

SUNGARD ANALYSTS' DAY

LONDON | NOVEMBER 9, 2011



SUNGARD®

Risk is Not a Four-Letter Word

Laurence Wormald
Head of Research
SunGard APT

Mat Newman
VP Product Management
SunGard Capital Markets

David Renz
Director, Risk Advisory
SunGard Ambit

Michael Learned
VP Product Management
SunGard iWorks

Risk for Asset Managers



Laurence Wormald
Head of Research
SunGard APT



Risk for Asset Managers – SunGard APT

Decision Support for the Investment Industry

- **Portfolio Construction and Optimization**
- Interactive portfolio risk management, portfolio construction and optimization.
- **Risk Reporting**
- A solution for risk analysis and multi-asset class risk reporting.
- **Market Risk Models**
- Delivering multi-factor models based on market data, for factor definition.
- **Professional Services**
- Pre-sale, installation and post-implementation support.

Risk for Banks



David Renz

Director, Risk Advisory

SunGard Ambit

Risk for Banks – Ambit Risk & Performance



Risk Adjusted Performance Management

Budgeting & Planning

- Margin Planning
- Payroll Planning
- Non Interest / Expense
- Sub-Ledger Fixed Assets

Profitability Analysis RAROC

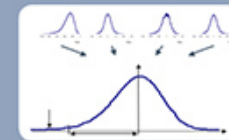
- Margin Analysis
- Cost Allocation
- Cost of Capital
- Loan Pricing



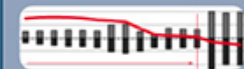
Risk Mitigation

Capital Management Regulatory & Economic Capital

- Capital Adequacy
- Risk Aggregation
- Stress Testing



• Stand-by Liquidity Buffer



Management and Quantification of Risk

Credit Risk

- Credit Application
 - Obligor Analysis
 - Loan Underwriting
- Risk Ratings
 - Borrower & Collateral
 - Segment & Macro Models
 - Pricing
- Reporting and Analysis
 - Portfolio Monitoring & Management

Op Risk

- Risk Assessment
- Loss DB
- Mitigations/ Controls

ALM

- Earnings Simulation
- Maturity Mismatch
- Hedge Management
- Funding Optimization
- EVE

Market Risk

- VaR
- Stress Testing
- Back Testing

Liquidity Risk

- Stress Scenarios
- Funding Diversification
- Contingency Funding Plan
- LCR & NSFR
- Survival Horizon



Data Validation Consolidation

Data Management

Validation

Consolidation

Enrichment

Transformation

Reconciliation

Risk for Capital Markets



Mat Newman

VP Product Management

SunGard Capital Markets



Risk for Capital Markets – SunGard Adaptiv

- **Market Risk Management**
 - Aggregation across the firm for “top of house” analysis...
 - ...whilst allowing drill-down to trade/scenario to uncover drivers of risk
 - Broad range of analytical measurements – VaR, SVaR, IRC, ...
- **Credit Risk Management**
 - Exposure measurement, management and monitoring
 - Single customer view aggregating banking and trading book
 - CVA and active risk management
- **Collateral Management**
 - Focus on OTC trading book management
 - Feeds into CM-wide ECM initiative

Risk for Insurers



Michael Learned
VP Product Management
SunGard iWorks

SunGard iWorks Insurance Risk Platform

iWorks Insurance Solution	Capabilities	Support Services
iWorks Prophet Professional	<ul style="list-style-type: none"> ○ ALM (market, credit, insurance risks, etc) ○ cash flows and projections ○ valuations ○ product pricing ○ reserving ○ experience ○ ESG integration 	<ul style="list-style-type: none"> ○ actuarial modeling ○ ALM model advisory ○ best practice ○ training
iWorks Prophet Enterprise	<ul style="list-style-type: none"> ○ enterprise production ○ data mastery ○ workflow and process controls ○ governance ○ auditability ○ version control ○ exception handling ○ security ○ proxy modeling ○ aggregation ○ analytics 	<ul style="list-style-type: none"> ○ Solvency II (QIS5) ○ IFRS ○ PBA ○ data mastery ○ hosting ○ managed services ○ system integration ○ project management ○ executive dashboards ○ migration

