Session 4B, Transformation in Hedging Strategy Under the New Report Standards: IFRS 17, IFRS 9 and Future Drivatives Standard

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Transformation in hedging strategy
under the new reporting standards

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Acronyms

FV	Fair Value
FVPL	Fair Value through Profit and Loss
FVOCI	Fair Value through Other Comprehensive Income
AC	Amortized cost
HTM	Held To Maturity
AFS	Available For Sale
K-ICS	Korea Insurance Capital Standard
GM	General Model
VFA	Variable Fee Approach
Inv	Investment
RiskPrem	Risk Premium
DRM	Dynamic Risk Management
PRA	Portfolio Revaluation Approach

I. Current practice

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1. Underestimated interest risk

Required capital is measured based on the durations preset by the solvency regulation. The preset durations are shorter than real durations. This causes interest rate risk to be underestimated resulting in creating an illusion that hedge is not required for interest rate risk.

Regulator preset interest rate sensitivities are applied to all insurers on a factor basis.
→ Interest rate risk is underestimated

(Unit: US$ bil)

Interest sensitive assets		
categories	exposure	Sensitivity[1]
Deposits	16.3	31.2
FVPL	1.0	4.0
AFS	379.6	2,985.4
HTM	184.6	1,912.2
Loans	184.1	771.7
Sum	765.6	5,704.5

Duration 7.9 years

Interest sensitive liabilities		
categories	exposure	Sensitivity[1]
Liability with fixed interest rate	209.1	2,600.4
Liability with floating credited rate	494.1	2,977.6
Minimum interest rate guaranteed	431.2	Not disclosed
Sum	703.2	5,578.0

Duration 7.5 years

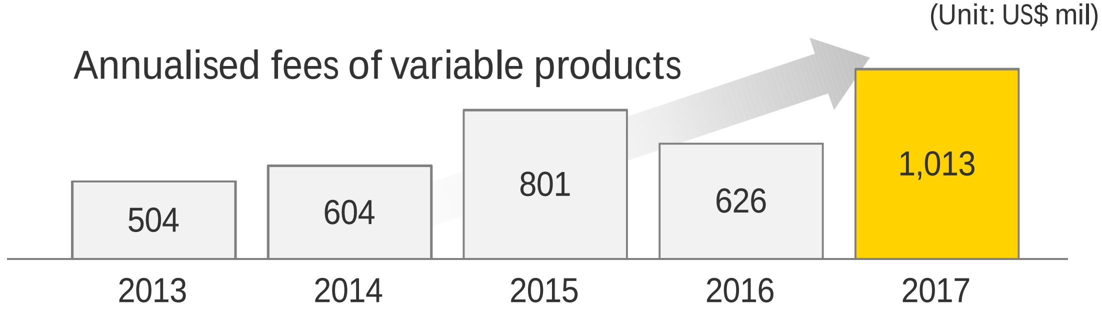
Actual duration estimated to increase by 5 to 10 years as compared to duration under Regulation. Required capital expected to significantly increase given that actual sensitivity is applied to insurance contracts.

Note1 Sensitivity: proposed by the regulator despite the actual sensitivity
Source: annual reports of 2017, Insurance industry association

2. Reform in regulatory requirements

New capital requirements force insurers to manage their risks in a more sophisticated manner than ever.

Evolution of regulatory requirements



Voluntary management	~2011	Introduction of new requirements	~2017	Stabilisation	~2021	Enhanced regulation

Voluntary management

Guarantee risk not factored

Do not measure guarantee options.

Introduction of new requirements

Guarantee reserve set aside for variable products
- In scope risks: GMDB, GMAB, GMWB, GLWB
- Guarantee reserve
  - Hedged items : guarantee risk claims less guarantee fees
  - Measuring changes in fair value of combined position of hedged items and hedging instruments using risk-neutral method

Stabilisation

Reflecting hedging activities in solvency requirement
- Hedging effect reduces required capital

Enhanced regulation

K-ICS effective in 2021 ≒ Solvency II

Stricter capital requirements and underwriting of products with complex features require more robust risk management of financial risks than ever.

3. Constraints under current accounting standard

Under current GAAPs, there exist constraints for insurers to perform dynamic risk management. Locally there has been less incentive for Korean insurers to enhance their hedging strategy and method as insurance contracts were required to be measured on a historic cost basis.

	GAAP requirements	Constraints
Global limitation: under IAS39 or IFRS9	Static portfolio of insurance contracts assumed.	Insurance contracts constituting a portfolio changes due to policy holders' behavioral features such as lapse and renewal.
	One to one designation of a hedging relationship between a hedged item and a hedging instrument in contrast to norm of insurers' risk management.	Current portfolio hedge accounting is not practicable because of strict criteria: Cost outweighs benefits.
	Limited to a interest rate risk as a risk in scope of hedging under the current portfolio hedge.	Other risks such as equity, currency, lapse and expense risks not in scope.
Local limitation: Specific to Korean insurers	Current cost basis accounting for insurance contracts.	Lack of incentive to apply hedging to risky products. No economic hedging results in increase in volatility of equity.

II. Hedging under new standards

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Faithfully represent real world practice

Hedge accounting has been improved to more faithfully represent a financial institution's risk management activities.

Allow entities to reflect their actual risk management practice

IAS 39 (2004)

- Limitation in designating hedged items and hedging instruments.
- Strict effectiveness requirement (eg 80 to 120% rule)

IFRS9 (2018)

- Allowed designating more items as hedged ones
- More instruments designated as hedging instruments
- No 80 to 120 % rule required.

IFRS17 (2021)

- Under GM, accounting choice given to presentation of movement in insurance liabilities due to financial risks on the basis of portfolio (PL vs PL & OCI)
- Under VFA, movement in insurance liabilities due to financial risks allowed to recognise in PL instead of CSM to avoid accounting mismatch

Dynamic Risk Management

- Hedging on an open portfolio basis allowed
- Net risk position of assets and liabilities designated as hedged items
- Continuous rebalancing needed

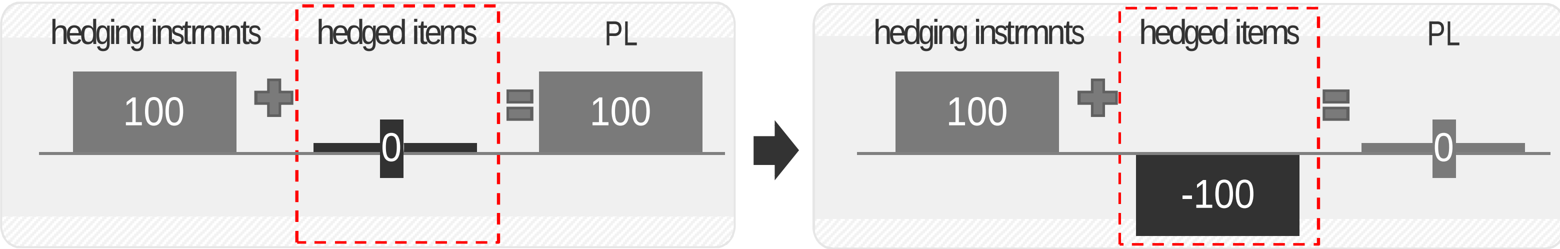
Concept of hedge accounting

If hedged items and hedging instruments were recognised on a different measurement basis, or changes in value of hedged items or hedging instruments were differently presented, accounting mismatch would take place even in a case of economically perfect hedging. Hedge accounting needed to eliminate the accounting mismatch in such a case.

Fair value hedge concept

Aligning measurement basis and presentation of hedged items to those of hedging instruments

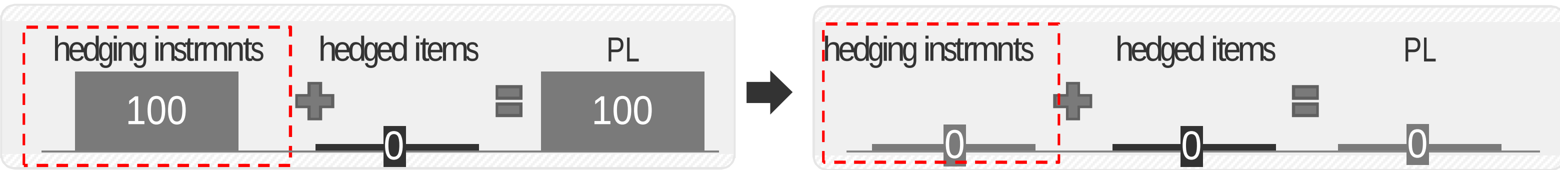
- Measuring hedged items on a fair value basis regardless of measurement basis required if hedge accounting were not applied to the hedged items
- Recognising in PL changes in fair value of hedged items would reduce accounting mismatch.



