

OpRisk modelling & external databases

Solvency II

Daniel Butler

March 2010

Operational risk modelling & external data

Introduction

- What is the point?
 - > Why should we bother with external data?
- What is best practice?
 - > How is external data best utilised?
- Utility of databases and options
 - > What sources of external data are there?

Credit crunch and operational risk

- Many institutions are underestimating their exposures
- The integration and use of risk management within businesses varies widely
- Risk management practices need to be improved
- Culture of risk / reward
- Two case studies:

Large European banc-assurer:

- > Maximum possible single loss (according to their model) < €100m
- > We knew of 2 events with a liability of up to 5 times this maximum
- > Risk management assumed such data to be irrelevant when controls taken into consideration

Medium-sized European bank:

- > Stated maximum foreseeable loss:
 - Clients, Products & Business Practices ~ €200 million
 - Internal/External Fraud ~ €10 million
- > The board would not accept a higher exposure

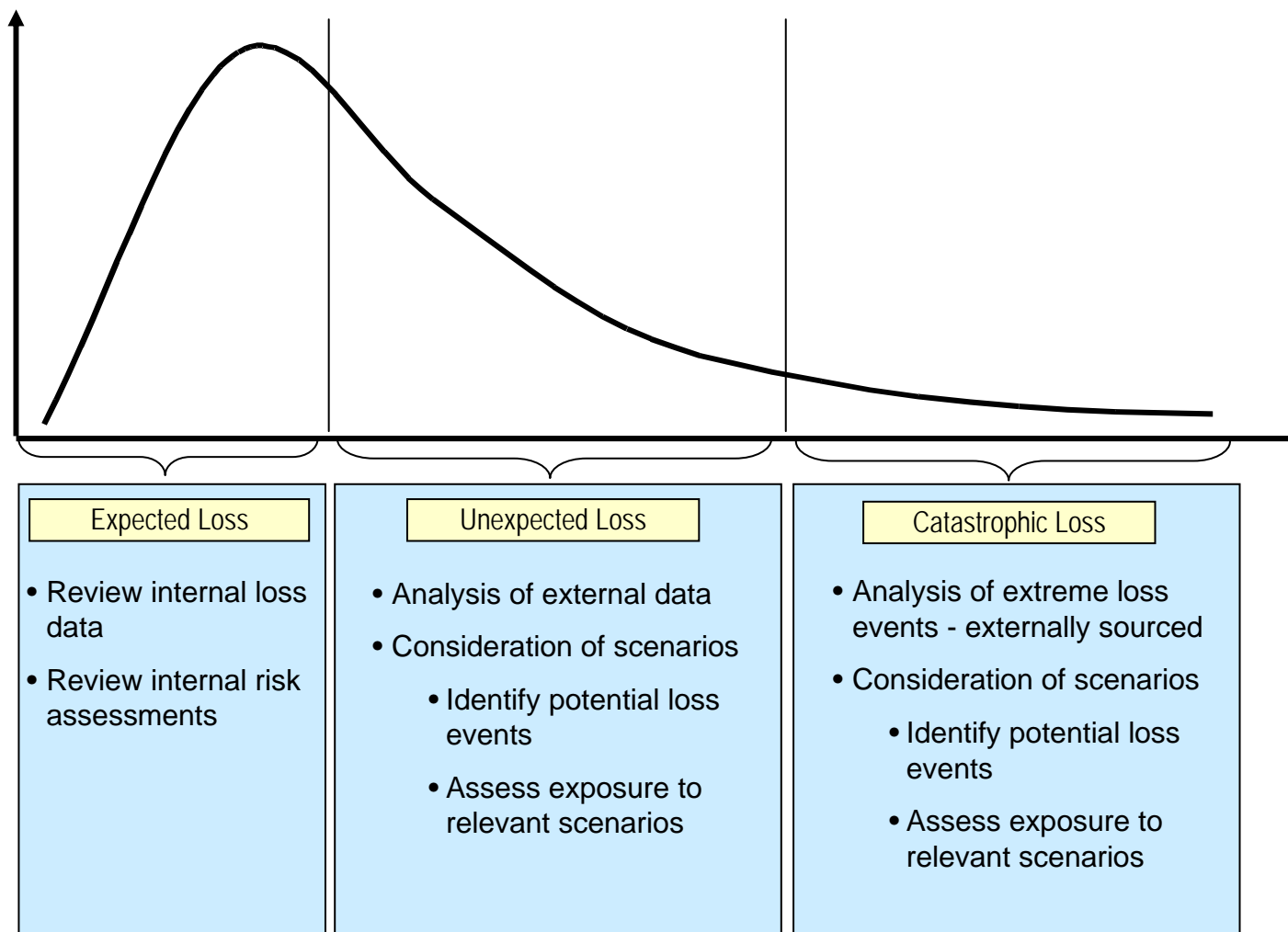
Risk identification and assessment

Role of internal data, external data and scenarios

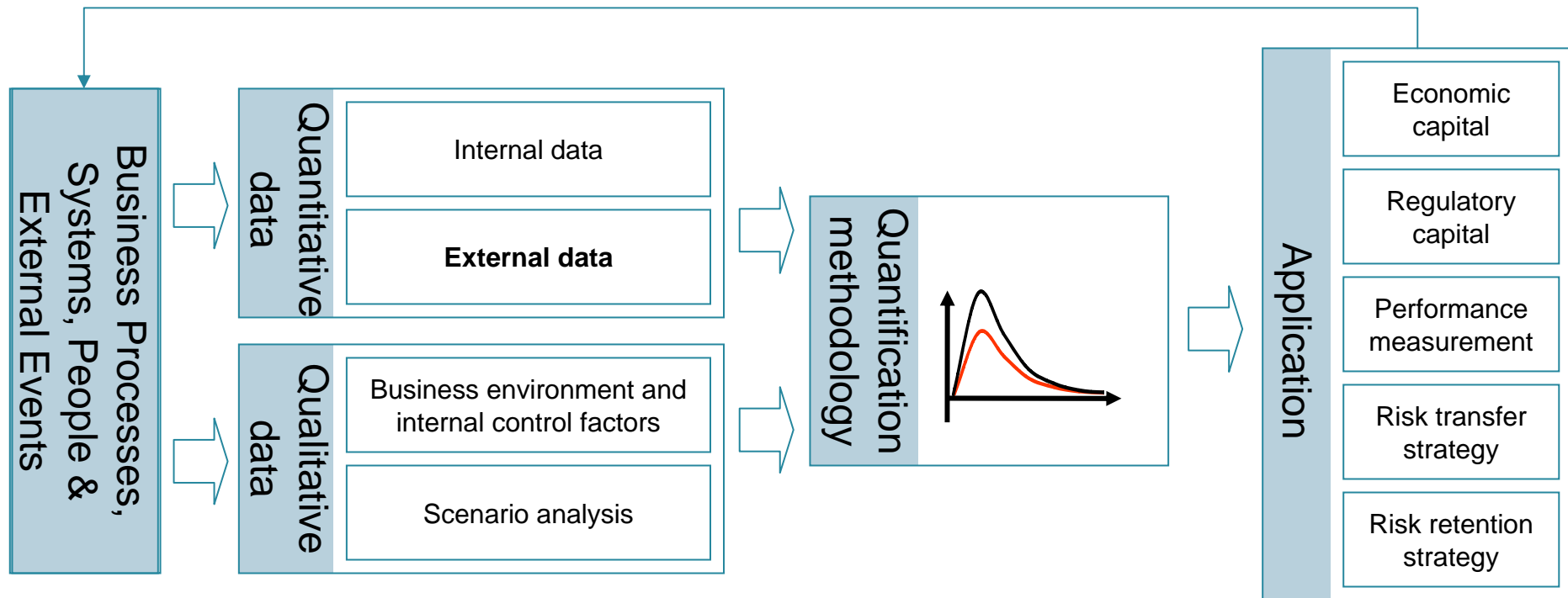
- Historical internal losses do not provide a good understanding of exposure to unexpected loss
- External data is key – though if used in isolation does not take into consideration an organisation's specific dynamics and controls
- External data informs scenario analysis
- Scenarios provide an excellent mechanism to enable organisations to:
 - > identify possible future events that could give rise to unexpected or catastrophic loss
 - > assess their exposure for a 1:5, 1:20 year, etc., loss
 - > identify control & transfer mechanisms to manage and finance losses

Risk identification and assessment

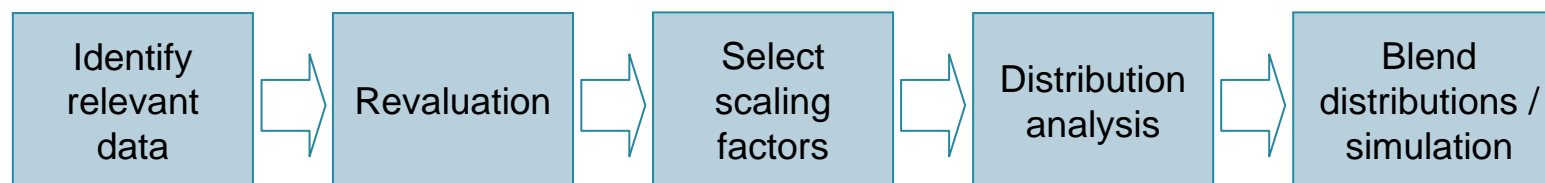
Role of internal data, external data and scenarios



