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Discussion of financial metrics  
for simple model points - IFRS  
Phase 2

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# Disclaimer

The views expressed in this presentation are those of the presenters and should not be taken to represent those of ICICI Prudential Life Insurance Company Limited, or the Institute of Actuaries of India.

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# Agenda part 1: Unit linked

- ❑ Contract specification
  - ❑ Assumptions used
  - ❑ Elements of IFRS Total Comprehensive Income (TCI)
  - ❑ Projected balance sheets and profit signatures—IFRS vs IGAAP
  - ❑ Effect of variances and assumption changes on IFRS profit signature
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# Agenda part 2: Immediate annuity

- ❑ Contract specification
  - ❑ Assumptions used
  - ❑ Elements of IFRS Total Comprehensive Income (TCI)
  - ❑ Projected balance sheets and profit signatures—IFRS vs IGAAP
  - ❑ Effect of variances and assumption changes on IFRS profit signature
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# Contract Specification

- Assumed product structure of a regular premium unit linked contract

FMC	1.35% p.a.
Allocation charge	Year 1-2: 6% Year 3-5: 3% >Year 6: 0%
Policy administration charge	Rs. 400 p.a.
Mortality charge	105% of best estimate mortality assumptions
Surrender and maturity benefit	Fund value
Death benefit	Sum assured + Fund value

# Contract Specification

- Policy Data for a regular premium unit linked contract

Annual Premium	Rs. 50,000
Frequency	Annual
Sum Assured	Rs. 500,000
Term	10 years
Gender	Female
Age at entry	35 years

# Assumptions used (best estimate)

Mortality	Proportion of standard table
Surrenders	10% p.a.
Acquisition Expenses	Per premium: 10% Per policy: Rs. 1000
Maintenance Expenses	Per premium: 0.5% p.a. Per policy: Rs. 300 p.a.
Proportion of direct expenses	80% of total
Fund earning rate/Discount Rate	8% p.a.

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# Elements of balance sheet and total comprehensive income

- Cash flows under the contract
    - Charges
    - Direct Expenses
    - Indirect Expenses
    - Claims
-

# Elements of balance sheet

## Contractual service margin (CSM):

Expected contract profit

Fulfilment cash flows (FCF)

**Future cash flows:** Expected cash flows from premiums and claims and benefits

**Risk adjustment (RA):** An assessment of the uncertainty about the amount of future cash flows

**Discounting:** An adjustment that converts future cash flows into current amounts

## ■ FCF

= NPV (Direct expenses + Claims – Charges) + RA, where

$$RA(t) = \sum_i a_i * Driver_i(t)$$

## ■ CSM

$$CSM(0) = \text{Max}[-\{FCF(0)+RM(0)\}, 0]$$

$CSM(t) = CSM(t-1) * \text{Run-off factor}$ , where

“Run-off factor” represents transfer of services in the “t”<sup>th</sup> period

# Total comprehensive income

<b>Description</b>	<b>Calculated as</b>
Insurance contracts revenue (a)	Expected (Direct Expenses + Claims) + Release of RA+ Release of CSM in respect of services provided in the period
Incurred claims and expenses (b)	(Claims+Expenses)
<b><i>Operating result (c)</i></b>	<b>= (a)-(b)</b>
Investment income (d)	Investment income on assets
Interest on insurance liability (e)	Unwind of discount on opening liability
<b><i>Investment result (f)</i></b>	<b>= (d) – (e)</b>
<b><i>Profit or loss (g)</i></b>	<b>= (c) + (f)</b>
Effect of discount rate changes on insurance liability (h)	(X)
<b>Total comprehensive income (i)</b>	<b>= (g) + (h)</b>

# Components of profit and loss account

Paragraph	Description
60(a)	Losses, if any, at initial recognition of insurance contracts
60(b)	Change in the risk adjustment
60(c)	Change in the contractual service margin that reflects the transfer of services in the period
60(d)	Change in estimates of future cash flows that do not adjust the contractual service margin

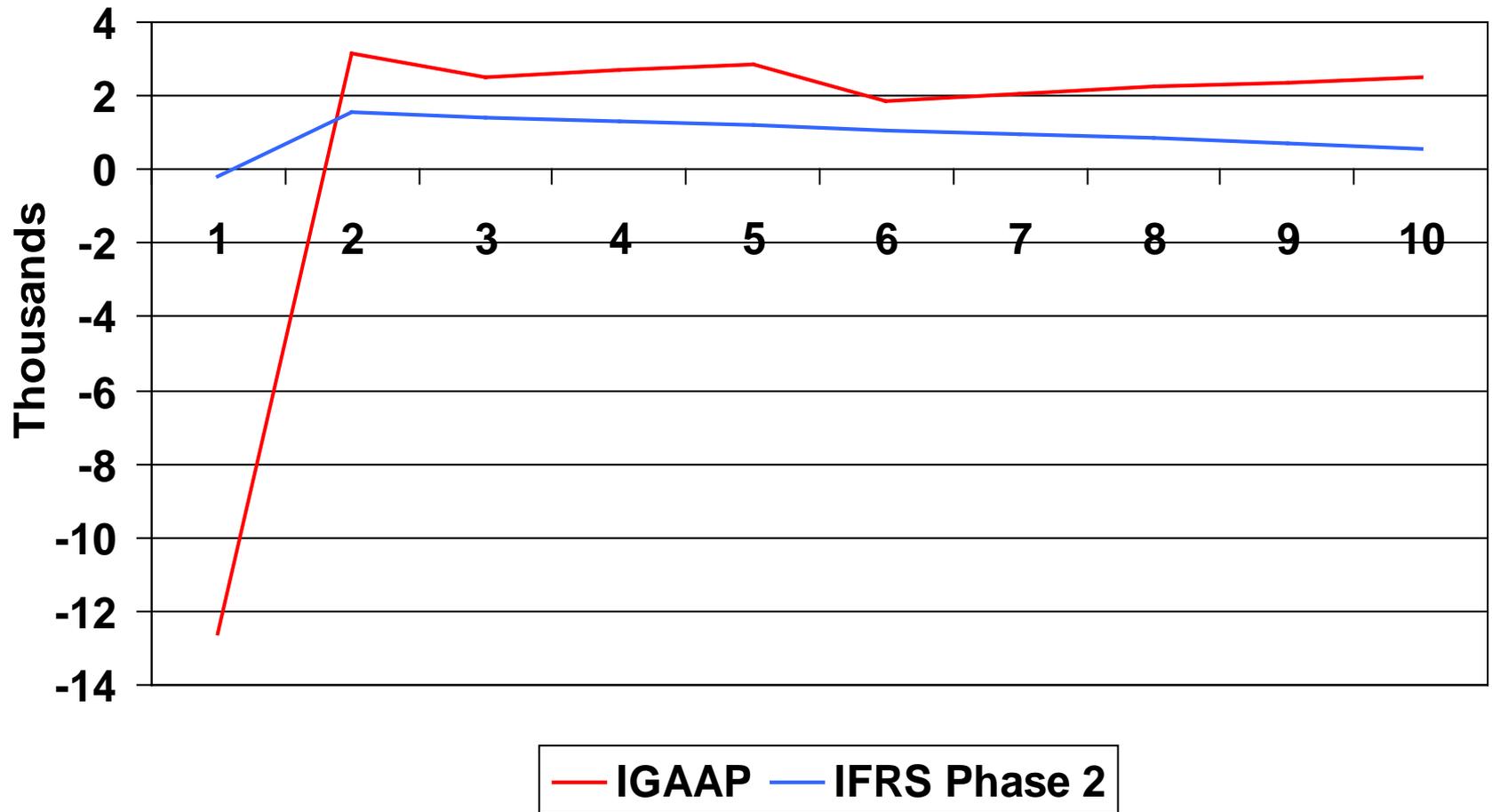
# Components of profit and loss account

Paragraph	Description
60(e)	Differences between actual cash flows that occurred during the period and previous estimates of those cash flows (experience adjustments)
60(f)	Change in the carrying amount of onerous contracts
60(g)	Effect of changes in the credit standing of the issuer of reinsurance contracts held
60(h)	Interest expense on insurance contract liabilities determined using the discount rates that applied at the date that the contract was initially recognised.
60(i)	Gains or losses other than those recognised in other comprehensive income

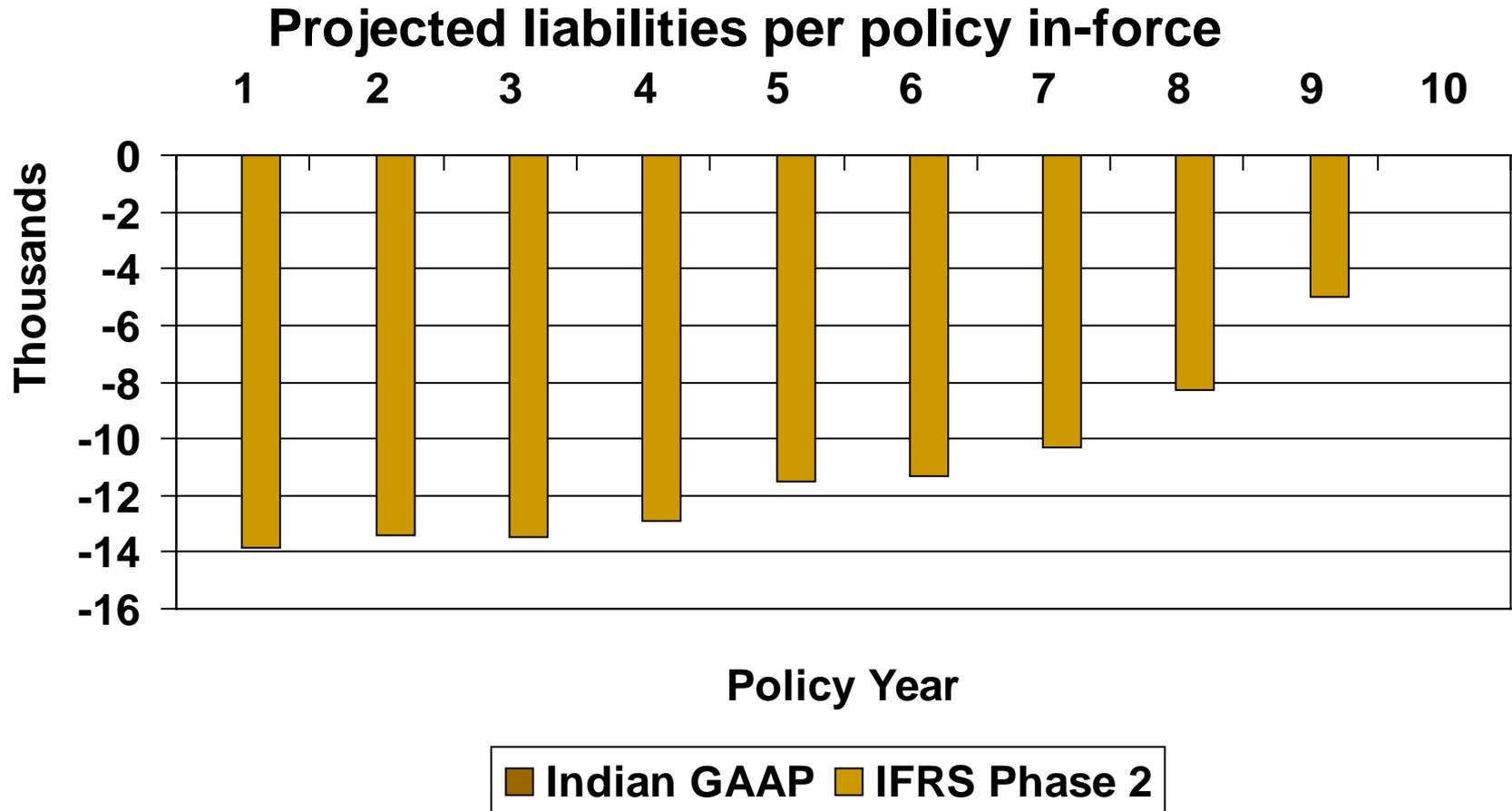
# Other comprehensive income

Paragraph	Description
	The difference between:
64(a)	the carrying amount of the insurance contract measured using the discount rates that applied at the reporting date, and
64(b)	the carrying amount of the insurance contract measured using the discount rates specified in paragraph 60(h)