Cash flows hedge concept

Aligning presentation of hedging instruments to hedged items

- Deferring gains or losses arising from hedged items in OCI
- OCI recycled to PL as hedged cash flows arising from hedged items affect PL



Note. Hedge of net investment in a foreign operation is available in addition to fair value hedge and cash flows hedge

Hedge under each accounting model (GM vs VFA)

For insurance contracts required to apply VFA, hedge accounting is allowed if those contracts are economically hedged against a particular financial risk and required hedge documentation is in place.

Linkage (Investment return from underlying items vs benefits to policy holders)	Accounting model	Accounting policies selected to mitigate accounting mismatches especially for insurance liabilities [1]					Accounting mismatch in PL[2]	Hedge accounting needed?
		Underlying assets			Insurance liabilities			
		Classification	Measurement basis	Effect on PL	Measurement basis	Effect on PL		
Not substantial	General model Accounting choices 1. PL or 2. disaggregation between PL & OCI	AC	AC	Nil	FV	Nil (OCI)	No Income from assets ≒ expense from liability	No
		FVOCI	FV	Nil (OCI)		Nil (OCI)		
		FVPL	FV	PL		PL		
Substantial	VFA Changes in values due to financial risks are treated as CSM	AC	AC	Nil	FV	Nil (CSM)		
		FVOCI	FV	Nil (OCI)		Nil (CSM)		
		FVPL	FV	PL		Nil (CSM)	Yes	Yes

Allowed recognizing insurance liabilities movement due to financial risks in PL instead of CSM

Notes1. Allowed choosing to recognise change in value of insurance liabilities due to financial risks in either PL or OCI
Notes2. Assumed no economic mismatch between assets and liabilities for simplicity
(ie Underlying assets have the same duration and exposure as liabilities)

Assessing criteria for VFA

VFA is required for insurance contracts from which policyholders' benefits substantially vary with investment return on the underlying assets.

	IFRS17 requirements	Practical considerations
Criterion 1	Underlying items should be clearly identified in contracts terms	Underlying assets should be separately managed and recorded
Criterion 2	Substantial share of fair value returns on underlying items should be paid to policy holders	The following should constitute a smaller part: ü Entity's variable fee charged for the service
Criterion 3	Substantial proportion of any changes in amounts to be paid to policy holders varies with changes in fair value of underlying items	The following non-varying cash flows should not account for significant proportion: ü GMxB claims ü fixed benefits ü expenses

Fulfillment cash flows divided into

Underlying items

(+)Premium

(+)Inv return
(Policy holder's share)

Criterion 2

(-)Variable fee
(GMxB fees, Risk Premium, Loadings)

Criterion 3

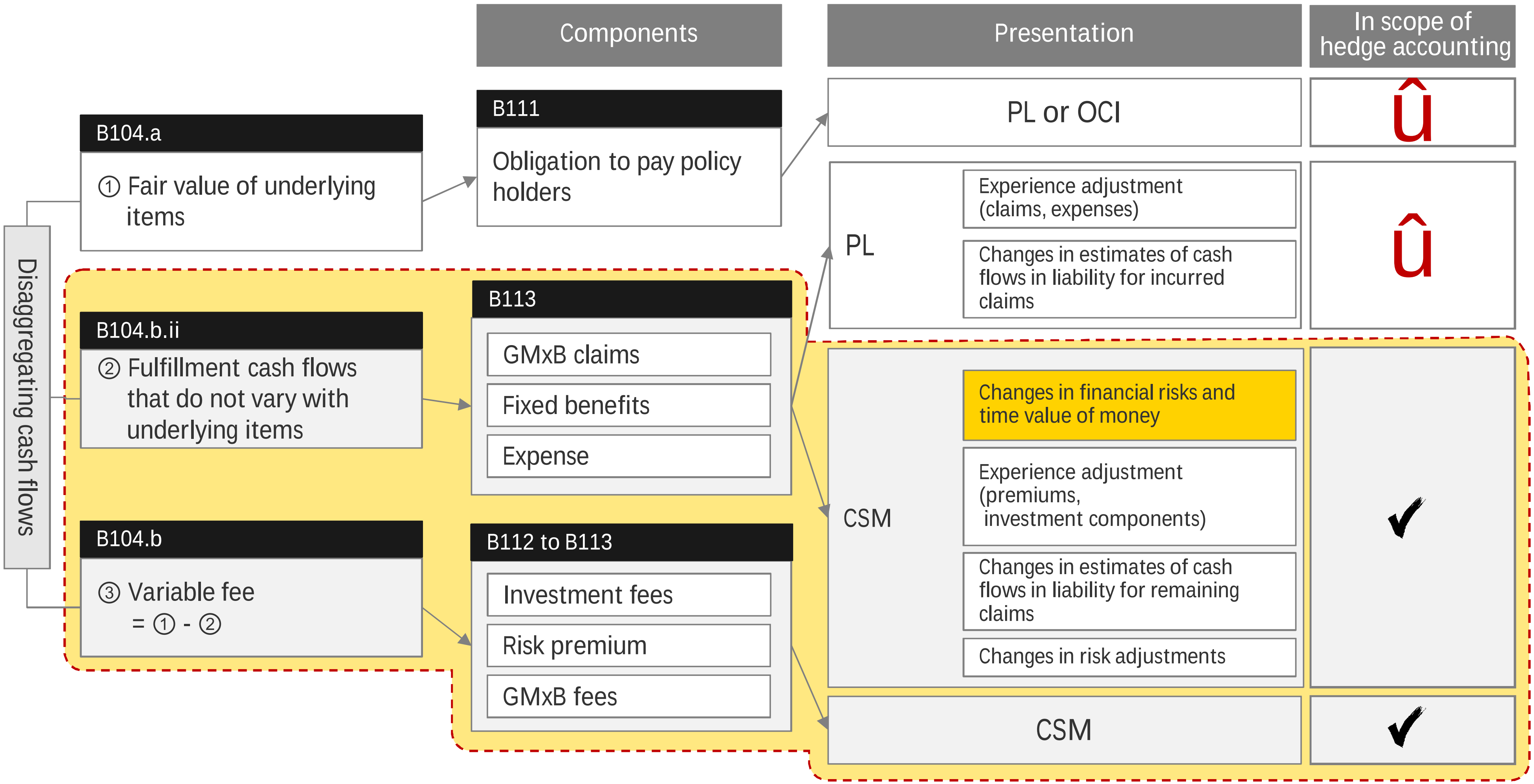
\+ GMxB claims

\+ Fixed benefits + Expenses − Premium

Cash flows should be analysed to assess if insurance contracts meet criteria for VFA.

Identifying items to be hedged under VFA

An adjustment of CSM due to changes in financial risks on the entity’s share of underlying items or fulfillment cash flows is an object of hedge accounting under IFRS17.

