



# 24th XBRL International Conference

**“Transparency: with Available, Reliable, Comparable and Re-usable Data”**

**March 20-22, 2012  
Abu Dhabi, UAE**

Banking Symposium

Project RAIN for the Banking Sector in Bermuda

John Dill

Tuesday, 20 March 2012



# AGENDA

- ▶ Brief Overview of the Strategy
- ▶ Accomplishments to Date
- ▶ Scope
- ▶ Approach / Methods

# The 2008 – 2013 IT Strategy

## Key Findings

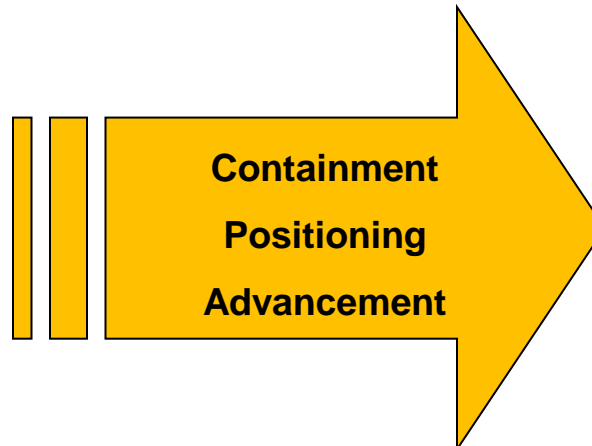
- ❖ Paper Management versus Paper Reduction
- ❖ Project Based Environment without a Project Execution Discipline
- ❖ Information sensitive environment without the structure to support it

## Strategic AIM

- ❖ The restructuring or redirecting of the Information Technology delivery towards a customer centric model.
- ❖ The fostering of best practice Information Technology governance and management approaches.
- ❖ The delivery of a flexible, “holistic” information management tool set that increases the overall efficiency and effectiveness.

## Primary Initiatives

- ❖ Reinvent the Infrastructure
- ❖ Develop the team
- ❖ Project RAIN
- ❖ ERICA



**Vision: The seamless and efficient flow of information amongst all stakeholders within the regulatory supervisory process.**

- ❖ Information reuse is maximized.
- ❖ Stakeholders are focused on their core competencies.
- ❖ Information is used to create value for all stakeholders

## Vision:

Information reuse is maximized.

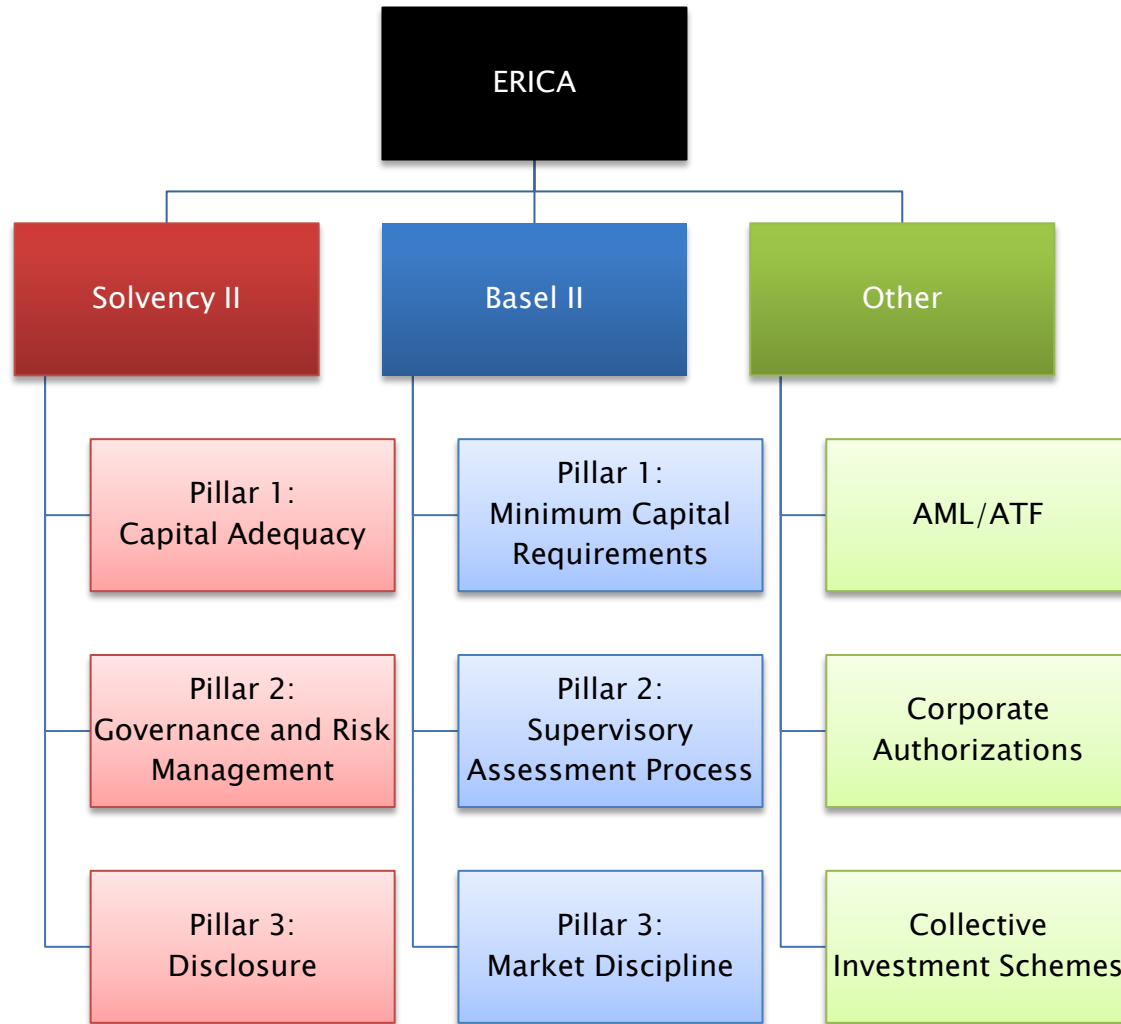
- ❖ Stakeholders are focused on their core competencies.
- ❖ Information is used to create value for all stakeholders

## Critical Success Factors

- Adequate human resources
- Adequate finances
- Executive support through the change cycle
- Effective IT Delivery

BMA 2013

# Project RAIN Scope



# Accomplishments

## 2011

- ❖ BSCR Class 3A, Groups, Long Term, Dual License, CISSA
- ❖ Investment Funds
- ❖ Enhanced Bermuda Regulatory Reporting Taxonomy (BRRT)
- ❖ Solvency II Taxonomy
- ❖ IFRS for Insurance Taxonomy

Advancement

## 2010

- ❖ BSCR Class 4+3B
- ❖ Base Insurance Analytics Portal (Ratio Analysis)
- ❖ ERICA Core Development
- ❖ Base Bermuda Regulatory Reporting Taxonomy (BRRT)