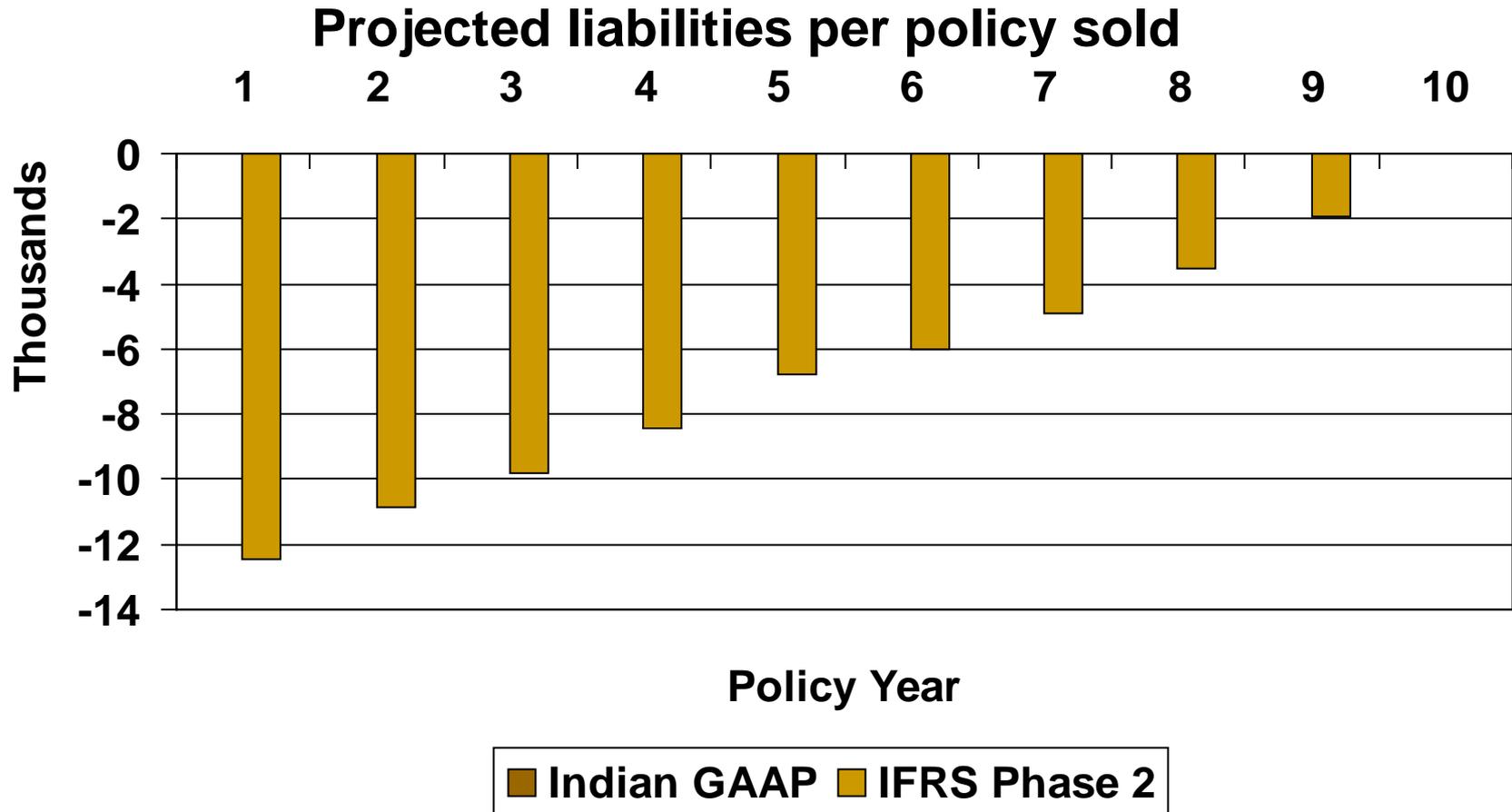
# Comparison of profit signatures



# Comparison of projected liabilities

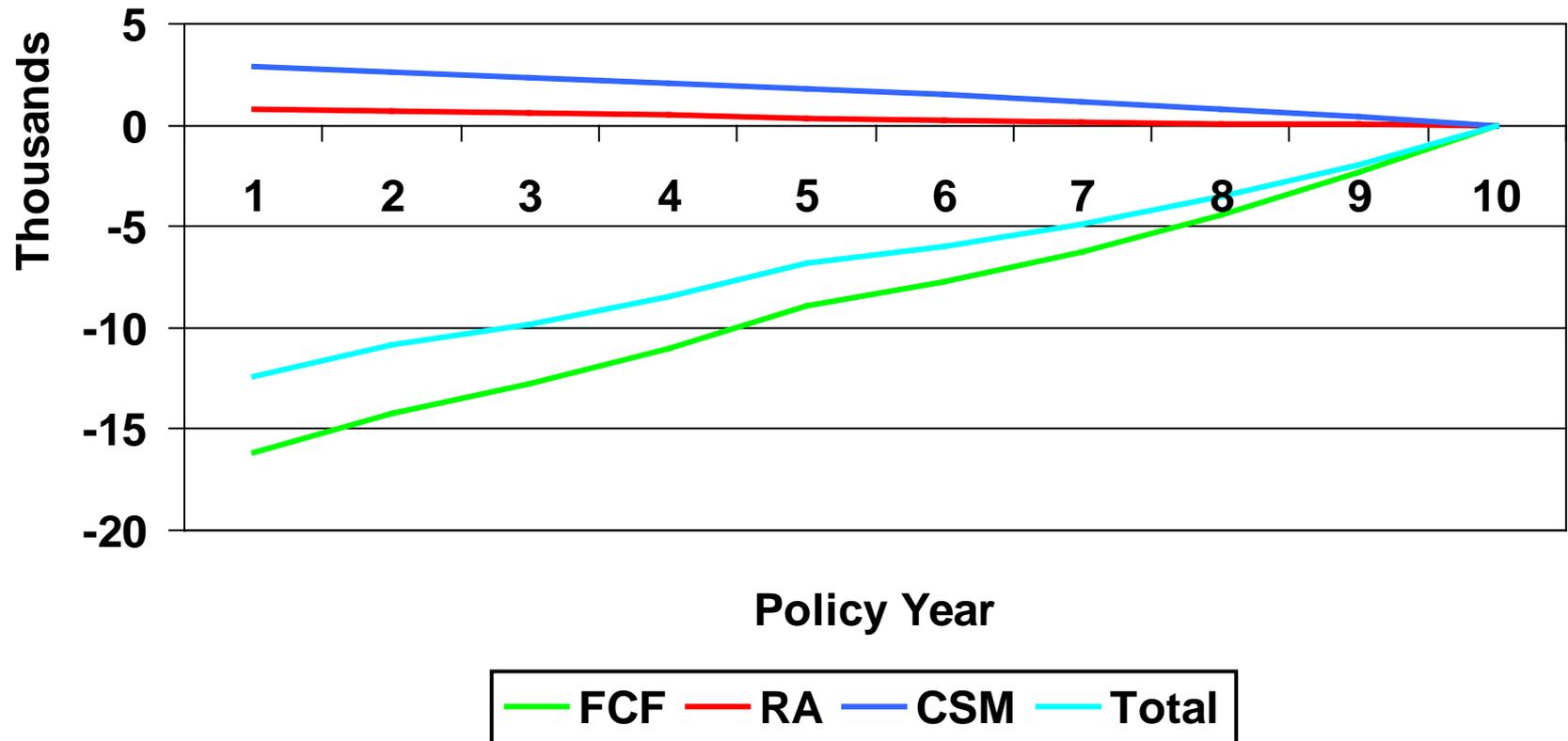


# Comparison of projected liabilities



# Components of projected liabilities

## Projected liabilities per policy issued

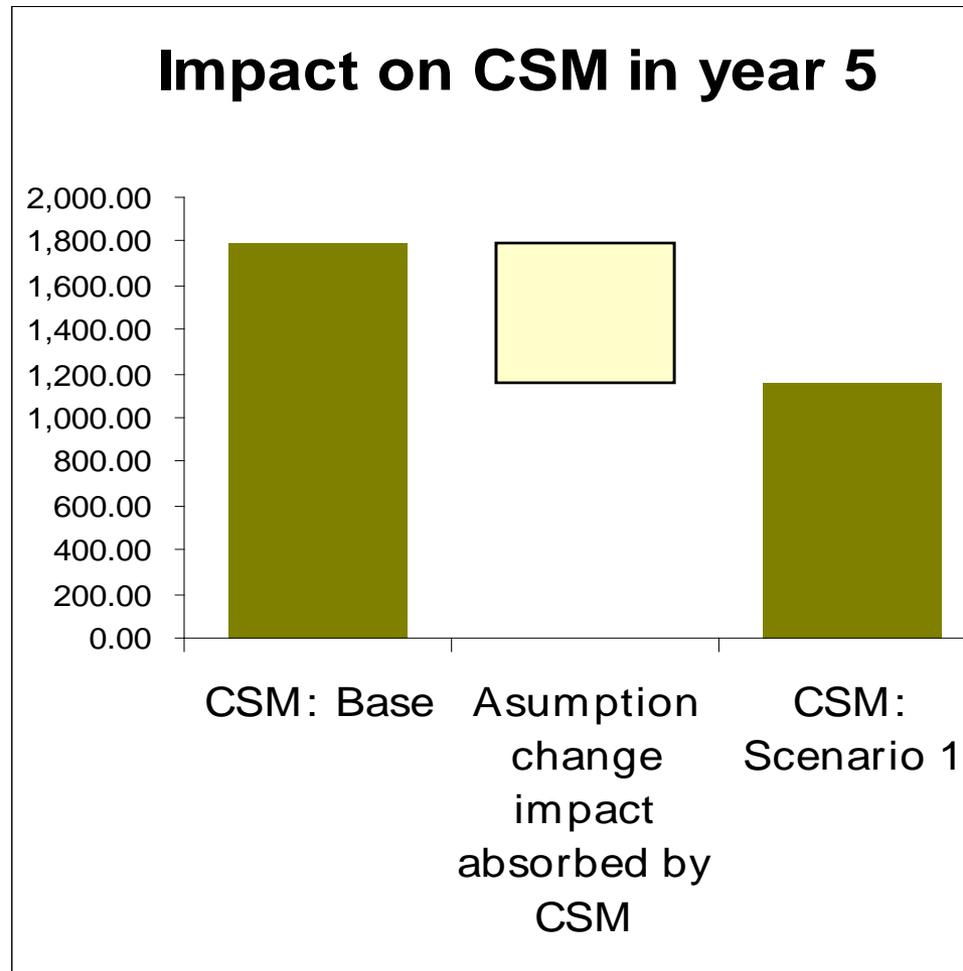


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## Scenario 1: Description

- Surrender experience in line with assumed up to policy year 4
  - Experience in policy year 5 higher than assumed rates by 20% (multiplicative),
  - Increase in assumed decrement rates at the end of policy year 5 by 20% (multiplicative)
  - Impact of change in assumptions fully absorbed by CSM
-

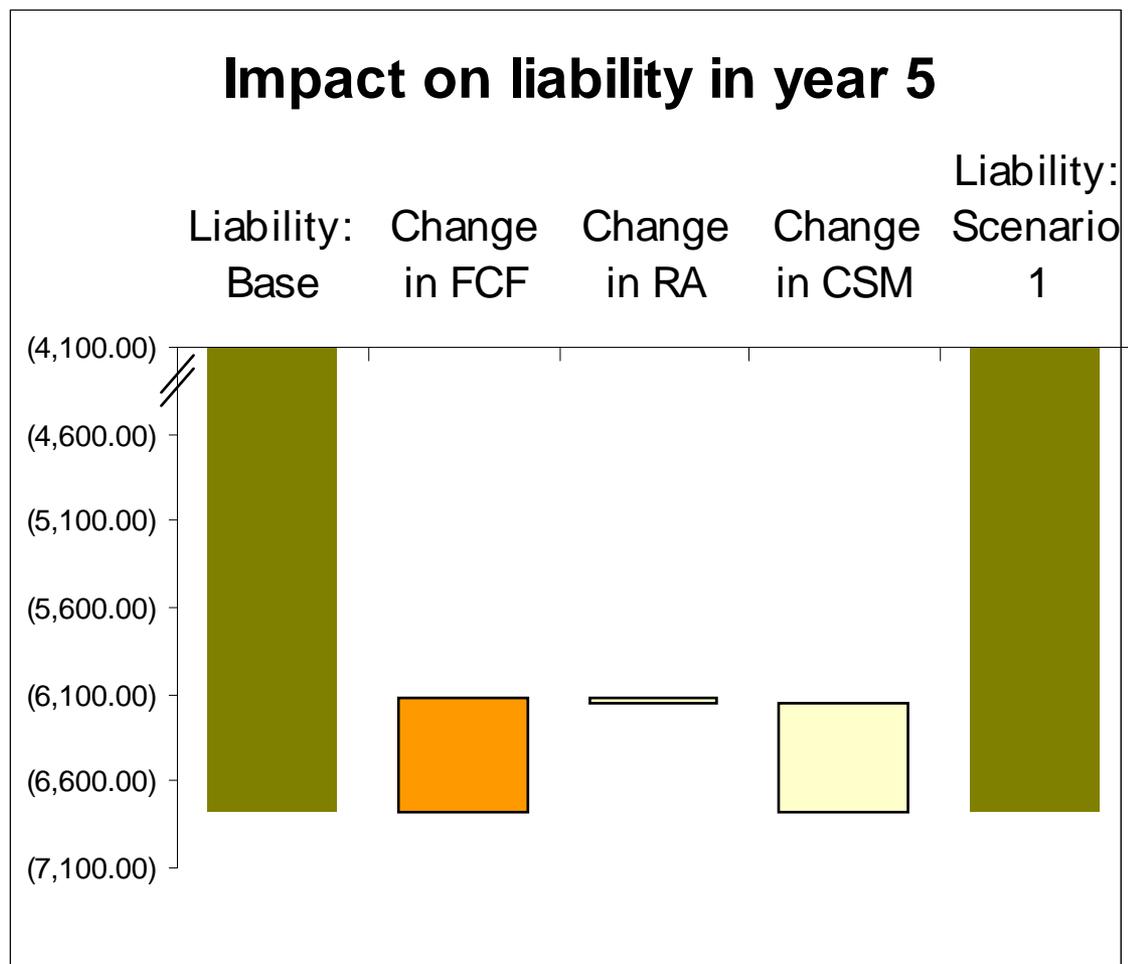
# Scenario 1: Impact on CSM – year 5



 Decrease in liability

 Increase in liability

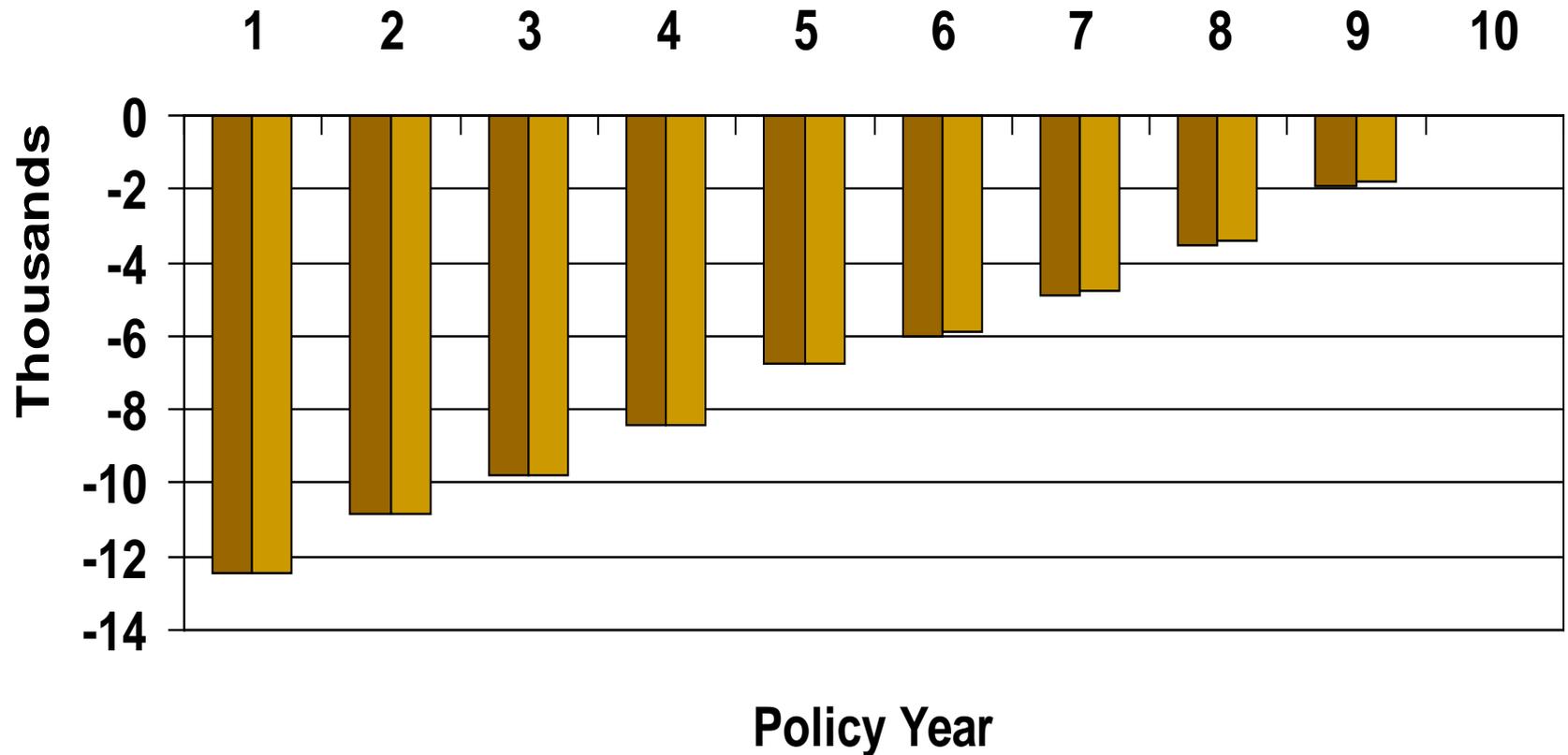
# Scenario 1: Impact on components of liability – year 5



Decrease in liability  
Increase in liability

# Scenario 1: Projected liabilities

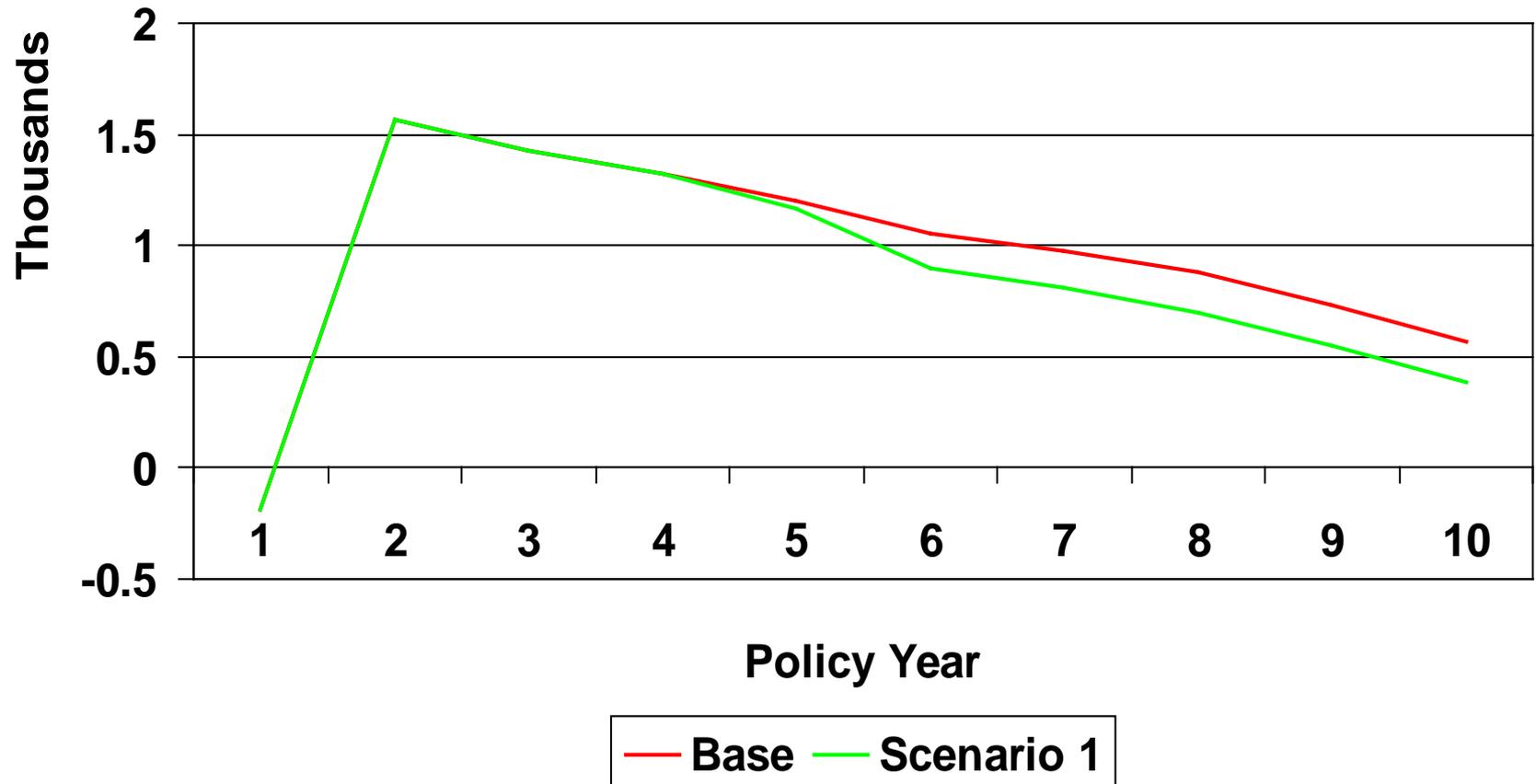
## Projected liabilities per policy issued