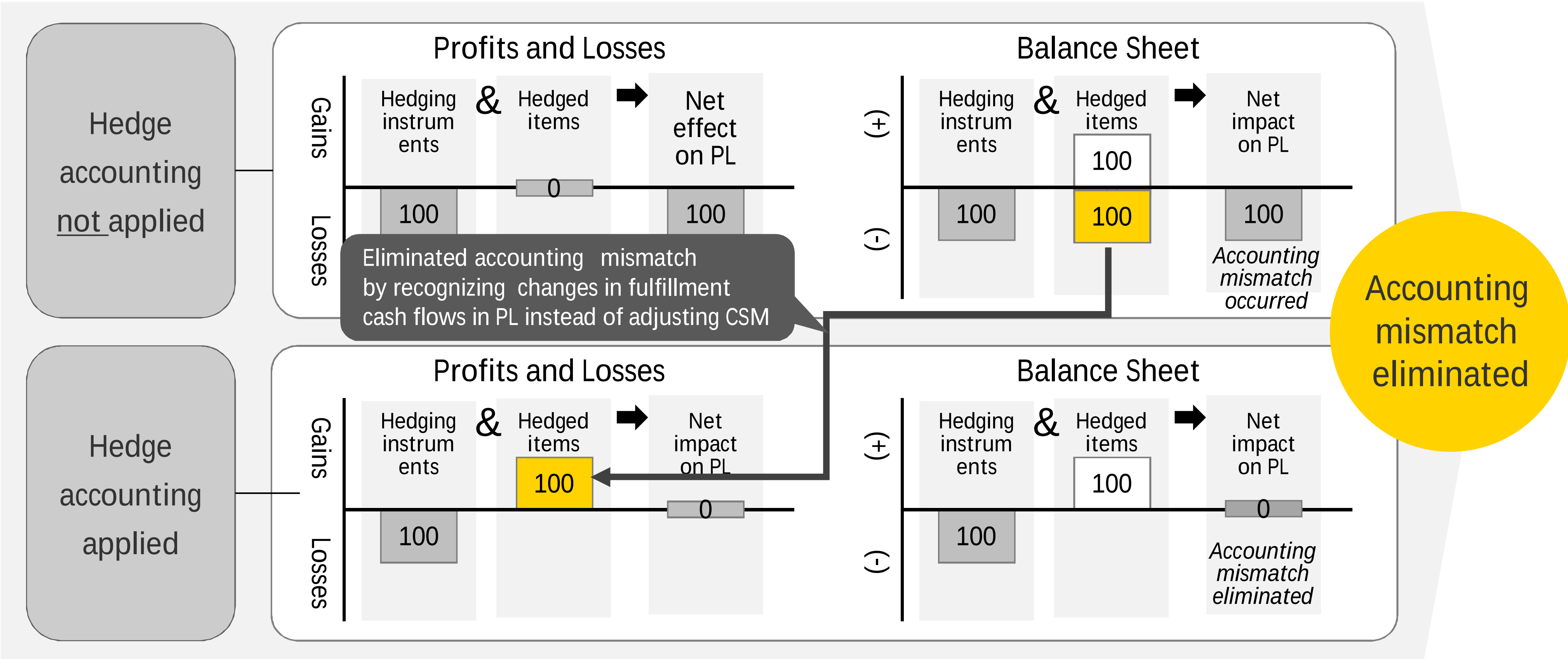


Illustrative example of hedge accountig under VFA

Accounting mismatch between hedged items and hedging instruments is eliminated by applying hedge accounting.

Fact Pattern

- Designating as hedged items GMxB claims that do not vary with underlying items
- Derivatives (eg interest rate swaps) used to hedge GMxB claims against interest rate risk



Overview

IASB proposed a new model (Core model) in November 2017 in response to constituents' feed back on Portfolio Revaluation approach(PRA) issued in 2014. The new model is conceptually similar to cash flow hedge whereas the previous model, PRA, is similar to fair value hedge.

Purpose	• To provide hedging principles to faithfully represent entities' actual risk management activities	
Features of DRM	• Managing risks on a portfolio basis • Net risk position of assets and liabilities hedged	• Continuous rebalancing of hedging instruments • Dynamic nature of assets and liabilities considered
Progress		

DRM

- **2014/APR** – Discussion paper "Portfolio Revaluation Approach"
- **2017/JAN** – Feedback from constituents including EFRAG's outreach
- **2017/NOV** – Staff's proposed approach – "Core model"
- **2019 ~** – 2nd discussion paper to be released

► Similar to current fair value hedge in concept

► Under PRA, assets or liabilities that do not meet criteria for recognition recognised in financial statements.

è Not consistent with conceptual framework of financial reporting.

► Financial institutions do not fair value their assets just to apply DRM.

► Conceptually similar to current cash flows hedge

► Phased approach

- Core model developed first for major issues,
- Then extension for further issues

Key concept of Core model

Under Core model, net risk position of an open portfolio is a target of risk management. New conceptual terms such as asset profile, target profile and performance measurement were introduced in the model.

Linkage to current principles		Example
IFRS9 hedge accounting	Proposed DRM model	Asset: Interest income from Loans − Liabilities: Interest expense from deposits = Net risk position: Net interest income
Hedged item	Asset portfolio	A portfolio of 5 year maturity loans with fixed interest rate
Risk management objective	Target profile	7 year fixed cash flows based on a behavioral analysis of core deposits,
Hedging instrument	DRM derivative instrument	Two swaps that create 7 year fixed cash flows
Effectiveness requirements	Performance assessment	Comparing hedged result to Target profile
Criteria for designating a relationship	Criteria for designating a relationship	Hedging instruments respond to hedged items in opposite directions with similar sensitivity.
Disclosure	Wider disclosure	Provide an entity's risk management objective, strategy and hedging outcome

Mechanics

Analogous to current cash flows hedge

- Deferring changes in derivatives in OCI and recognising the OCI in PL as cash flows of asset profile affect PL

→ Net interest income will be stabilised and recognised in PL as desired in Target profile.

Illustrative example of Core model

A Target profile is derived from modeling an entity's funding structure. DRM derivative instruments are combined with the entity's asset profile to create cash flows similar in amount and timing to the Target profile.

Objective

- To stabilise entity's net interest income for 7 years

Hedging

AS-IS: Asset profile-Loans	
Balance	1,000
Maturity (Yrs)	5
Yield	Fixed 5%

\+

DRM derivatives
?

=

TO-BE: Target profile		
Balance	400	600
Maturity (Yrs)	5	7
Yield	Fixed 5%	Fixed 6%

	0	5 Yr (Loan)	7 Yr (Target)
Asset profile	Loans 600	receive fix(5%)	receive floating
DRM derivative instrument	Swap 1 600	pay fix (5%) receive floating	
	Swap 2 600	receive fix(6%) pay floating	receive fix(6%) pay floating
Outcome	Loans 600	receive fix(6%)	receive fix(6%)

- No further action required for balance of 400
- For 600, fixed 5% of interests received for 5 Yrs. For the subsequent 2 Yrs up to 7th Yr, floating rate interests received.

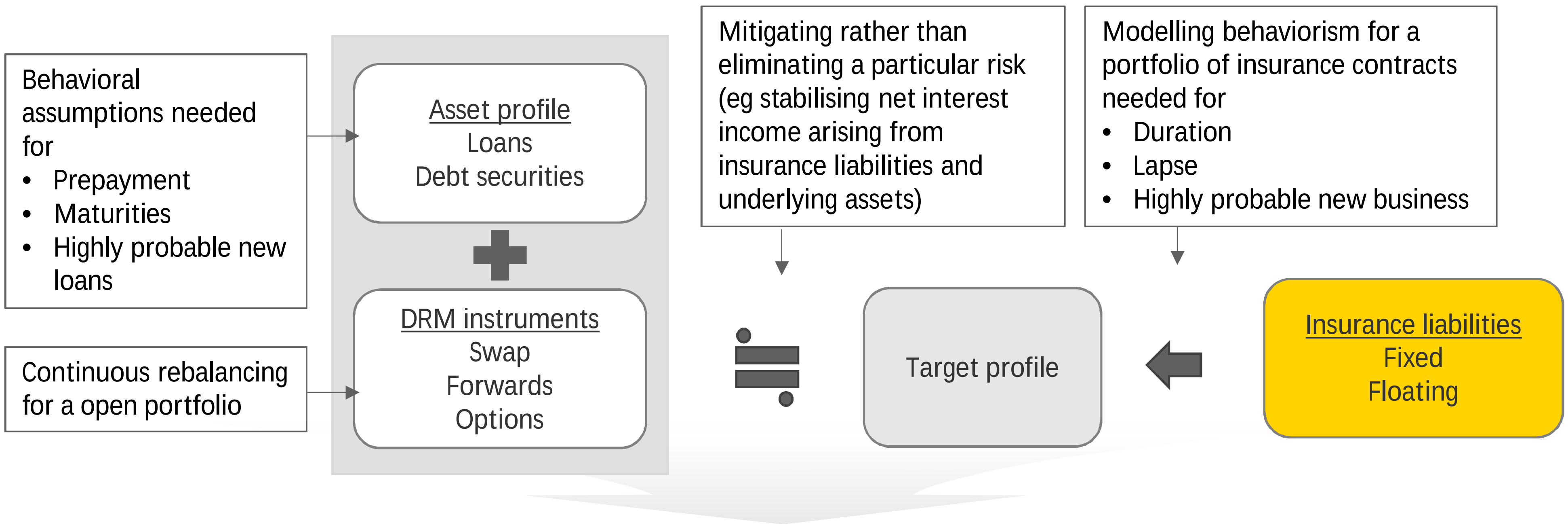
- Pay leg: Fixed 5% interest arising from 5 Yr loan is paid with receipt of floating
- Receive leg: fixed 6% interest received for the target period of 7 Yrs.