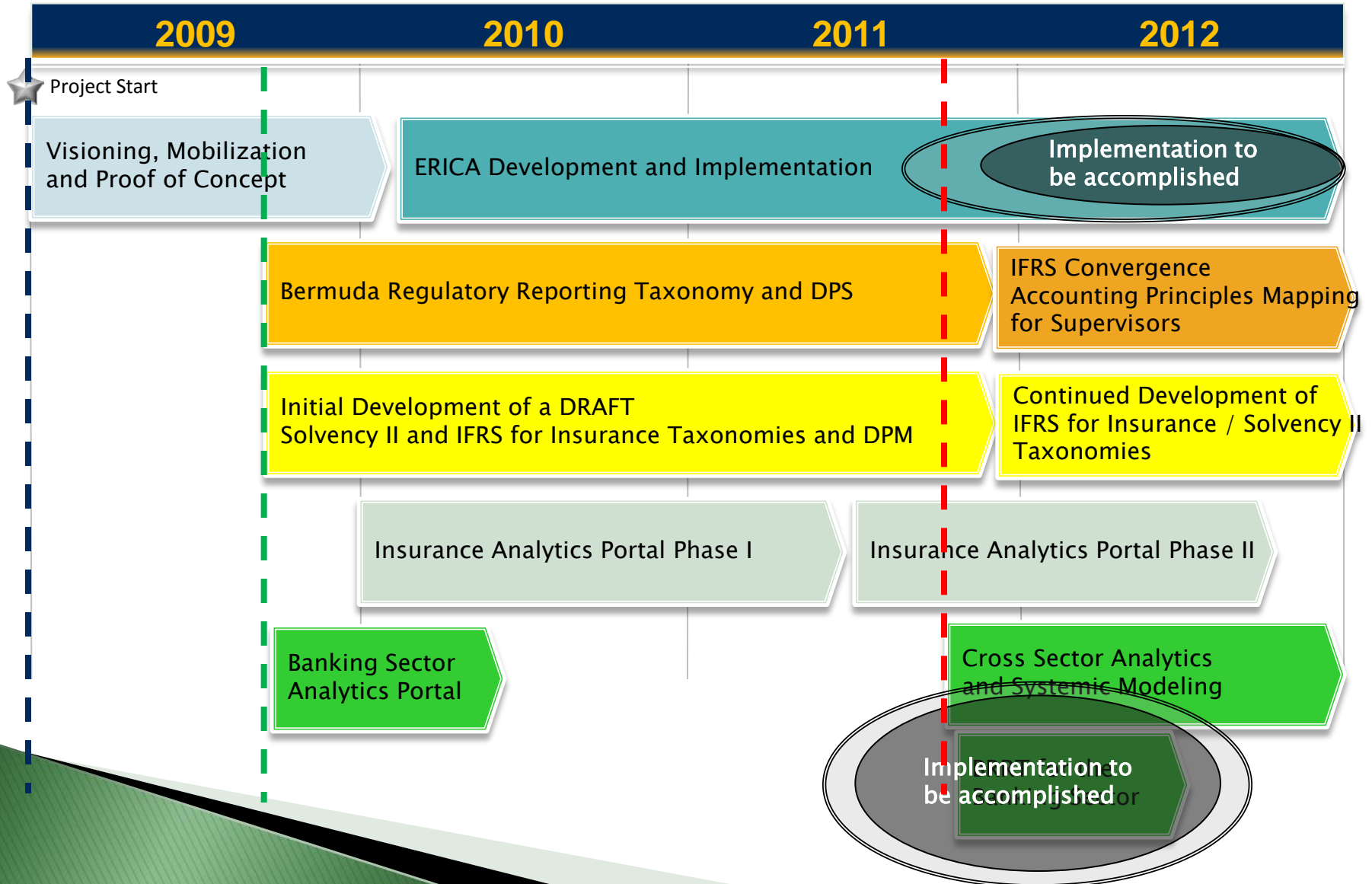
Positioning

## 2008/2009

- ❖ Infrastructure redevelopment
- ❖ Corporate Authorizations (Business Registry)
- ❖ Banking Sector Statutory Return (Basel II)
- ❖ Banking Digest (Analytics Portal)
- ❖ Team development
- ❖ IT Governance and Controls

Containment

# Project RAIN Current Status



# Project RAIN – in Banking

E-filing

Enhanced Analytics

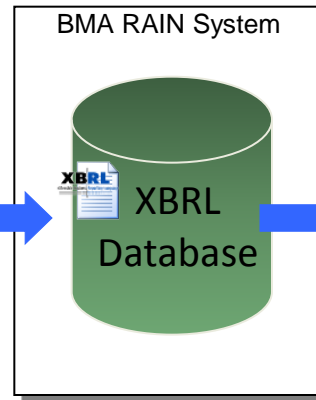
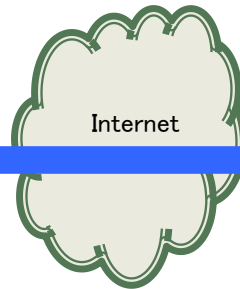
**BMA**  
BURUNDI MONETARY AUTHORITY

**Prudential Information Return**  
Basel II Capital Adequacy Reporting - Credit, Market and Operational Risk

**Data Compiler Information**  
Reporting Institution:   
Reporting Period:

**Notes on Completion**  
1. The Prudential Information Return is to be completed quarterly on a consolidated and unconsolidated basis, as at the end of March, June, September and December.  
2. Enter amounts to the nearest thousands omitting \$000's.  
3. For definition of items refer to the "Guidance on Completion of the Prudential Information Return Notes for Banks".  
4. Submit electronically on excel format within 20 working days of quarter end to [banking@bma.rw](mailto:banking@bma.rw).

**Authorised Signatory**  
Name (please print):   
Title:



**Ratio Analysis**

| Ratio                  | Value  | Unit | Period  | Value  | Unit | Period  |
|------------------------|--------|------|---------|--------|------|---------|
| Return on Assets       | 1.25   | %    | Q1 2010 | 1.25   | %    | Q1 2010 |
| Return on Equity       | 15.50  | %    | Q1 2010 | 15.50  | %    | Q1 2010 |
| Capital Adequacy Ratio | 100.00 | %    | Q1 2010 | 100.00 | %    | Q1 2010 |
| Liquidity Ratio        | 100.00 | %    | Q1 2010 | 100.00 | %    | Q1 2010 |
| FX Exposure Ratio      | 100.00 | %    | Q1 2010 | 100.00 | %    | Q1 2010 |
| Large Exposure Ratio   | 100.00 | %    | Q1 2010 | 100.00 | %    | Q1 2010 |



Banks

BMA Users

Capital Adequacy – Credit, Market, Operational Risk  
Liquidity Returns  
FX Returns  
Large Exposure Returns

# Current Adoption Approach

## 1. BMA provided XBRL enabled excel, word, and PDF templates and Web Interface



The BMA will provide submission options using the BMA RAIN portal and via XBRL embedded word documents, excel workbooks, and PDF templates

## 2. Bolt-on via Outsourcing or internal Utility



Printers and other third party service providers provide outsourced solution for mapping the disclosure elements on the financial statements and note disclosures (in block text) to the BMA Taxonomy

## 3. Bolt-on via Internal Process



XBRL can be adopted by companies at the “highest” reporting level (i.e. consolidated) solely for purposes of complying with regulatory requirements. However, potential XBRL process enhancement benefits are not fully realized.

## 4. Embedded Processes



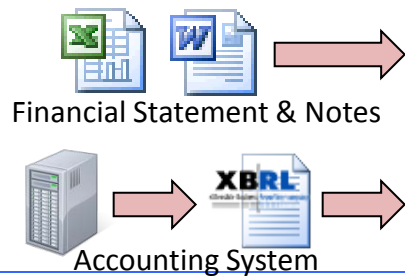
- Enables automation of currently manual assembly and review processes
- Requires companies to assess information needs and provides an opportunity to eliminate inefficiencies in current compliance and reporting processes.
- Enables process enhancements that lead to more timely higher quality data for decision making purposes
- Maximizes benefits of XBRL to preparers and internal users of financial and non-financial information.



# System Architecture for Banking Data Collection & Analytics

- ▶ Capital Adequacy – Credit, Market, Operational Risk
- ▶ Liquidity Returns
- ▶ FX Returns
- ▶ Large Exposure Returns

## Financial Statement



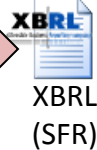
XBRL Tagging

XBRL Direct submission

Workflow

Record Management

Users can create XBRL from their existing documents by themselves

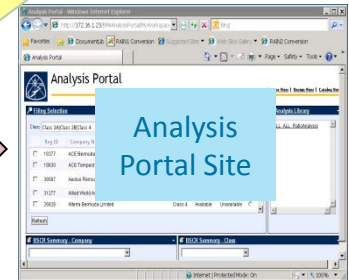


XBRL (SFR)

RAIN Data Warehouse

XBRL Aggregator

Financial Statement information is reused in Statutory filing



## Statutory Filings



Filing Web Service

XBRL Converter

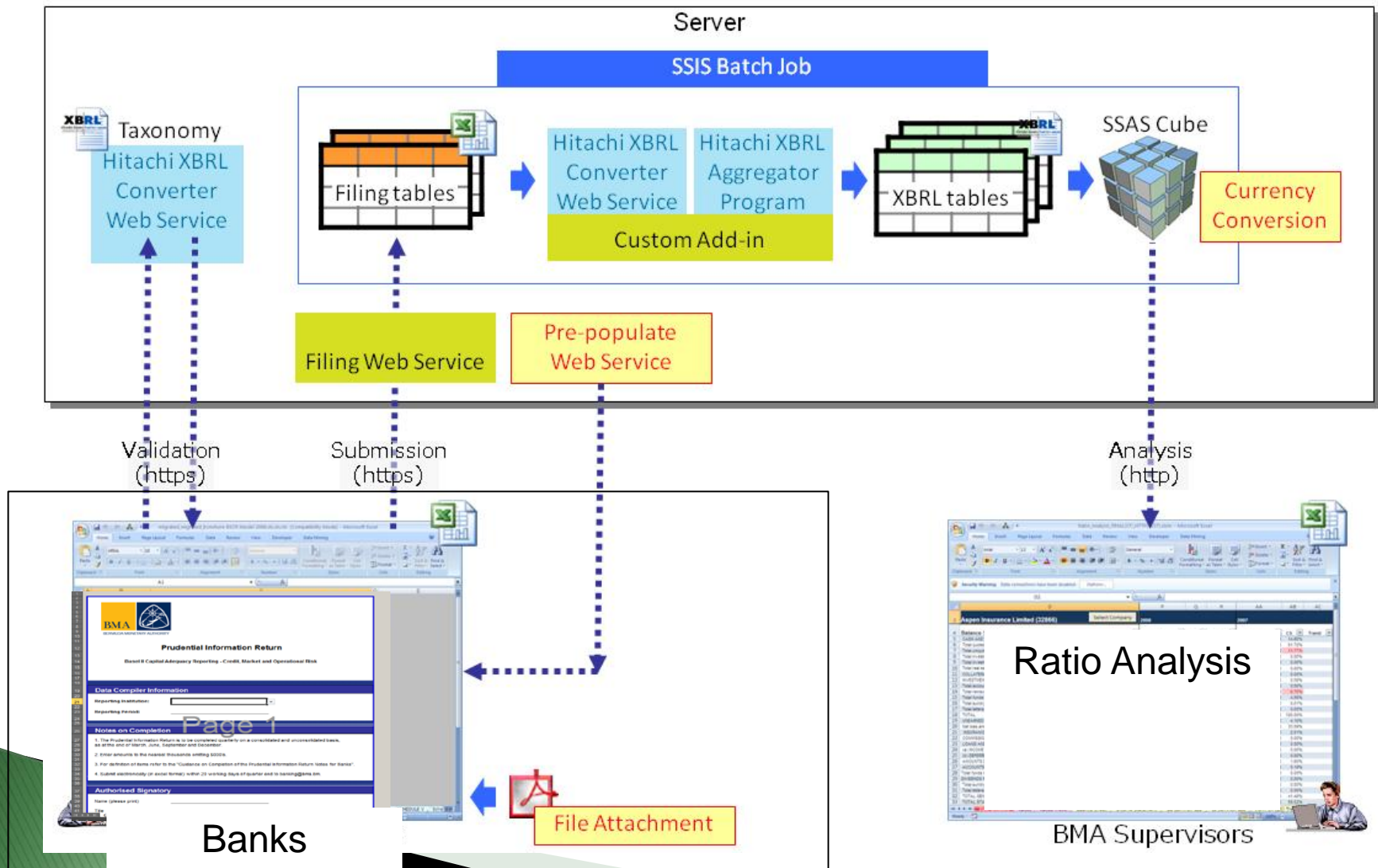


XBRL

Round-tripping Statutory form allows users to have latest form without re-entering data

