



Institute of Actuaries of Australia

5th Financial Services Forum

Renovating the Financial System

2010

13 and 14 May 2010 – SYDNEY

Control, Flexibility & Automation of Actuarial Processes

Mark Schneider and Darren Robinson



The Challenges

- Increasing pressures on actuaries
 - Shorter deadlines
 - Increasing complexity
 - More control – auditable, transparent, repeatable
 - Flexibility
 - Reduced operational risk
 - Cost pressures



Possible Solutions

- Actuarial data warehouse
- Spreadsheet automation
- Hybrid solutions
- Do these achieve the right balance?



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Valuation Process Improvement The BT Journey

Darren Robinson

The Problem

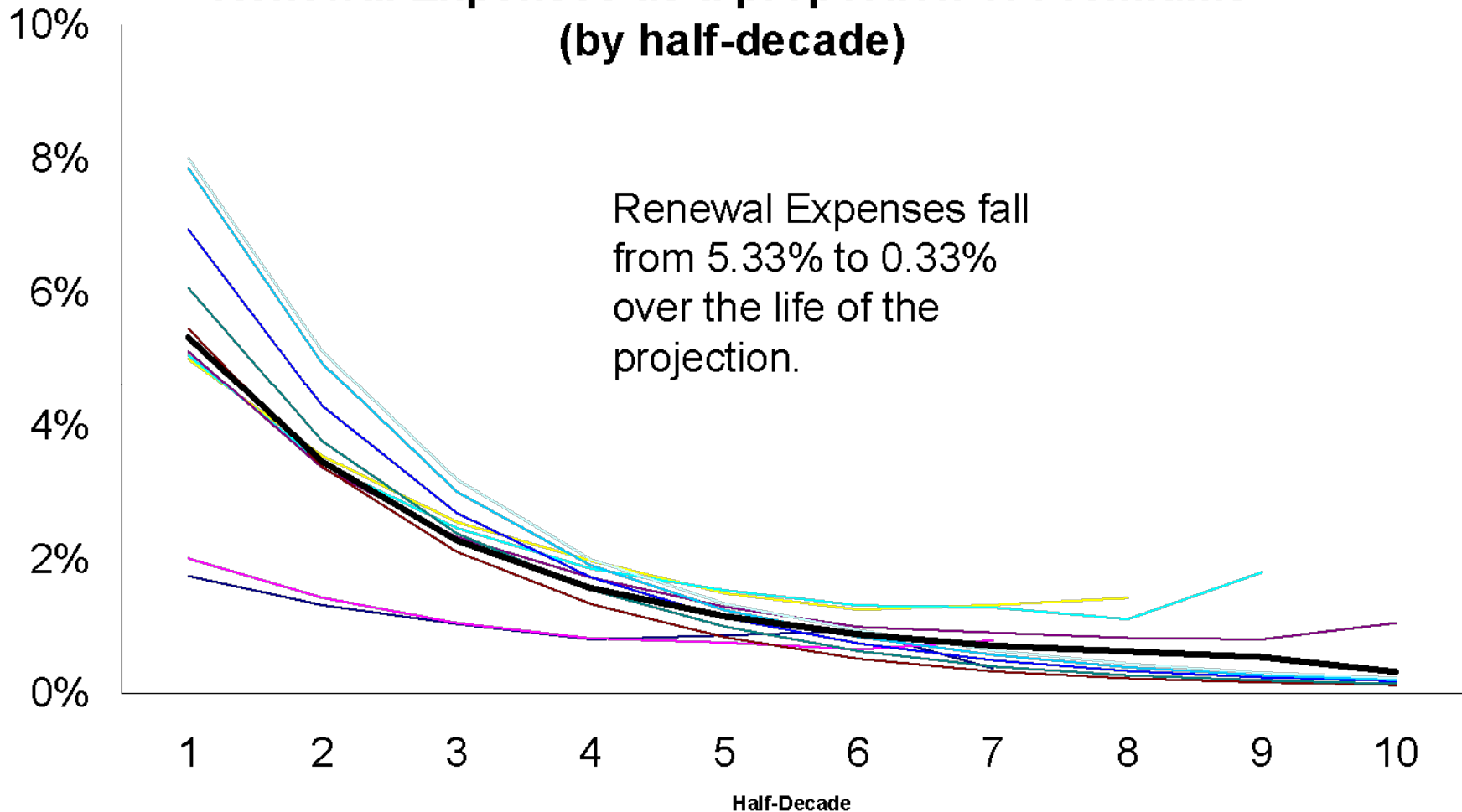
- 621 tables
- 1,300 pages of code
- Manual Processes to create data
- 15 years old, built with a layering technique

