



IASB/FASB Meeting
Week beginning 16 May 2011

IASB
Agenda
reference **3K**

Staff Paper

FASB
Agenda
reference **68K**

Project

Insurance contracts

Topic

Composite Margin – A Comparison to Risk Adjustment

Purpose of this paper

1. This paper provides examples of the composite margin run-off compared to the re-measurement of the risk adjustment requested by the boards for information only. The staff have not analysed whether any of the examples are theoretically sound, meaningful, or meet the objectives the boards intended for the composite margin.
2. The staff supporting a single margin approach believe that in most cases, the variability of cash flows decreases throughout the life cycle of the claim. Therefore we believe it would be rare for the variability in cash flows to increase (eg. asbestos and environmental, silicone implants, etc.) and the impact of that change not be considered in the updated expectations of cash flows.
3. Further, those staff believe that we will need to analyze whether the onerous contract test should include an adjustment for risk based on the variability in the cash flows and whether the inclusion of such an adjustment would result in an amount higher than the risk adjustment given the profit at risk (single margin) includes the residual margin already recognized by the two margin approach.

Brief description of the examples

4. In these examples, we assume an insurance contract with a coverage period of 1 year and a claims period of 5 years. The premium is 115. At inception, the present value of cash flows is 100, the risk adjustment is 10. Therefore, in the risk adjustment approach, there is a residual margin of 5 that is run-off in the first year. In the composite margin approach, the composite margin is 15.
5. Example 1: Base Case Example, even release from risk:
 - (a) Compares composite margin approach (as proposed in Agenda paper 3F/68F) to the risk adjustment approach.
6. Example 2: Steady cash flows, risk increase exceeds initial estimates:
 - (a) Compares composite margin approach to the risk adjustment approach to illustrate the effect of an increase in risk above the initial estimate under the following scenarios:
 - (i) Composite margin as proposed in Agenda Paper 3F/68F
 - (ii) Composite margin with recalibration
 - (iii) Composite margin with write off and onerous contract
7. Example 3: Steady cash flows, risk increase less than initial estimates :
 - (a) Compares composite margin approach to the risk adjustment approach to illustrate the effect of an increase in the risk when the composite margin is recalibrated to absorb the change¹
8. Example 4: Change in cash flows, risk increase exceeds initial estimates:

¹ Other scenarios were not provided as the outcomes were similar to those provided for an onerous contract above.

- (a) Compares composite margin approach to the risk adjustment approach to illustrate the effect of an increase in risk and a change in cash flows under the following scenarios:
 - (i) Composite margin with recalibration
 - (ii) Composite margin with write-off and onerous contract

Example 1: Base Case, Even Release from Risk: Assumptions							
	0	1	2	3	4	5	
Forecast of cash outflow at t5	100	100	100	100	100	100	Premium charged based on PV of expected cash payment plus a margin for absorbing risk
Distribution Std dev (assume normal dist)	10	8	6	4	2	0	Run off of 'composite' therefore based solely on release from risk
Residual margin	5						Risk measured by standard deviation of distribution
Premium charged	115						Single (uncertain) cash out flow at t5 and premium received at t0

Comparison as Proposed in Agenda Paper 3F/68F														
Staff proposed risk margin approach				Staff proposed composite margin approach										
				Assuming margin run off based only on release from risk (i.e. change in SD of distribution)										
Balance sheet liability	0	1	2	3	4	5	Balance sheet liability	0	1	2	3	4	5	
PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0	PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0	
Residual margin	5.0	0.0	0.0	0.0	0.0	0.0	Composite margin	15.0	12.0	9.0	6.0	3.0	0.0	
Risk margin	10.0	8.0	6.0	4.0	2.0	0.0	Liability	115.0	112.0	109.0	106.0	103.0	100.0	
Liability	115.0	108.0	106.0	104.0	102.0	100.0								
Income statement						Total	Income statement						Total	
Release of risk margin		2.0	2.0	2.0	2.0	2.0	Release of margin		3.0	3.0	3.0	3.0	3.0	15.0
release of residual margin		5.0	0.0	0.0	0.0	0.0	Change in cash flow forecast		0.0	0.0	0.0	0.0	0.0	0.0
Change in cash flow forecast		0.0	0.0	0.0	0.0	0.0	Total P/L (before investment income)		3.0	3.0	3.0	3.0	3.0	15.0
Total P/L (before investment income)		7.0	2.0	2.0	2.0	2.0								