(PIR, Liquidity, FX, Large Exposures)

# Banking Sector Reporting Sub-system



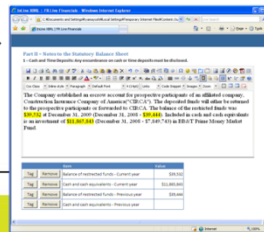
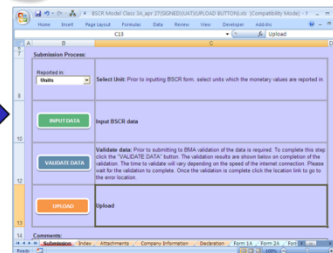
# SFR Reporting Sub-system

1. Statutory Financial Statements and Risk report  
STATUS: Uploaded

2. Notes to Statutory Financial Statements  
Notes Tagging  
STATUS: Uploaded

3. Attach Files (SFR Attachments)

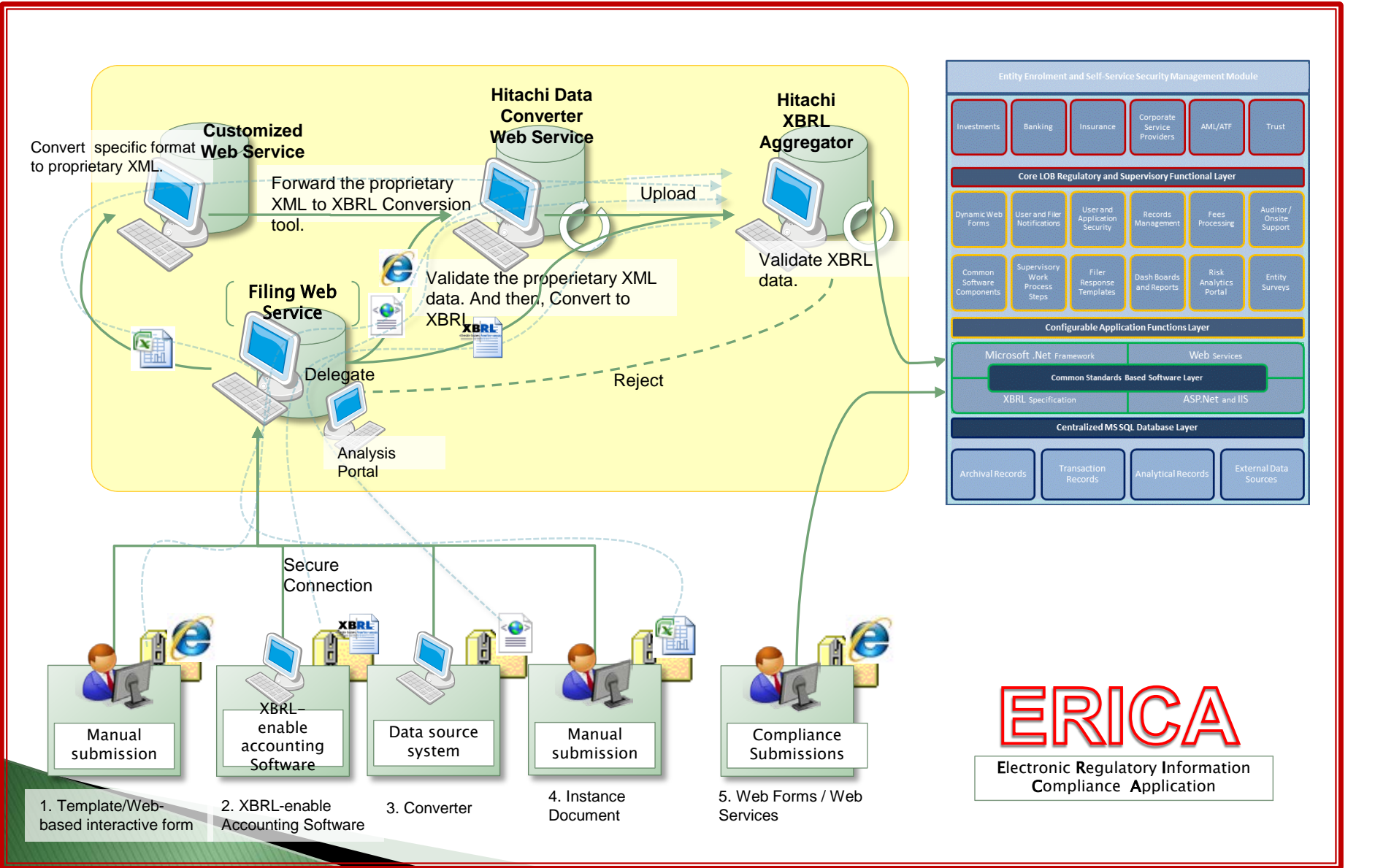
4. Submit



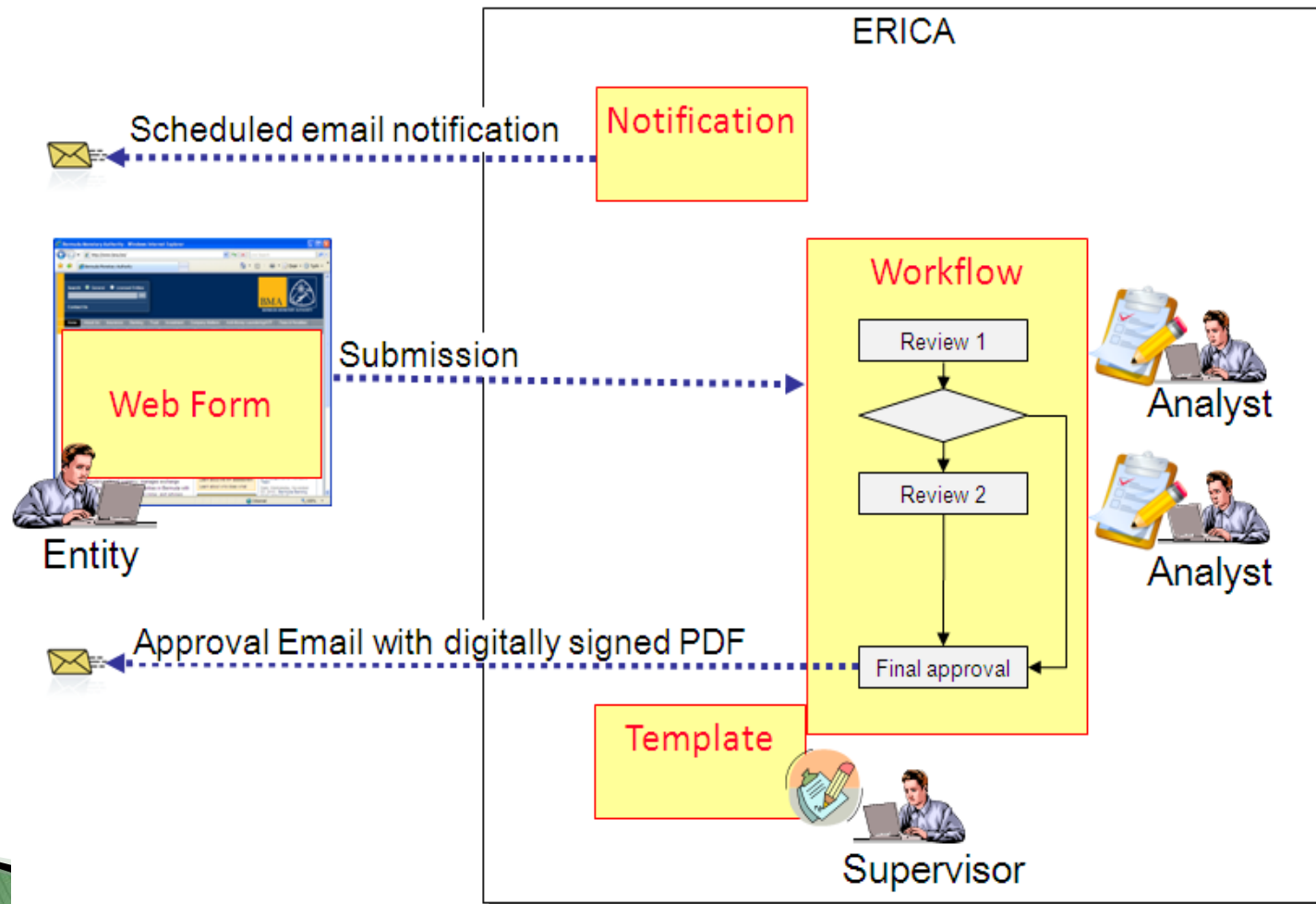
| Note ID | Note Content                      | Tagging Status |
|---------|-----------------------------------|----------------|
| 1       | Notes to the Financial Statements | Completed      |
| 2       | Notes to the Financial Statements | Completed      |
| 3       | Notes to the Financial Statements | Completed      |
| 4       | Notes to the Financial Statements | Completed      |
| 5       | Notes to the Financial Statements | Completed      |
| 6       | Notes to the Financial Statements | Completed      |
| 7       | Notes to the Financial Statements | Completed      |
| 8       | Notes to the Financial Statements | Completed      |
| 9       | Notes to the Financial Statements | Completed      |
| 10      | Notes to the Financial Statements | Completed      |



