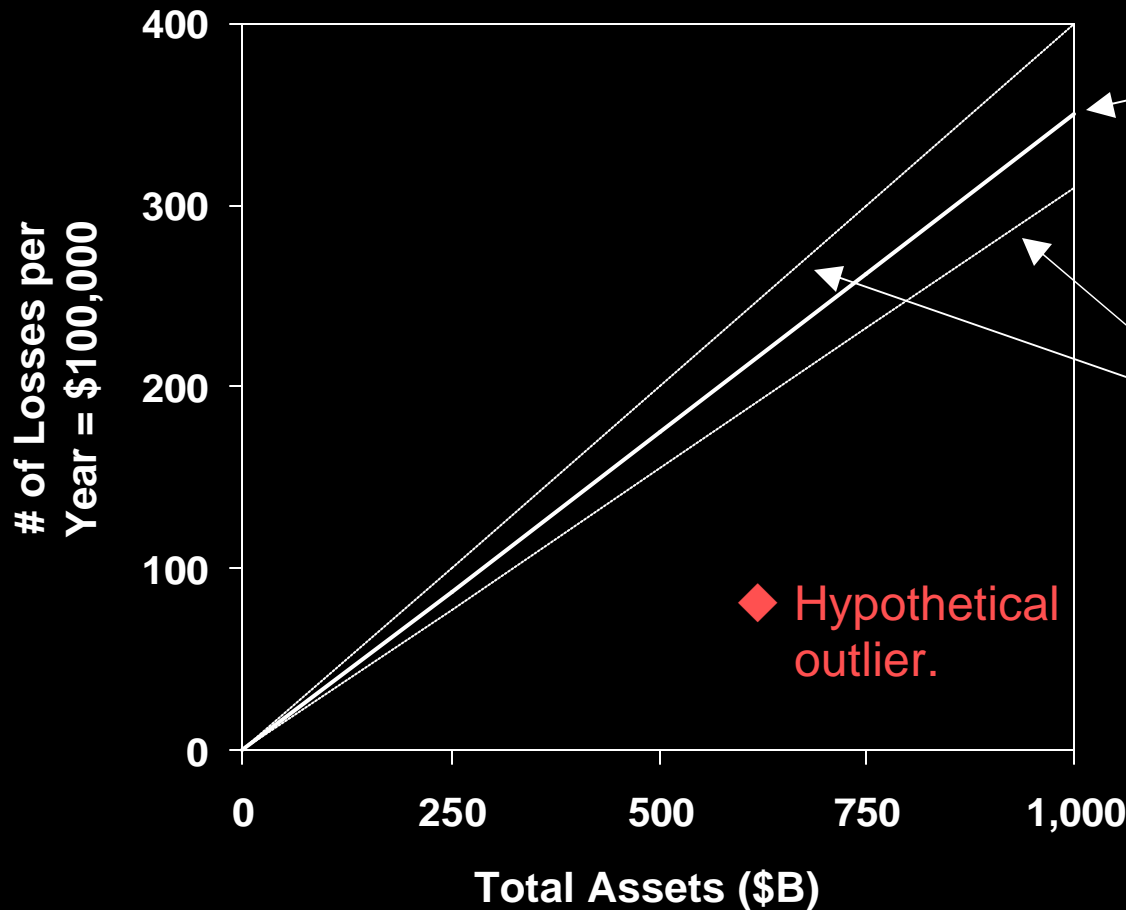


Analysis of loss frequency

Table 8. Annualized loss frequency per Trillion dollars in Assets.

	Losses = \$20k	Losses = \$100k	Losses = \$1M
Firms w. = 1,000 losses			
Median	1760	350	35
IQ Range	(1530 – 2180)	(310 – 400)	(22 – 46)
Firms w. < 1,000 losses			
Median	1230	370	33
IQ Range	(910 – 2100)	(100 – 440)	(0 – 38)

Graphical illustration



● A cross-firm median of 350 losses per year in excess of \$100,000 for each \$Trillion in Total Assets.