Example 2: Steady Cash Flows (risk exceeds initial estimate): Assumptions							
	0	1	2	3	4	5	
Forecast of cash outflow at t5	100	100	100	100	100	100	Premium charged based on PV of expected cash payment plus a margin for absorbing risk
Distribution Std dev (assume normal dist)	10	6	11	5	3	0	Run off of 'composite' therefore based solely on release from risk
Residual margin	5						Risk measured by standard deviation of distribution
Premium charged	115						Single (uncertain) cash out flow at t5 and premium received at t0

Comparison as Proposed in Agenda Paper 3F/68F						
Staff proposed risk margin approach				Staff proposed composite margin approach		
Assuming margin run off based only on release from risk (i.e. change in SD of distribution)						
Balance sheet liability						
	0	1	2	3	4	5
PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0
Residual margin	5.0	0.0	0.0	0.0	0.0	0.0
Risk margin	10.0	6.0	11.0	5.0	3.0	0.0
Liability	115.0	106.0	111.0	105.0	103.0	100.0
Income statement						
						Total
Release of risk margin		4.0	-5.0	6.0	2.0	3.0
release of residual margin		5.0	0.0	0.0	0.0	0.0
Change in cash flow forecast		0.0	0.0	0.0	0.0	0.0
Total P/L (before investment income)		9.0	-5.0	6.0	2.0	3.0
Balance sheet liability						
	0	1	2	3	4	5
PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0
Composite margin	15.0	9.0	9.0	7.5	4.5	0.0
Liability	115.0	109.0	109.0	107.5	104.5	100.0
Income statement						
						Total
Release of margin		6.0	0.0	1.5	3.0	4.5
Change in cash flow forecast		0.0	0.0	0.0	0.0	0.0
Total P/L (before investment income)		6.0	0.0	1.5	3.0	4.5

Composite Margin with Recalibration							
Staff proposed risk margin approach							
Balance sheet liability	0	1	2	3	4	5	
PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0	
Residual margin	5.0	0.0	0.0	0.0	0.0	0.0	
Risk margin	10.0	6.0	11.0	5.0	3.0	0.0	
Liability	115.0	106.0	111.0	105.0	103.0	100.0	
Income statement						Total	
Release of risk margin		4.0	-5.0	6.0	2.0	3.0	10.0
release of residual margin		5.0	0.0	0.0	0.0	0.0	5.0
Change in cash flow forecast		0.0	0.0	0.0	0.0	0.0	0.0
Total P/L (before investment income)		9.0	-5.0	6.0	2.0	3.0	15.0
Staff proposed composite margin approach with recalibration							
Assuming margin run off based only on release from risk (i.e. change in SD of distribution)							
Balance sheet liability	0	1	2	3	4	5	
PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0	
Composite margin	15.0	9.0	16.5	7.5	4.5	0.0	
Liability	115.0	109.0	116.5	107.5	104.5	100.0	
Income statement						Total	
Release of margin		6.0	-7.5	9.0	3.0	4.5	15.0
Change in cash flow forecast		0.0	0.0	0.0	0.0	0.0	0.0
Total P/L (before investment income)		6.0	-7.5	9.0	3.0	4.5	15.0

Composite Margin with Write-off and Onerous Contract							
Staff proposed risk margin approach							
Balance sheet liability	0	1	2	3	4	5	
PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0	
Residual margin	5.0	0.0	0.0	0.0	0.0	0.0	
Risk margin	10.0	6.0	11.0	5.0	3.0	0.0	
Liability	115.0	106.0	111.0	105.0	103.0	100.0	
Income statement						Total	
Release of risk margin		4.0	-5.0	6.0	2.0	3.0	10.0
release of residual margin		5.0	0.0	0.0	0.0	0.0	5.0
Change in cash flow forecast		0.0	0.0	0.0	0.0	0.0	0.0
Total P/L (before investment income)		9.0	-5.0	6.0	2.0	3.0	15.0
Staff proposed composite margin with write-off and onerous contract							
Assuming margin run off based only on release from risk (i.e. change in SD of distribution)							
Balance sheet liability	0	1	2	3	4	5	
PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0	
Additional Liability			16.5	10.0	5.0	0.0	
Composite margin	15.0	9.0	0.0	0.0	0.0	0.0	
Liability	115.0	109.0	116.5	110.0	105.0	100.0	
Income statement						Total	
Release of margin		6.0		0.0	0.0	0.0	6.0
Onerous Expense			-7.5				-7.5
Change in cash flow forecast		0.0	0.0	6.5	5.0	5.0	16.5
Total P/L (before investment income)		6.0	-7.5	6.5	5.0	5.0	15.0