VS

- Need for accuracy and reliability
- One of the simpler books in Australia

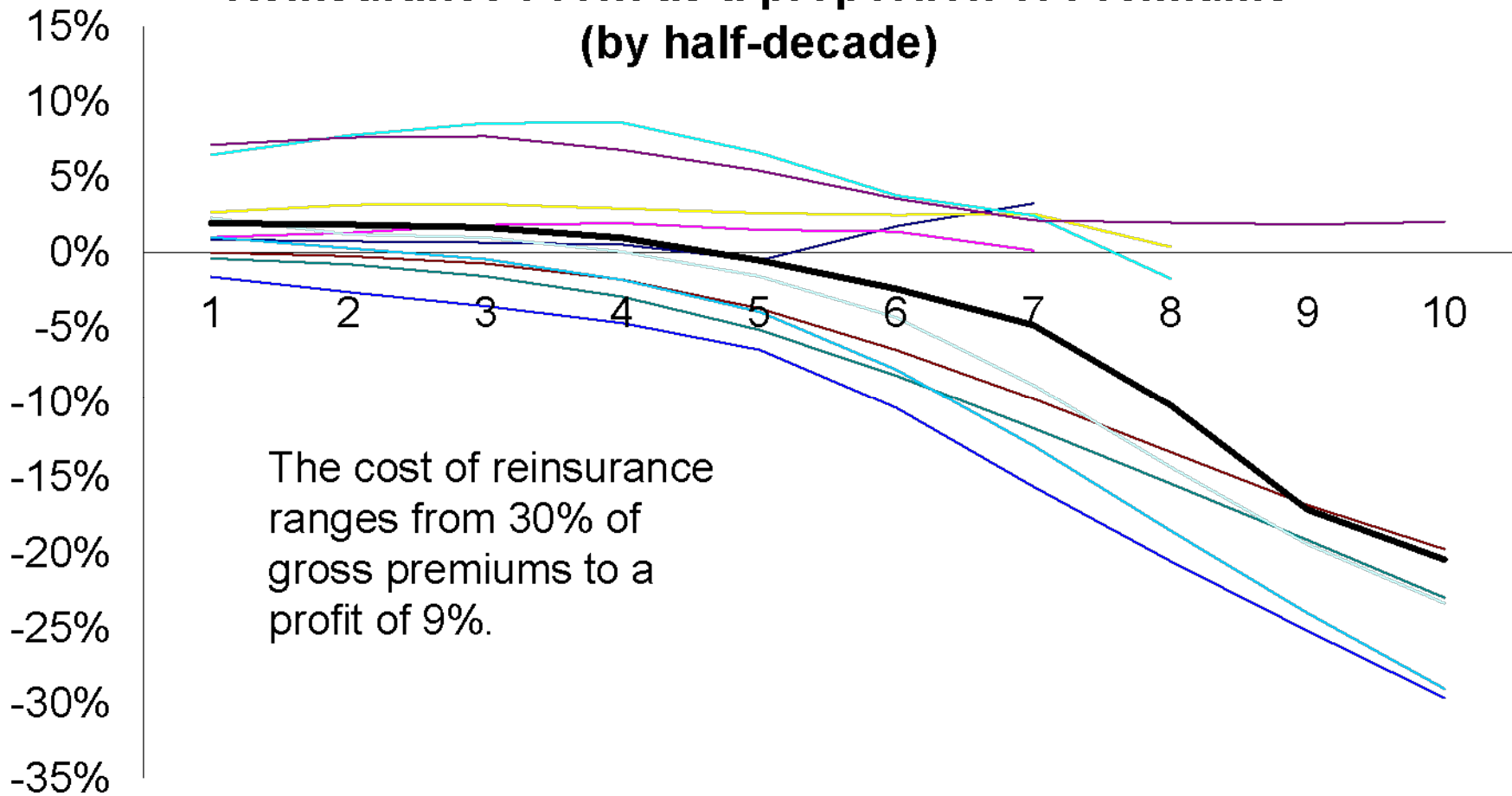
Dangers of Complexity

Renewal Expenses as a proportion of Premiums (by half-decade)