● Interquartile range: half of firms had between 310 and 400 losses per year in excess of \$100,000 for each \$Trillion in Total Assets.

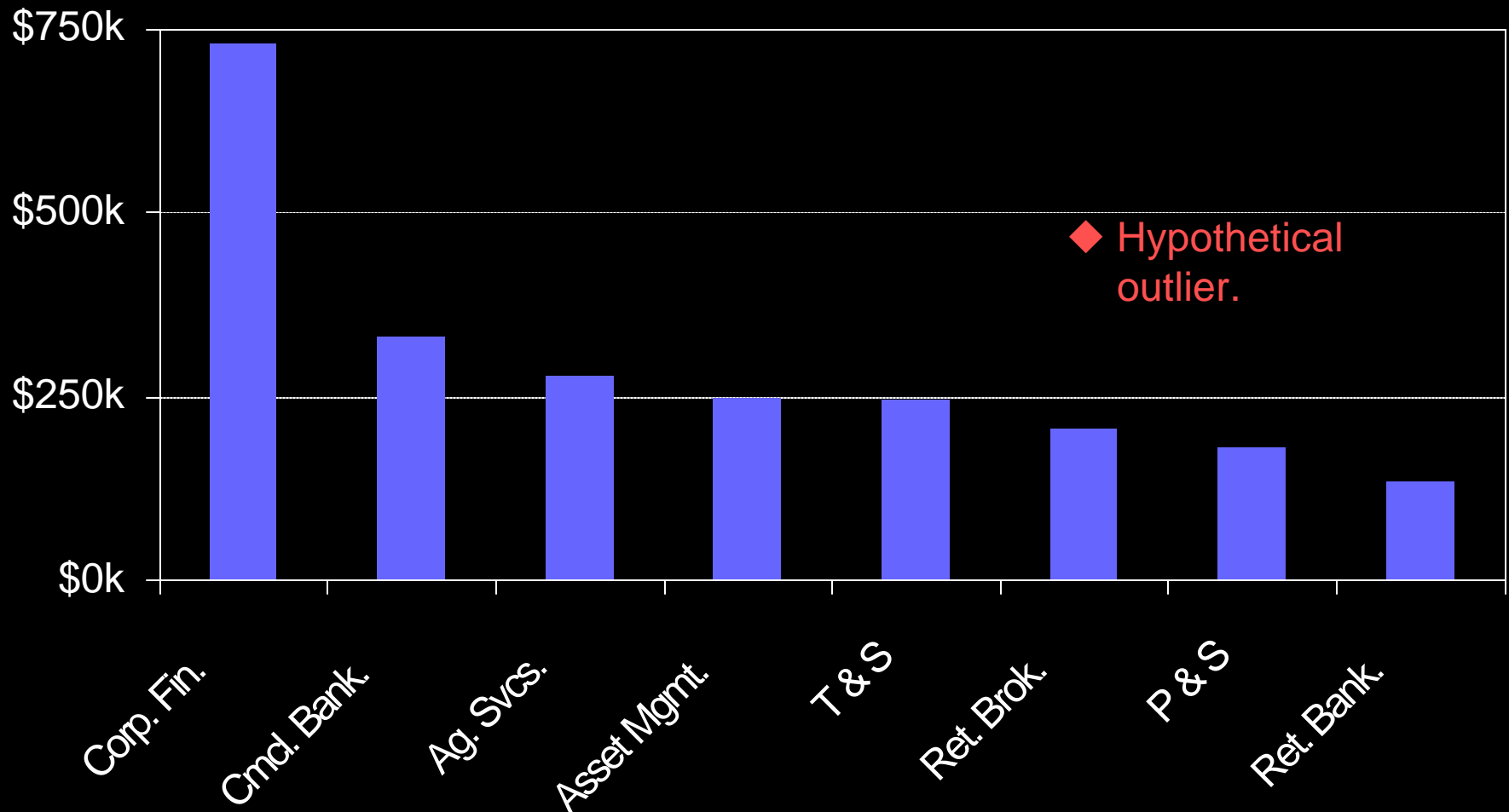
◆ Hypothetical outlier.