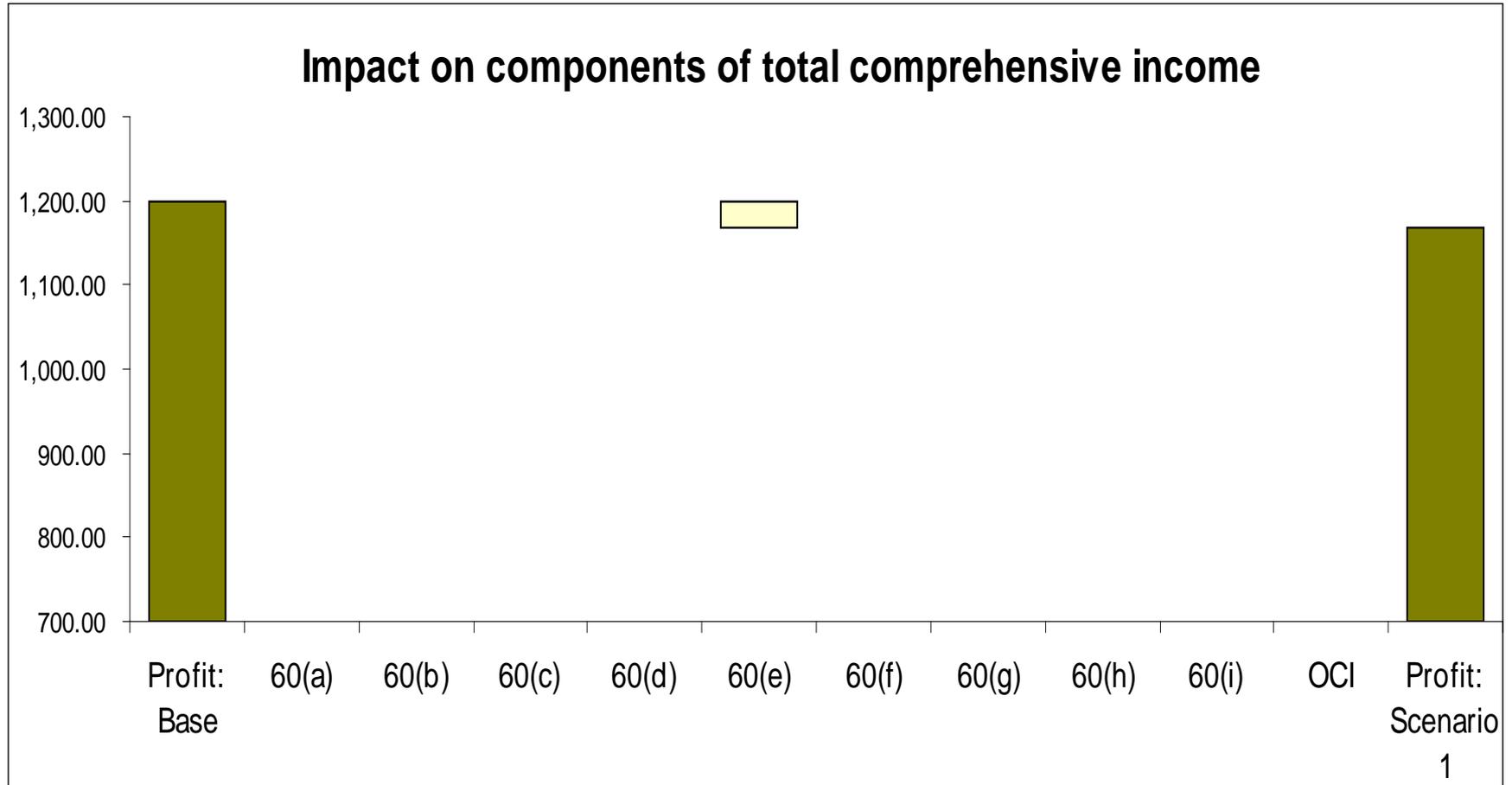
■ Base ■ Scenario 1

# Scenario 1: Impact on profits

## Impact on profits

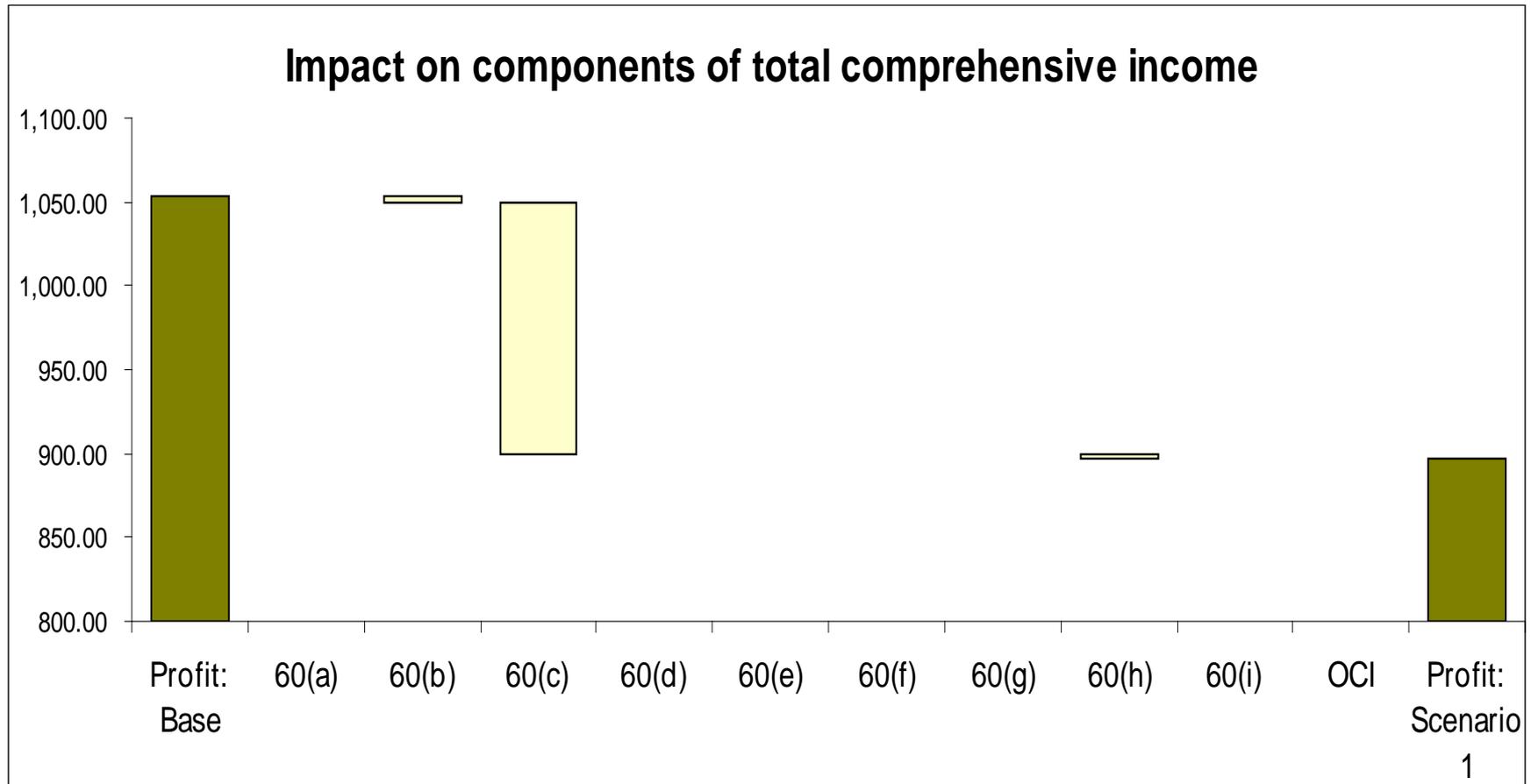


# Scenario 1: Impact on profits: Year 5



-  Decrease in profits
-  Increase in profits

# Scenario 1: Impact on profits: Year 6



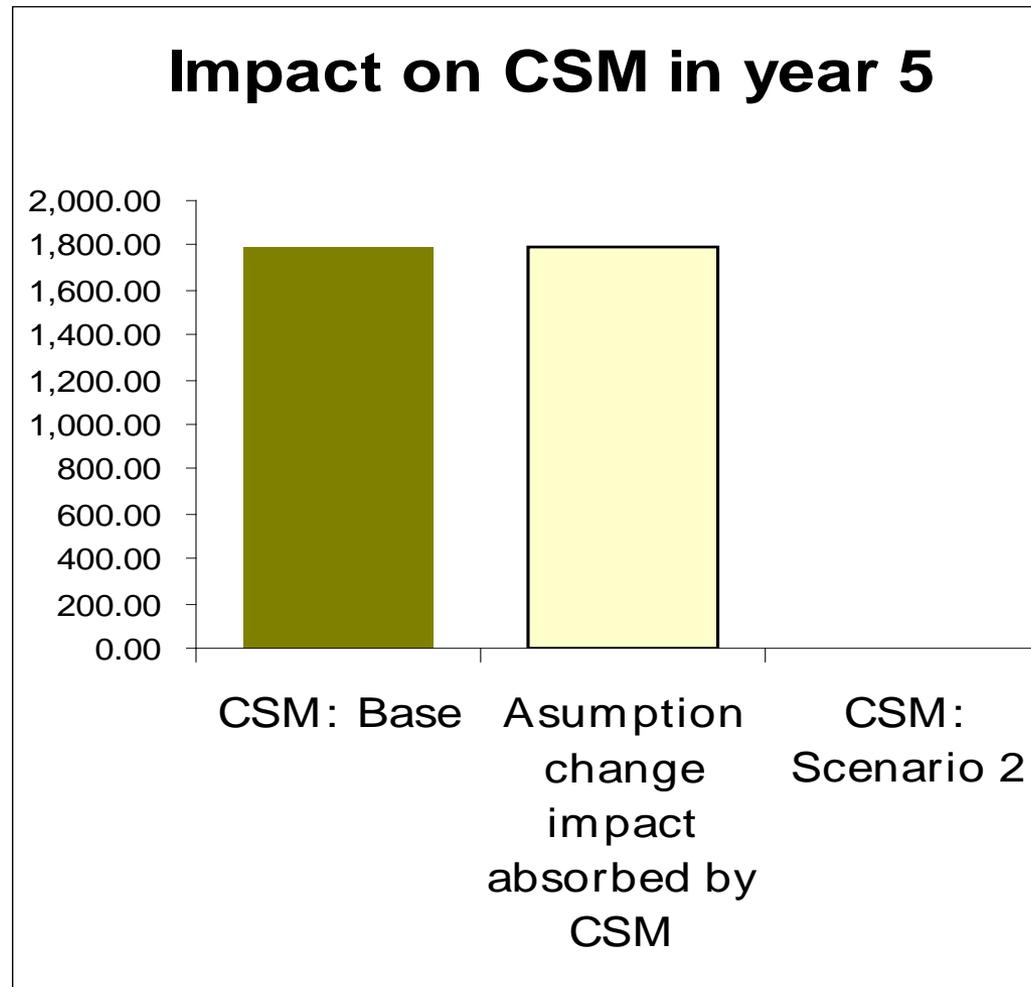
-  Decrease in profits
-  Increase in profits

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## Scenario 2: Description

- Surrender experience in line with assumptions up to policy year 4
  - Experience in policy year 5 higher than assumed rates by 70% (multiplicative),
  - Increase in assumed decrement rates at the end of policy year 5 by 70% (multiplicative)
  - Impact of change in assumptions not fully absorbed by CSM
-