Risk Drivers for Asset Managers



Laurence Wormald
Head of Research
SunGard APT

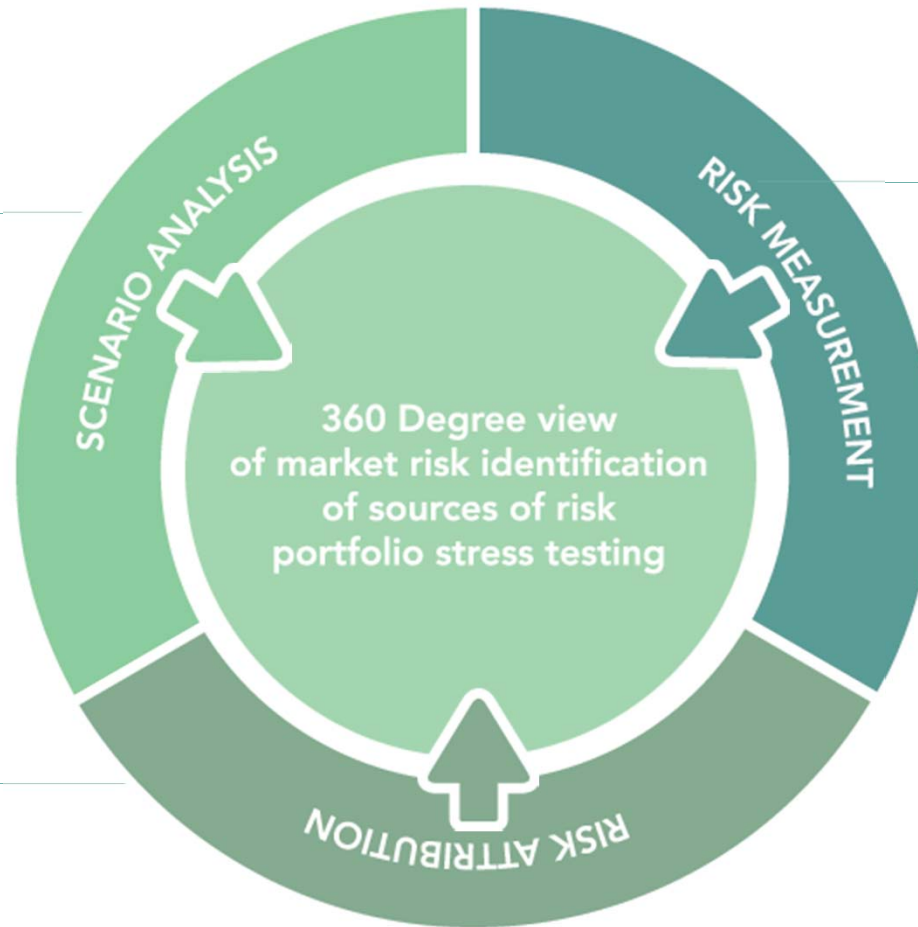
Three Pillars of Investment Risk Management

Scenario Analysis

- Historical scenario shocks
- Forward looking/stress tests
- Level and volatility shocks
- Bond scenario analysis
- Portfolio optimisation
- What-if simulation
- Reverse stress testing
- Economic Scenario Generation

Risk Attribution

- Systematic and specific
- Position based
- Factor based/RiskScan
- Fundamental/RiskChart
- Bonds + Credit/CFIRA



Risk Measurement

- Volatility/Beta/TE/TaR
- Parametric VaR/CVaR
- Monte Carlo VaR/CVaR
- Rates sensitivities
- Option Greeks
- Automated Reporting

