



Credit Portfolio Management Tools

An emerging markets view

www.iacpm.org

Davide Crippa

Head Risk Optimization, Wholesale Bank

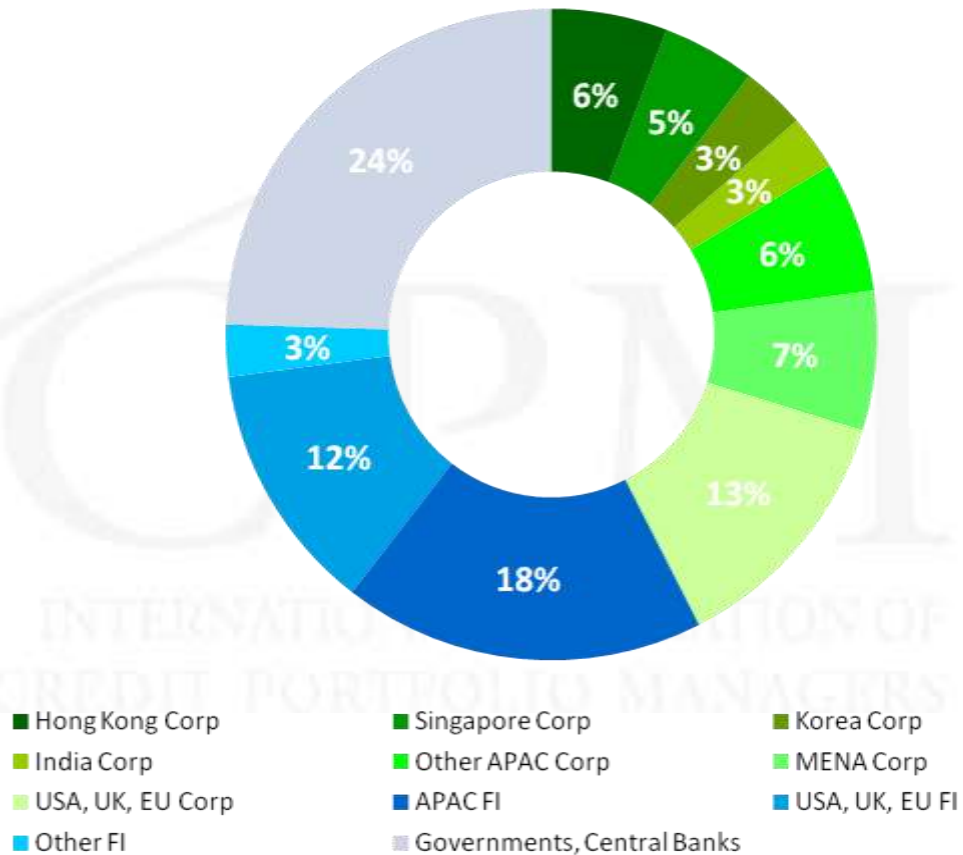
Standard Chartered Bank

Standard Chartered

Focus on Emerging Markets

- Emerging markets bank with focus on Asia, Africa and the Middle East
- Operating in 71 markets
- Resulting issues:
 - Infrastructure
 - Modeling
 - Distribution