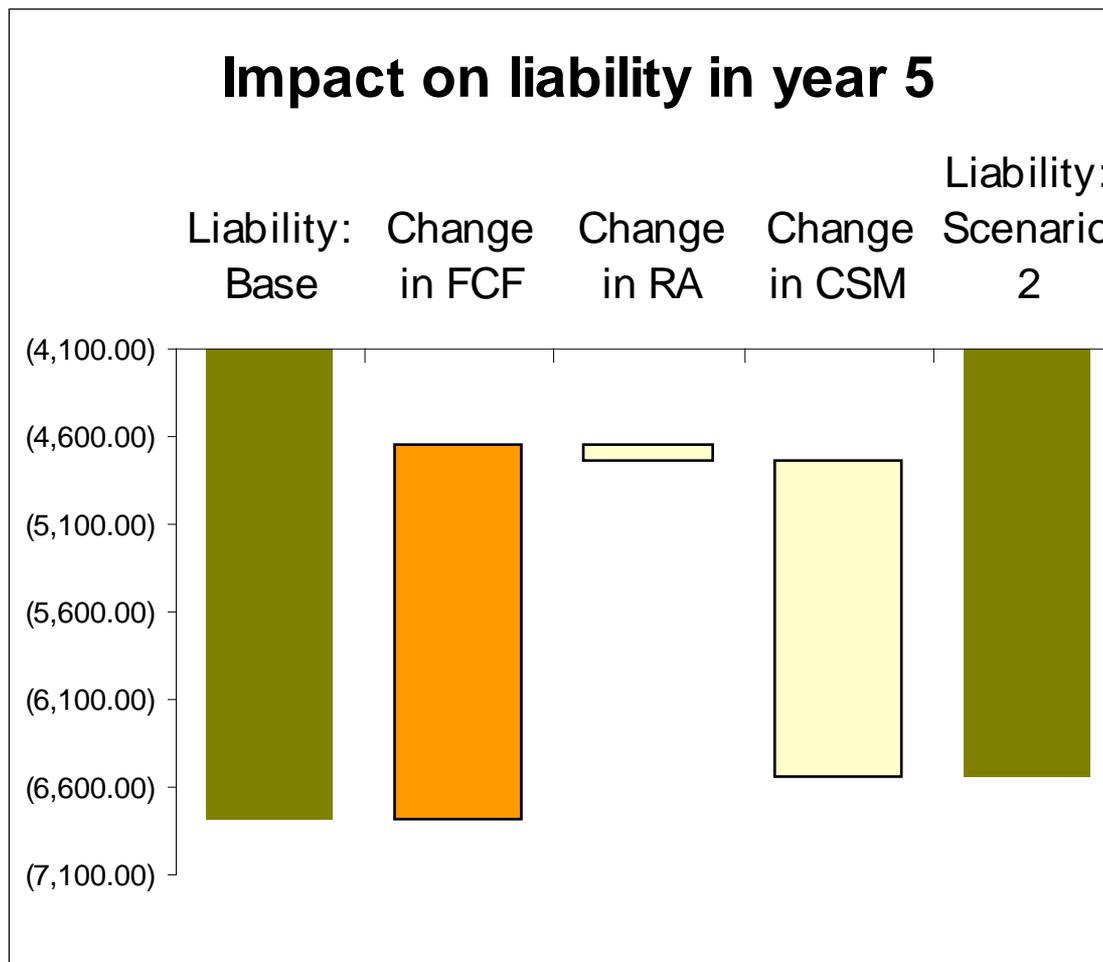
## Scenario 2: Impact on CSM – year 5



 Decrease in liability

 Increase in liability

# Scenario 2: Impact on components of liability – year 5

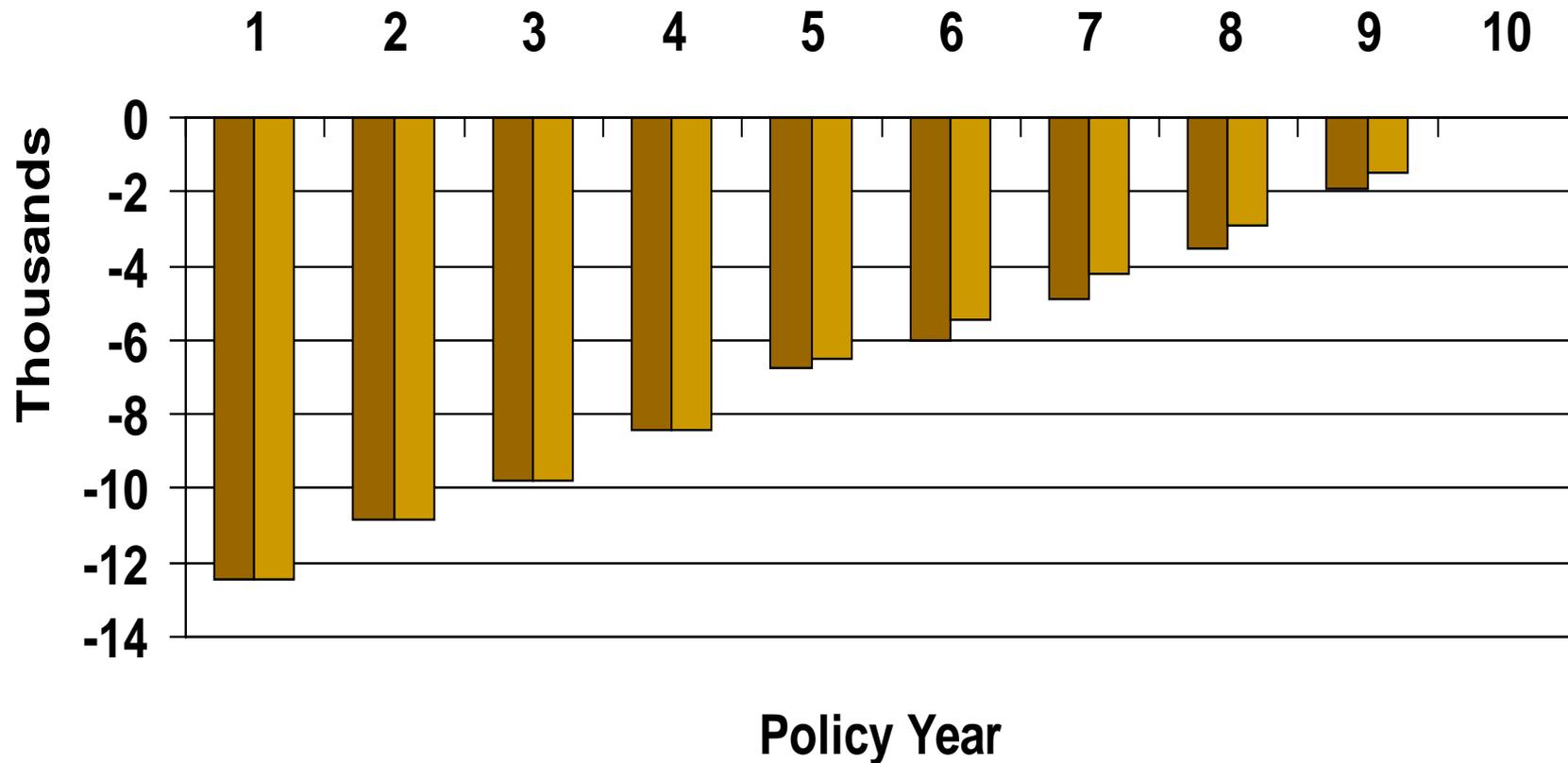


 Decrease in liability

 Increase in liability

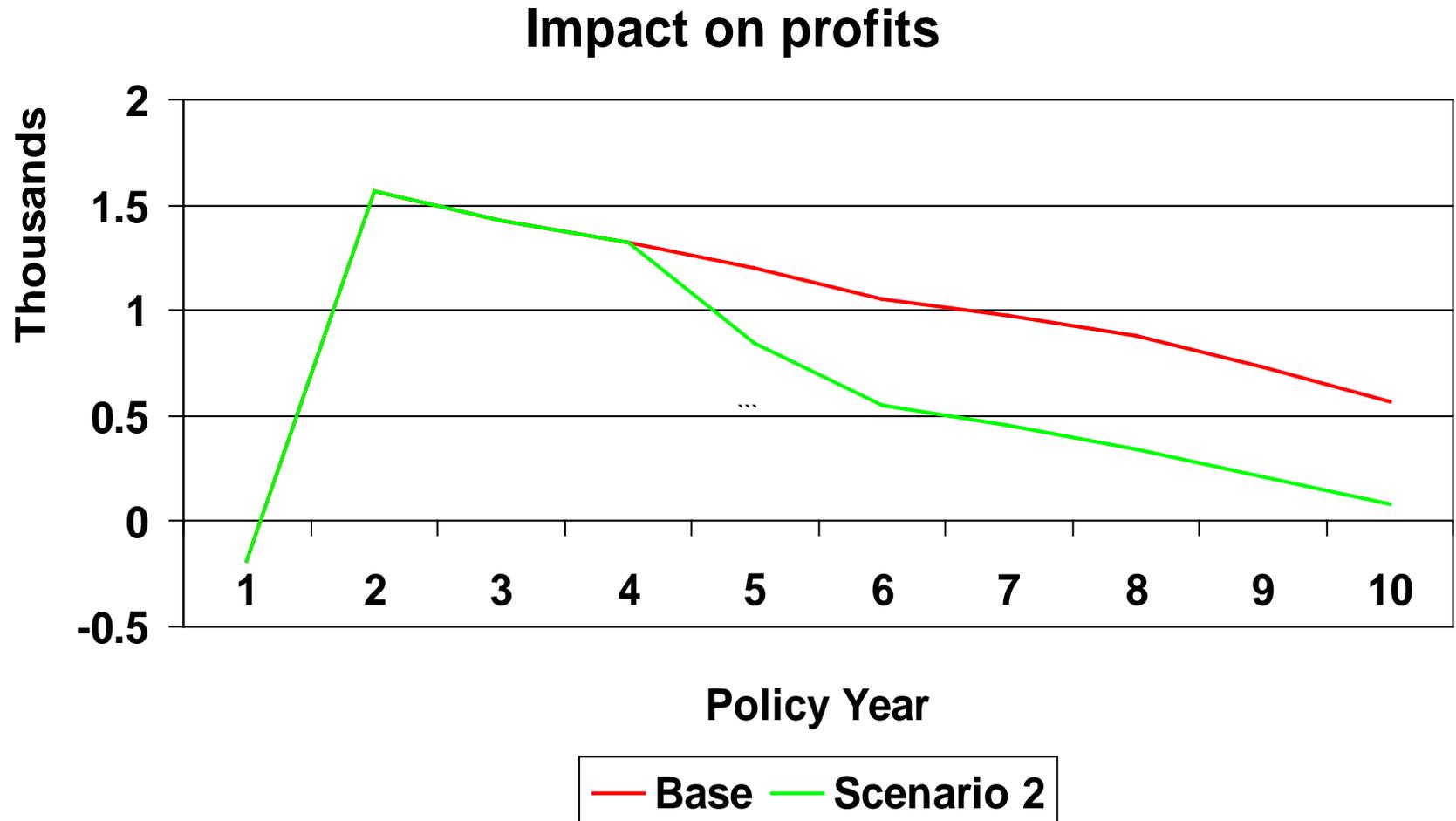
## Scenario 2: Projected liabilities

### Projected liabilities per policy issued

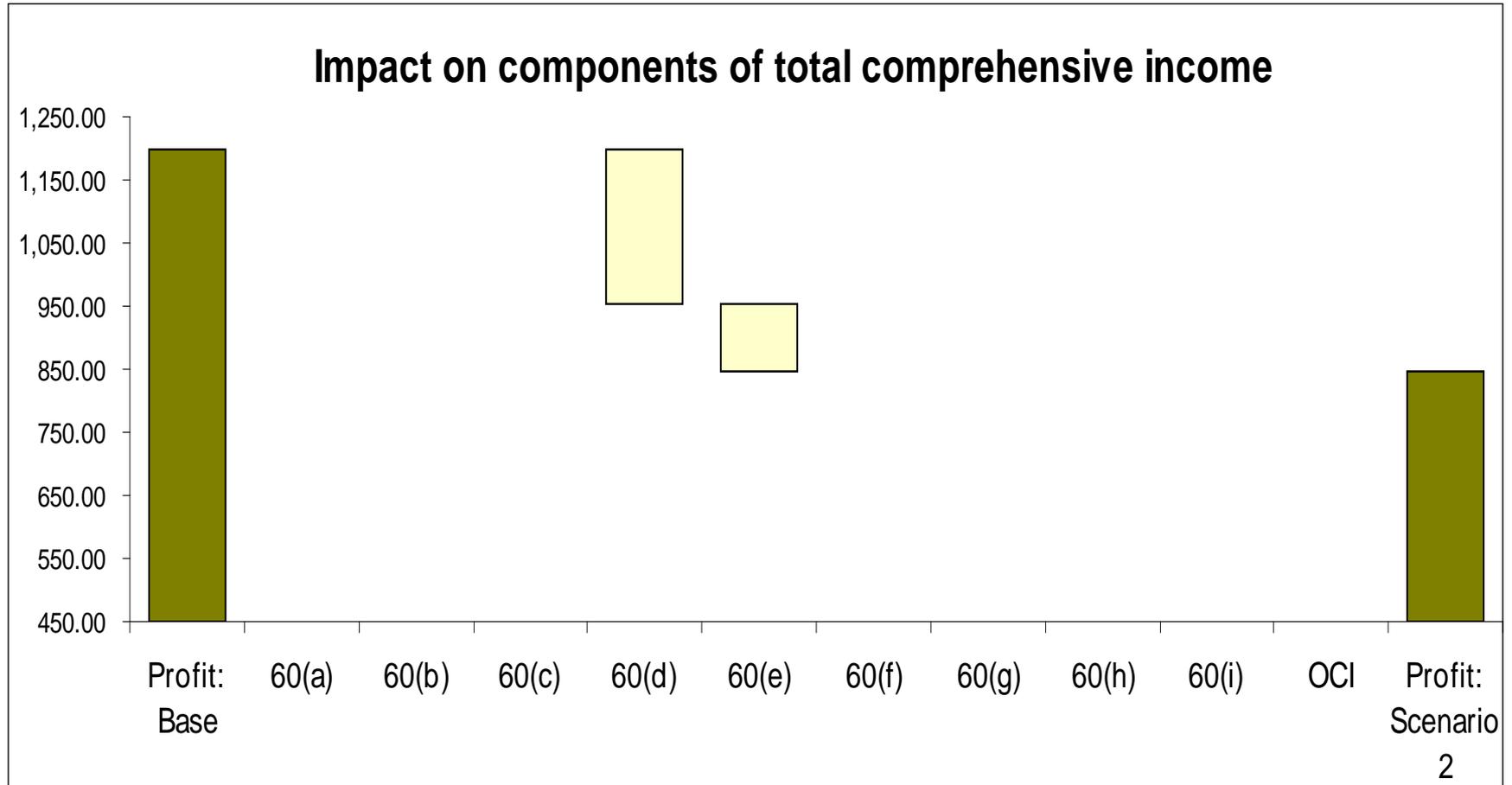


■ Base ■ Scenario 2

## Scenario 2: Impact on profits



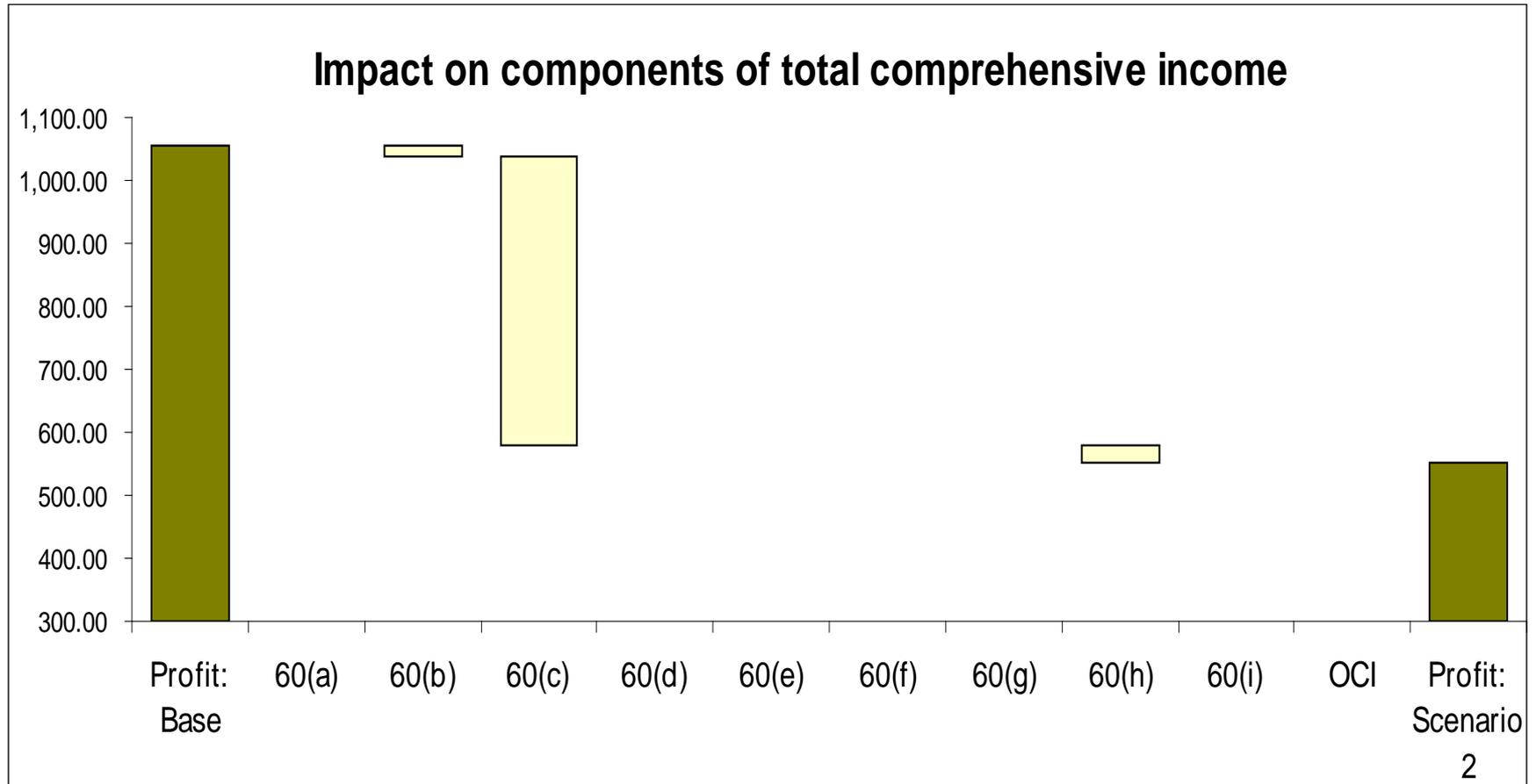
## Scenario 2: Impact on profits: Year 5



 Decrease in profits

 Increase in profits

## Scenario 2: Impact on profits: Year 6



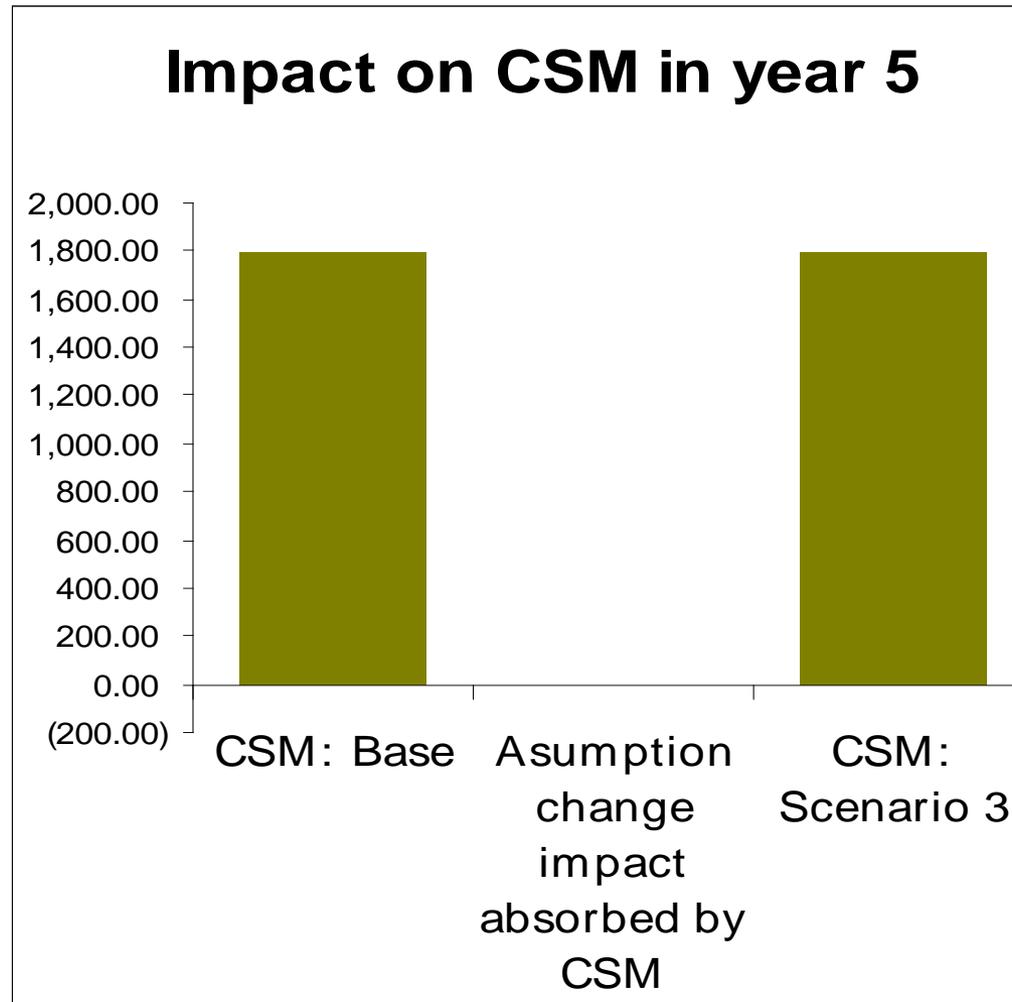
-  Decrease in profits
-  Increase in profits

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## Scenario 3: Description

- Fund earning rates higher than expected by 20% (multiplicative) in policy year 5
  - No change in assumptions
-