External data - An essential component of any operational risk methodology



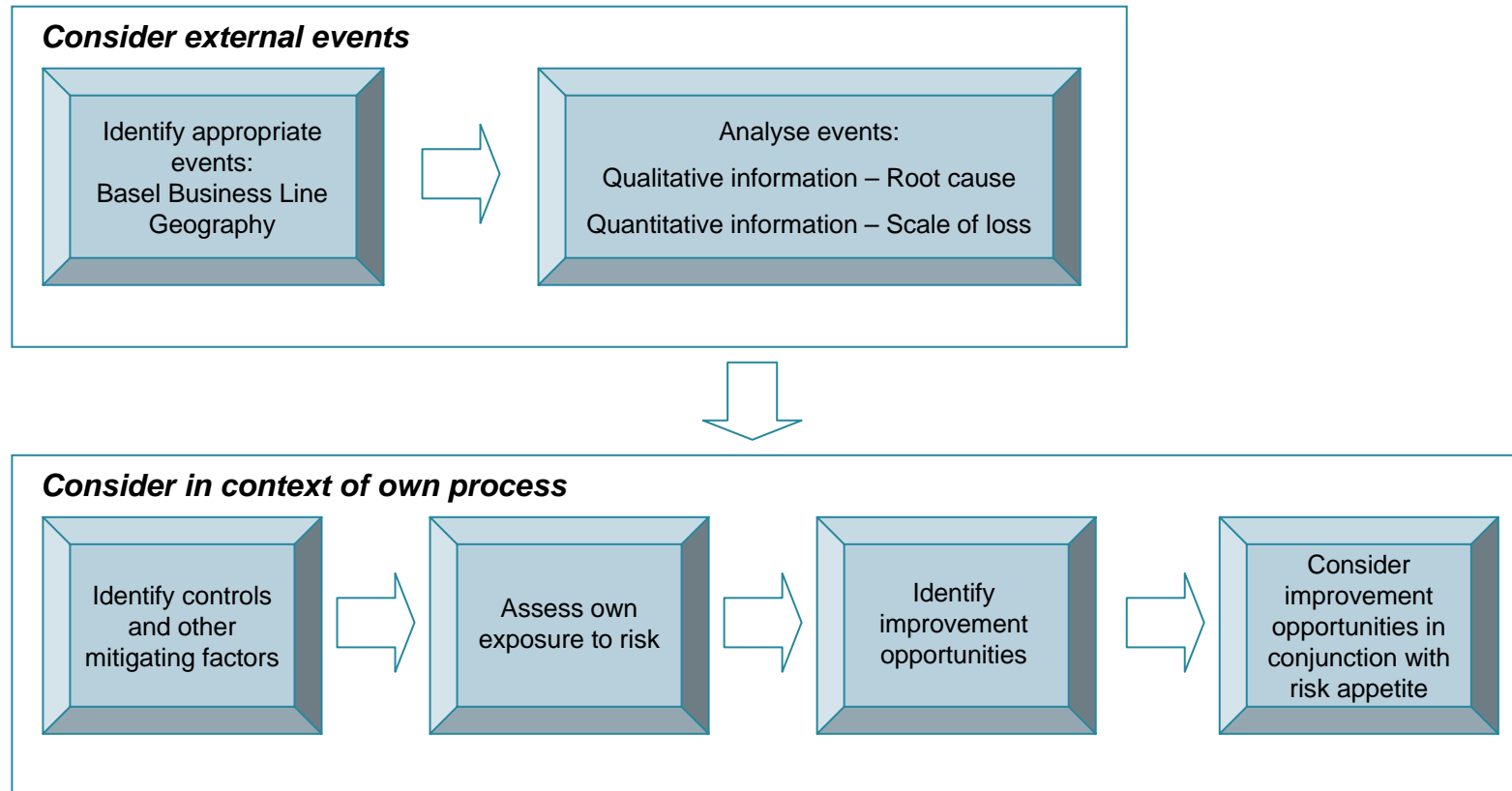
Route map for the application of external data



- 1) Identify appropriate losses from loss universe
- 2) Apply revaluation and / or currency conversion as required
- 3) Scale loss events to own organisation
- 4) Distribution analysis
- 5) Simulation and modelling