# ERICA Big Picture



# Four Configurable Areas in ERICA





# Dynamic Form Configuration



## Manage Submission Form Details

[Account](#) [Administration](#) [Reports](#) [Search](#) [Submissions](#)

### Fields

#### Main Submission Form

+ [Add new items to the electronic form](#)

#### New Form Item

Select the new item to add to the form:

1. Enter details for the main entity associated with this submission:

[Input Entity Details](#)

2. Add Executive(s) associated with this submission:

[Add Executive](#)

#### Copy a form from another submission type

Select the submission form you wish to copy:

- Please Select...
- Please Select...
- Annual Filing
- Compliance
- Contact
- Entity Service Provider
- Executive
- General Partner
- Interested Party
- License
- NAV
- Offering
- On Site
- Owner
- Regulatory Action
- Regulatory Issue
- Service Provider
- Share Capital
- Shareholding
- Submission Applicant
- Submitting Agent

- ☒ Field Input is Restricted
  - Min Value: 0
  - Max Value:
- ☐ Field Matches Regular Expression:

[Address Details](#) EntityPrimaryAddressID



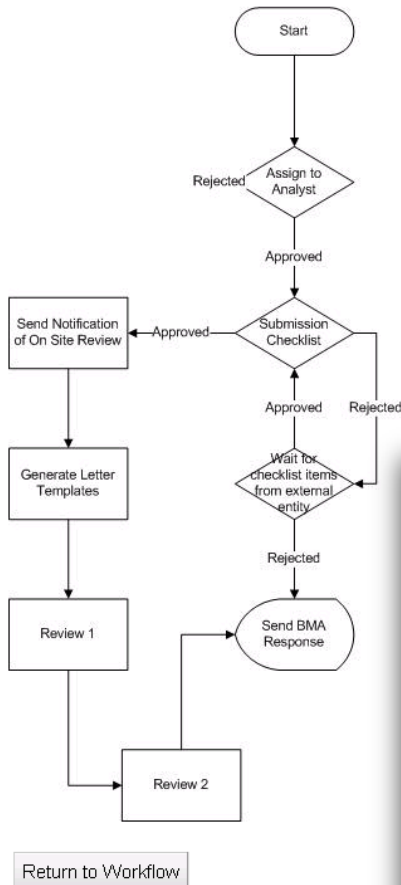
# Dynamic Workflow Configuration



## Annual Accounts Flowchart

[Account](#) [Administration](#) [Reports](#) [Search](#) [Submissions](#)

Mine: 15 In Progress: 15 Queued: 9 Completed Today: 0



## Manage Submission Workflow

[Administration](#) [Reports](#) [Search](#) [Submissions](#)

Mine: 14 In Progress: 14 Queued: 10 Completed Today: 0

Select the submission workflow you wish to manage:

Acquisition of Significant Shareholding

+ Add new step

| # | Step Name   | Step Type    | Delete |
|---|---|--------------|--------|
| 1 | <a href="#">Assign to Analyst</a>                             | Assignment   |        |
| 2 | <a href="#">Submission Checklist</a>                          | Checklist    |        |
| 3 | <a href="#">Wait for checklist items from external entity</a> | Suspend      |        |
| 4 | <a href="#">Send Notification of On Site Review</a>           | Notification |        |



## Manage Submission Workflow

[Administration](#) [Reports](#) [Search](#) [Submissions](#)

Mine: 14 In Progress: 14 Queued: 10 Completed Today: 0

Select the type of step:

### Assignment Configuration

Assign To: ☐ Queue ☒ User

User:

Andrew Prinesdomu

Send Notification:

☒ Email user on assignment

### Step Configuration

Step

Name:

Assign to Analyst

Description:

Directly assign to Andrew

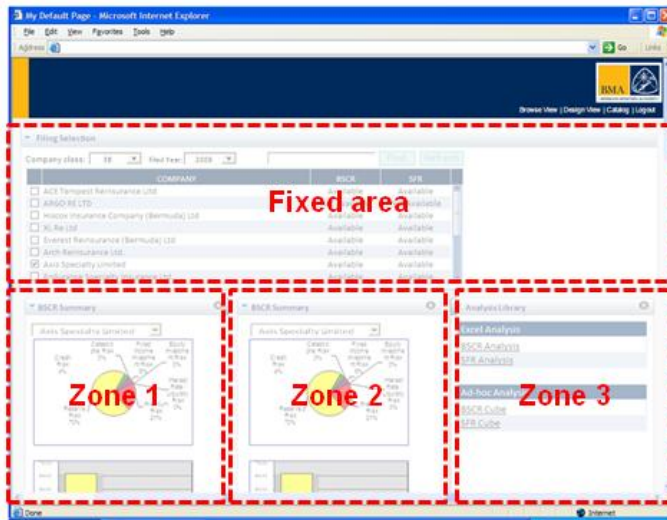
Number:

1

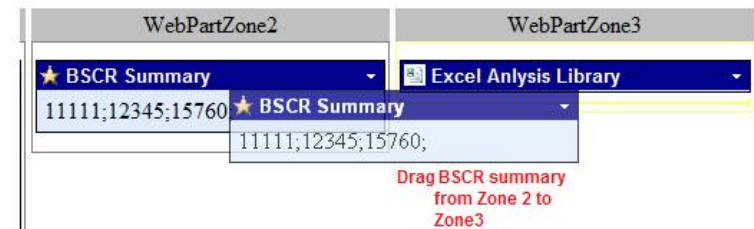
- Assignment
- Please Select...
- Assignment
- Checklist
- Confirmation
- Decision
- Direction
- Document
- Letter
- Memo
- Notes
- Notification
- Response
- Review
- Suspend
- Vetting