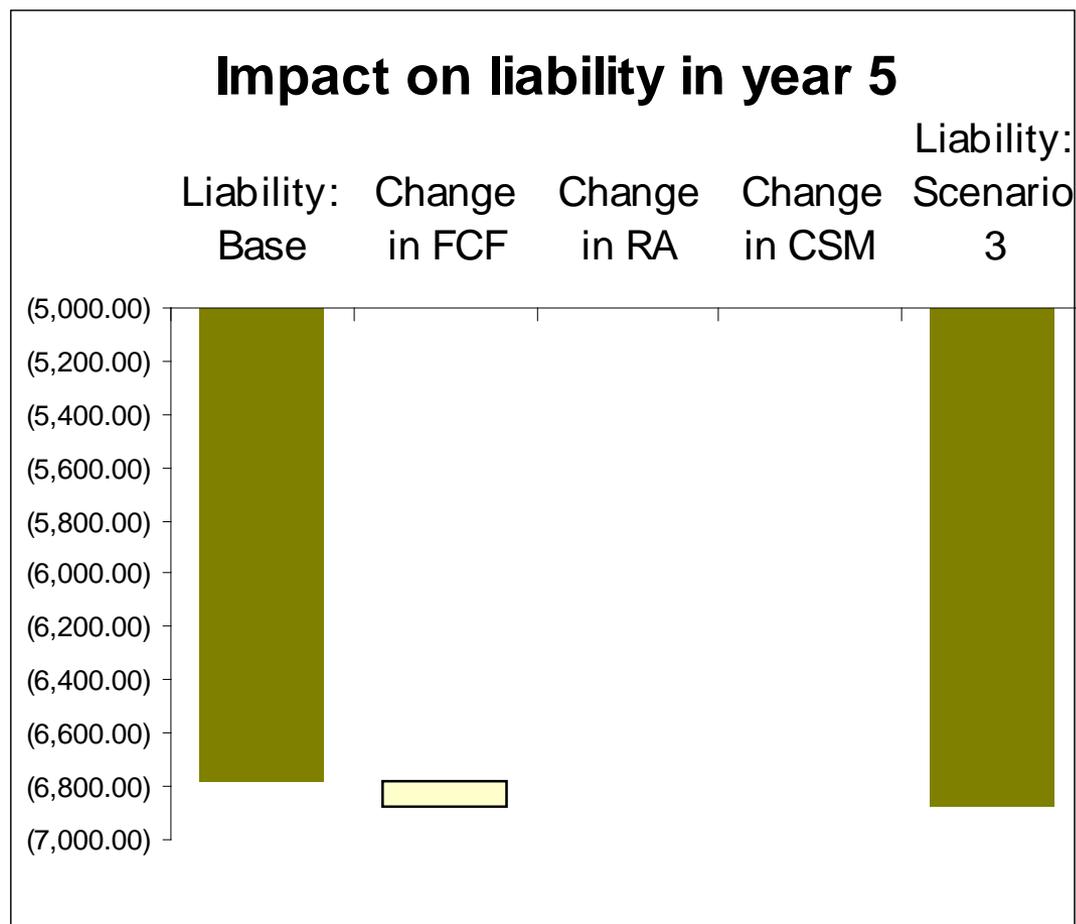
# Scenario 3: Impact on CSM – year 5



 Decrease in liability

 Increase in liability

# Scenario 3: Impact on components of liability – year 5

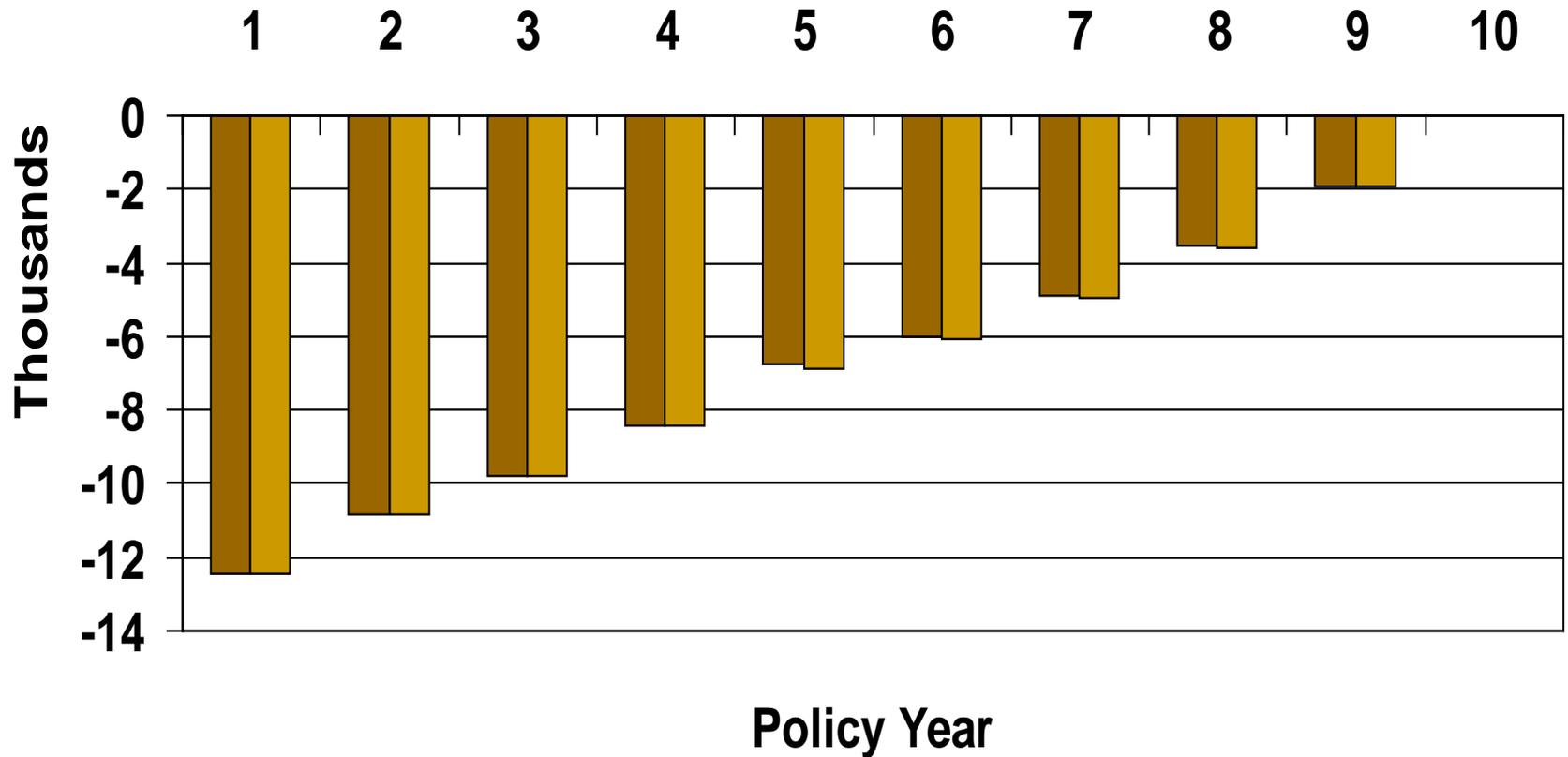


 Decrease in liability

 Increase in liability

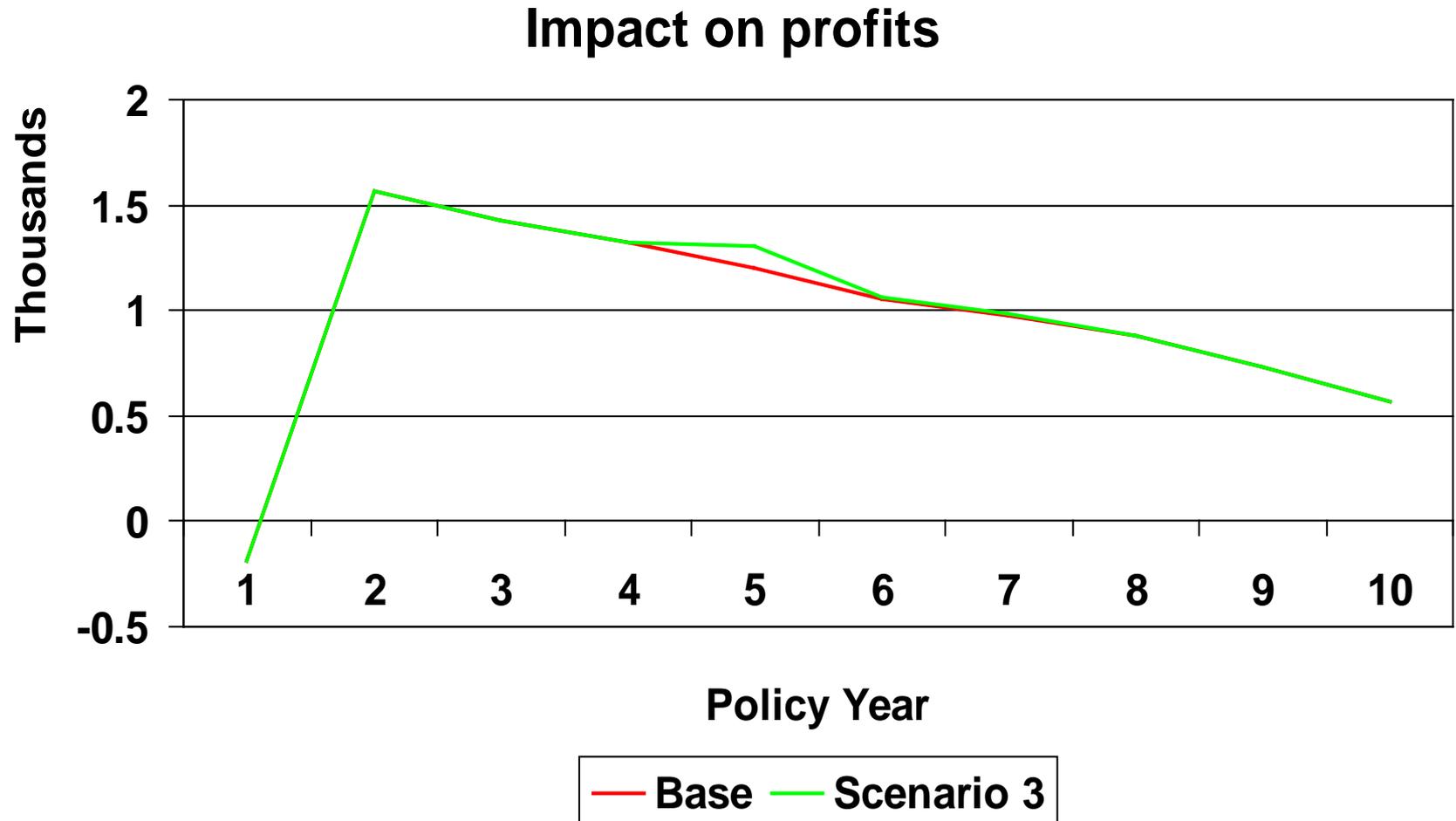
# Scenario 3: Projected liabilities

## Projected liabilities per policy issued

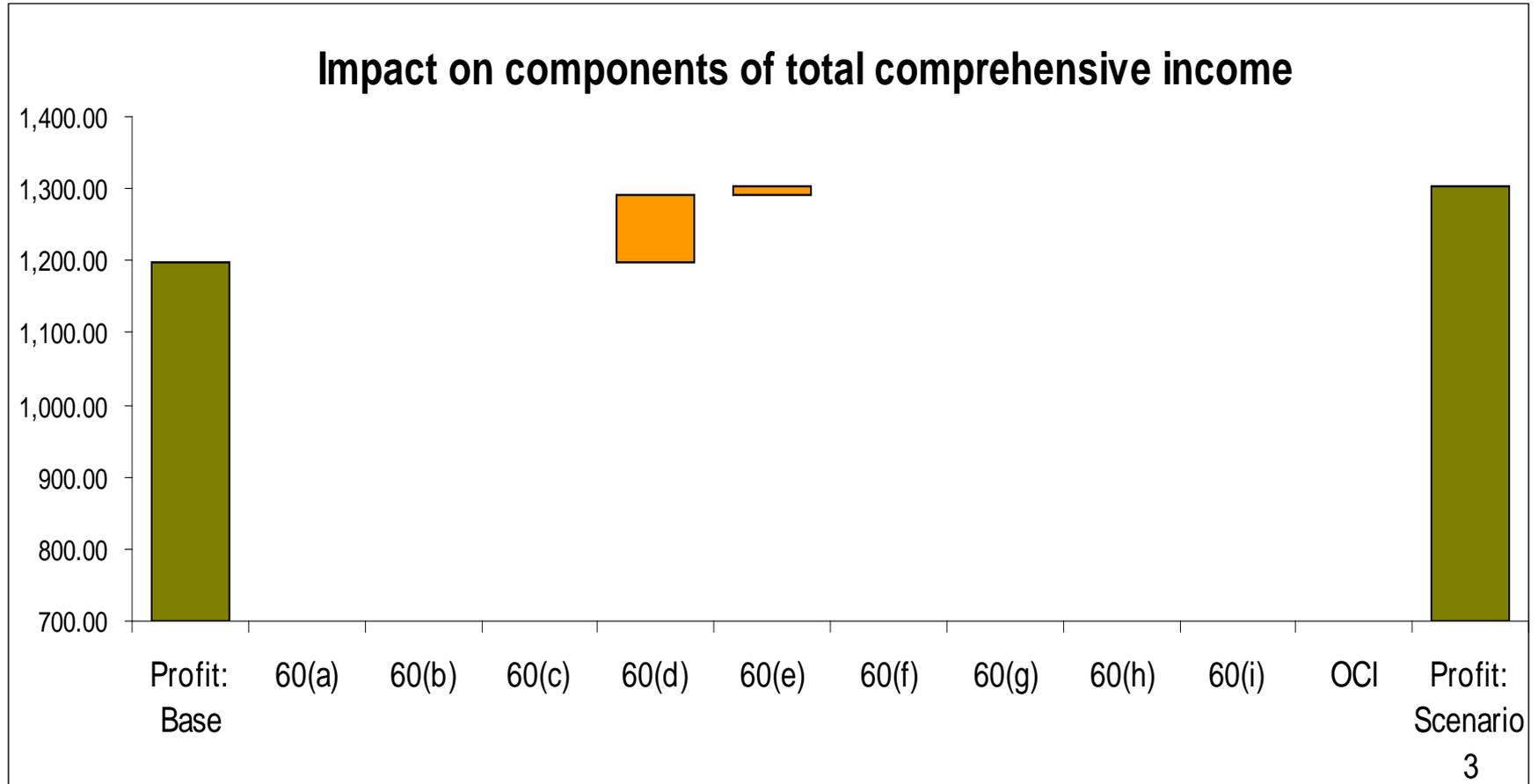


■ Base ■ Scenario 3

## Scenario 3: Impact on profits

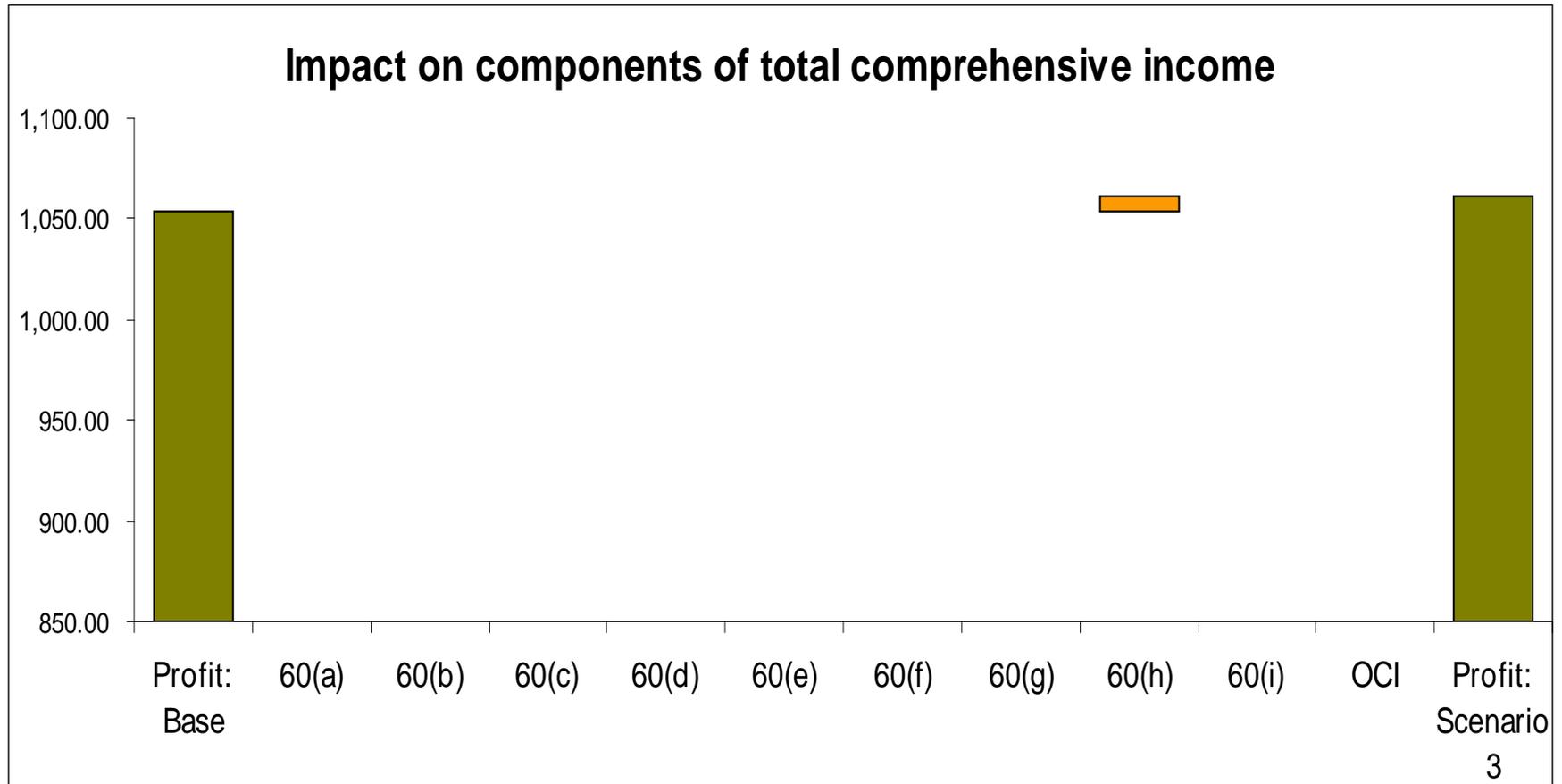


# Scenario 3: Impact on profits: Year 5



-  Decrease in profits
-  Increase in profits

# Scenario 3: Impact on profits: Year 6



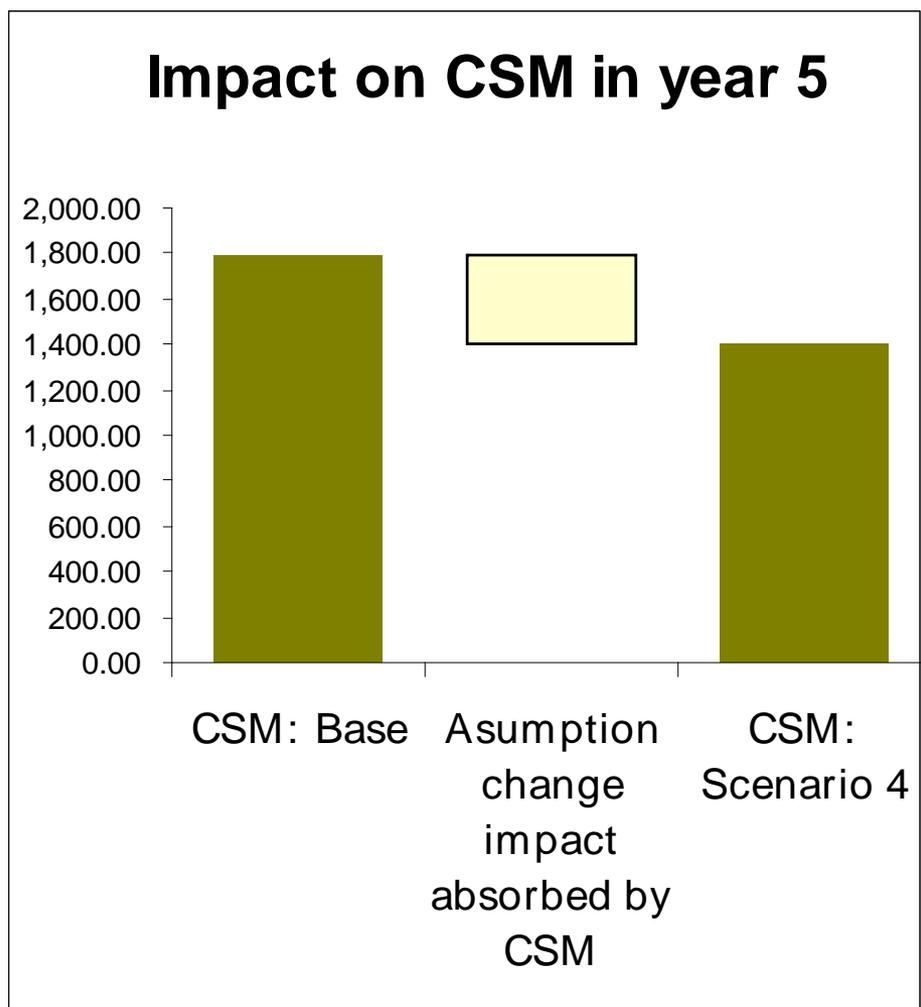
-  Decrease in profits
-  Increase in profits

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## Scenario 4: Description

- Increase in assumption in respect of fund earning rates and discount rates by 20% (multiplicative) at the end of policy year 5
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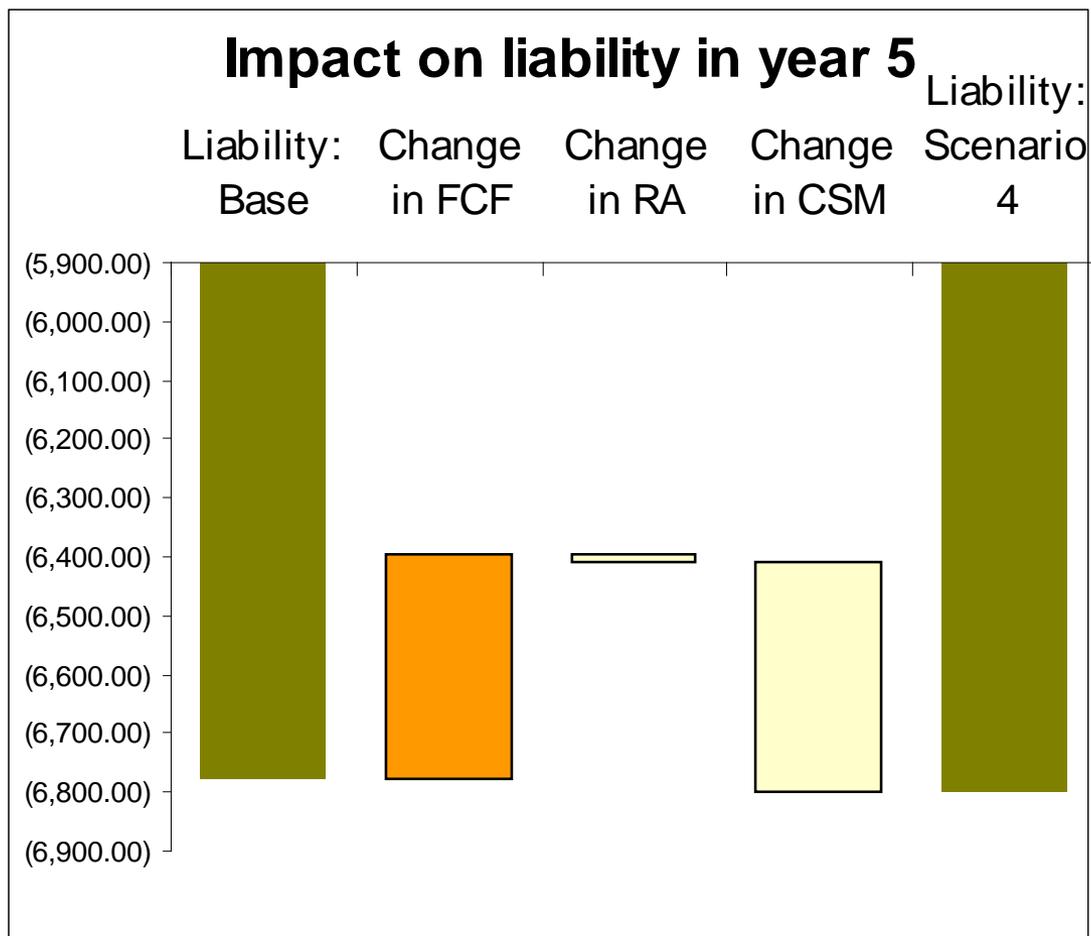
## Scenario 4: Impact on CSM – year 5