Dangers of Complexity

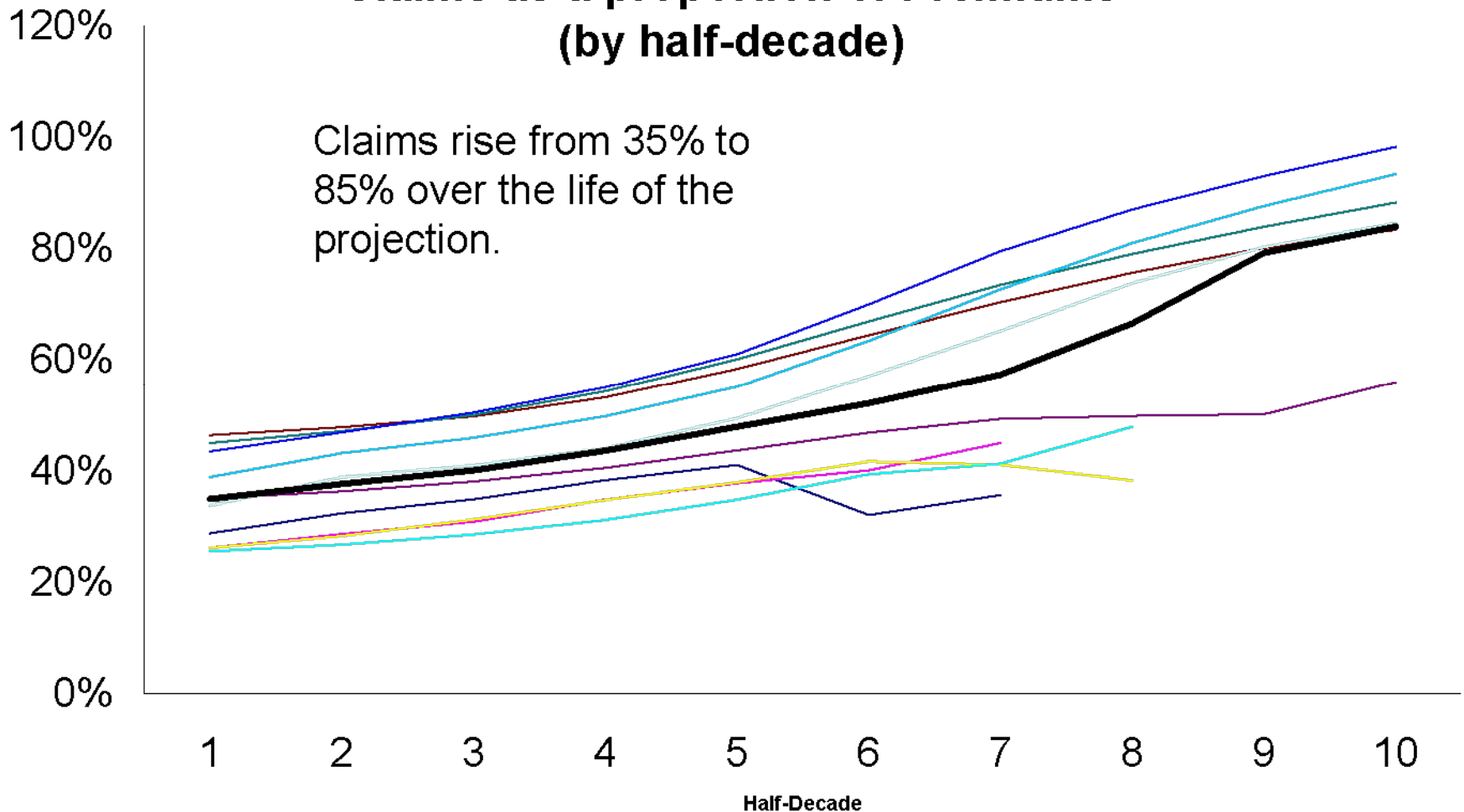
Reinsurance Profit as a proportion of Premiums
(by half-decade)



The cost of reinsurance ranges from 30% of gross premiums to a profit of 9%.

