Enterprise – Wide Risk Management

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Quantitative analyst

- A quantitative analyst is a person who works in finance using numerical or quantitative techniques. Similar work is done in most other modern industries, but the work is not always called quantitative analysis. In the investment industry, people who perform quantitative analysis are frequently called quants.
- Although the original quants were concerned with risk management and derivatives pricing, the meaning of the term has expanded over time to include those individuals involved in almost any application of mathematics in finance. (Wikipedia)
- Quant of the year for 2010 (Risk Awards) – professor Marco Avellaneda for his work on the effect of short-selling restrictions on price dynamics

Presentation plan

- Introduction
- Enterprise – Wide Risk Management
- Main issues in EWRM implementation process
- Risk based pricing – a simplified example
- Conclusions

Introduction

- What has happened in the last 5-6 years:
  - Basel II, CRD, new regulatory framework
  - Economic/credit crisis
- How has that influenced risk management in financial institutions?
  - Risk management primarily a compliance issue
  - The credit crisis brings many banks' overall risk governance into question, with some lacking the framework, the policies or the necessary capabilities to achieve a clear picture of the risks they are facing across the organization.
  - The credit crisis has forced banks to take a critical look at how they manage risk and has exposed some significant weaknesses in risk management across the financial services industry.
  - Risk management has failed to provide the appropriate oversight and ensure that necessary controls are in place
- A review of the way financial institutions manage risks – fundamental changes to their risk processes.

Enterprise – Wide Risk Management

- EWRM - an integrated approach that aligns strategy, processes, people, knowledge and IT so that risk is better understood and controlled throughout every part of the enterprise.
- Credit, market and operational risk traditionally managed in separate silos – major risks went undetected on the boundaries where main risk types overlapped

EWRM (2)

- Aggregation across different risk types
- Aggregation across a single risk type (credit risk, operational risk)
- All employees are aware of and engage in managing risk
- Clear lines of communication and risk management function integrated into the business

EWRM (3)

- Explicit definition of the firm’s risk appetite is a fundamental part of developing an effective strategy
- Risk appetite is then cascaded into risk limits and risk adjusted performance measurement
- The modern structure for managing risk should be based on three lines of defense:
  - The business unit people ‘on the ground’
  - The risk management function
  - Internal audit

EWRM (4)

- The three key building blocks of a risk infrastructure:
  - Risk governance
  - Risk culture
  - Reporting and measurement of risk (as well as the systems and data that underpin risk measurement and analysis)

Main issues in EWRM implementation process

- The lack of risk expertise at (Supervisory)Board level (HNB regulation – explicitly stated SB's responsibility for risk management oversight)
- Communication between the risk function and the rest of the business– improved interaction with business units as well as with the internal audit team and the audit committee
- The relative lack of influence exerted by the risk function - strategy development and capital allocation – not carried down to operational level
- Risk management stigmatized as a back room (supporting) function
- New adaptive tools for measuring risks (the mandatory survival tests - stress and scenario analysis) – new generation of models
- Risk management and compensation policies (in HNB regulation included in the Decision on the Risk Management)

Risk based pricing – a simplified example

- Exposure/transaction: 100
- (Marginal)Capital charge: 10
- Required ROE: 10%
- Risk free rate: 5%

$$10 \times (10\% - 5\%) = 0{,}5 = 100 \times 0{,}5\% \;\Rightarrow$$
$$0{,}5\% = risk\;\, premium$$

Conclusions

- Risk management will be a core strategy for banks as economies recover
- EWRM – an integrated firm wide focus on risk
- A risk culture creation
- Risk should be seen as an essential part of strategy and not just as a peripheral compliance issue
- Risk management should build a stronger relationship with all levels of the organization
- New generation of models flexible enough to adapt to changing market conditions