Example 3: Steady Cash Flows, risk less than initial estimates: Assumptions

	0	1	2	3	4	5
Forecast of cash outflow at t5	100	100	100	100	100	100
Distribution Std dev (assume normal dist)	10	6	9	5	3	0
Residual margin	5					
Premium charged	115					

Premium charged based on PV of expected cash payment plus a margin for absorbing risk

Run off of 'composite' therefore based solely on release from risk

Risk measured by standard deviation of distribution

Single (uncertain) cash out flow at t5 and premium received at t0

Composite Margin with Recalibration

Staff proposed risk margin approach

Balance sheet liability	0	1	2	3	4	5
PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0
Residual margin	5.0	0.0	0.0	0.0	0.0	0.0
Risk margin	10.0	6.0	9.0	5.0	3.0	0.0
Liability	115.0	106.0	109.0	105.0	103.0	100.0

Income statement						Total
Release of riskmargin	4.0	-3.0	4.0	2.0	3.0	10.0
release of residual margin	5.0	0.0	0.0	0.0	0.0	5.0
Change in cash flow forecast	0.0	0.0	0.0	0.0	0.0	0.0
Total P/L (before investment income)	9.0	-3.0	4.0	2.0	3.0	15.0

Staff proposed composite margin approach with recalibration

Assuming margin run off based only on release from risk (i.e. change in SD of distribution)

Balance sheet liability	0	1	2	3	4	5
PV of probability weighted cash flow	100.0	100.0	100.0	100.0	100.0	100.0
Composite margin	15.0	9.0	13.5	7.5	4.5	0.0
Liability	115.0	109.0	113.5	107.5	104.5	100.0

Income statement						Total
Release of margin	6.0	-4.5	6.0	3.0	4.5	15.0
Change in cash flow forecast	0.0	0.0	0.0	0.0	0.0	0.0
Total P/L (before investment income)	6.0	-4.5	6.0	3.0	4.5	15.0

Example 4: Change in Cash Flows, Risk exceeds initial estimates: Assumptions

	0	1	2	3	4	5
Forecast of cash outflow at t5	100	100	103	103	103	103
Distribution Std dev (assume normal dist)	10	6	11	5	3	0
Residual margin	5					
Premium charged	115					

Premium charged based on PV of expected cash payment plus a margin for absorbing risk
 Run off of 'composite' therefore based solely on release from risk
 Risk measured by standard deviation of distribution
 Single (uncertain) cash out flow at t5 and premium received at t0

Recalibration with Cash Flow Change

Staff proposed risk margin approach

Balance sheet liability	0	1	2	3	4	5
PV of probability weighted cash flow	100.0	100.0	103.0	103.0	103.0	103.0
Residual margin	5.0	0.0	0.0	0.0	0.0	0.0
Risk margin	10.0	6.0	11.0	5.0	3.0	0.0
Liability	115.0	106.0	114.0	108.0	106.0	103.0

Income statement						Total
Release of riskmargin	4.0	-5.0	6.0	2.0	3.0	10.0
release of residual margin	5.0	0.0	0.0	0.0	0.0	5.0
Change in cash flow forecast	0.0	-3.0	0.0	0.0	0.0	-3.0
Total P/L (before investment income)	9.0	-8.0	6.0	2.0	3.0	12.0

Staff proposed composite margin approach with cash flow change and recalibration

Assuming margin run off based only on release from risk (i.e. change in SD of distribution)