Outcome

- NII stabilised at the interest rate of 6% for the target period

What does Core model mean for insurers?

By linking Core model to insurers’ risk management practice, we can derive the following implications:



Implications

- More flexibility in selecting items to be hedged (eg a percentage of asset portfolio can be designated as hedged items
- Behavioral characteristics of a portfolio of liabilities and underlying assets should be considered when modeling
- ALM results can be presented and disclosed in financial statements
- Analysis of cost and benefit of hedging should be performed to determine size and frequency of rebalancing

Further issues and Extended model

IASB takes a phased approach where major issues are addressed in the Core model and then remaining issues are to be further discussed in the Extended model prior to finalising the 2nd discussion paper.

Extension of Core model

Topics	Core model		Extended model
Items to be hedged	Loans measured at amortized cost	➡	FVOCI
Risks to be hedged	Interest rate risk	➡	Other risks such as equity, commodities and FX
Hedging instruments	Focus on interest rate swaps	➡	Other derivatives such as option and futures
Funding source	Deposits driven	➡	Equity funding

Remaining topics

Items	Key issues
Transparency	How to present and disclose entities' DRM purpose, strategy and hedging outcome under new standard?
Eligibility	Criteria for designating Asset profile and governing principles for setting Target profile
Dynamic nature	How to reflect dynamic natures of asset profile and target profile under new standard?
Performance measurement	How to assess performance as a result of hedge?

III. Impact analysis

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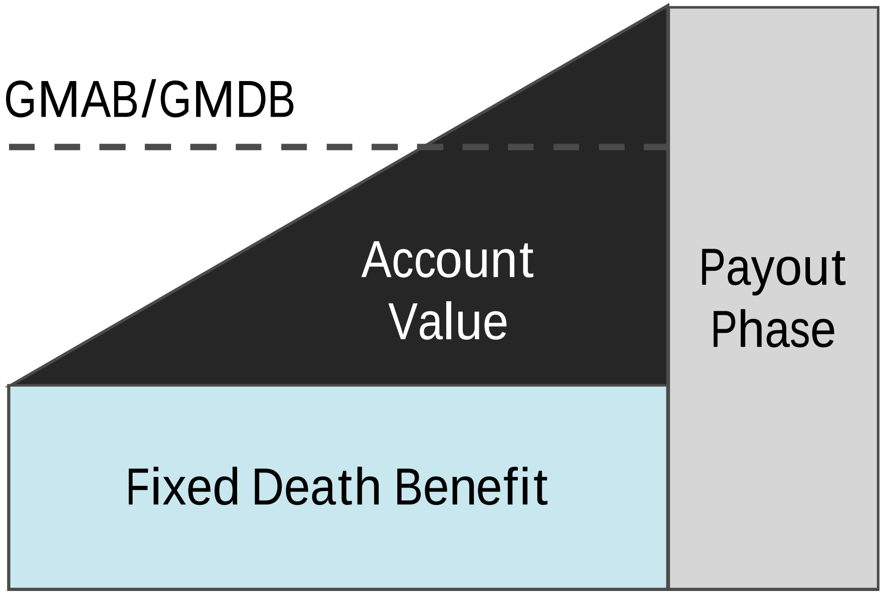
Typical design of variable products in Korea

> Two major types or variable products in Korea:

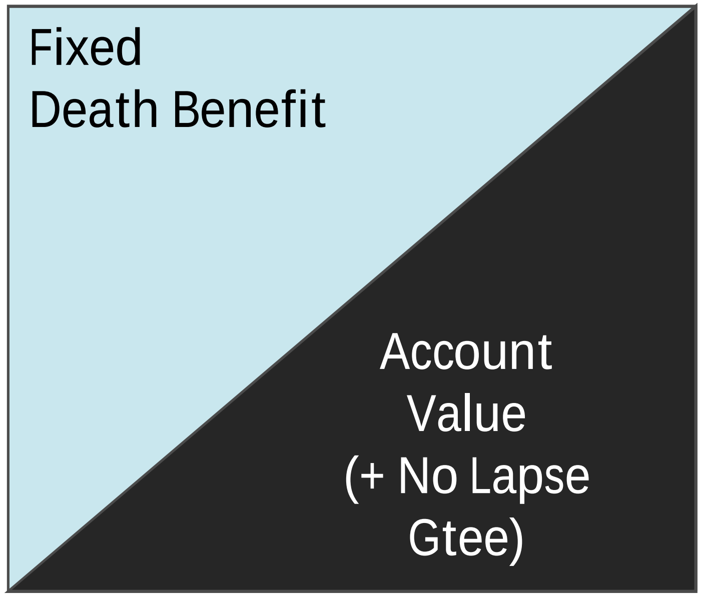
- VA (GMAB/GLWB), VUWL (NLG)