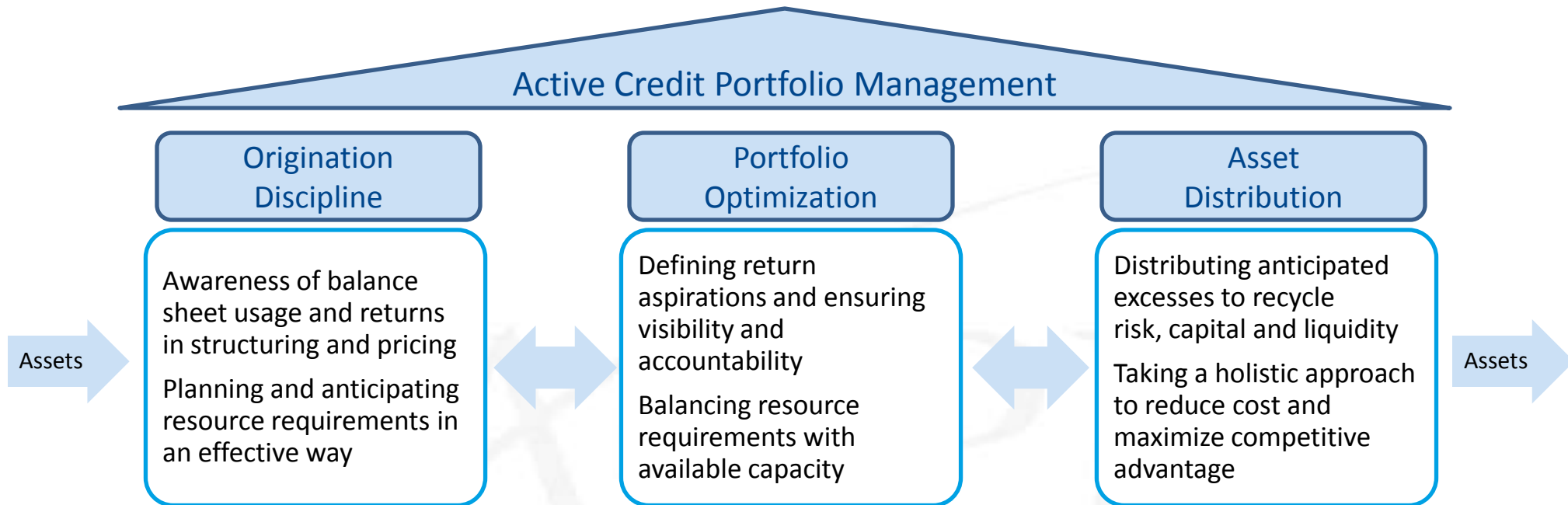
Non-Retail EAD



Source: Pillar 3 Report 2010

Pillars of Portfolio Management

A market-driven operating model



Originate to Distribute	Originate to Warehouse
<ul style="list-style-type: none">■ Popular in developed markets■ Origination model is strongly influenced by the capacity to distribute■ More capital available for operations, resulting often in higher leverage, higher risk and higher fee income	<ul style="list-style-type: none">■ Popular in emerging markets■ Additional caution at origination needs to be exercised since hold amounts are comparatively high■ Lower leverage, emphasis on managing the portfolio to improve economic revenues

Where are we on the journey?

Overview

- Concentration measurement and monitoring:
 - Risk Appetite
 - Country Portfolio Standards
 - Industry Limits
- Correlation measurement and monitoring:
 - Customized EC model
 - Tall Trees stress testing
- Origination target setting accounting for:
 - Total client view
 - Regulatory capital consumption
 - Concentration and correlation within overall portfolio
 - Ability to distribute
 - Available liquidity

Infrastructure

The data

- Good quality data essential to ensure credibility of results
- Risk data sufficient for risk measurement; for portfolio optimization return data necessary at the same level of granularity
- Leverage of regulatory infrastructure whenever possible
- Challenges:
 - Quality and accuracy of information
 - Visibility of downstream implications and accountability
 - Different focus of finance and risk systems
 - Scalability and decentralization of input and output systems