# Configurable Analysis Portal Framework

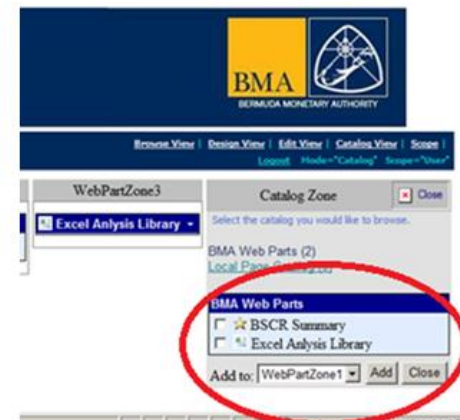
## Browse View



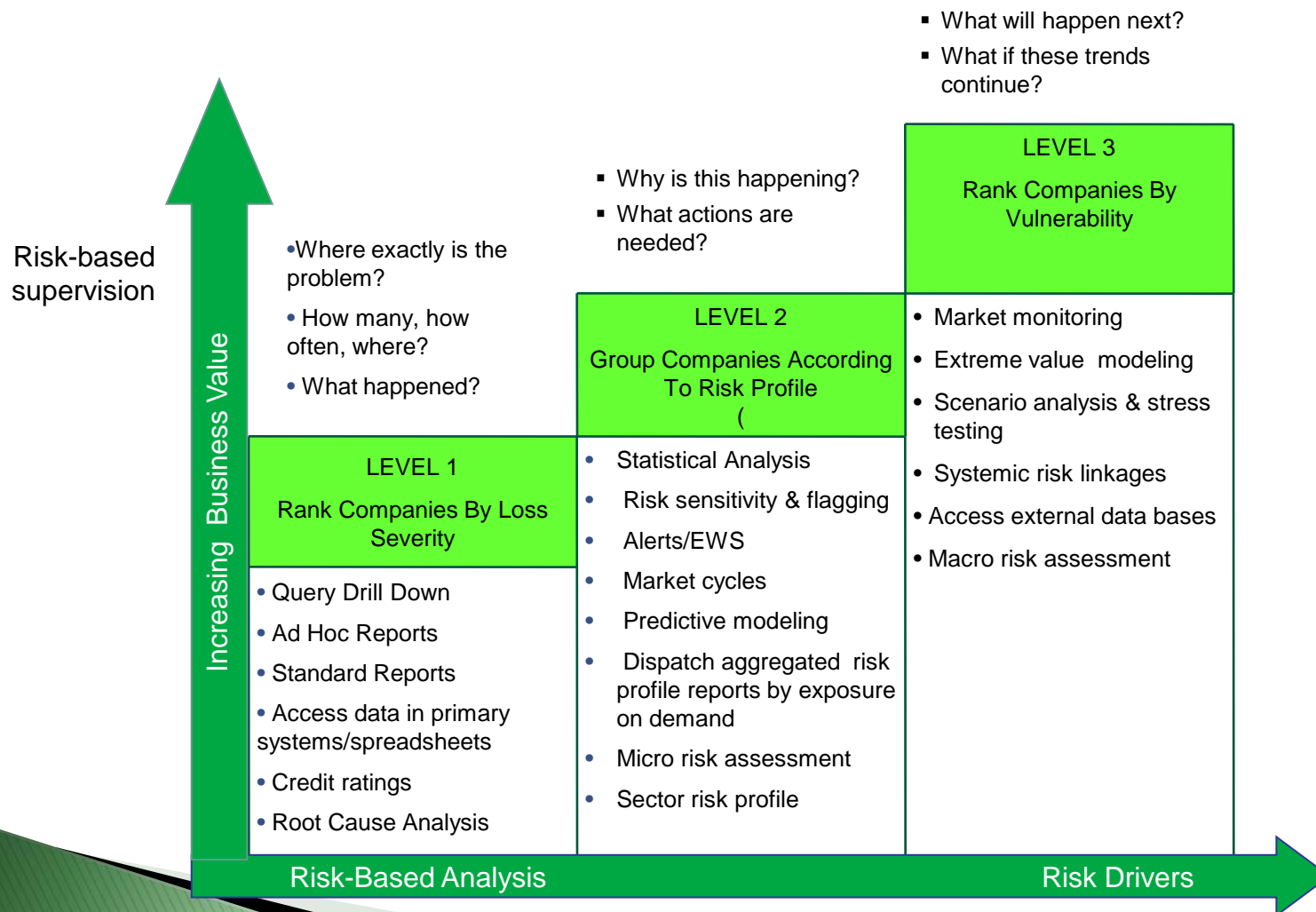
## Design View



## Catalog







# VI. Composite Indicator Dashboards

Main

Procyclicality

Risk Profile

Illiquidity

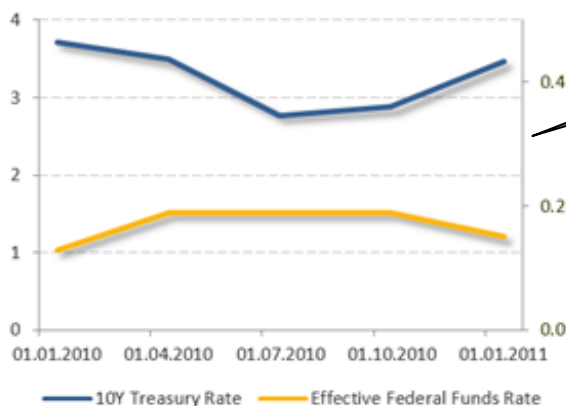
Volatility

Start Date: 01.01.2001 End Date: 01.01.2011

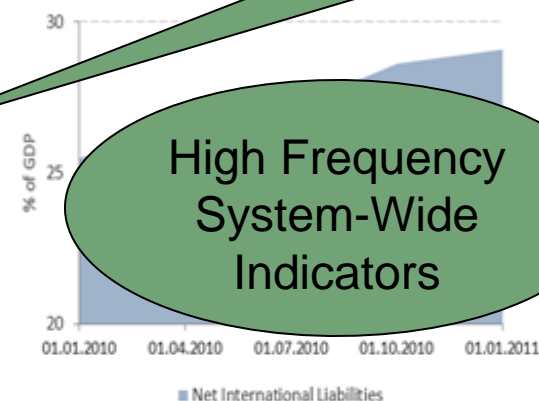
Low Frequency System-Wide Indicators

## Interest Rates

Rates



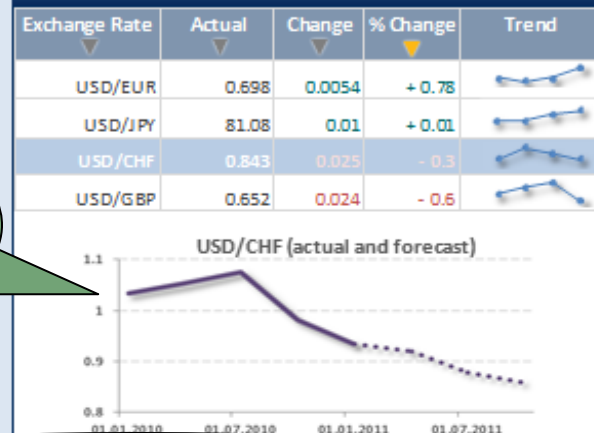
## Macro Indicators



High Frequency System-Wide Indicators

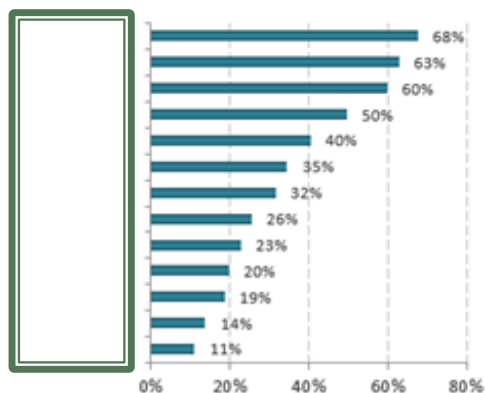
## Exchange Rates

Frequency

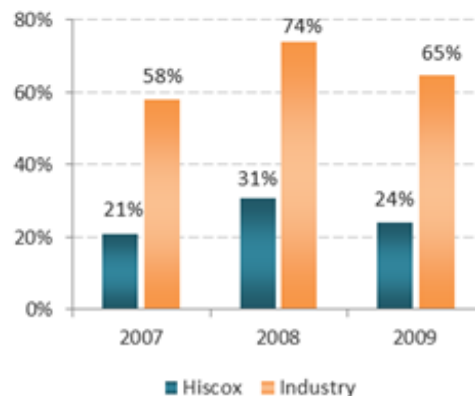


Microprudential Indicators

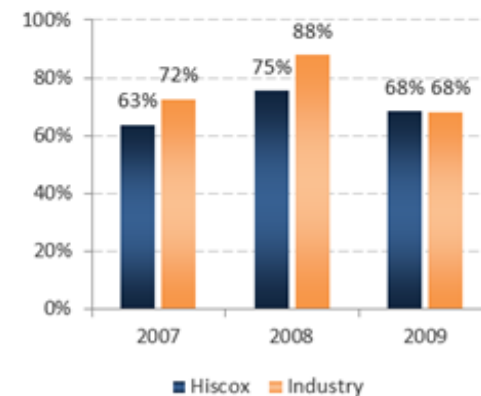
## Operating Leverage By Company



## Reserve Leverage



## Combined (Loss & Expenses) Ratio



# VI. Composite Indicator Dashboards

Main

Procyclicality

**Risk Profile**

Illiquidity

Volatility

Homogeneity

Contagion

Start Date: 01.01.2001 ▼ End Date: 01.01.2011 ▼