Dangers of Complexity

Claims as a proportion of Premiums (by half-decade)

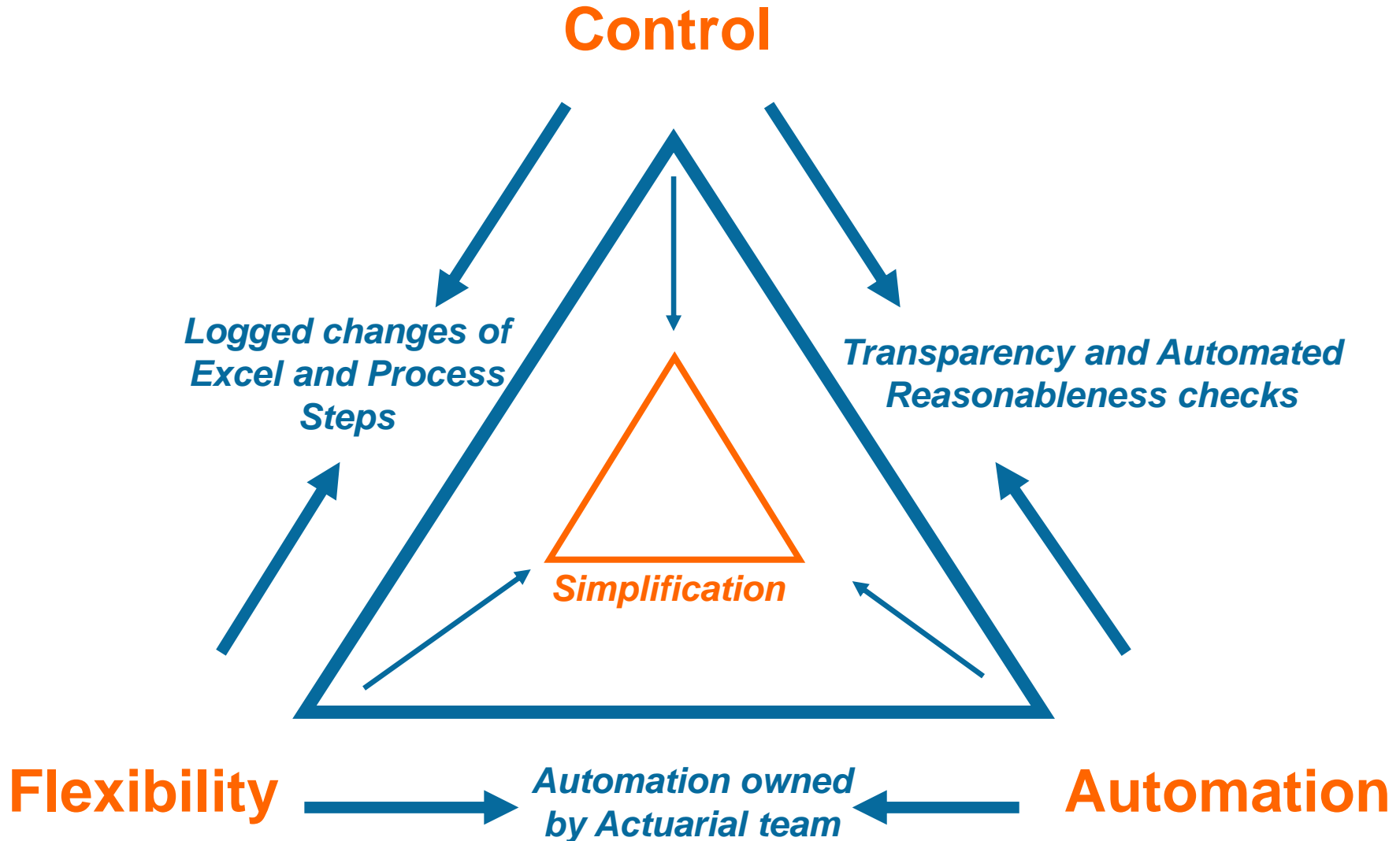




Required Solution

- No manual processes
- Increased auditability
- Increased resilience
- Automated reasonableness checks
- Integrated with current processes
- Transparent
- Scalable to the number of tasks