> Fees / Loadings are deducted as a % of AV

- Risk Premium, Investment Management Fee, GMxB Fee, Loadings



< Variable Annuity >



< Variable Universal Whole Life>

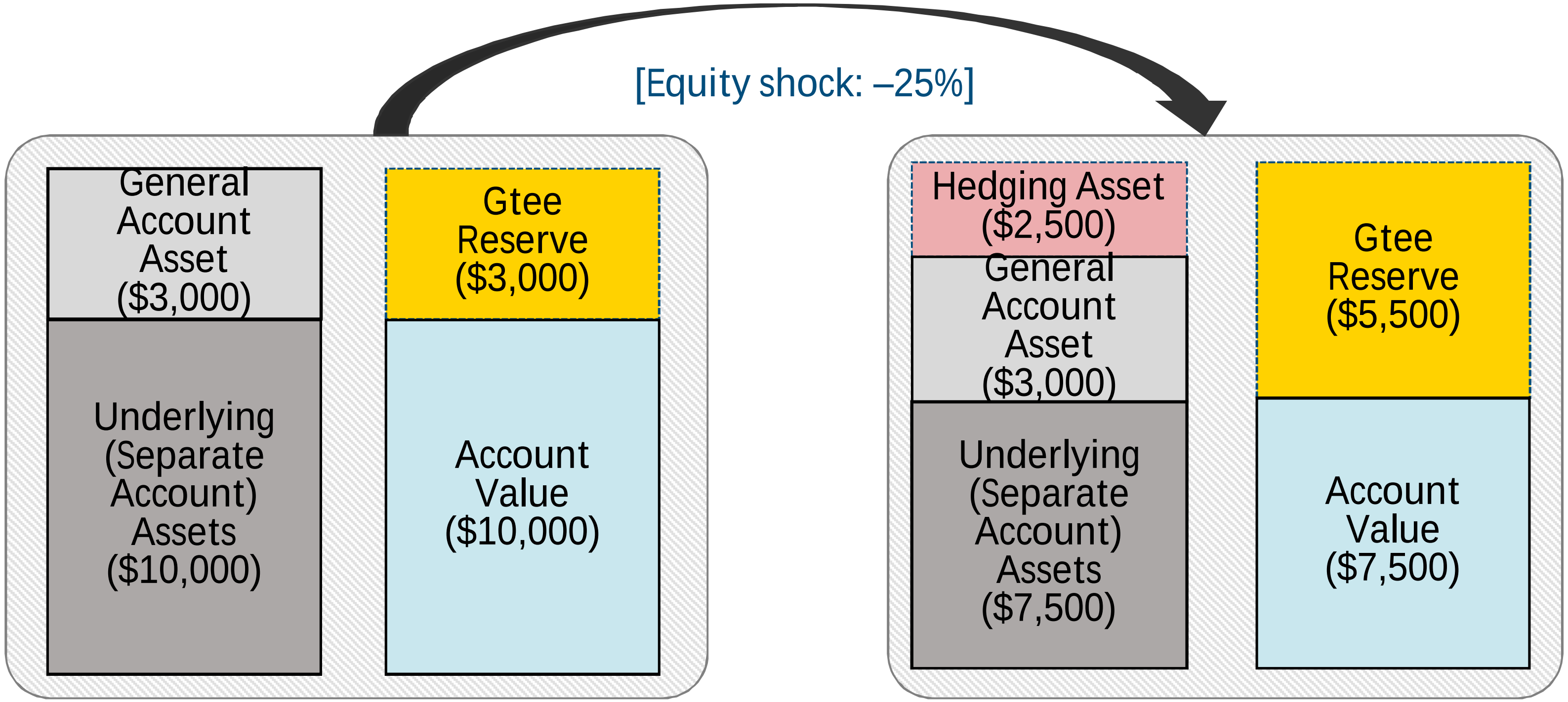
Under current accounting standard

> Liability for variable product = AV + Gtee Reserve

- Bifurcated Approach

> Change in Reserve is offset by change in hedging asset

[Equity Volatility Reduction through Hedging]

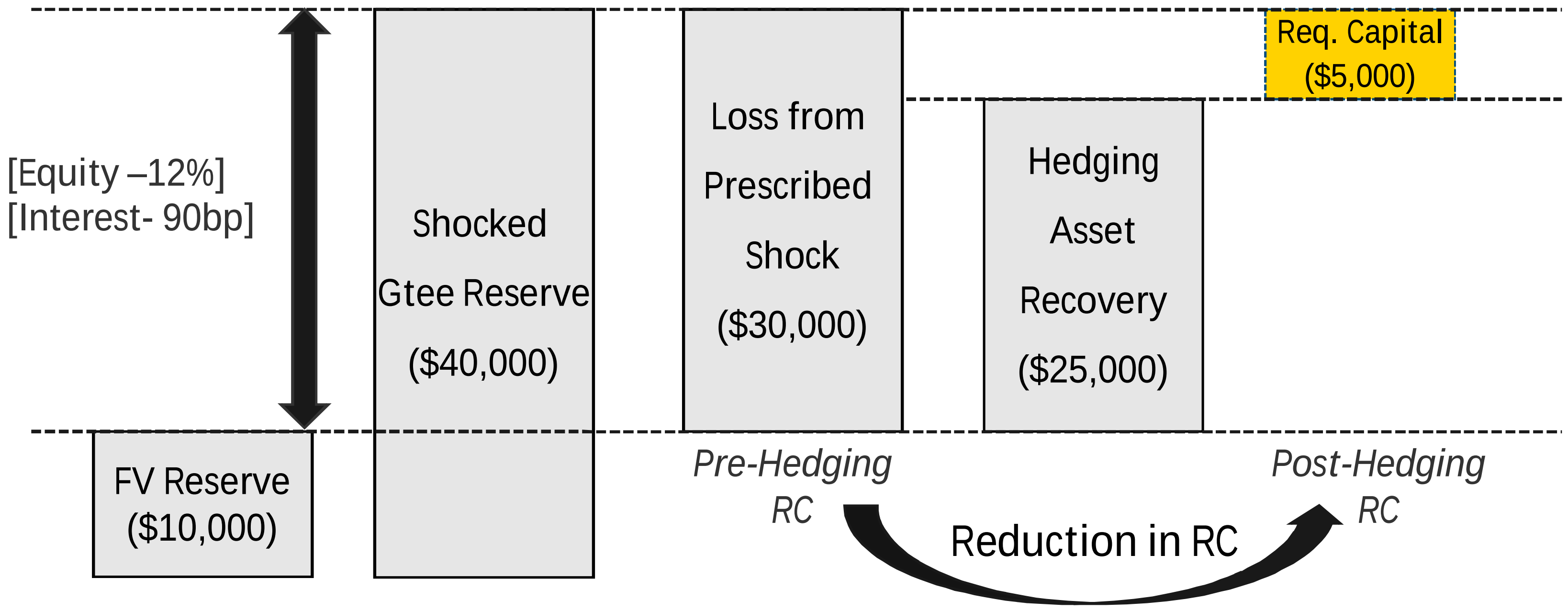


Under current accounting standard (Cont'd)

> Under prescribed shock scenarios, increase in reserve is calculated and that amount is the required capital (RC)

> RC is offset by the amount of asset movement (hedging credit)

[Hedging Credit for Required Capital]

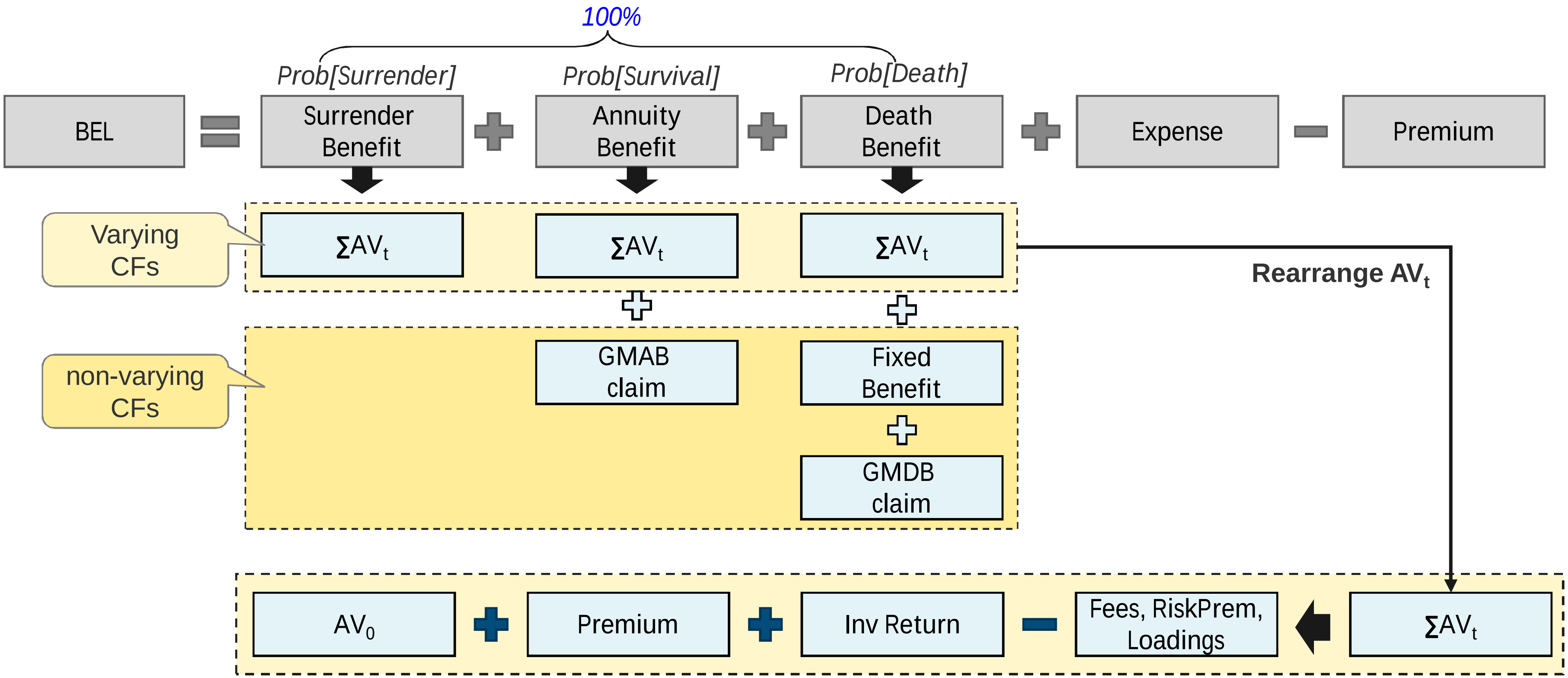


Rearranging cash flows

> BEL can be rearranged as follows:

BEL = Death Benefit + Surrender Benefit + Annuity Benefit + Expense – Premium

= AV0 + ∑PV[GMxB Claims(t) + Add'tl DB(t) + InvRet(t) – Fees(t) + Exp(t)]



VFA requirement (criterion 2)

How to assess whether VFA criteria is met or not:

- B101(b) The entity expects to pay to the policyholder an amount equal to a substantial share of the fair value returns on the underlying item

Ratio of ‘Payment to PH’ to ‘Fair Value Return’ $= \dfrac{\Delta PMT}{\Delta AV} = \dfrac{\textit{Increase in the amt to be paid to PH}}{\textit{Fair Value return}}$

Need to be Substantial

PMT = Death Benefit + Surrender Benefit + Annuity Benefit

B104: Entity’s obligation to the policyholder

= ΣAV_t + Fixed Benefit + GMxB claim

= (AV_0 + Premium + Future Net Inv Return) − (Fees, RiskPrem, Loadings − Fixed Benefit − GMxB claim)

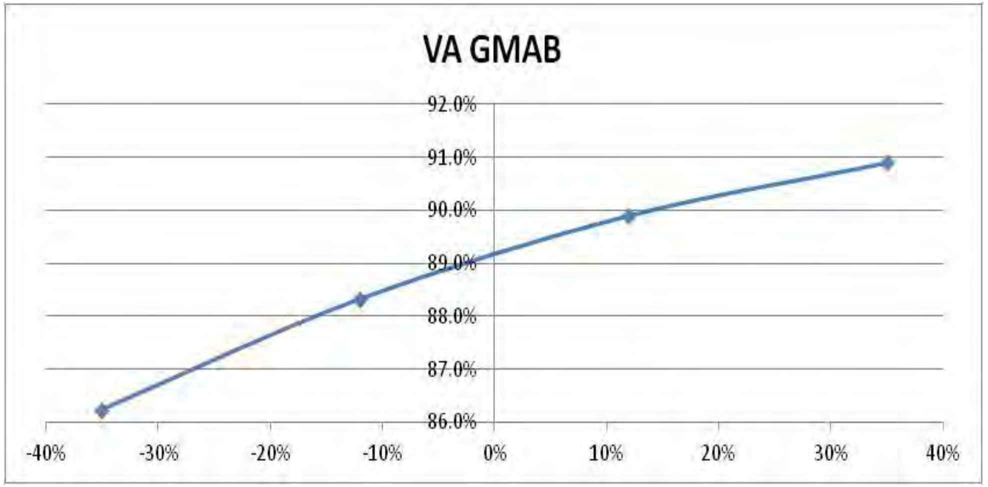
- Higher Fees would reduce the ratio
- Deep ITM would reduce the ratio

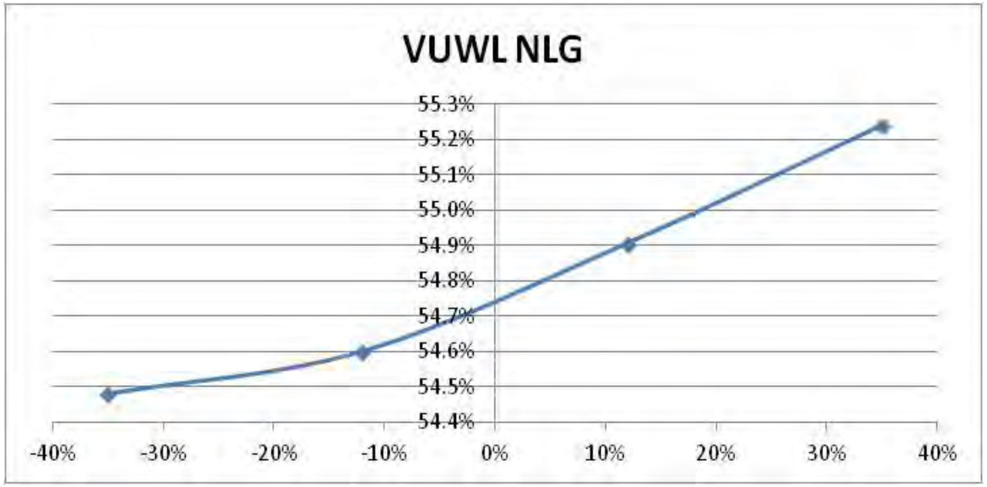
Equity +35%

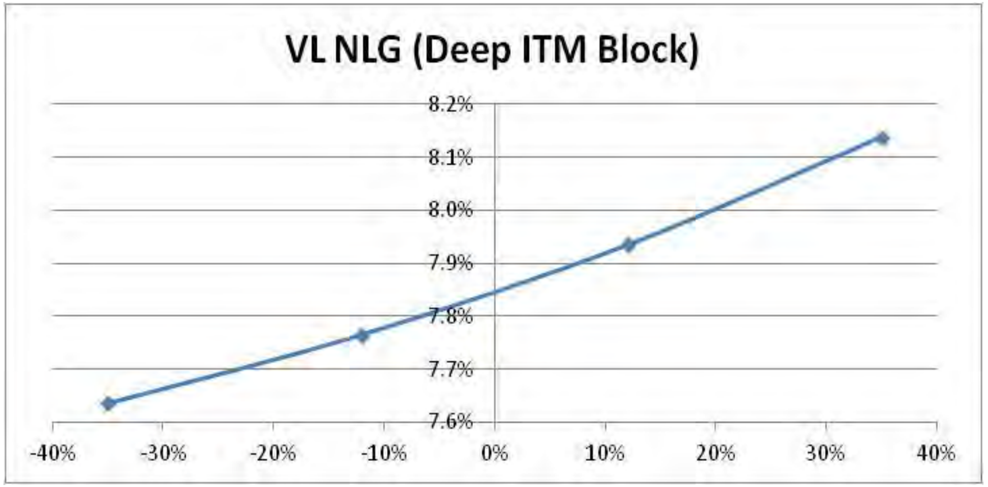
B104 (a): Obligation to pay the policyholder an amount equal to the fair value of the underlying items

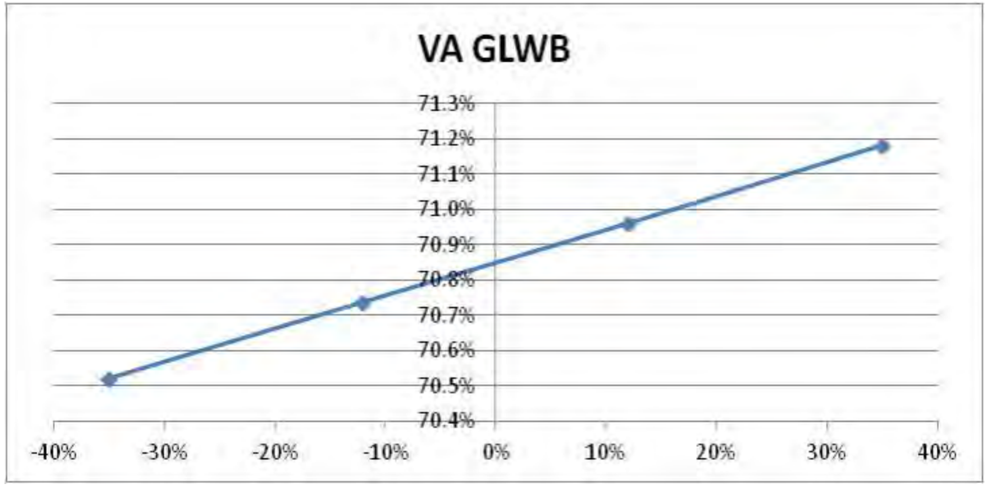
B104 (b): Variable Fee = Entity’s Share less FCF that do not vary with underlying