Quantitative Analysis

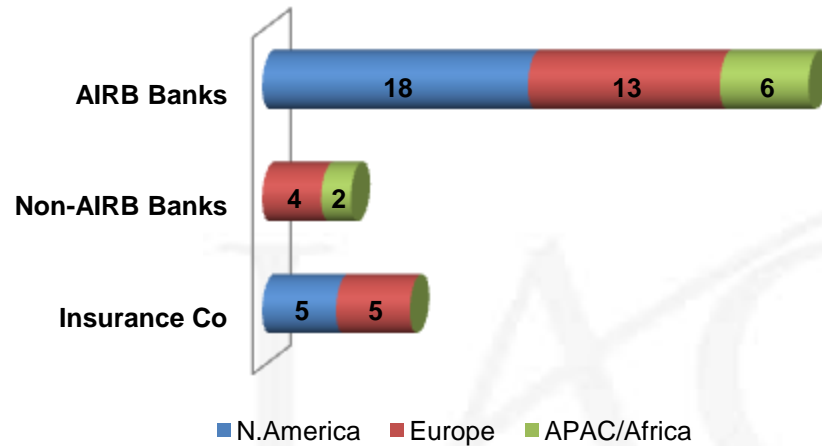
Inputs and Models – SCB View

Parameter	SCB Practice	Issues
Probability of Default (PD)	Advanced IRB (AIRB) values	Trough-the-Cycle vs Point-in-Time
Exposure at Default (EAD)	Advanced IRB (AIRB) values	Calibrated to downturn
Loss Given Default (LGD)	Advanced IRB (AIRB) values	Calibrated to downturn
Correlation	Customized matrix based on quarterly rating migration history	Very data-intensive Hard to back-test
EC Model	Risk Frontier with internal data, supplemented by analytical approximation	More transparency needed for stress testing

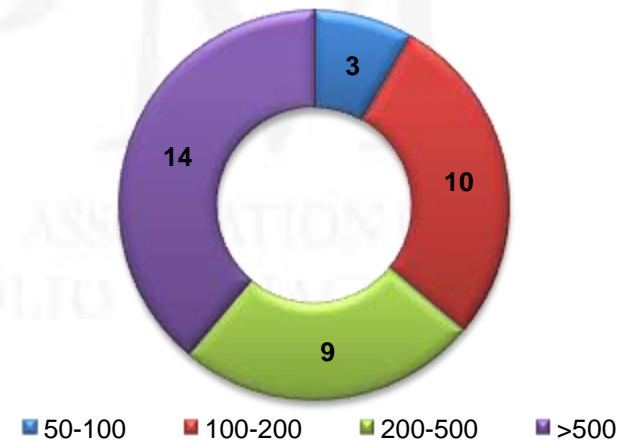
IACPM Economic Capital Benchmarking Project

The Industry View

经济资本项目参与者



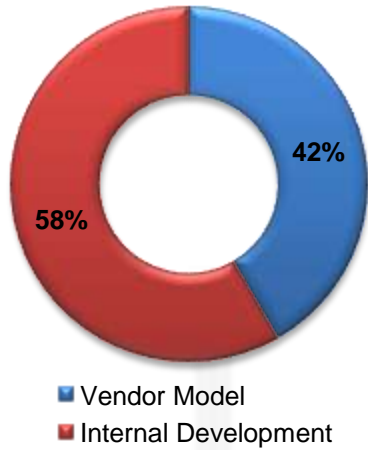
信贷组合规模（美金10亿） (AIRB Banks only)



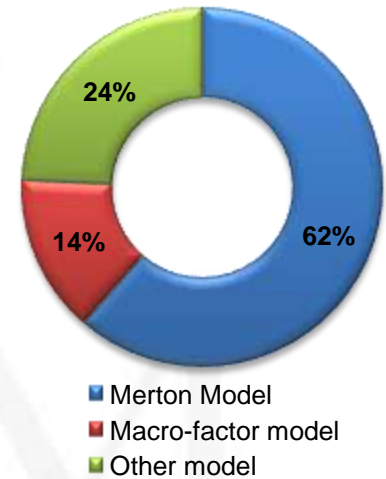
Quantitative Analysis

Model Infrastructure

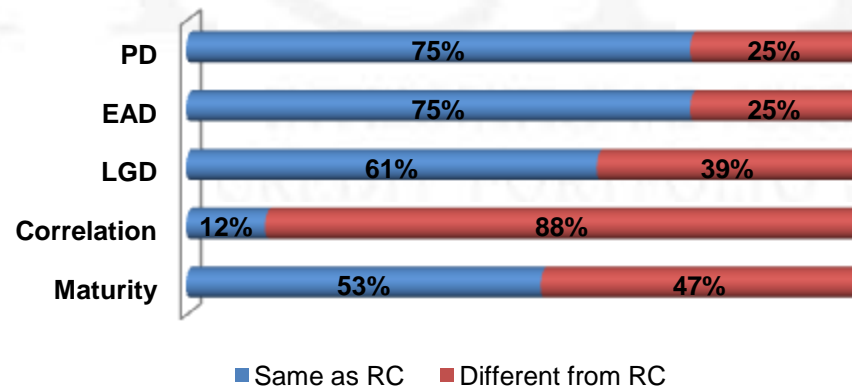
Buy vs Build



Type of EC Model (Corporates)