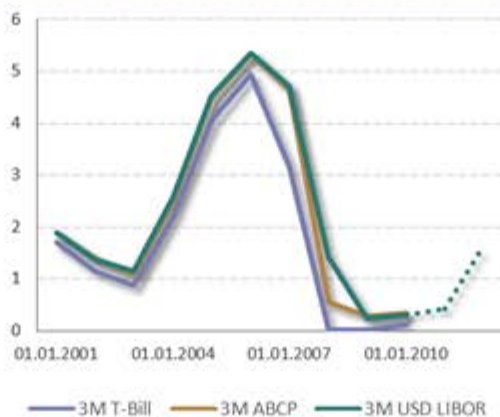
US Treasury Bonds Rates

Terms ▼



Benchmark Lending Rates

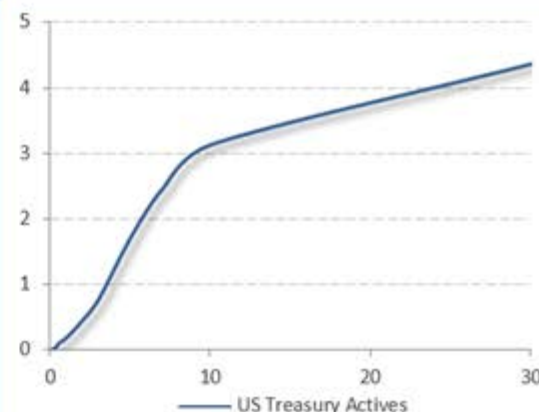
Rates ▼



Yield Curves

Curves ▼

01.01.2011 ▼



Industry: Insurance Class 4 ▼

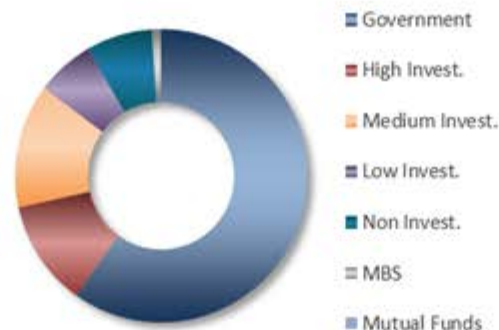
Company: Hiscox ▼

Year: 2010 ▼

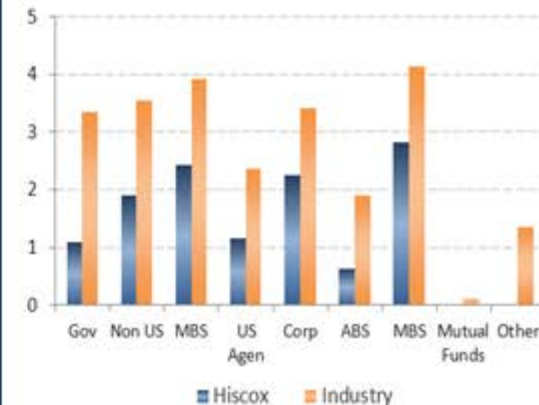
BSCR Risk Distribution



Fixed Income Investments Structure



Effective Duration By Bond Type



# VI. Composite Indicator Dashboards

Main

Procyclicality

Risk Profile

**Illiquidity**

Volatility

Homogeneity

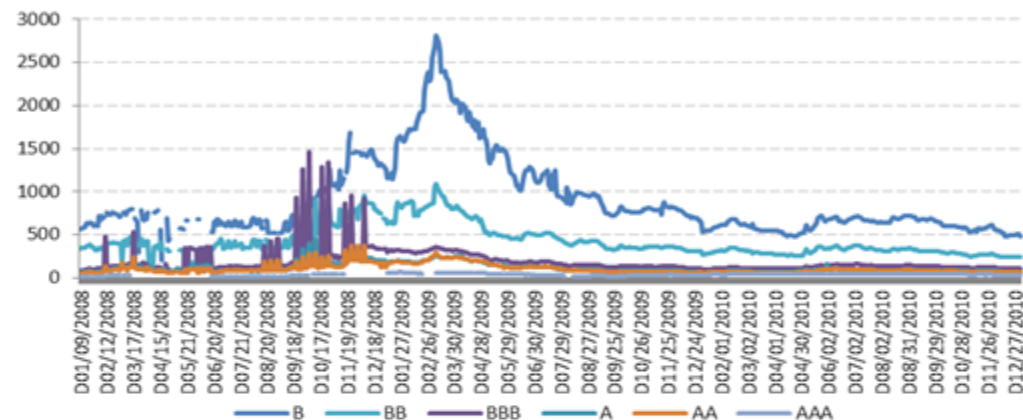
Contagion

Start Date: 01.01.2008 ▼ End Date: 01.01.2011 ▼

## Rated Spreads

CDS ▼

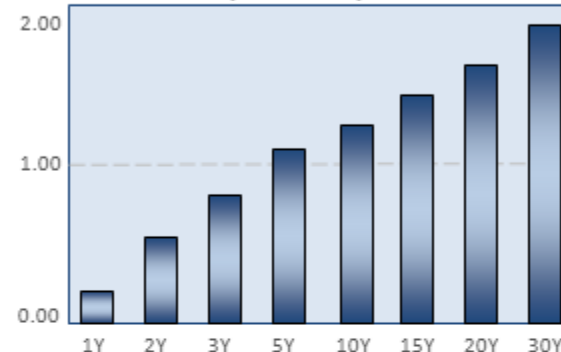
USA ▼



## Weighted Average Duration

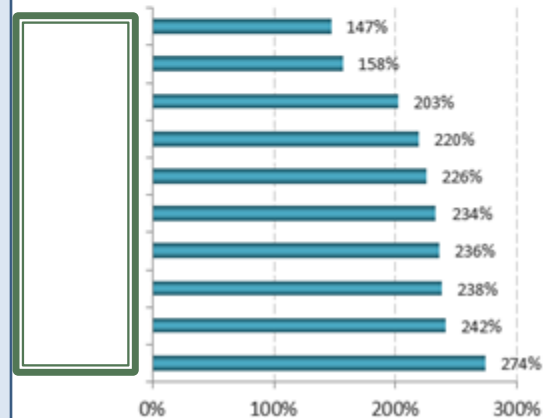
AAA Corporate Bonds ▼

### Sensitivity To AAA Corporate Bonds

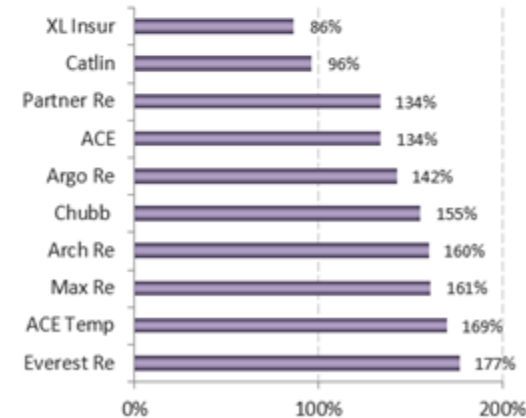


Industry: Insurance Class 4 ▼

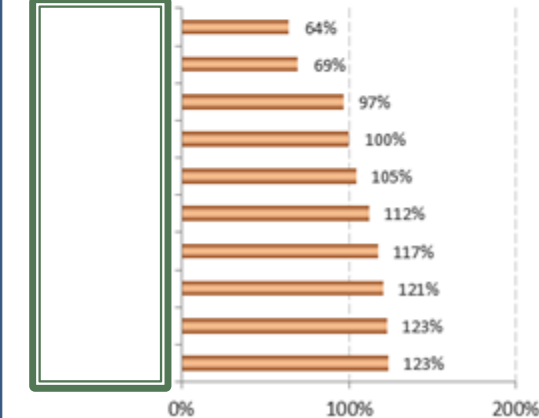
## Liquid Assets To Net PML (TOP 10)