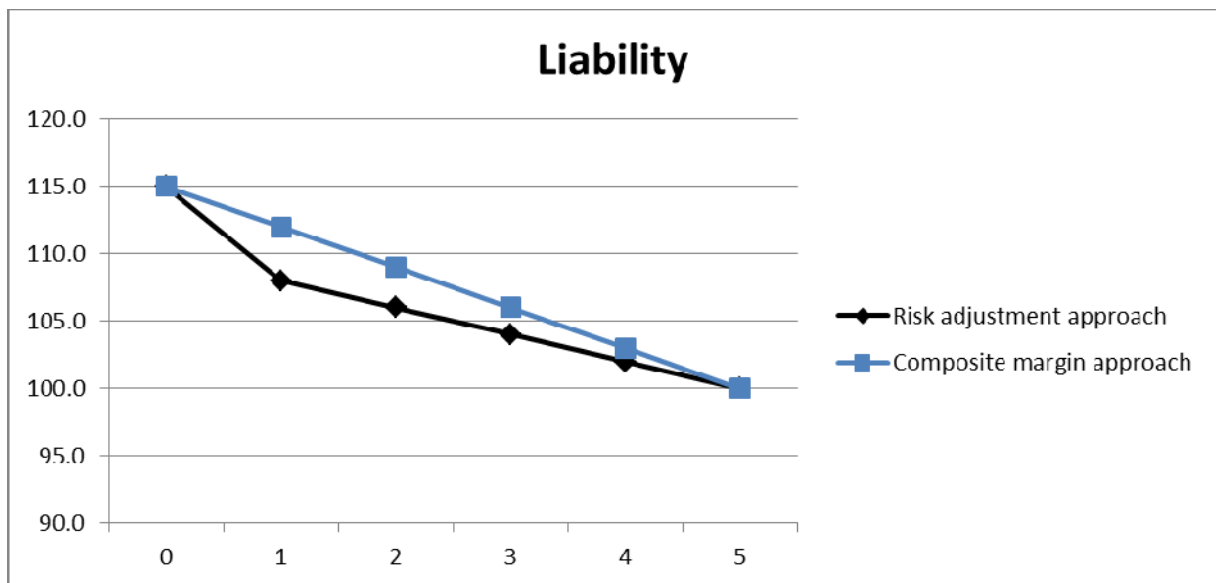
Balance sheet liability	0	1	2	3	4	5
PV of probability weighted cash flow	100.0	100.0	103.0	103.0	103.0	103.0
Composite margin	15.0	9.0	16.5	7.5	4.5	0.0
Liability	115.0	109.0	119.5	110.5	107.5	103.0

Income statement						Total
Release of margin	6.0	-7.5	9.0	3.0	4.5	15.0
Change in cash flow forecast	0.0	-3.0	0.0	0.0	0.0	-3.0
Total P/L (before investment income)	6.0	-10.5	9.0	3.0	4.5	12.0