Leveraging the Regulatory Framework

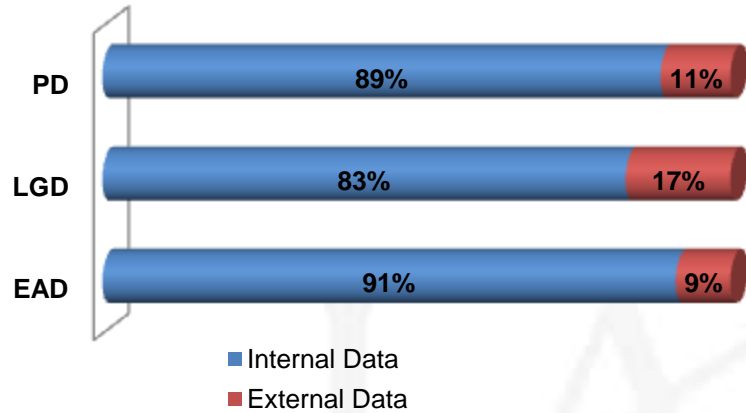


Source: IACPM Economic Capital Benchmarking Project

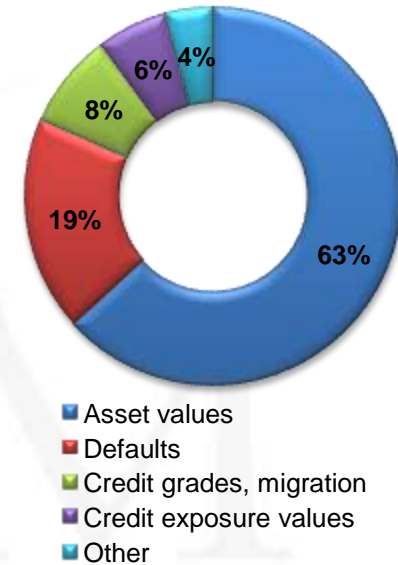
Quantitative Analysis

Model Input

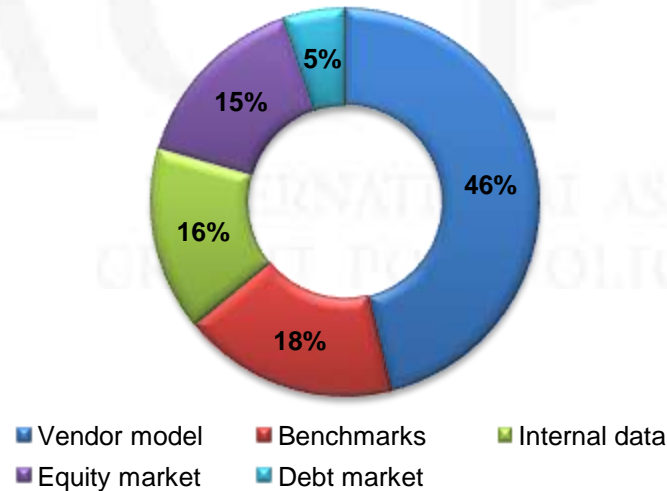
Source of EC Parameters



Which Correlation?