## Liquid Assets To Net Provision (TOP 10)



## Liquid Assets To Total Liabilities (TOP 10)



# VI. Composite Indicator Dashboards

Main

Procyclicality

Risk Profile

Illiquidity

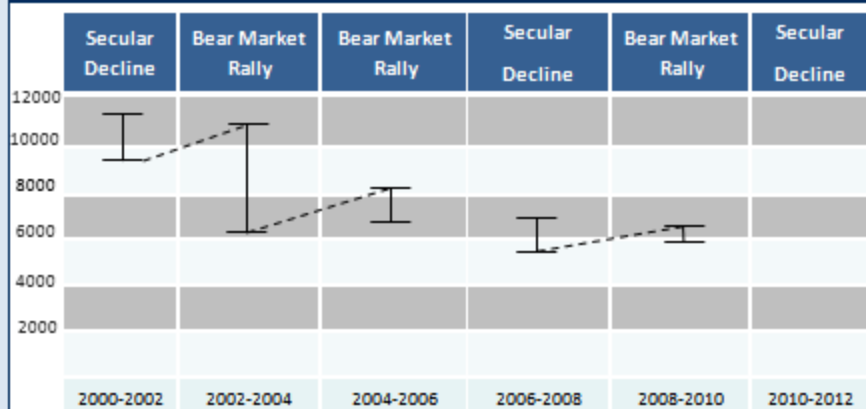
**Volatility**

Homogeneity

Contagion

Start Date: 01.01.2000 ▼ End Date: 01.01.2011 ▼

## Declining (Stock Index) Volatility



## Volatility

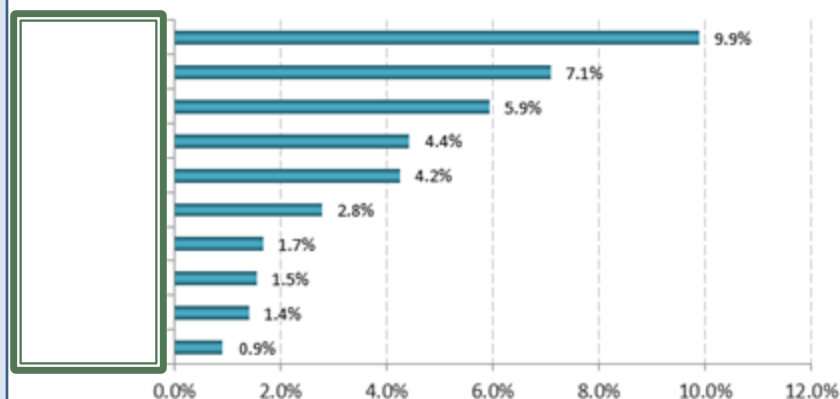
Index: DJIA ▼

Days: 90 ▼

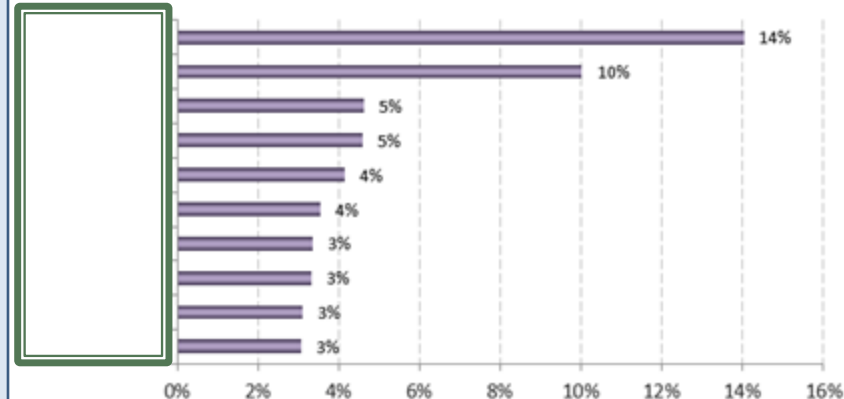


Industry: Insurance Class 4 ▼

## Equity To Total Investments (TOP 10 Companies)



## Equity Risk In BSCR Risk Distribution (TOP 10 Companies)



# VI. Composite Indicator Dashboards

Main

Procyclicality

Risk Profile

Illiquidity

Volatility

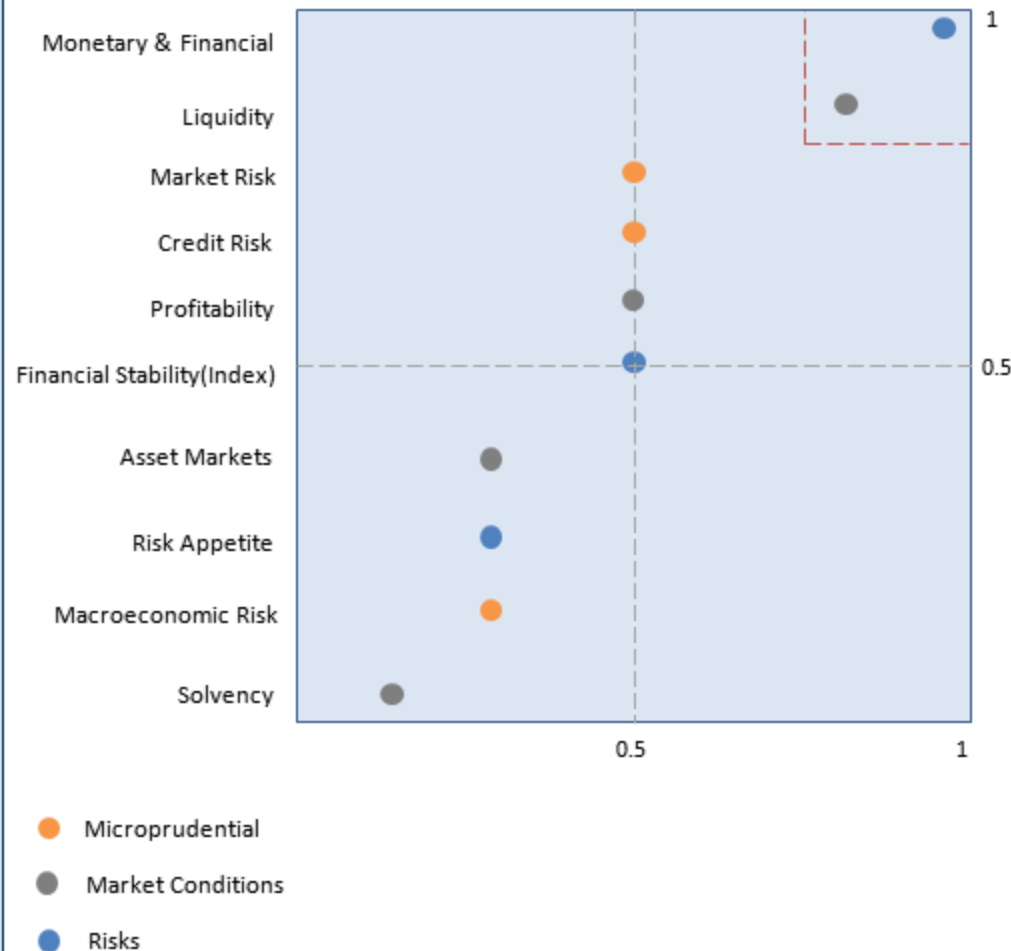
Homogeneity

Contagion

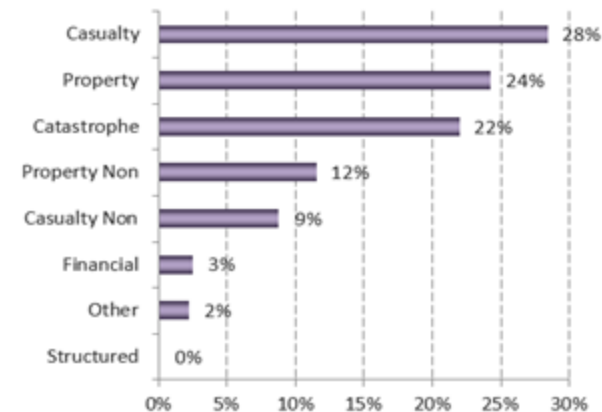
Year: 2010 ▼

Industry: Insurance Class 4 ▼

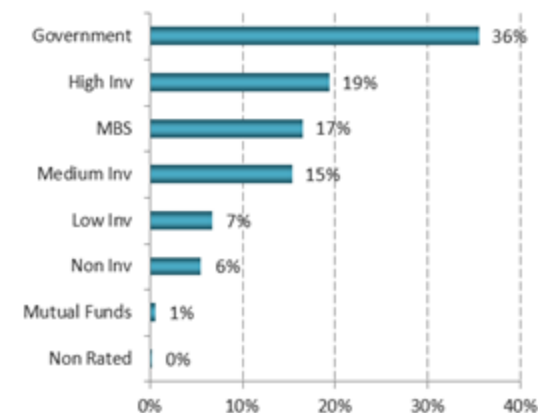
BMA Financial Stability Map



Line Of Business Distribution



Bonds Investments By Rating Category



# VI. Composite Indicator Dashboards

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Volatility

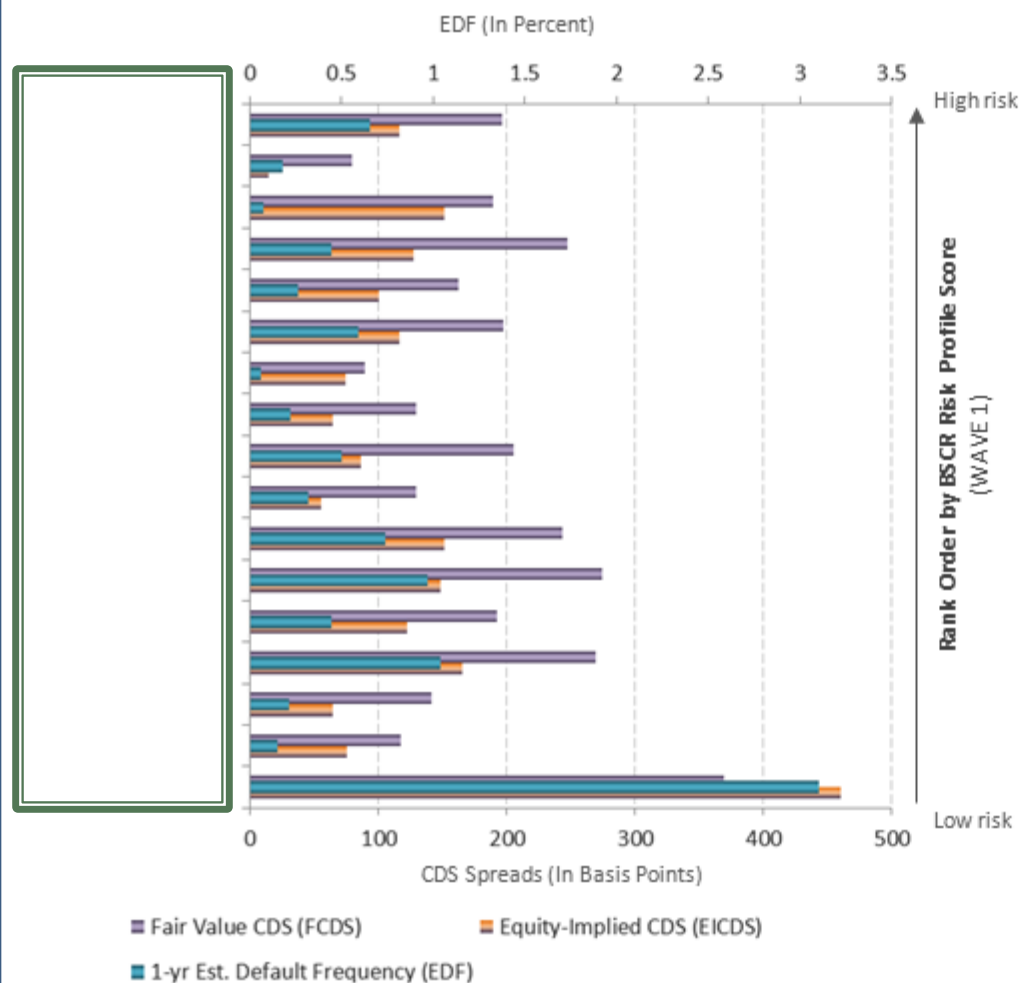
Homogeneity

Contagion

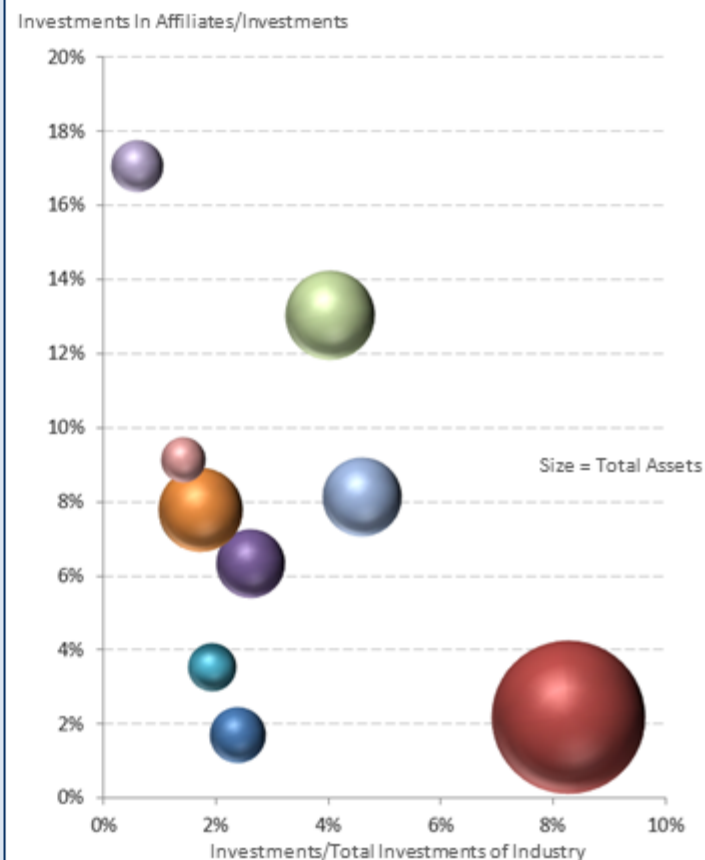
Year: 2010 ▼

Industry: Insurance Class 4 ▼

## Market Perception Of Risk



## Group Risk





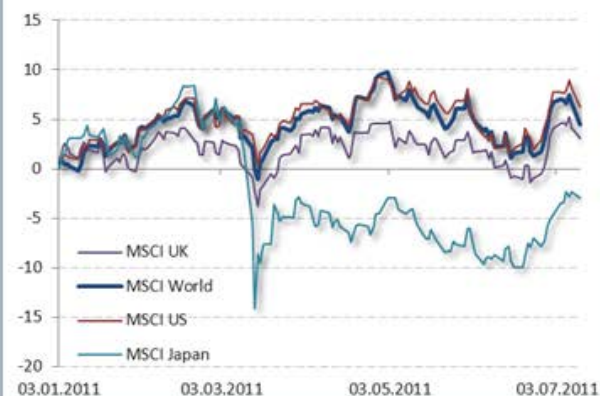
# Risk Based Analysis


[Main](#)
[Procyclicality](#)
[Risk Profile](#)
[Illiquidity](#)
[Volatility](#)
[Homogeneity](#)
[Contagion](#)

Welcome to the BMA Risk Detection Portal!

## World Market Indicators

| CDS  | Equities | Bonds | Currencies | All |
|--|----------|-------|------------|-----|
| Index  | Close    | 1d Δ% | YTD Δ%     |     |
| <b>Stock Indexes</b>                           |          |       |            |     |
| <input checked="" type="checkbox"/> MSCI World | 1376.82  | -2.11 | 4.65       |     |
| <b>Core Markets</b>                            |          |       |            |     |
| <input checked="" type="checkbox"/> MSCI USA   | 1306.50  | -1.83 | 6.16       |     |
| <input checked="" type="checkbox"/> MSCI Japan | 555.82   | -0.59 | -2.89      |     |
| <input checked="" type="checkbox"/> MSCI UK    | 1879.47  | -1.02 | 1.77       |     |
| <input type="checkbox"/> MSCI EUR              | 91.63    | -2.64 | 0.20       |     |
| <b>Currencies</b>                              |          |       |            |     |
| <input type="checkbox"/> EUR/USD               | 1.38     | -1.28 | 3.63       |     |
| <input type="checkbox"/> USD/JPY               | 79.77    | -0.50 | -3.89      |     |
| <input type="checkbox"/> GBP/USD               | 1.58     | -0.56 | 0.34       |     |
| <b>Interest Rates</b>                          |          |       |            |     |
| <input type="checkbox"/> U.S. Treasury 3M      | 0.02     | 100   | -88.64     |     |
| <input type="checkbox"/> U.S. Treasury 6M      | 0.05     | 25    | -80        |     |
| <input type="checkbox"/> U.S. Treasury 2Y      | 0.35     | -5.41 | -46.15     |     |



## News

07/12/2011

XL Group plc to Announce Second Quarter 2011 Results on Tuesday, August 2, 2011.  
[Read more>>](#)

07/11/2011

Argo Group Provides Preliminary Loss Estimate for U.S. Weather-Related Events Occurring in the Second Quarter of 2011  
[Read more>>](#)

07/08/2011

PartnerRe to Release 2011 Second Quarter and Half Year Results and Host Analyst Conference Call and Webcast  
[Read more>>](#)

## Favourite Reports

[BSCR Report>>](#)

[Equity Market Monitor>>](#)

[Bonds Market Monitor>>](#)

[CDS Market Monitor>>](#)

[FX Market Monitor>>](#)

## Risk Drivers Heat Map

YTD ▼

03.07.2011 ▼

### Procyclicality>>

|  |  |                                 |
|--|--|---------------------------------|
| Average Real Interest Rates<br>▼ -4.3% | Net International Liabilities<br>▲ +2% | USD/Currency Basket<br>▼ -12.3% |
|--|--|---------------------------------|

### Risk Profile>>

|  |  |                                       |
|--|--|---------------------------------------|
| Average Annual Yields On 10Y Treasury Bonds<br>▲ +8.1% | Commercial Paper Average Yields<br>▲ +3.3% | 6M T- Bills Average Yields<br>▼ -7.7% |