[Appendix] Criterion b101(b) for different blocks









VFA requirement (criterion 3)

How to assess whether VFA criteria is met or not:

- B101(c) The entity expects a substantial proportion of any change in the amounts to be paid to the policyholder to vary with the change in fair value of the underlying items

$$\text{Ratio of 'Varying Payments' to 'Total Payments'} = \frac{\sum AVt}{PMT} = \frac{\text{Varying Portion of Payment to PH}}{\text{Total Payment to PH}}$$

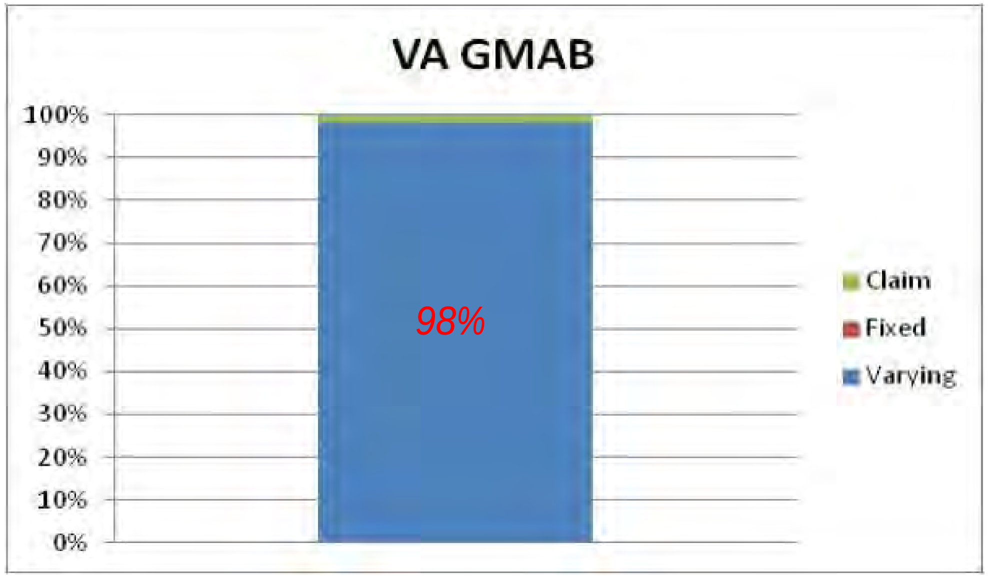
Need to be Substantial

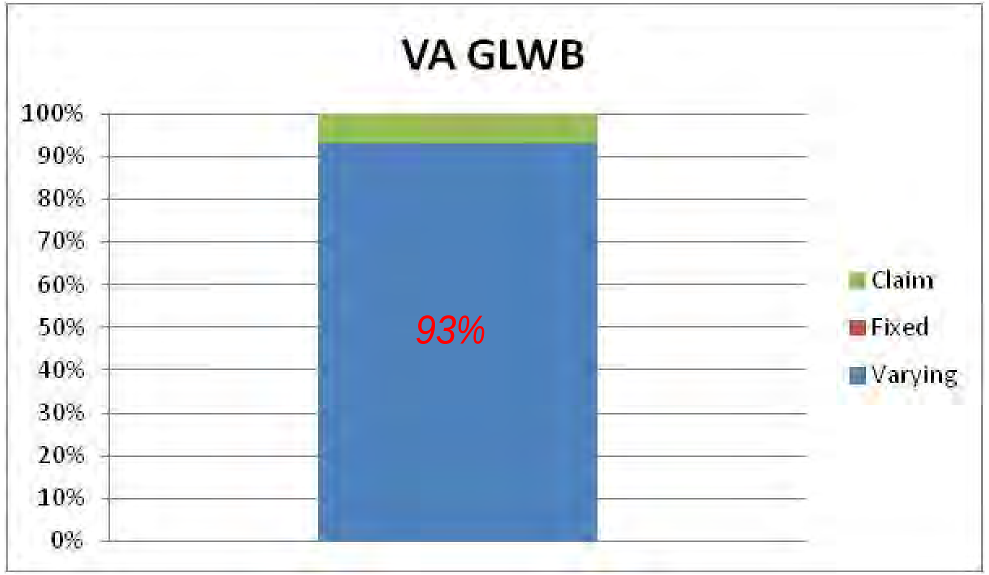
$$PMT = \text{Death Benefit} + \text{Surrender Benefit} + \text{Annuity Benefit}$$

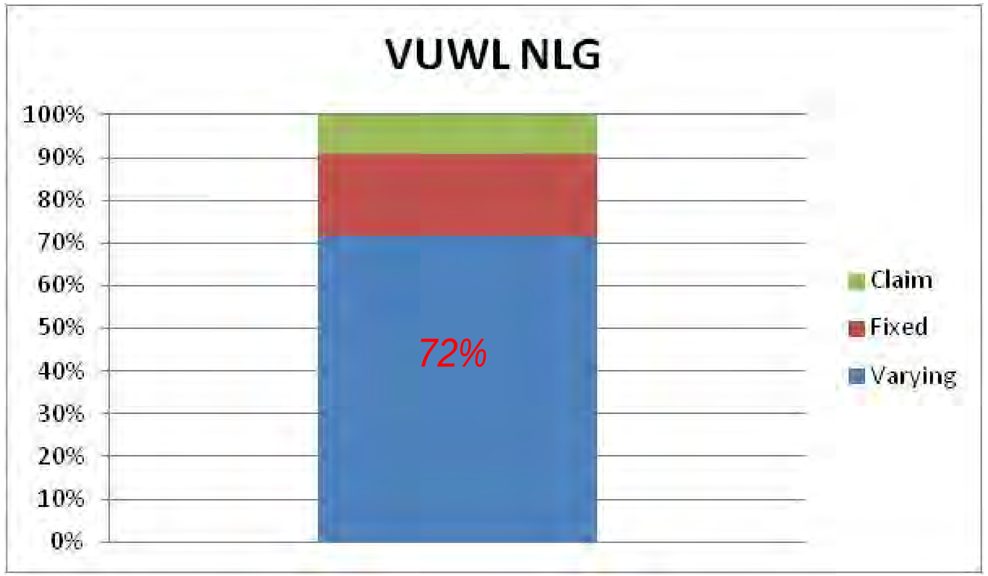
$$= \underbrace{\boxed{\sum AV_t}}_{\text{Varying}} + \underbrace{\boxed{\text{Fixed Benefit} + \text{GMxB claim}}}_{\text{Non-Varying}}$$

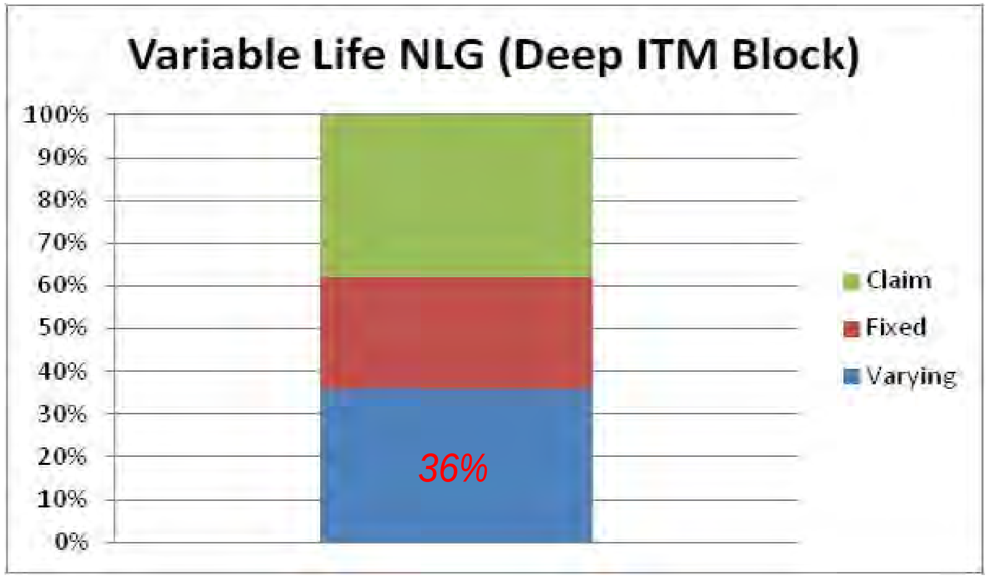
- Higher Fixed Benefit not varying with AV would reduce the ratio
- Deep ITM would reduce the ratio