Source of Correlation

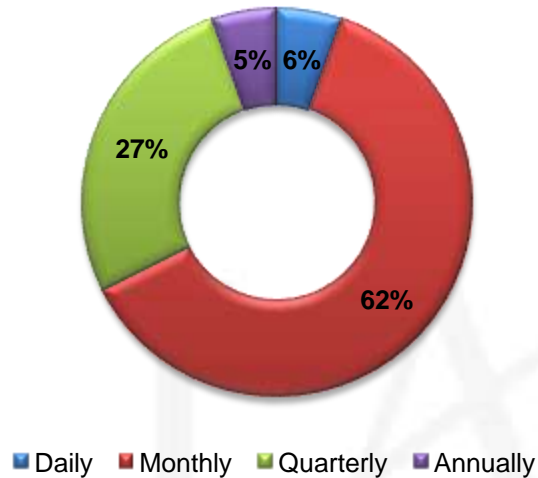


Source: IACPM Economic Capital Benchmarking Project

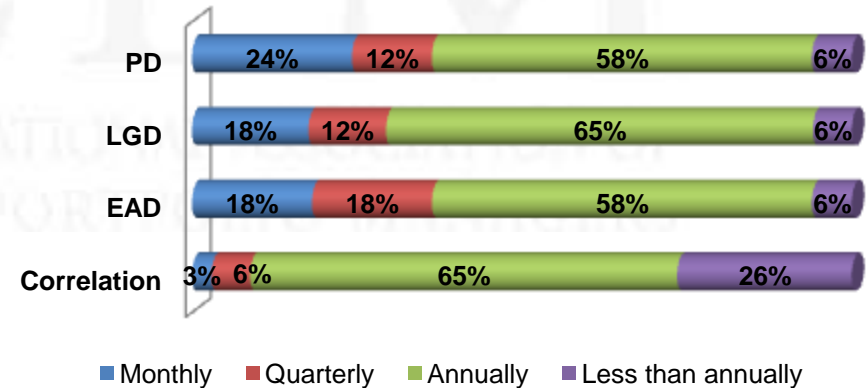
Quantitative Analysis

Frequency of Calculation and Parameters Update

Frequency of EC Calculation



Frequency of Parameters Update

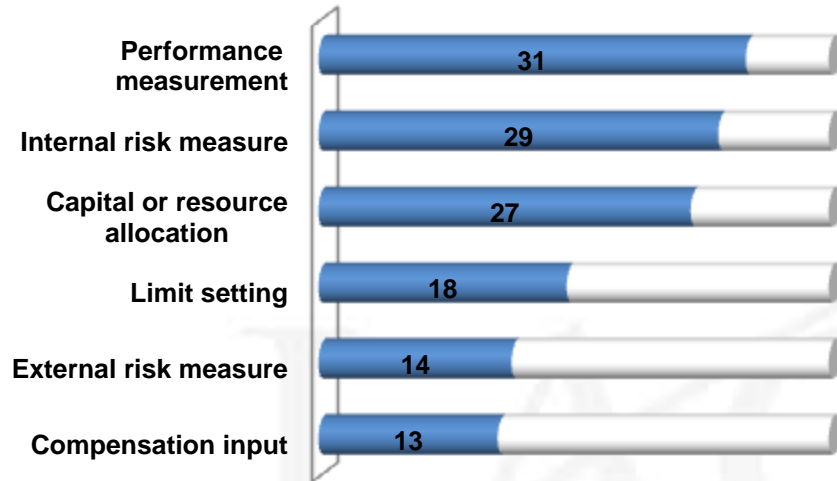


Source: IACPM Economic Capital Benchmarking Project

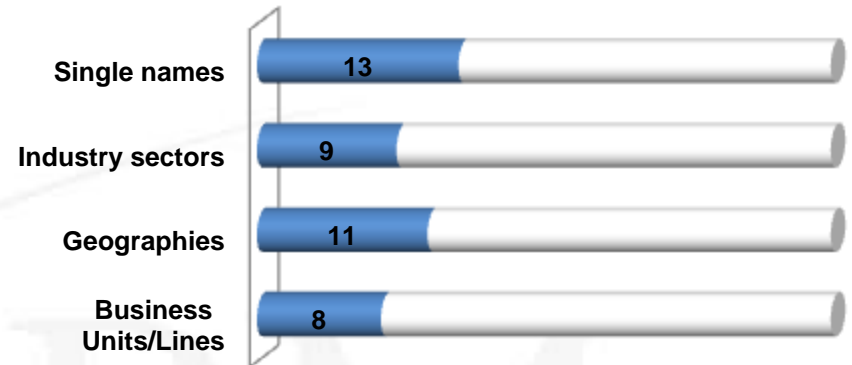
Quantitative Analysis

Model Output

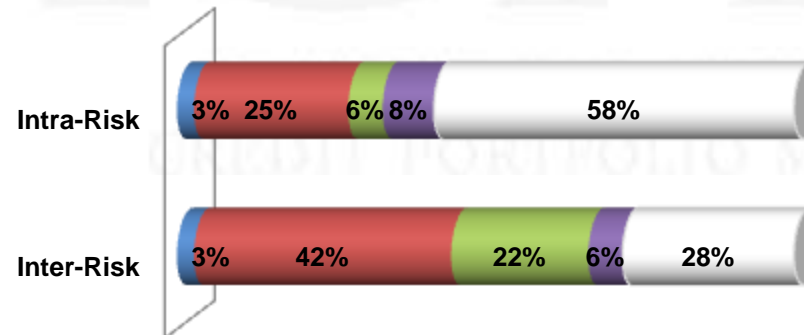
Use of EC Model



EC-Based Limits



Diversification Benefit



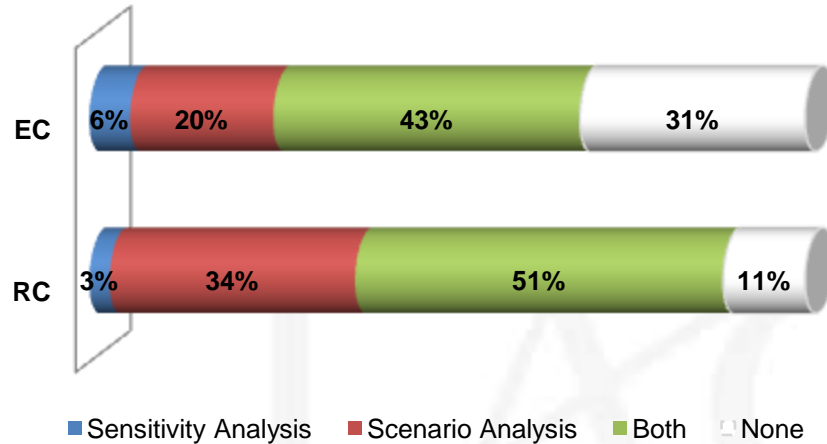
Source: IACPM Economic Capital Benchmarking Project

■ <5%
 ■ [5%,15%)
 ■ [15%,25%)
 ■ ≥25%
 ■ N/A

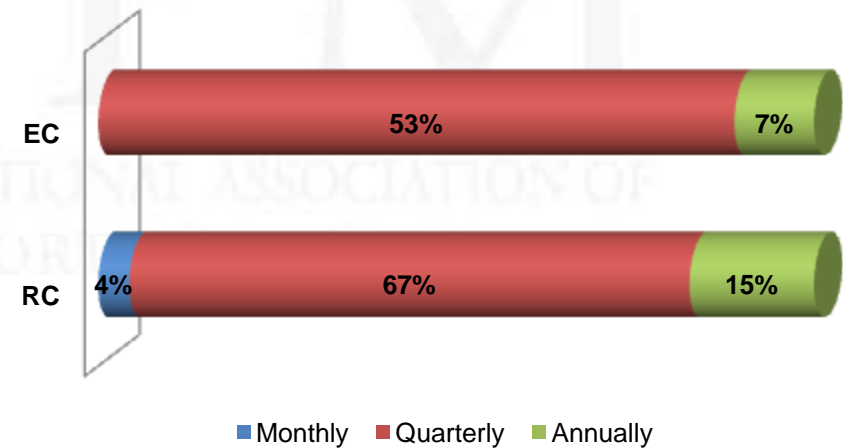
Stress Testing

Complementing the Quantitative Analysis

Stress Testing of Capital Models



Frequency of Stress Testing



Source: IACPM Economic Capital Benchmarking Project

Summary

Key Messages

- Credit portfolio management entails a combination of qualitative and quantitative approaches.
- Both approaches aim at ensuring a basic level of diversification, whereby quantitative methods facilitate a more unbiased and timely consistent approach.
- Accurate, consistent data on individual obligors, economic conditions and other factors, gathered by way of well-structured automated systems, is the essential basis for any type of approach, qualitative, quantitative or mixed.
- Firms should try to leverage their regulatory infrastructure for portfolio management purposes, but also be aware of the potential pitfalls and adjust accordingly.
- These considerations are common across the globe, independently on whether the portfolio is managed in China, Singapore, London or New York.
- The main differentiation in portfolio management practice is the amount of back-end activity, which is driven by the business model, the level of sophistication as well as the market environment.