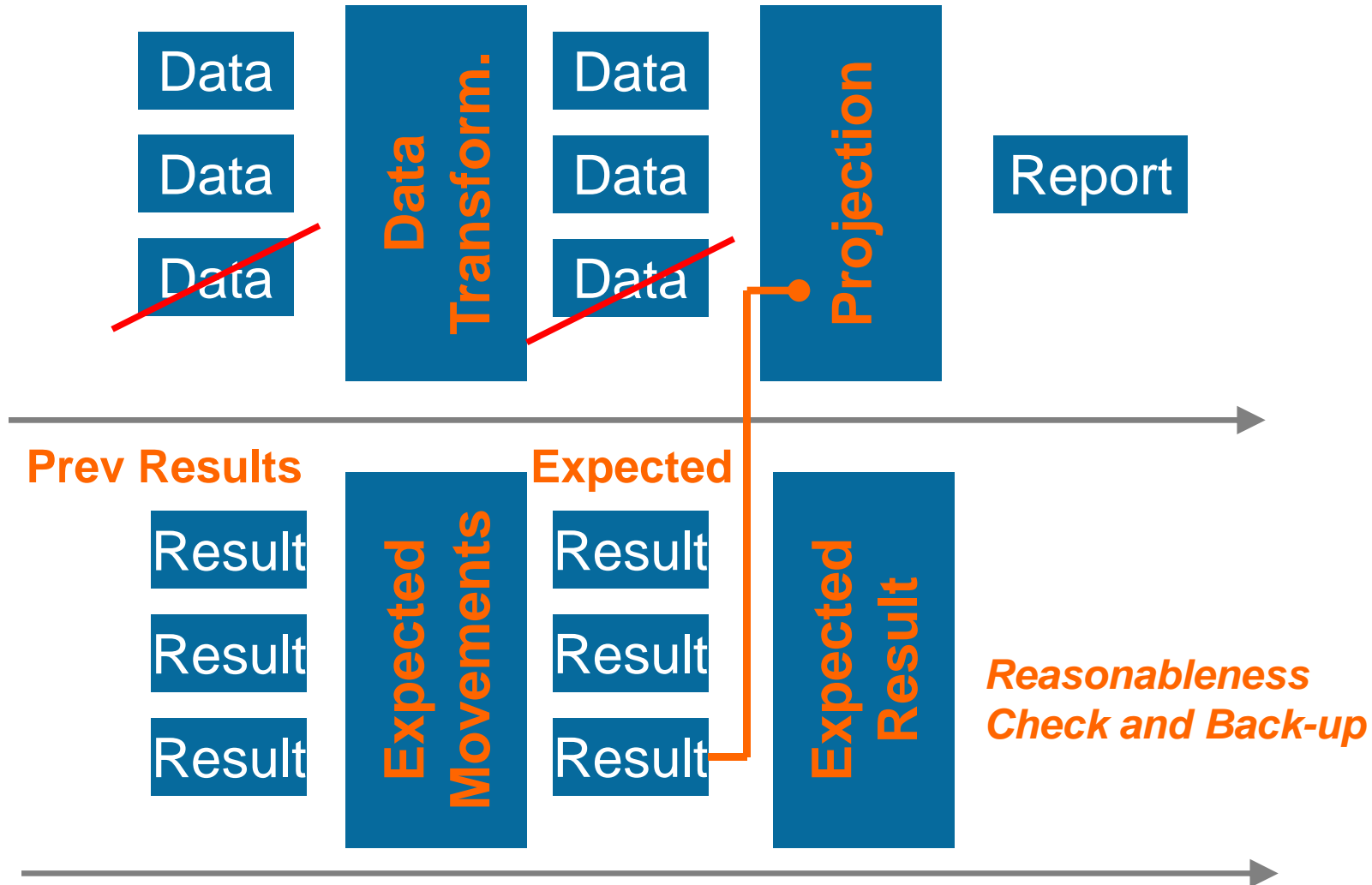
Reducing the Tension in the Triangle



Resilience – when data doesn't arrive

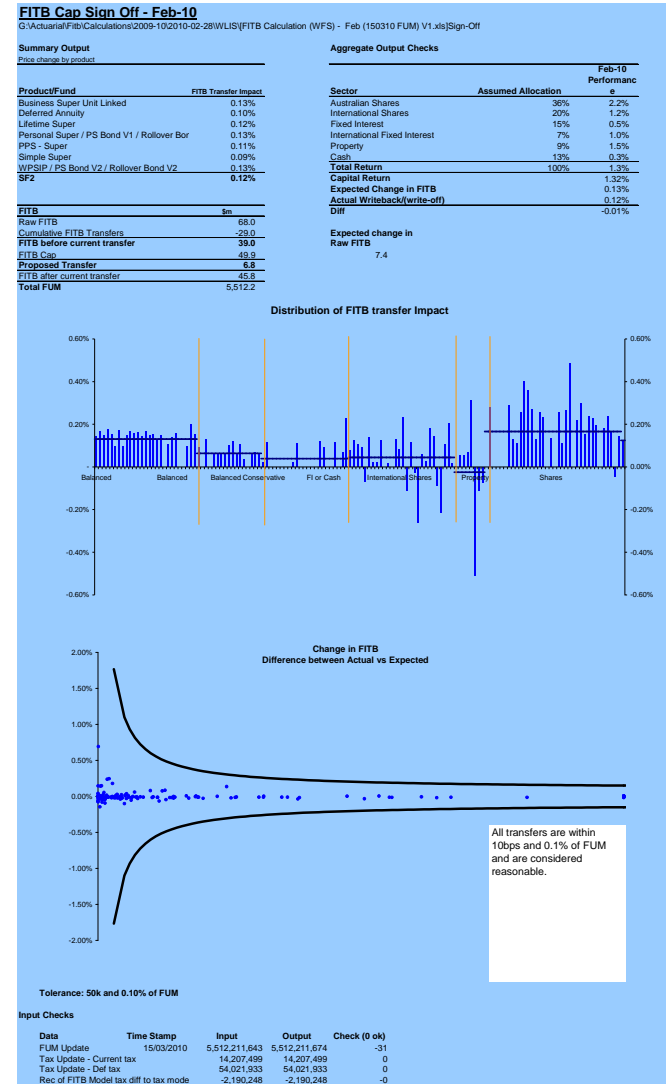


Resilience – when data doesn't arrive



Automated Reasonableness Checks

- 1 day to perform review (mostly data collection)
- Designed single output page
- Automated process to create that page
- 5 minutes to perform the review



Transparency

http://beta.solvexia.com/CreateProjectAuditDocument.aspx?p=TwBRADUAZABCAFEAMgA0ADAAUwBwAC8ATwBL - Microsoft Internet Explorer p



Report parameters

From date 5-Apr-2010



To date

19-Apr-2010



Refresh report

Print This Report

Process Specification Report

Summary information for project 'Monthly Valuation - DII Business'

Project Created	09 Oct 2009 09:22:43	Number of operation groups	7
Project Last Modified	29 Mar 2010 21:17:59	Number of steps	42
Report Generated	19 Apr 2010 10:46:40	Number of files	20

Specification

This project is currently defined as follows

1. Upload Files

2. IF Data Manipulation

- 2. 1 - Check if the file has been reviewed
- 2. 2 - Move DM IF DII Policies to DII Data File
- 2. 3 - Move BTSFL IF DII Policies to DII Data File
- 2. 4 - Delete Last Month Claim Data
- 2. 5 - Copy new claims
- 2. 6 - Copy new claims into mosIfdii.xls
- 2. 7 - Add formula for status indicator
- 2. 8 - Replace old status indicator
- 2. 9 - Delete status inducator formula

3. Create DII IF Output File

4. NB Data Manipulation & Create Output File

5. Update Incur Sheet

6. Create DBF File

7. Steps from James

Transparency

http://beta.solvexia.com/CreateProjectAuditDocument.aspx?p=TwBRADUAZABCAFEAMgA0ADAAUwBwAC8ATwBL - Microsoft Internet Explorer p



Report parameters

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Specification

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2.2 - Move DM IF DII Policies to DII Data File

Summary

1. Rows in range "Address a1 to Last Cell in Col CR" in worksheet "mosIFdm" in file "mosIFdm.xlsx" were selectively copied to range "Last Cell+1 in Col A to To fit source data " in worksheet "mosIFdii" in file "mosIFdii.xlsx": This was done by instruction "Copy Rows Selectively" in project "Monthly Valuation - DII Business"