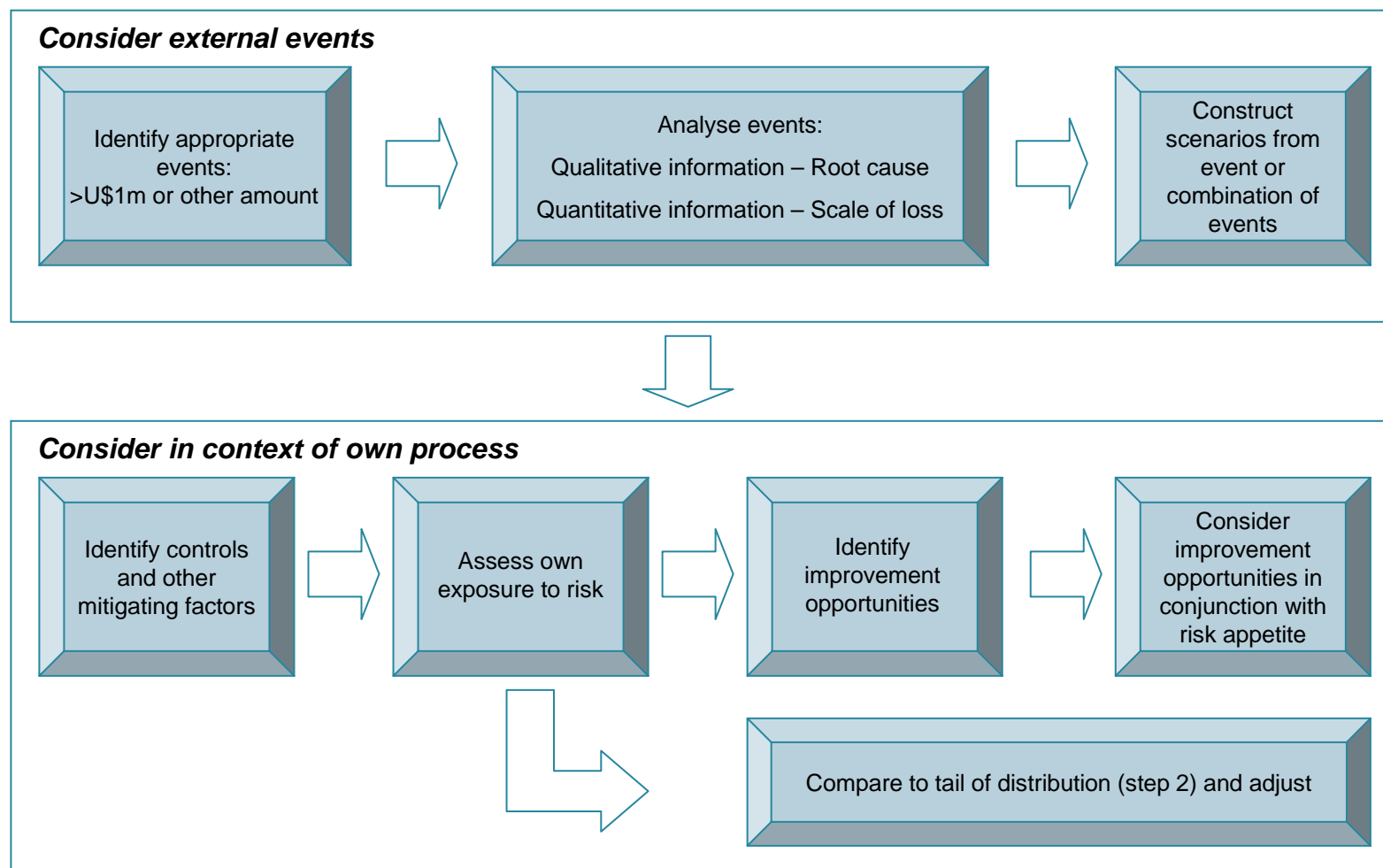
External data

Supporting business unit risk management



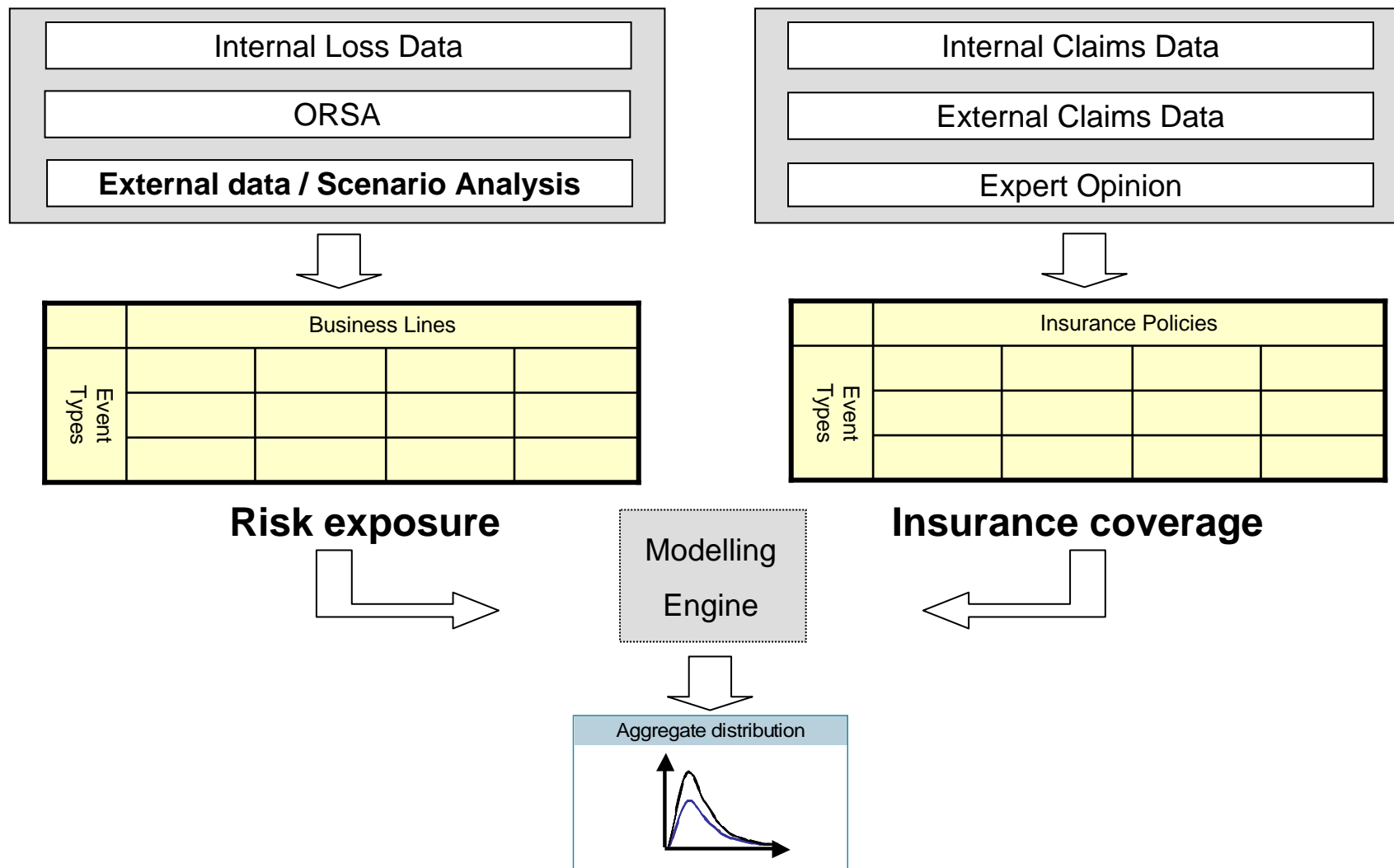
External data

Supporting scenario analysis



External data

Supporting assessment of risk mitigation



External databases

- Consortia databases:
 - > ORX – 52 banks; over 135,000 banking loss events
 - > ORIC – around 23 insurance companies; 1,800 loss events
- Public databases:
 - > Algorithmics – Algo First – around 9,000 loss events
 - > SAS – OpRisk Global data – 22,000 loss events
- Aon OpBase:
 - > Over 17,000 loss events – proprietary and public data
 - > Losses from over 1,650 institutions
 - > Scaling data since 1992

Conclusions

- There is an urgent need to invest in operational risk management
 - > Operational risk is a significant risk for any business
 - > By understanding potential exposures, you can put appropriate management strategies in place
- Solvency II is encouraging a wider risk management framework
 - > Competitive advantage for early movers
 - > Opportunity to use insurance for capital assessment
- External data is an essential component for sound risk identification, assessment and management

Operational Risk

Aon Limited
8 Devonshire Square
London EC2M 4PL
United Kingdom

www.aon.co.uk



Aon Limited is authorised and regulated by the Financial Services Authority in respect of Insurance mediation activities only

© Copyright Aon Limited 2010.

All rights reserved.

No part of this publication may be produced, stored in a retrieval system, or transmitted in any way or by any means, including photocopying or recording, without the written permission of the copyright holder, application for which should be addressed to the copyright holder.