Potential explanations for variation

- Differences in business mix.
- Differences in control environment.
- Economies of scale in risk management.
- Differences in data quality, completeness.

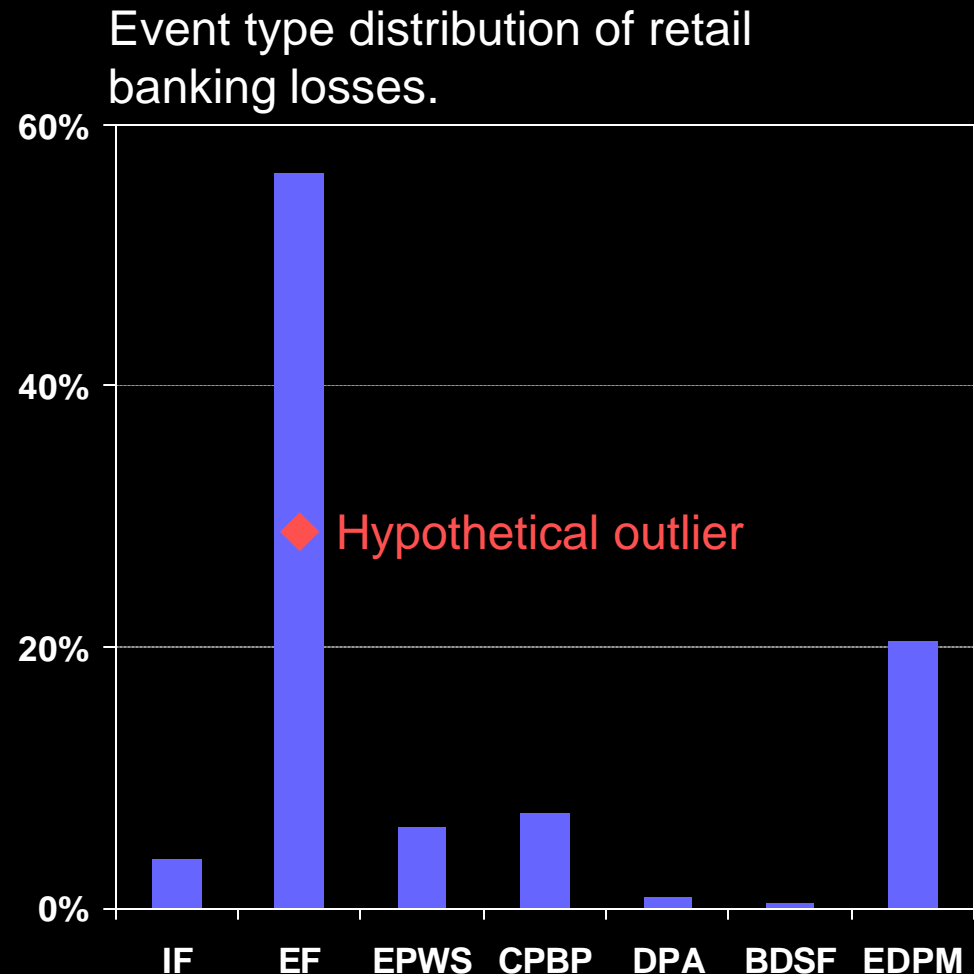
Analysis of severity distribution

Figure X. 95th Percentile of Reported Loss Data, by Basel Business Line
(Results reported as cross-firm medians.)



Additional diagnostics.

- Repeat analysis of frequency vs. exposure separately by business line (in progress).
- Event type distributions by business line.