 Decrease in liability

 Increase in liability

# Scenario 4: Impact on components of liability – year 5

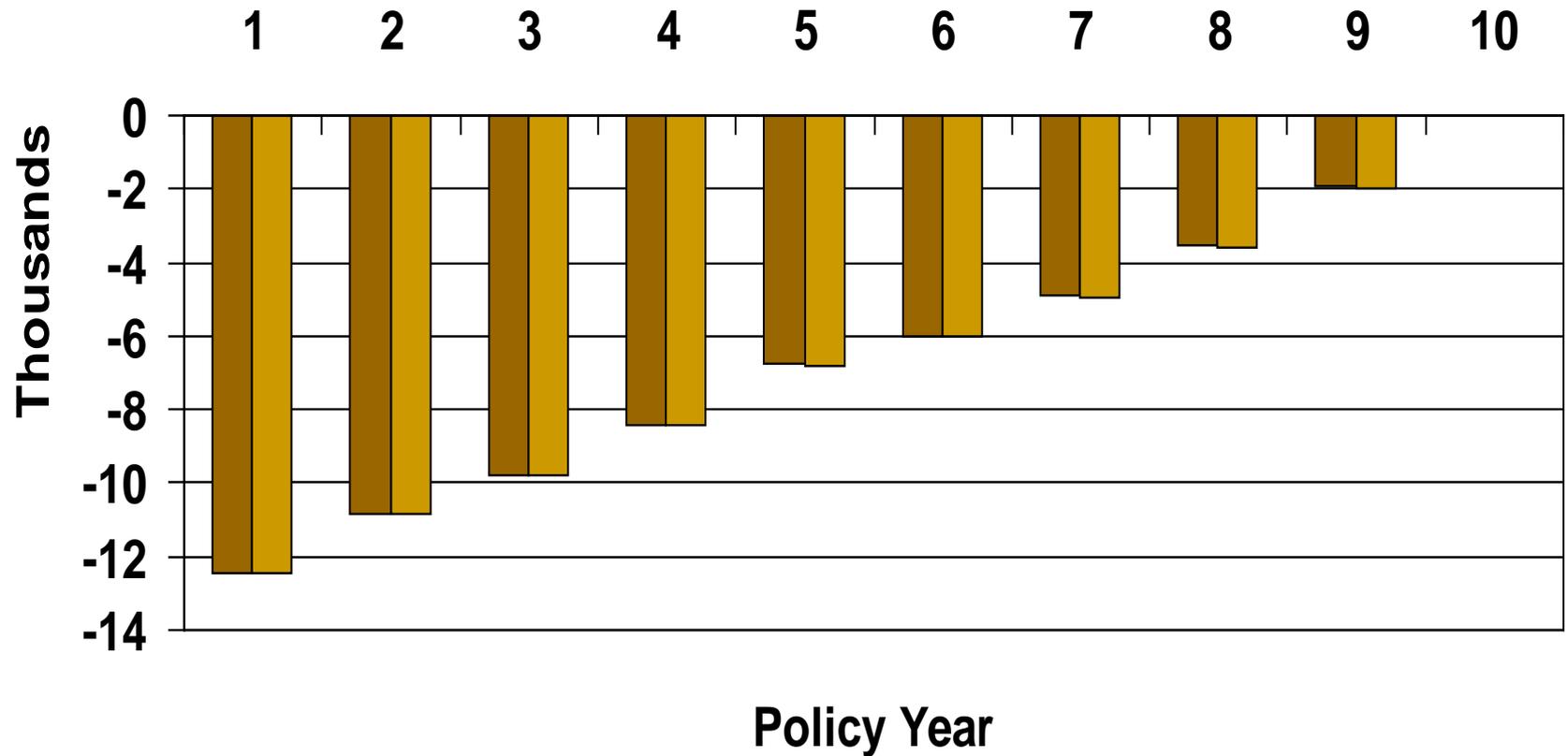


Decrease in liability

Increase in liability

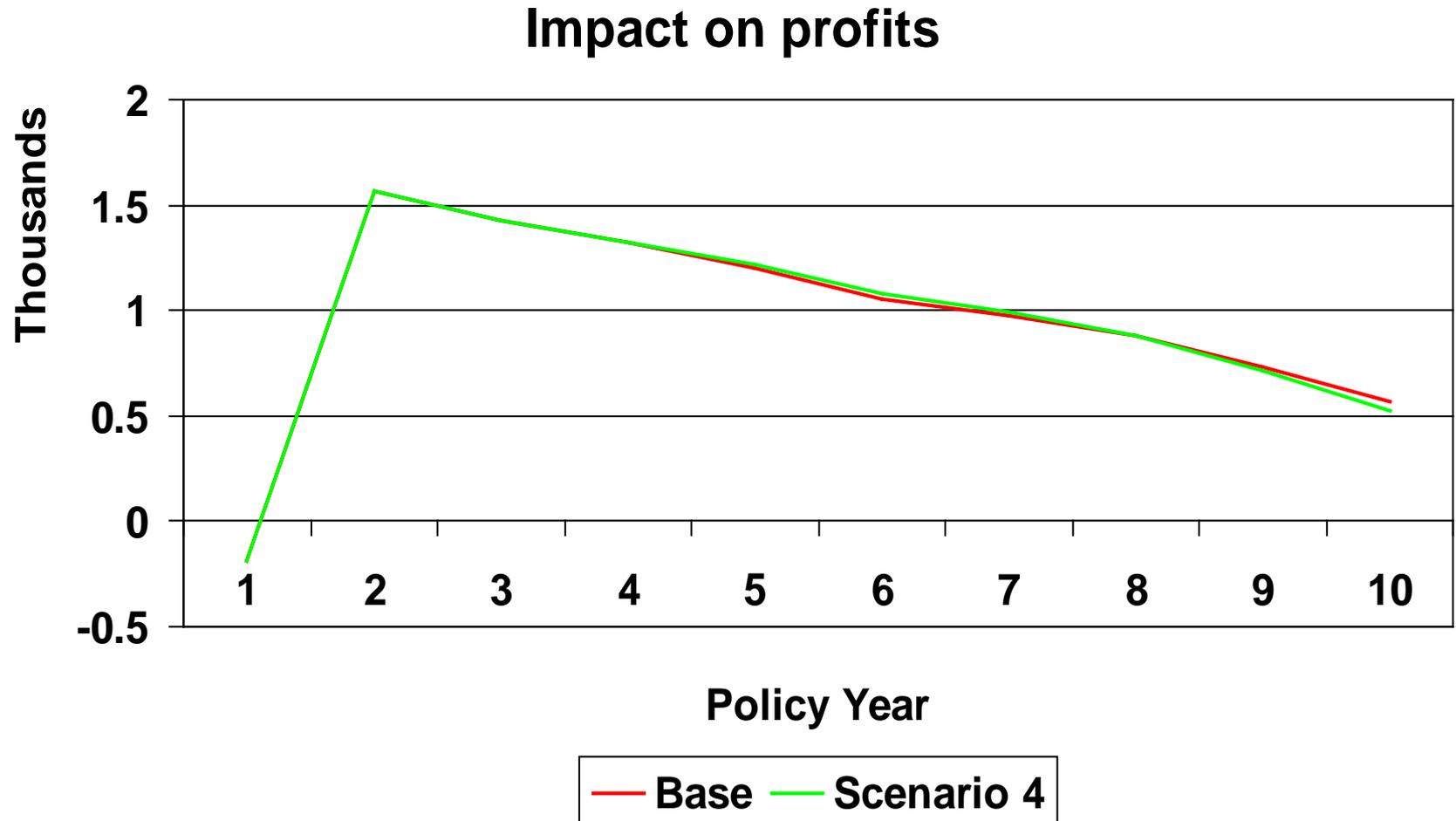
# Scenario 4: Projected liabilities

## Projected liabilities per policy issued

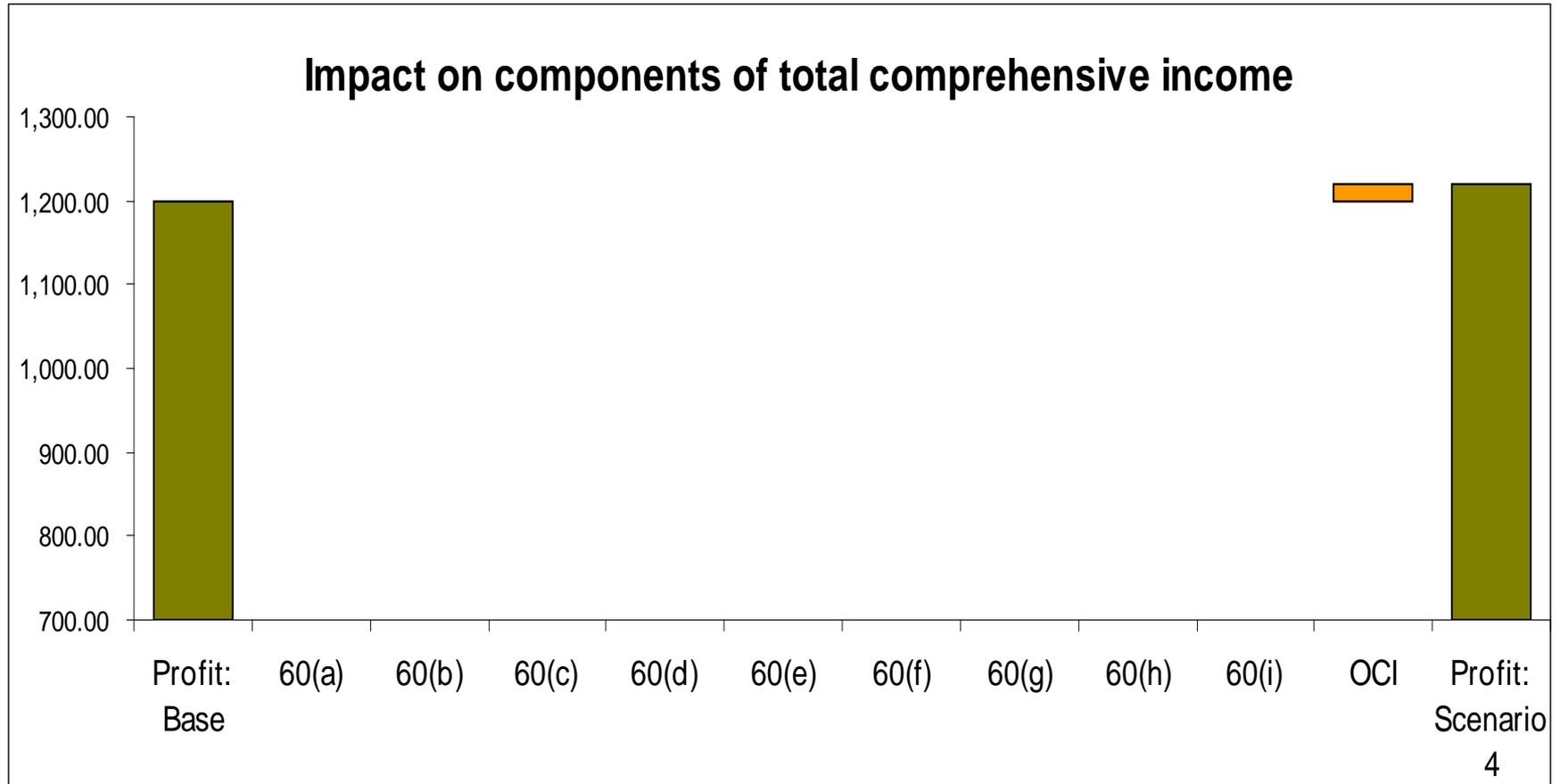


■ Base ■ Scenario 4

## Scenario 4: Impact on profits

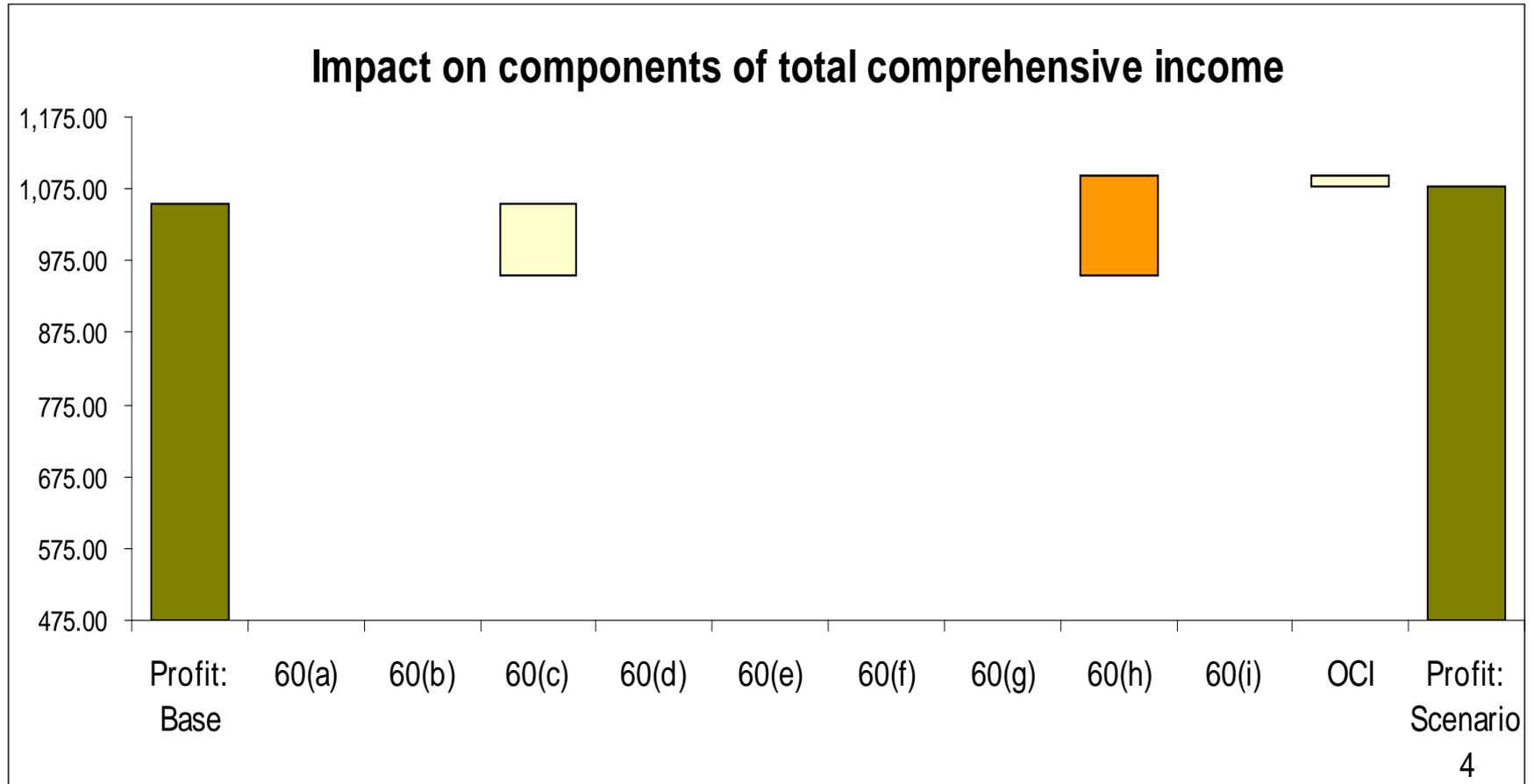


# Scenario 4: Impact on profits: Year 5



-  Decrease in profits
-  Increase in profits

# Scenario 4: Impact on profits: Year 6



 Decrease in profits

 Increase in profits

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# Agenda part 2: Immediate annuity

- ❑ Contract specification
  - ❑ Assumptions used
  - ❑ Elements of IFRS Total Comprehensive Income (TCI)
  - ❑ Projected balance sheets and profit signatures—IFRS vs IGAAP
  - ❑ Effect of variances and assumption changes on IFRS profit signature
-

# Contract Specification

- Assumed product structure

Period of annuity payment	For lifetime of annuitant
Guarantee period	Nil
Lives covered	Single life
Death Benefit	Nil

# Contract Specification

- Policy Data for an immediate annuity contract

Single premium	Rs. 70,000
Annuity payable	Rs. 4,500 p.a.
Annuity frequency	Annual
Gender	Male
Age at entry	31 years

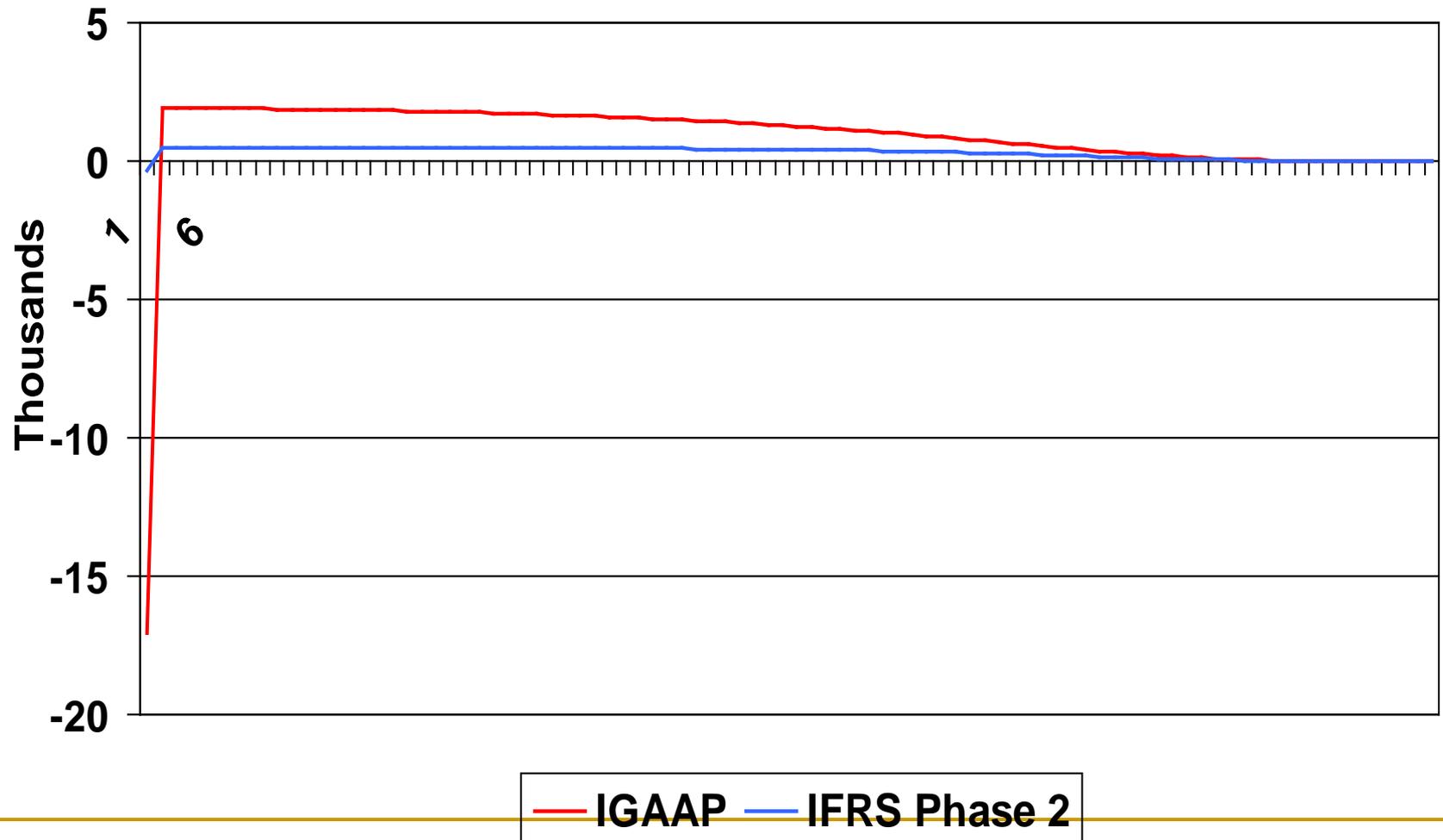
# Assumptions used (best estimate)

Mortality	Proportion of standard table
Surrenders (by policy year)	NA
Acquisition expenses	Per premium: 5% Per policy: Rs. 300
Maintenance expenses	Per policy: Rs. 50 p.a.
Proportion of direct expenses	80% of total
Investment return, discount rate	8% p.a.

# Assumptions used (IGAAP reserving)

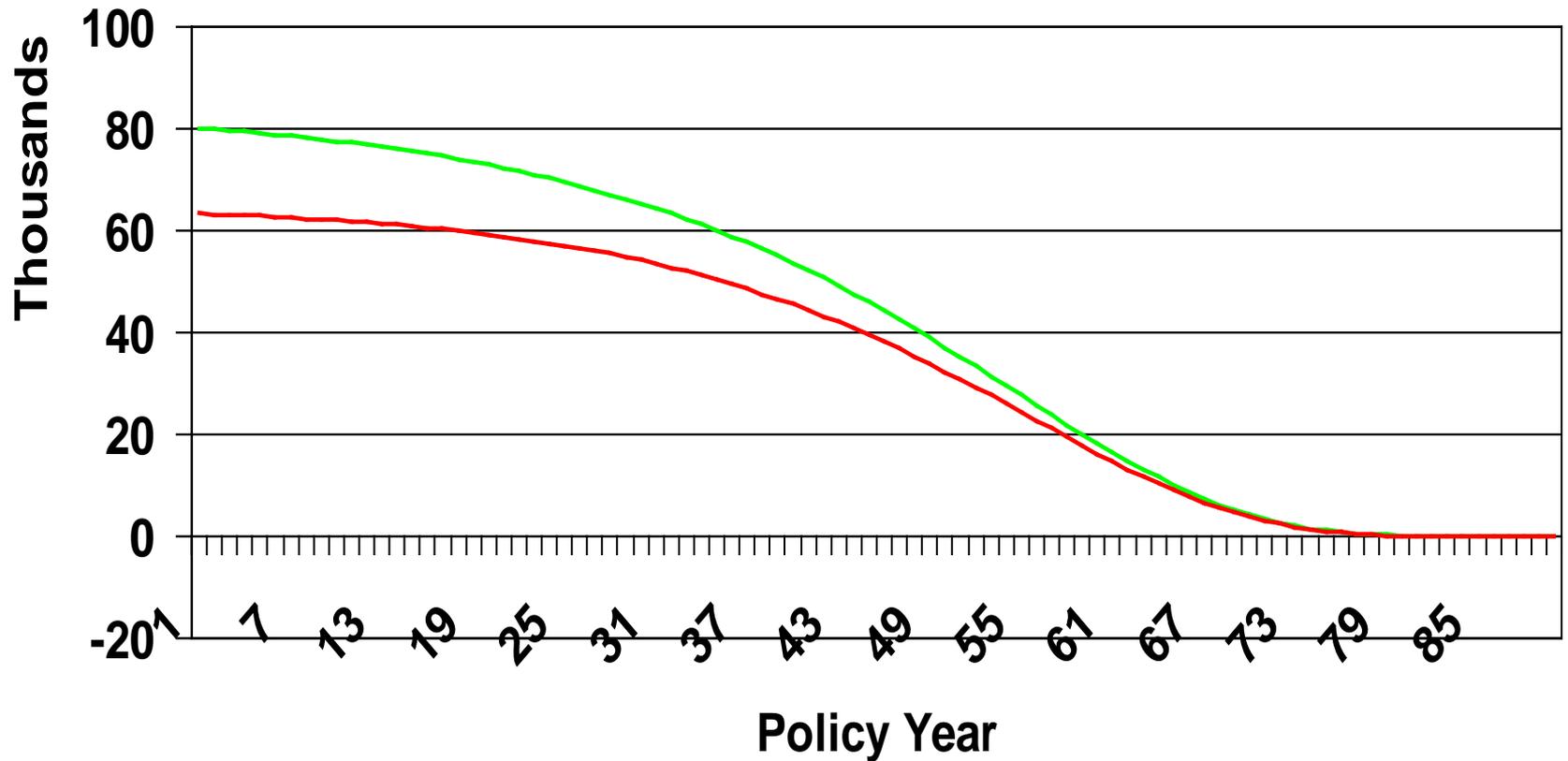
Mortality	90% of best estimate
Maintenance Expenses	Per policy: Rs. 60 p.a.
Investment return, discount rate	6% p.a.