[Appendix2] Criterion b101(c) for different blocks









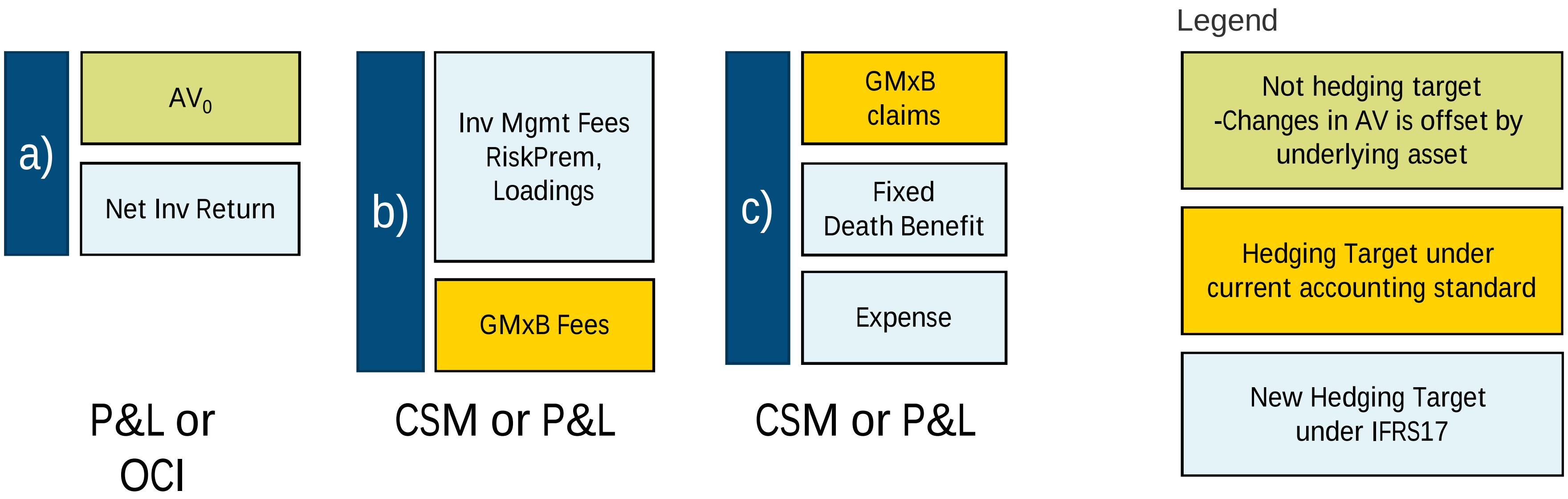
Changing hedging target

Market changes affect BEL through (assume RA=0) :

a) Changes in obligation to pay an amount equal to the fair value of the underlying items -> by B111: does not adjust CSM, reflected in P&L or OCI

b) Changes in the entity’s share of the fair value of the underlying items
-> by B112: adjust CSM, can be reflected in P&L

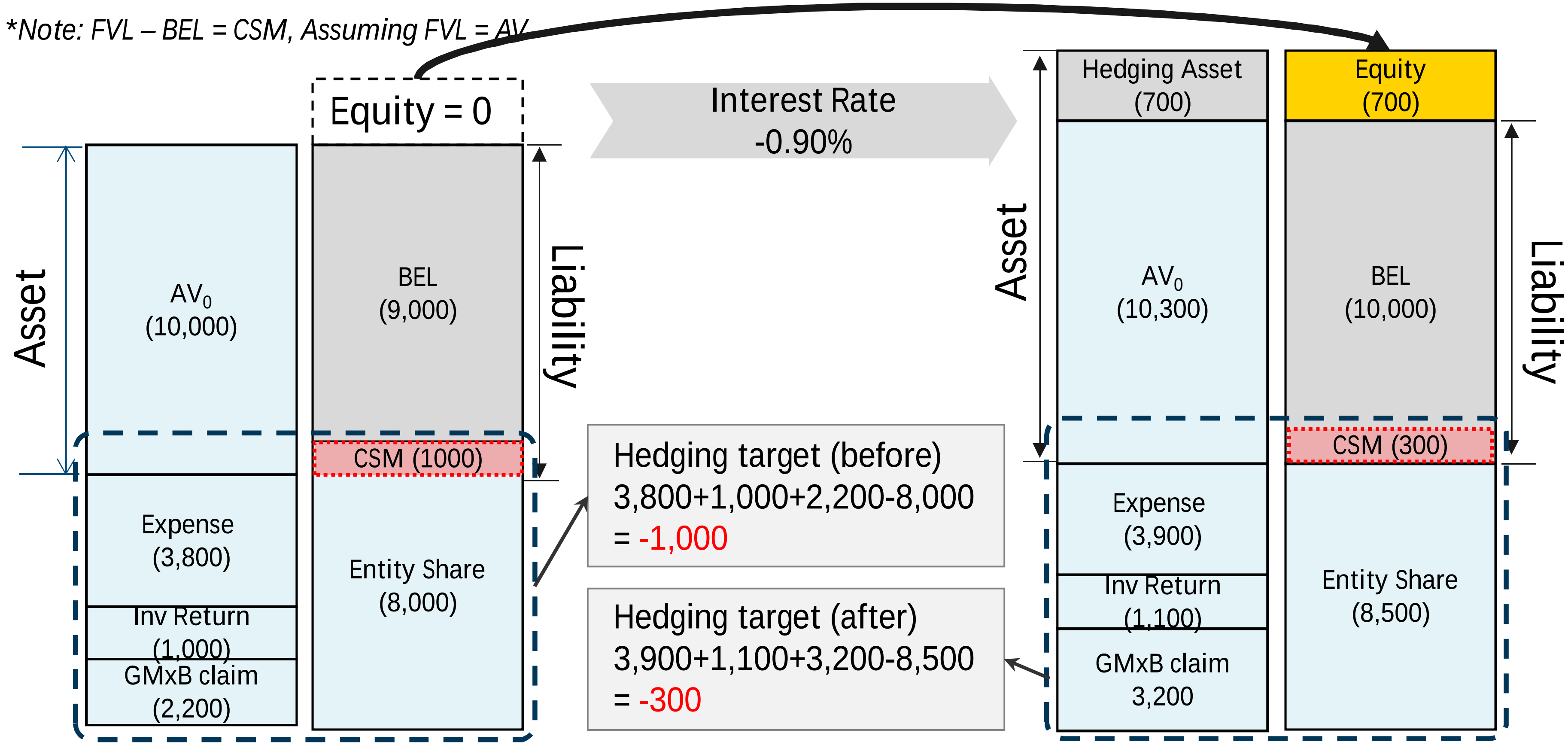
c) Changes in FCFs that do not vary based on the returns on underlying items
-> B113(b): effect of the TVM and financial risks not arising from underlying items
-> Adjust CSM, can be reflected in P&L



Hedging before transition date

Hedging before the transition date could increase equity volatility

- Change in Hedging Asset is absorbed by CSM if Fair Value Method is used for CSM calculation
- Although net cash flows are effectively hedged, CSM existence can cause accounting mismatch



IV. Conclusion

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4. Insight into new hedging

VFA Criteria

Hedging under VFA gives more flexibility, but need to satisfy the requirement even for variable products

- ü Cash flows need to be rearranged to assess the qualification
- ü ‘In the money’ block might not satisfy the criteria as the liability does not move as much as market changes

Hedging under IFRS17

Fundamentals of hedging have not changed much, but need to

- ü consider cash flows other than guarantee related
- ü think of entire balance sheet, not just liability

Hedging before Transition

Cannot lock in accounting equity at transition through hedging for the profitable block (with positive CSM)

- ü Economically, hedging still makes sense since it protects CSM at transition
- ü It might make more sense to start hedging onerous block with negative CSM to avoid this accounting mismatch

Any Questions?

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