Dependencies

The prior step 'Check if the file has been reviewed' must complete successfully

2.3 - Move BTSFL IF DII Policies to DII Data File

Summary

1. Cell "Value" from cell "Address a2 to Last Cell in Col CW" in worksheet "if_dii" in file "SFL data.xls" was copied to cell "Last Cell+1 in Col A to To fit source data " in worksheet "mosIFdii" in file "mosIFdii.xlsx": This was done by instruction "Copy Cell Values" in project "Monthly Valuation - DII Business"

Dependencies

The prior step 'Move DM IF DII Policies to DII Data File' must complete successfully



Control

http://beta.solvexia.com/CreateProjectAuditDocument.aspx?p=TwBRADUAZABCAFEAMgA0ADAAUwBwAC8ATwBL - Microsoft Internet Explorer p

Change History

Below is a summary of changes made between 01-Feb-2010 00:00 and 19-Apr-2010 23:59

Date of change	Changed by	Change summary	Project history	
25 Mar 2010 15:18:11	btfg.garry.xue	Change in 'invnt paper' : Uploaded invnt paper.xls, Uploaded invnt paper.xls, Uploaded invnt paper.xls, Uploaded invnt paper.xls, Uploaded invnt paper.xls, Uploaded invnt paper.xls Change in 'mosvNBdm new business working file' : Uploaded mosIFdm2.xlsm	Before this change	After this change
01 Mar 2010 13:39:32	btfg.garry.xue	Change in 'mosNBdii new business working file' : Uploaded mosvNBdii.xlsm	Before this change	After this change
01 Mar 2010 12:53:00	btfg.garry.xue	Change in 'mosNBdii new business working file' : Uploaded mosvNBdii.xlsm, Uploaded mosvNBdii.xlsm	Before this change	After this change
01 Mar 2010 12:29:03	btfg.garry.xue	Change in 'mosNBdii new business working file' : Uploaded mosvNBdii.xlsm	Before this change	After this change
26 Feb 2010 16:50:39	svx.james.simpson	Change in 'Modified Claims File' : Uploaded claims_modified.xls	Before this change	After this change
26 Feb 2010 16:39:42	svx.james.simpson	Change in 'Modified Claims File' : Uploaded claims_modified.xls	Before this change	After this change
26 Feb 2010 16:37:04	svx.james.simpson		Before this change	After this change
26 Feb 2010 15:20:36	btfg.garry.xue	Change in 'mosIFdm inforce working file' : Uploaded mosIFdm.xlsx, Uploaded mosIFdm.xlsm Change in 'Pricing claims file' : Uploaded Send WD4 - Claims DII.xlsm Change in 'Incur Working File' : Uploaded Incur Working Sheet - DII.xlsm Change in 'DII Working Template' : Uploaded Input.xlsm	Before this change	After this change
26 Feb 2010 15:19:38	btfg.garry.xue	Change in 'mosIFdm inforce working file' : Uploaded mosIFdm.xlsx, Uploaded mosIFdm.xlsm Change in 'Pricing claims file' : Uploaded Send WD4 - Claims DII.xlsm Change in 'Incur Working File' : Uploaded Incur Working Sheet - DII.xlsm	Before this change	After this change
26 Feb 2010 15:14:38	btfg.garry.xue	Change in 'mosIFdm inforce working file' : Uploaded mosIFdm.xlsx, Uploaded mosIFdm.xlsm	Before this change	After this change
26 Feb 2010 15:14:38	svx.james.simpson	Change in 'Modified Claims File' : Uploaded claims_modified.xls	Before this change	After this change
26 Feb 2010 15:03:48	btfg.garry.xue	Change in 'mosNBdiii new business incr file' : Uploaded mosvNBdiii.csv Change in 'mosIFdii inforce working file' : Uploaded mosIFdii.xlsm Change in 'mosIFdiii inforce incr file' : Uploaded mosIFdiii.csv Change in 'mosIFdii inforce file' : Uploaded mosIFdii.csv Change in 'mosNBdii new business working file' : Uploaded mosvNBdii.xlsm Change in 'mosIFdm inforce working file' : Uploaded mosIFdm.xlsm Change in	Before this change	After this change

Cultural Shift

	Current	Proposed
Analysis	98%	60%
Presentation	1%	20%
Communication	1%	20%

From analysis to communications