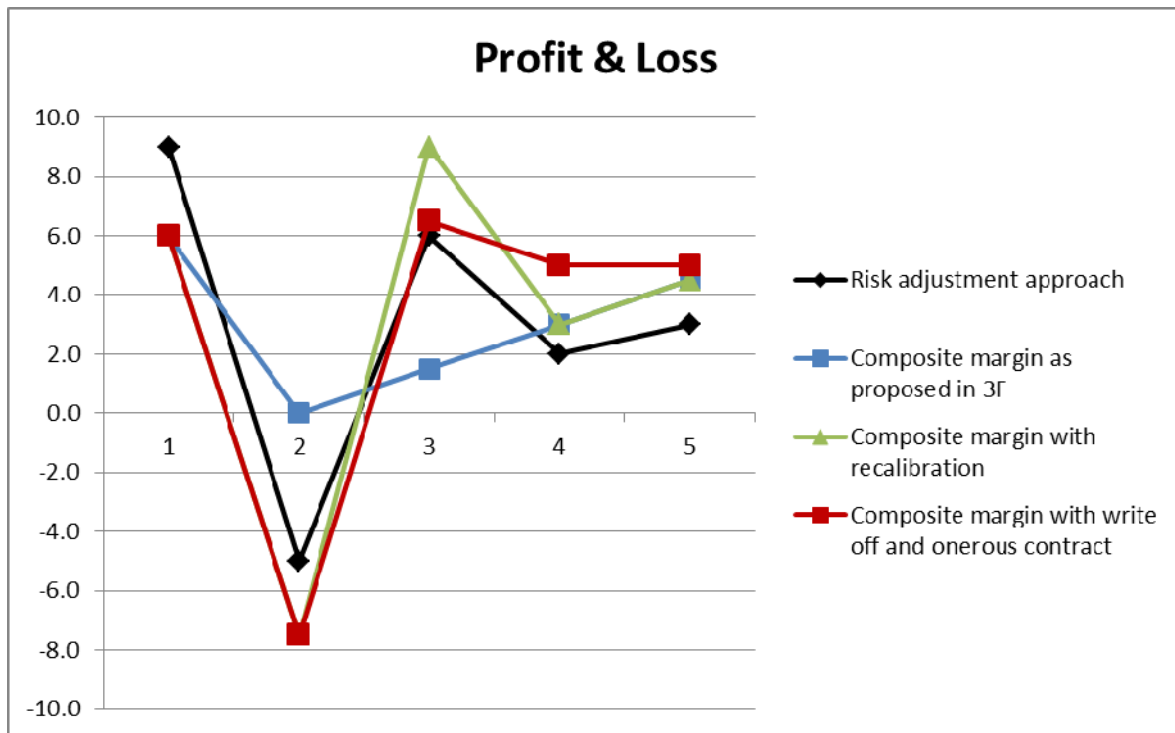
Cash Flow Change with Write-off and Onerous Test							
Staff proposed risk margin approach				Staff proposed composite margin approach with write-off and onerous test			
				Assuming margin run off based only on release from risk (i.e. change in SD of distribution)			
Balance sheet liability	0	1	2	3	4	5	
PV of probability weighted cash flow	100.0	100.0	103.0	103.0	103.0	103.0	
Residual margin	5.0	0.0	0.0	0.0	0.0	0.0	
Risk margin	10.0	6.0	11.0	5.0	3.0	0.0	
Liability	115.0	106.0	114.0	108.0	106.0	103.0	
Income statement							Total
Release of riskmargin		4.0	-5.0	6.0	2.0	3.0	10.0
release of residual margin		5.0	0.0	0.0	0.0	0.0	5.0
Change in cash flow forecast		0.0	-3.0	0.0	0.0	0.0	-3.0
Total P/L (before investment income)		9.0	-8.0	6.0	2.0	3.0	12.0
Balance sheet liability	0	1	2	3	4	5	
PV of probability weighted cash flow	100.0	100.0	103.0	103.0	103.0	103.0	
Additional liability			16.5	10.0	5.0	0.0	
Composite margin	15.0	9.0	0.0	0.0	0.0	0.0	
Liability	115.0	109.0	119.5	113.0	108.0	103.0	
Income statement							Total
Release of margin		6.0	0.0	0.0	0.0	0.0	6.0
Onerous Expense		0.0	-7.5	0.0	0.0	0.0	-7.5
Change in cash flow forecast		0.0	-3.0	6.5	5.0	5.0	13.5
Total P/L (before investment income)		6.0	-10.5	6.5	5.0	5.0	12.0

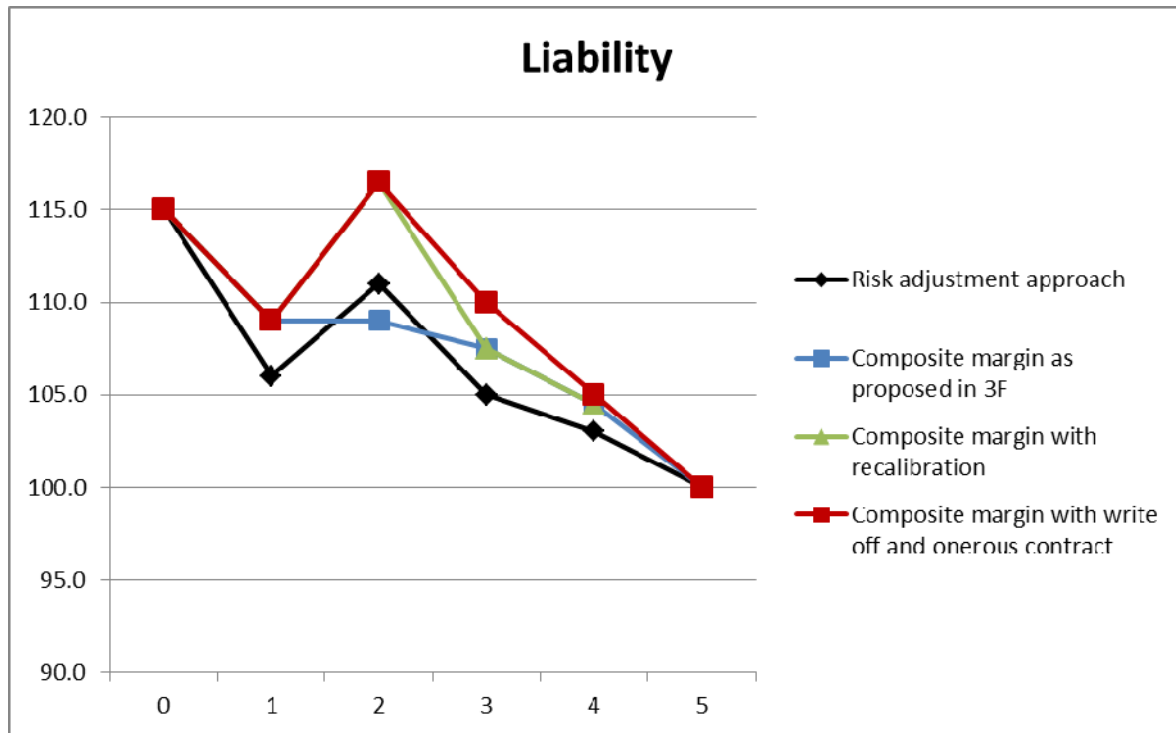
9. The graphs below for the composite margin are representative of one of the potential methods of recalibration, calculating an onerous contract, and determining an additional liability. After further analysis the staff will bring back to the boards their recommendation for these items and disclosures.