# Comparison of profit signatures



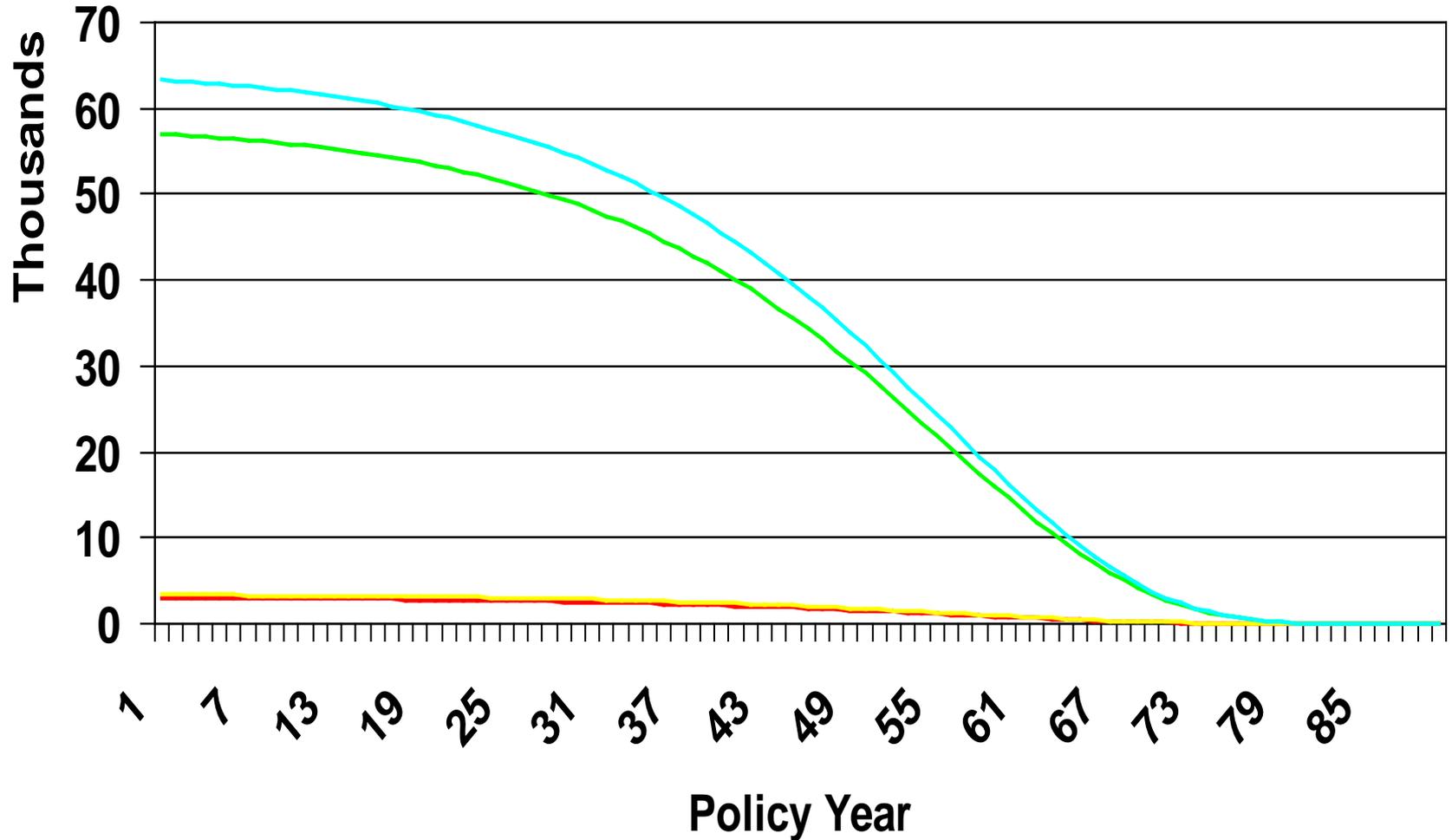
# Comparison of projected liabilities

## Projected liabilities per policy issued



— Indian GAAP — IFRS Phase 2

# Components of projected liabilities

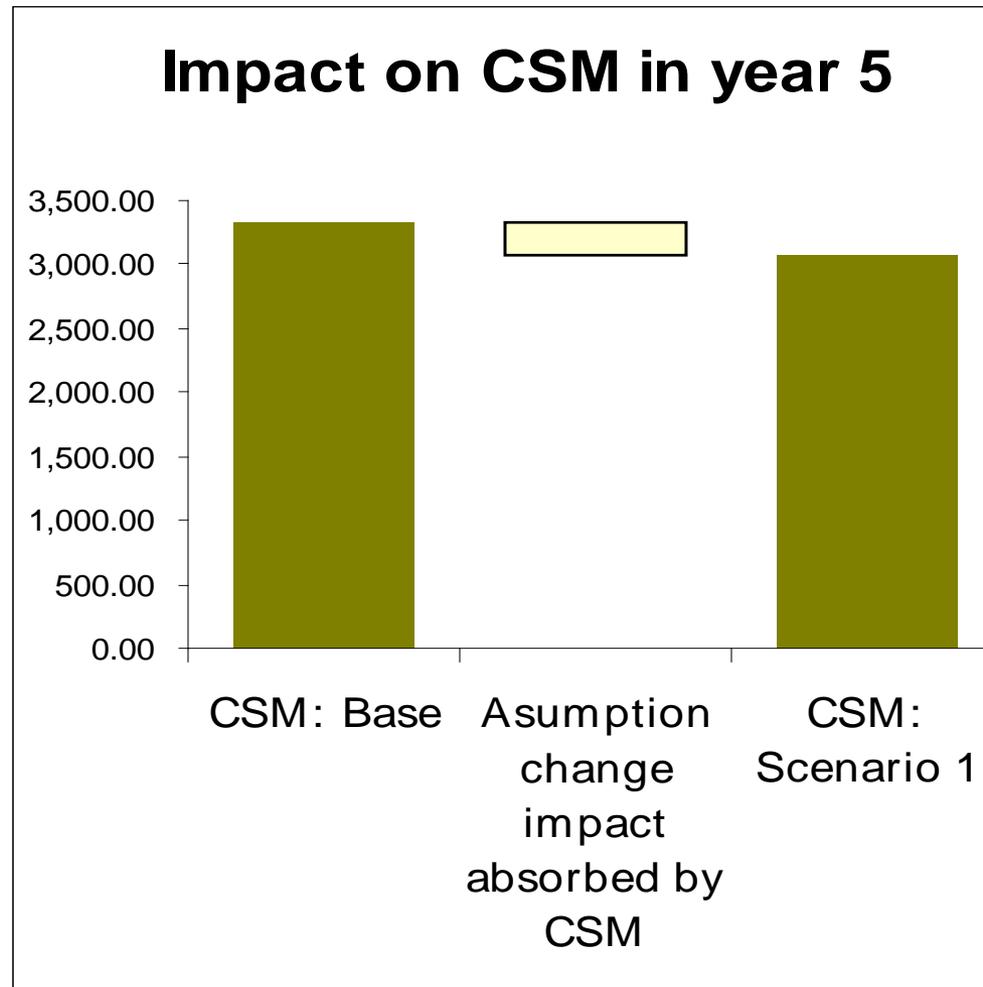


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# Scenario 1: Description

- Mortality experience in line with assumptions up to policy year 4
  - Experience in policy year 5 lower than assumed rates by 20% (multiplicative),
  - Decrease in assumed decrement rates at the end of policy year 5 by 20% (multiplicative)
  - Impact of change in assumptions fully absorbed by CSM
-

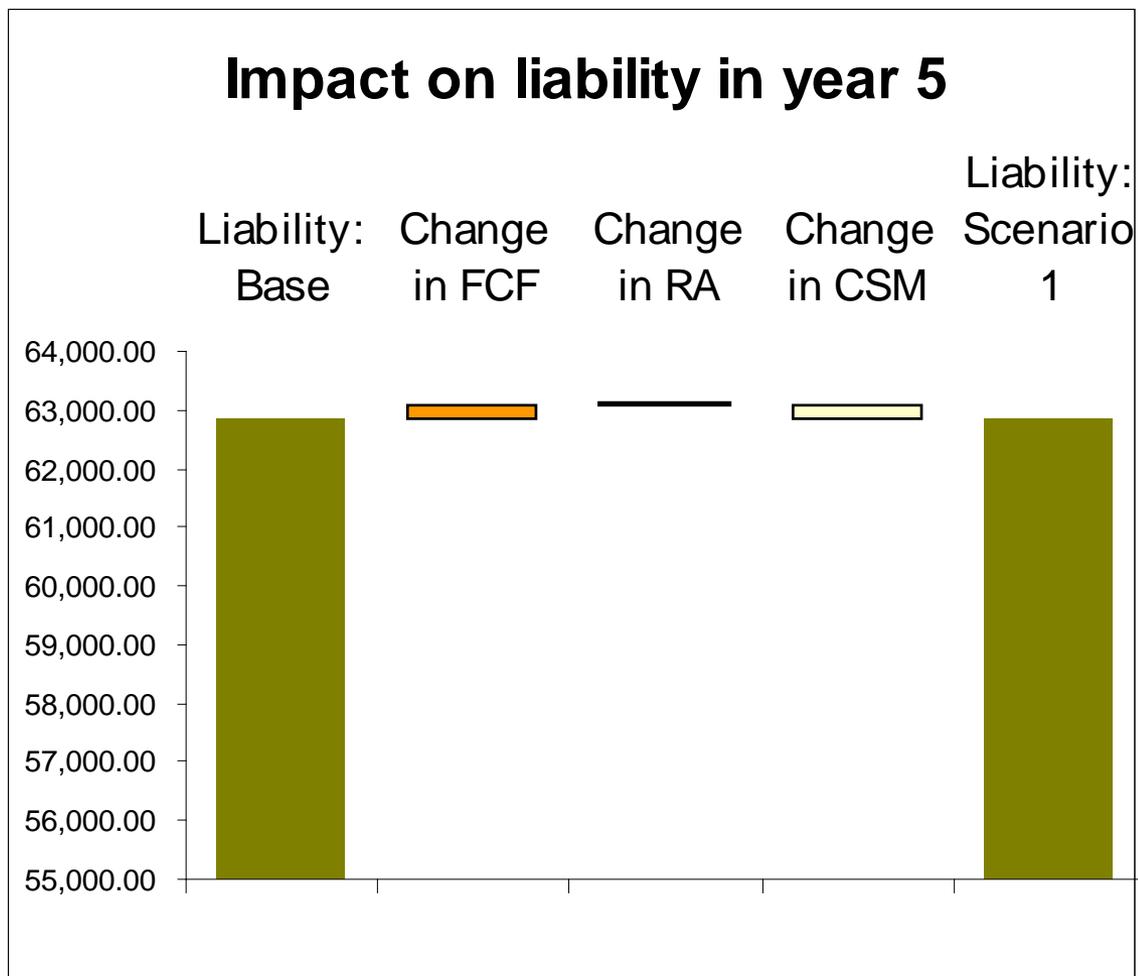
# Scenario 1: Impact on CSM – year 5



 Decrease in liability

 Increase in liability

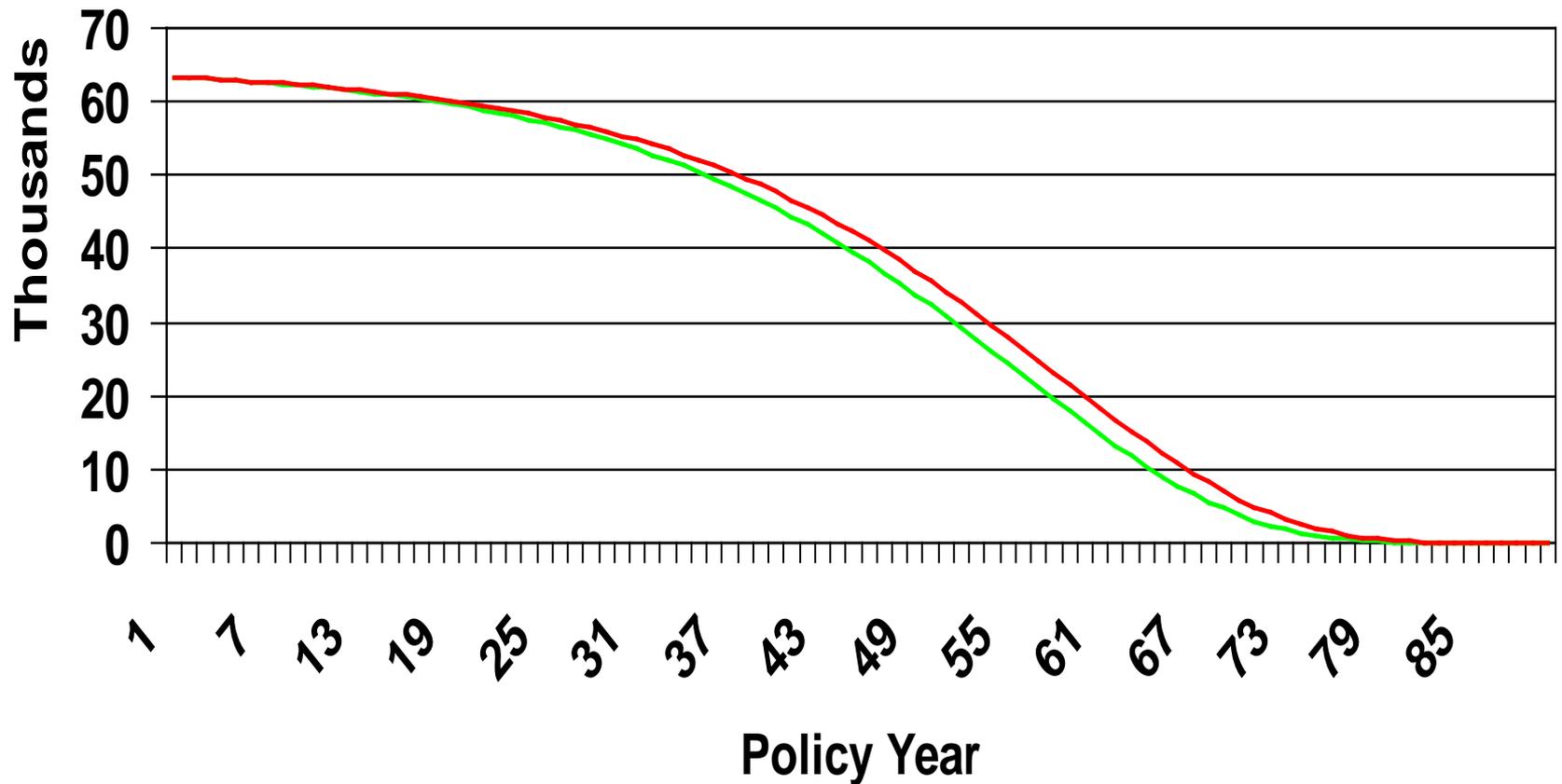
# Scenario 1: Impact on components of liability – year 5



- Decrease in liability
- Increase in liability

# Scenario 1: Projected liabilities

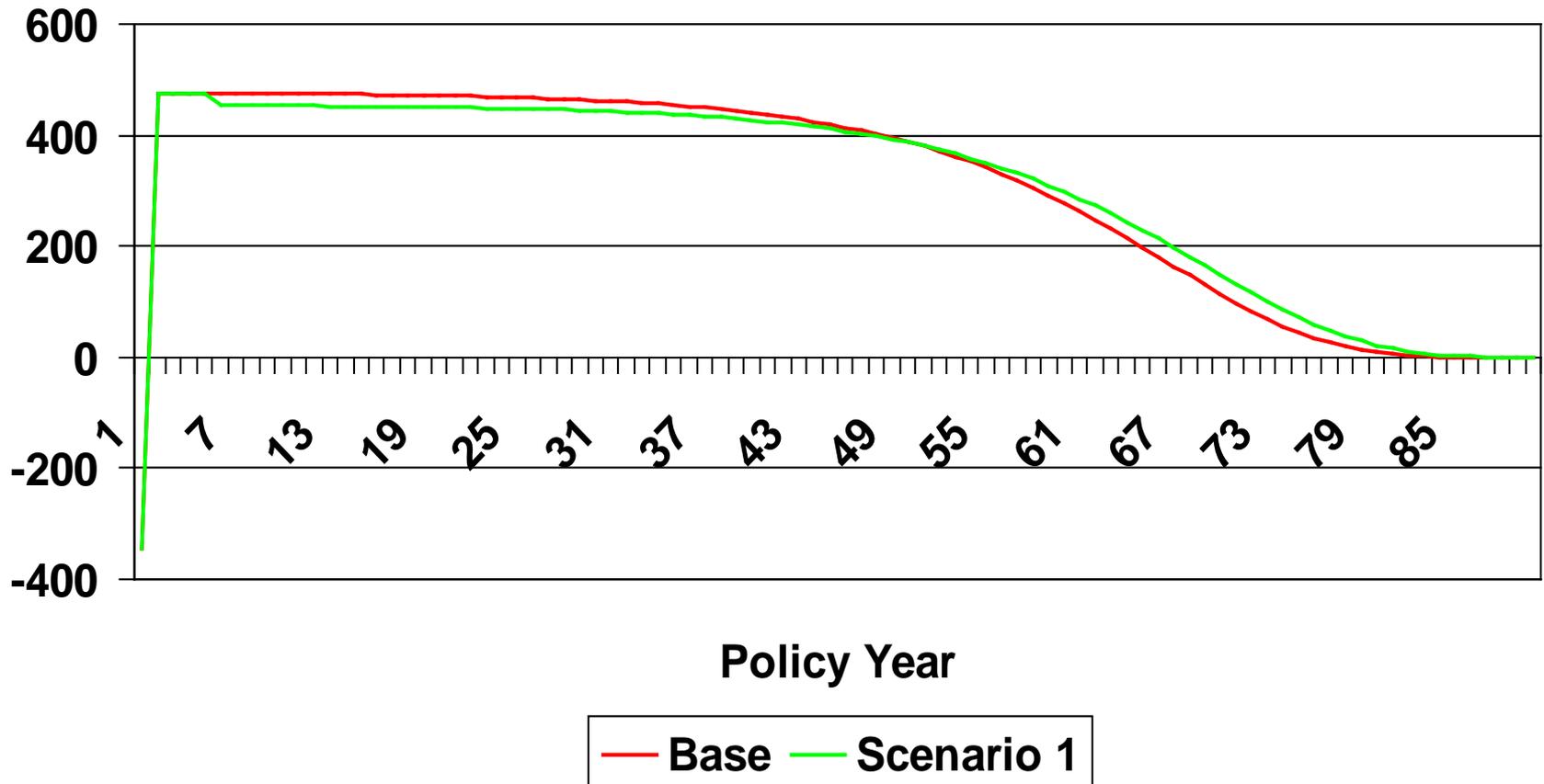
## Projected liabilities per policy issued