Risk Drivers for Banks

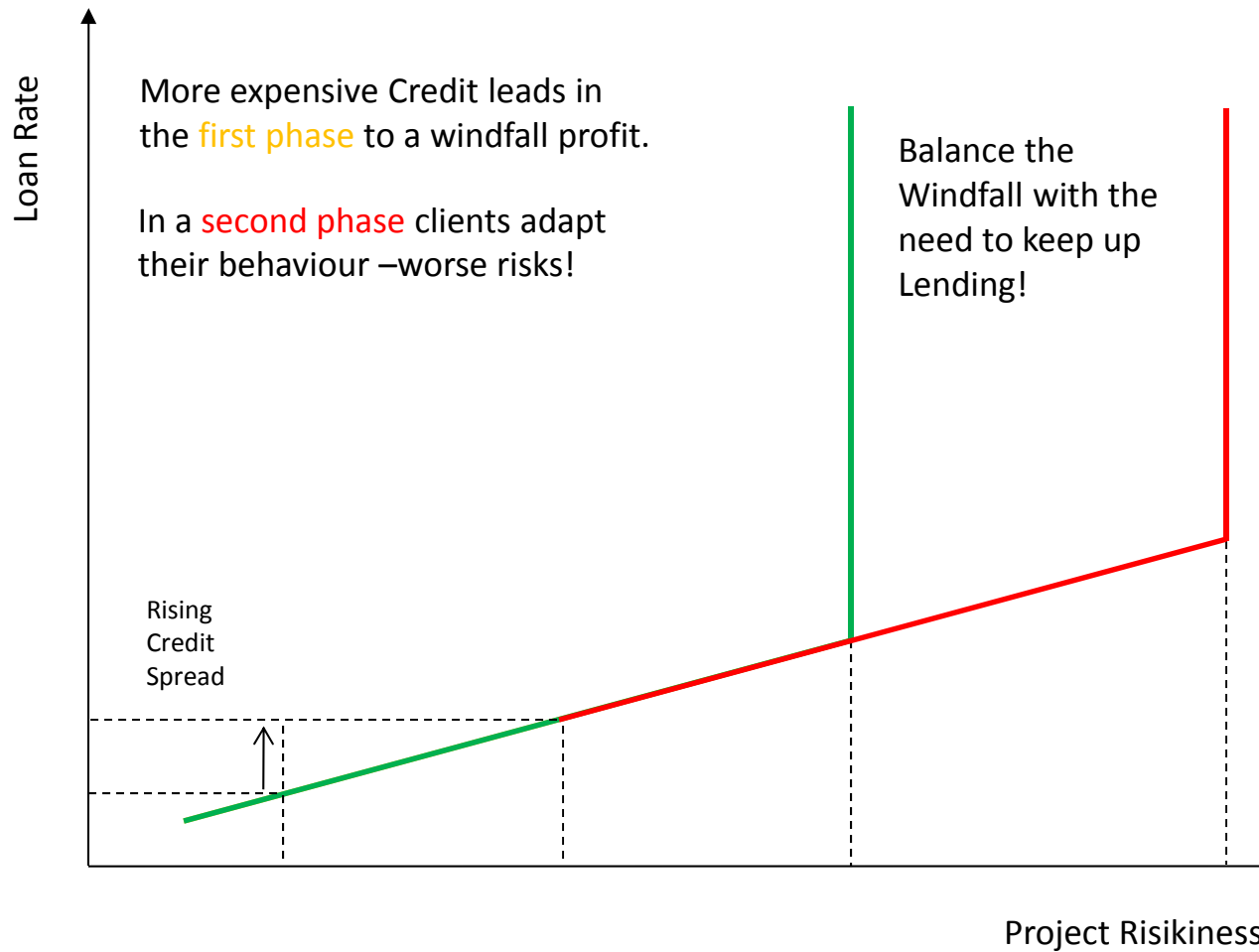


David Renz

Director, Risk Advisory

SunGard Ambit

What more expensive Credit Means for Lending



Risk Drivers for Capital Markets

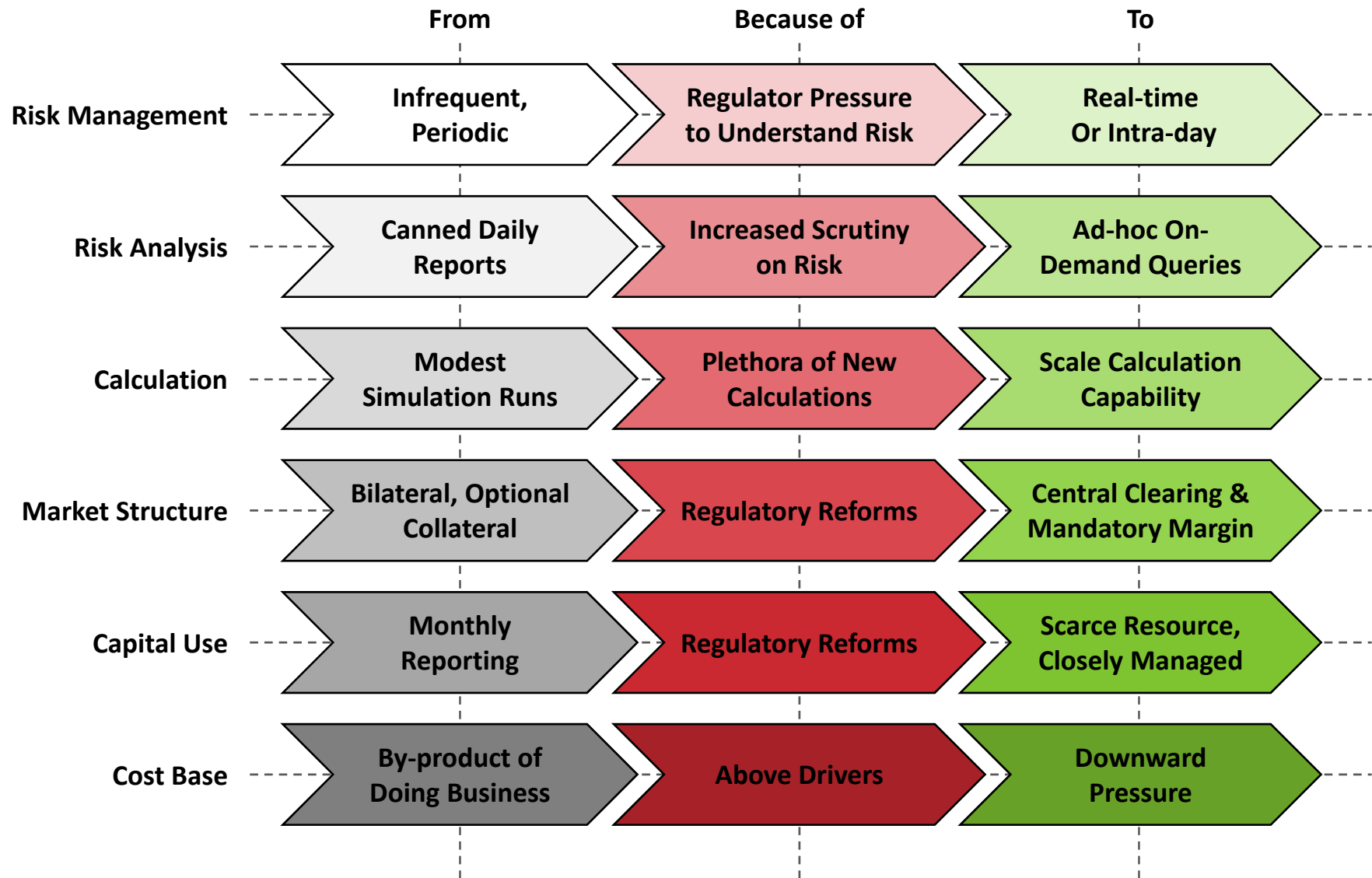


Mat Newman

VP Product Management

SunGard Capital Markets

Drivers in the Capital Markets Risk Space



Risk Drivers for Insurers



Michael Learned
VP Product Management
SunGard iWorks



Key Stakeholders

What Keeps Insurance Executives Awake at Night?

CEO

- compliance
- securing competitive advantage
- 360° access to information

CFO

- seizing market opportunities
- alignment to business objectives

CIO

- embedding risk management
- cost of increased reserves
- ratings, audits, fees and fines

**Chief Risk
Officer**

- future proofing
- handling massive data / performance

**Compliance
Officer**

- automation and auditability
- bringing all the pieces together



Panelists:

Laurence Wormald
Head of Research
SunGard APT

David Renz
Director, Risk Advisory
SunGard Ambit

Mat Newman
VP Product Management
SunGard Capital Markets

Michael Learned
VP Product Management
SunGard iWorks