Example 1: Even release from risk

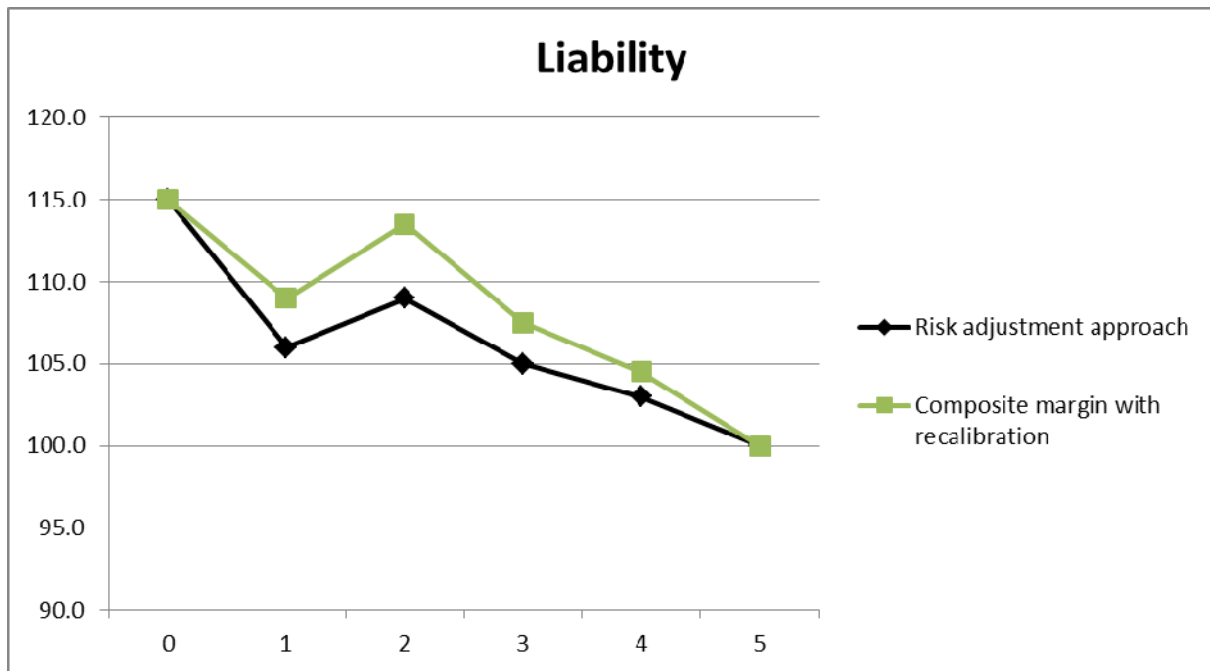


Example 2: Steady cash flows, risk exceeds initial estimates





Example 3: steady cash flows, risk less than initial estimates



Example 4: Change in cash flows, risk exceeds initial estimates