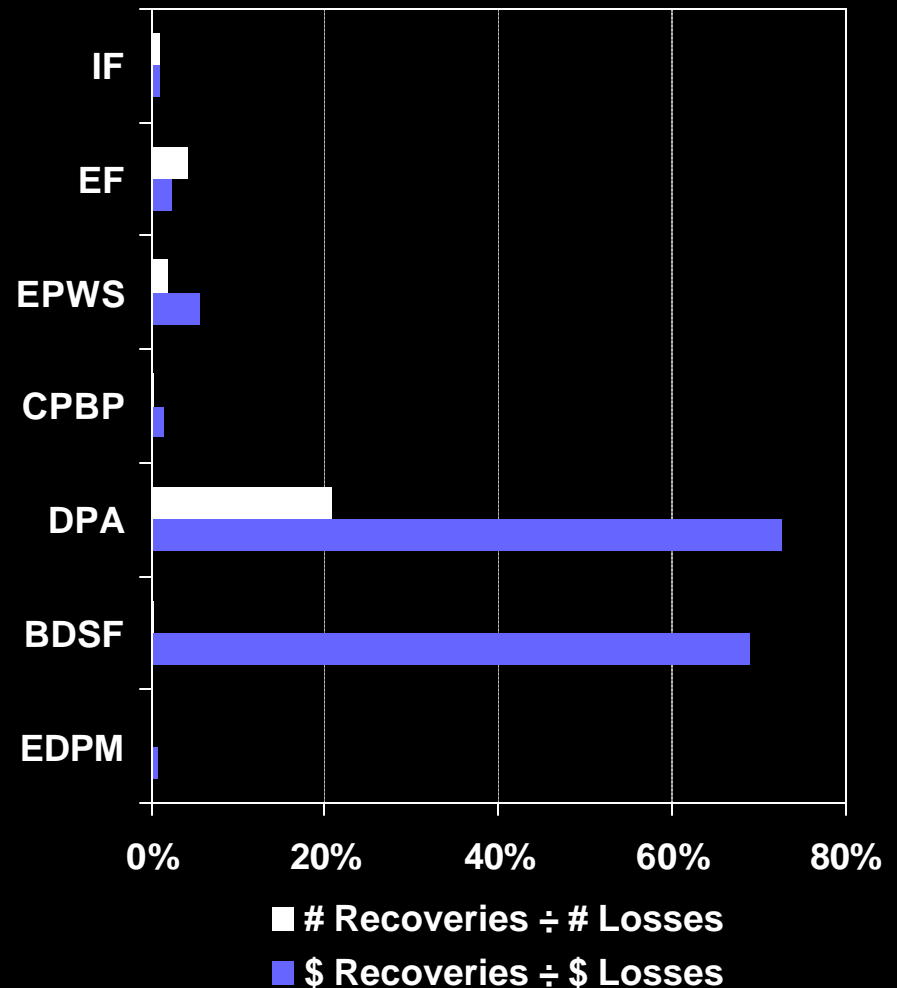


Average Annual Losses (AAL)

- For the typical (median) respondent, AAL was 0.06% of Total Assets.
- However, there is significant variation around the median.
 - One quarter of respondents have AAL-to-Assets ratio below 0.03%.
 - One quarter of respondents have AAL-to-Assets ratio above 0.13%.
- Variation may be driven by the incidence of “tail events” at different institutions.

Insurance recoveries

- 8.4% of all losses had associated recoveries.
- 2.2% of losses = \$10k had associated recoveries.
- The dollar amount recovered is about 5% of the total loss amount.
- Recovery rates vary significantly across event types.



Conclusions

- The exercise was clearly a success given the breadth of participation and the amount of data collected.
- Results provide a reasonable basis for characterizing the industry's operational loss experience.
 - For example, we found that loss frequency appears to scale well with Total Assets and other exposure indicators.
- Data appear sufficiently rich to support serious analysis of outstanding issues.

Outstanding issues

- Think about reasoned way to consider outliers.
- Technical issues.
 - Threshold choice.
 - Business line attribution of large losses.
 - Expected losses.
- Missing information.
 - Insurance recovery information.
 - Exposure by Business Line and Event Type.

Next steps

- Release public paper on LDCE results.
- Link with QIS results.
- Provide input to the regulatory process.
- Provide feedback to participating institutions.

Questions?