|--|--|---------------------------------------|

### Illiquidity>>

|  |   |  |
|--|---|--|
| Sensitivity to AAA Corp Bonds<br>▲ +7.5% | Sensitivity to AA Corp Bonds<br>▲ +4.3% | Sensitivity to A Corp Bonds<br>▲ +4.7% |
|--|---|--|

### Volatility>>

|                 |                  |                 |
|-----------------|------------------|-----------------|
| DJIA<br>▼ -4.6% | SP500<br>▲ +2.7% | FTSE<br>▼ -4.8% |
|-----------------|------------------|-----------------|

### Homogeneity>>

|                            |                               |                  |
|----------------------------|-------------------------------|------------------|
| Microprudential<br>▼ -3.2% | Market Conditions<br>▼ -11.5% | Risks<br>▼ -4.1% |
|----------------------------|-------------------------------|------------------|

### Contagion>>

|            |           |            |         |          |
|------------|-----------|------------|---------|----------|
| Arch Group | PartnerRe | Everest    | Validus | Catlin   |
| Aspen      | Alterra   | Endurance  | Hiscox  | Platinum |
| Montpelier | Argo      | Lancashire | Enstar  | Maiden   |



## V. Connecting The Dots (Scenarios)

|                                     | Income  | Assets   | Liabilities  |
|-------------------------------------|---|--|--|
| 1. Procyclicality                   | <ul style="list-style-type: none"> <li>• Under pricing (premiums)</li> <li>• Aggressive underwriting strategy (Risk appetite)</li> <li>• Timely market information (EWS)</li> </ul>                                       | <ul style="list-style-type: none"> <li>• Higher risk investment strategies</li> <li>• Poor risk appetite decisions</li> <li>• Fall in asset values</li> <li>• Rates of return</li> </ul>   | <ul style="list-style-type: none"> <li>• Under reserving</li> </ul>  |
| 2. Risk Profile Mismatch/Mispricing | <ul style="list-style-type: none"> <li>• Underwriting profitability</li> <li>• Ineffective price discrimination (poor market segmentation)</li> <li>• Lumpy risk profile</li> <li>• Poor underwriting strategy</li> </ul> | <ul style="list-style-type: none"> <li>• Asset/liability exposure <ul style="list-style-type: none"> <li>➢ Investments underperform</li> <li>➢ Failure to correlate risk profile of asset and liabilities (asset value falls, liabilities increase)</li> <li>➢ ALM mismatch exposes firm to market swings</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Adverse claims experience</li> <li>• Inaccurate loss evaluation</li> <li>• Outstanding claims ratio s not inline with peers.</li> </ul> |
| 3. Illiquidity                      | <ul style="list-style-type: none"> <li>• Underwriting losses (premiums set too low) erode solvency margin</li> </ul>  | <ul style="list-style-type: none"> <li>• Illiquid investments</li> <li>• Fixed investment value</li> </ul>   | <ul style="list-style-type: none"> <li>• Insufficient or illiquid technical provisions</li> </ul>  |
| 4. Volatility                       | <ul style="list-style-type: none"> <li>• Interest rate fluctuation</li> </ul>   | <ul style="list-style-type: none"> <li>• Undervalued investments/Losses</li> </ul>   | <ul style="list-style-type: none"> <li>• Undervalued technical provisions</li> <li>• Double gearing</li> </ul>   |
| 5. Homogeneity                      | <ul style="list-style-type: none"> <li>• Poor underwriting judgment</li> <li>• Credit quality of guarantees</li> </ul>  | <ul style="list-style-type: none"> <li>• Herd behavior</li> <li>• Concentrations (LOB, risk classes, geo, asset classes)</li> <li>• Diversification</li> </ul>   | <ul style="list-style-type: none"> <li>• Funding source diversity=</li> </ul>  |
| 6. Contagion/Spillovers/Linkages    | <ul style="list-style-type: none"> <li>• Management fail to make the appropriate risk aggregations</li> <li>• Financial result volatility</li> </ul>  | <ul style="list-style-type: none"> <li>• Falling asset prices</li> <li>• Common mode failure/catastrophe worse case loss (worst event in recent memory)</li> </ul>   | <ul style="list-style-type: none"> <li>• Unexpected gross underwriting loss</li> <li>• Contingent off-balance sheet items</li> </ul>   |

# Discussion