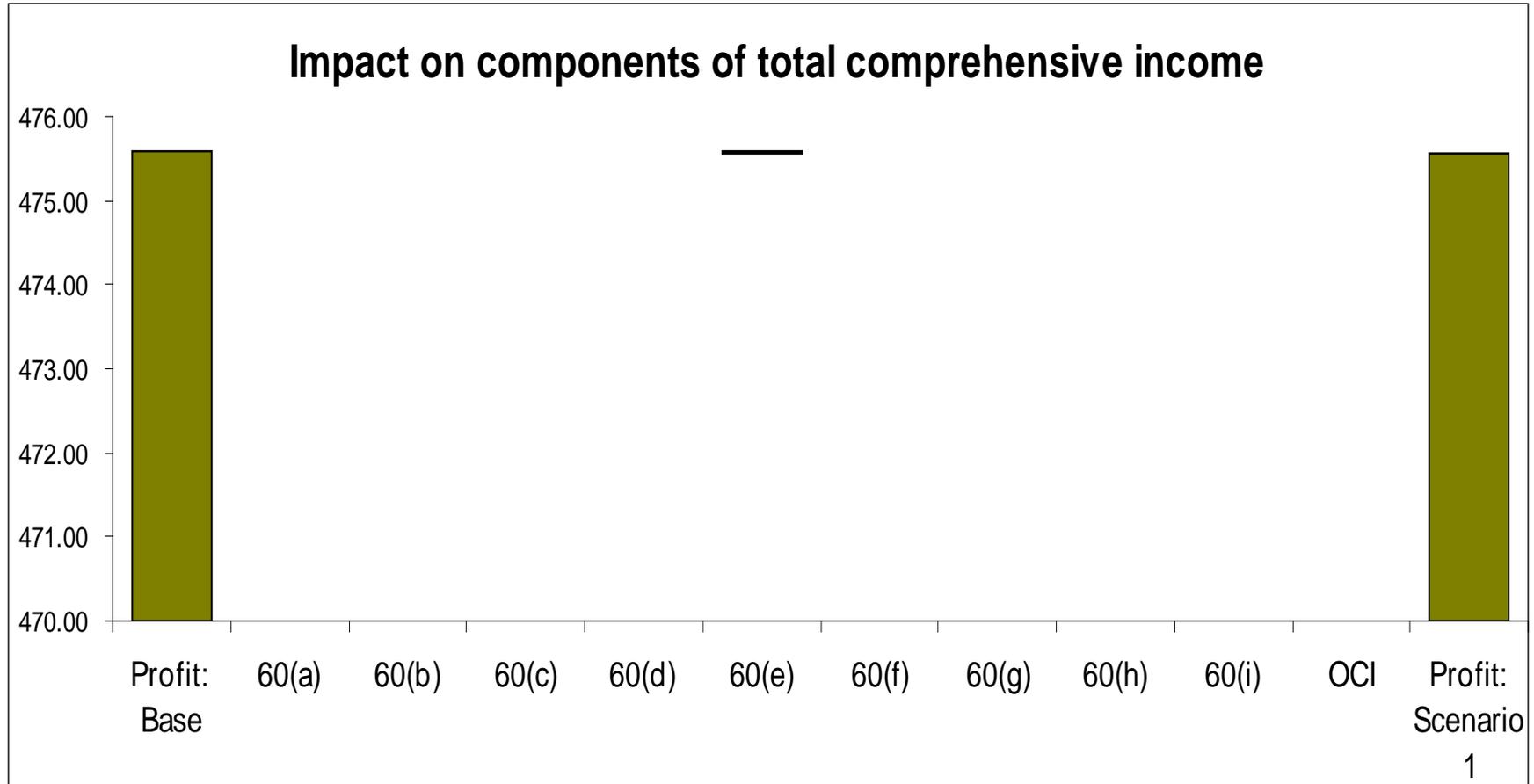
— Base — Scenario 1

# Scenario 1: Impact on profits

## Impact on profits

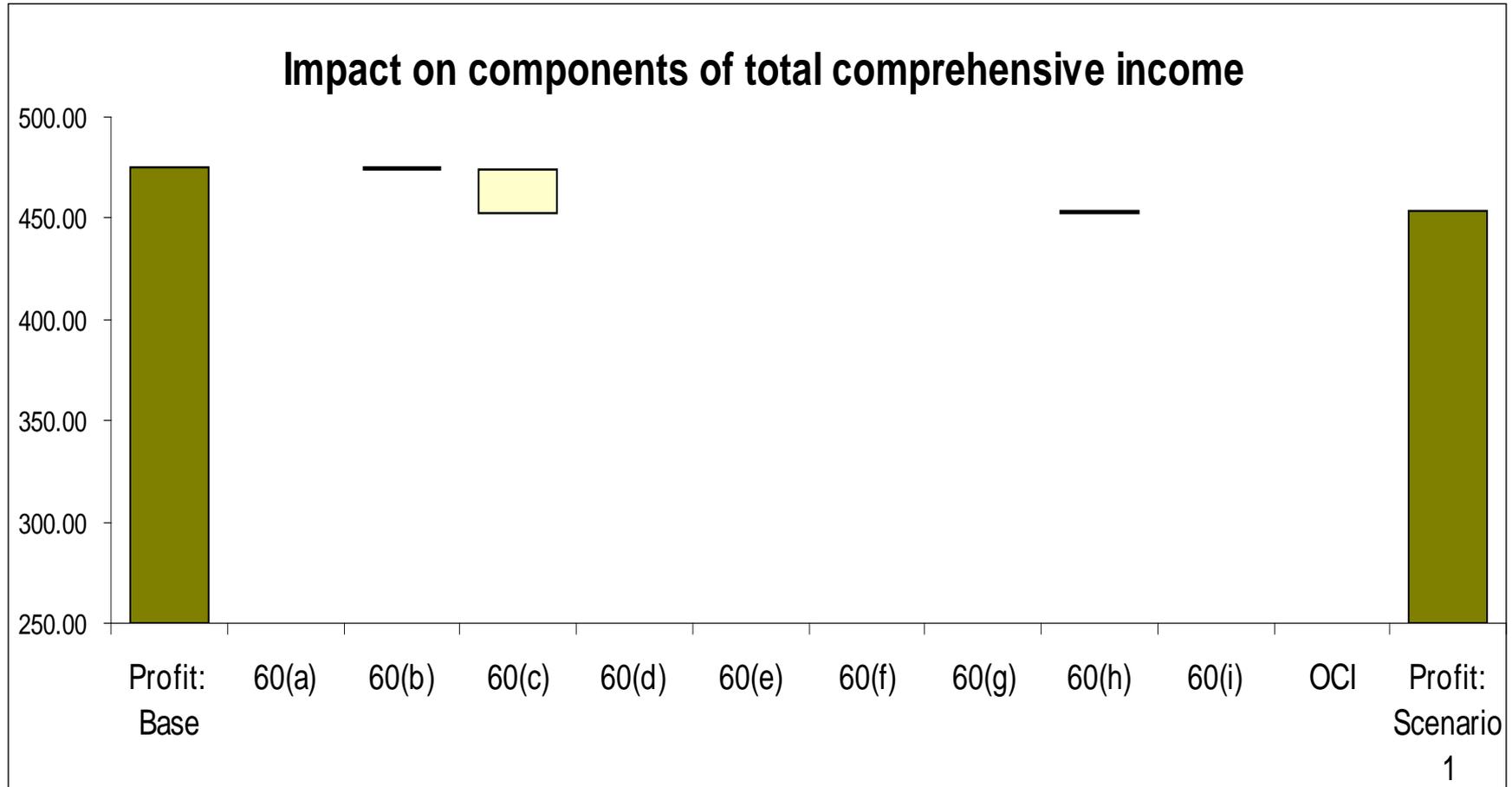


# Scenario 1: Impact on profits: Year 5



-  Decrease in profits
-  Increase in profits

# Scenario 1: Impact on profits: Year 6



 Decrease in profits

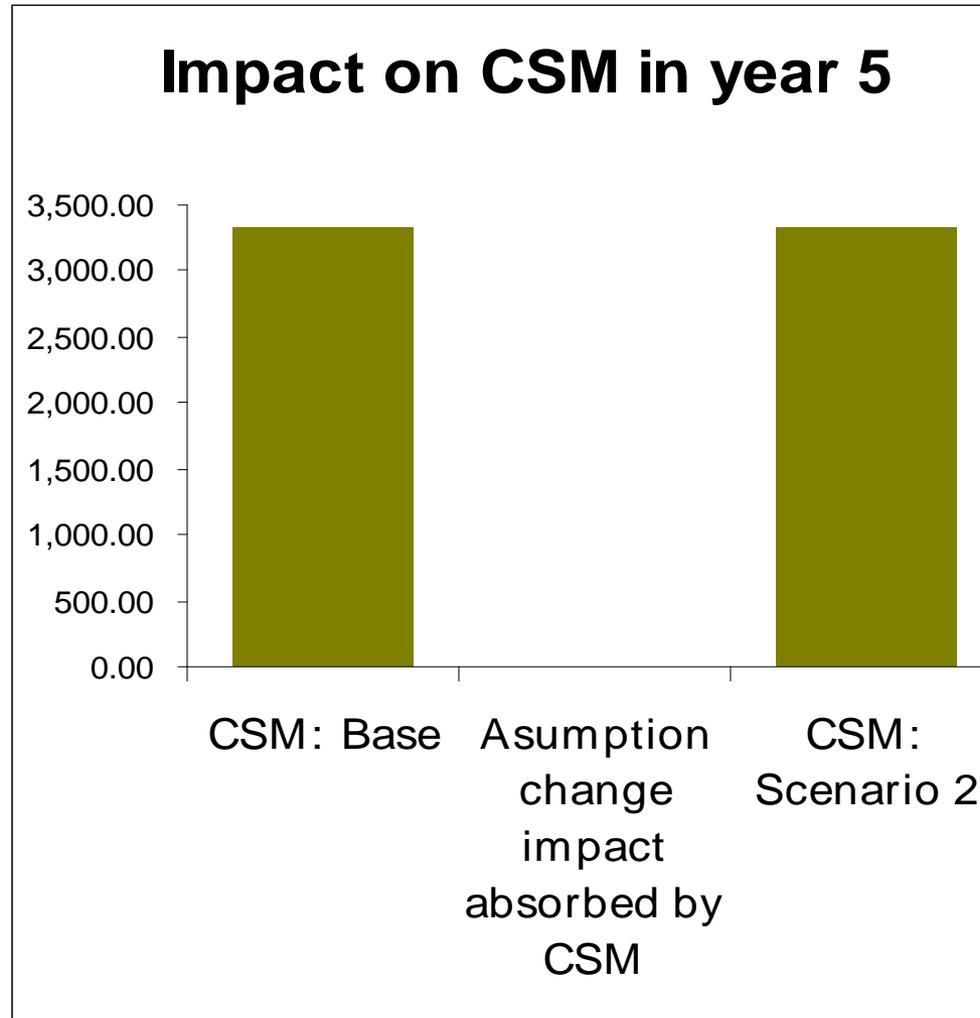
 Increase in profits

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## Scenario 2: Description

- Investment returns lower than expected by 20% (multiplicative) in policy year 5
  - No change in assumptions
-

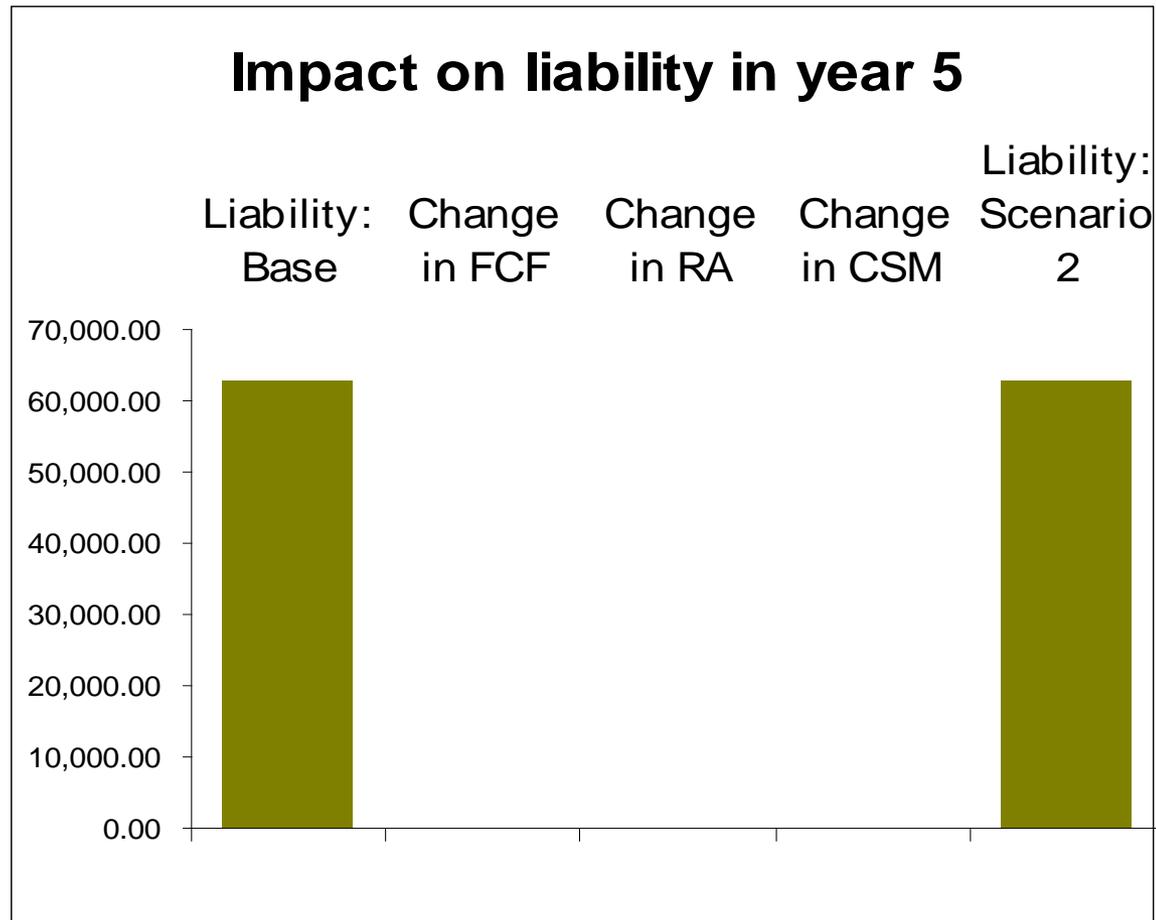
## Scenario 2: Impact on CSM – year 5



 Decrease in liability

 Increase in liability

# Scenario 2: Impact on components of liability – year 5

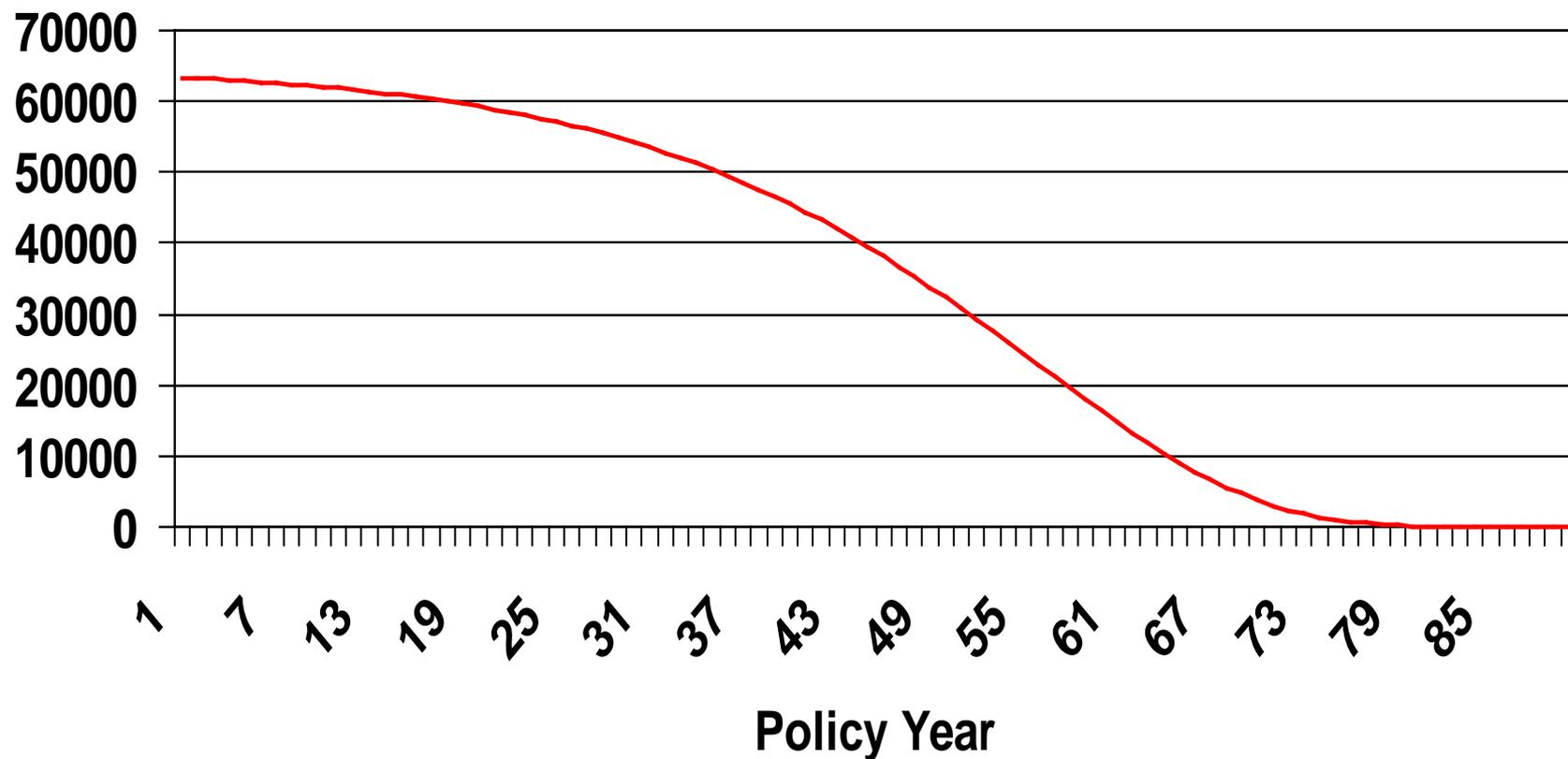


Decrease in liability

Increase in liability

## Scenario 2: Projected liabilities

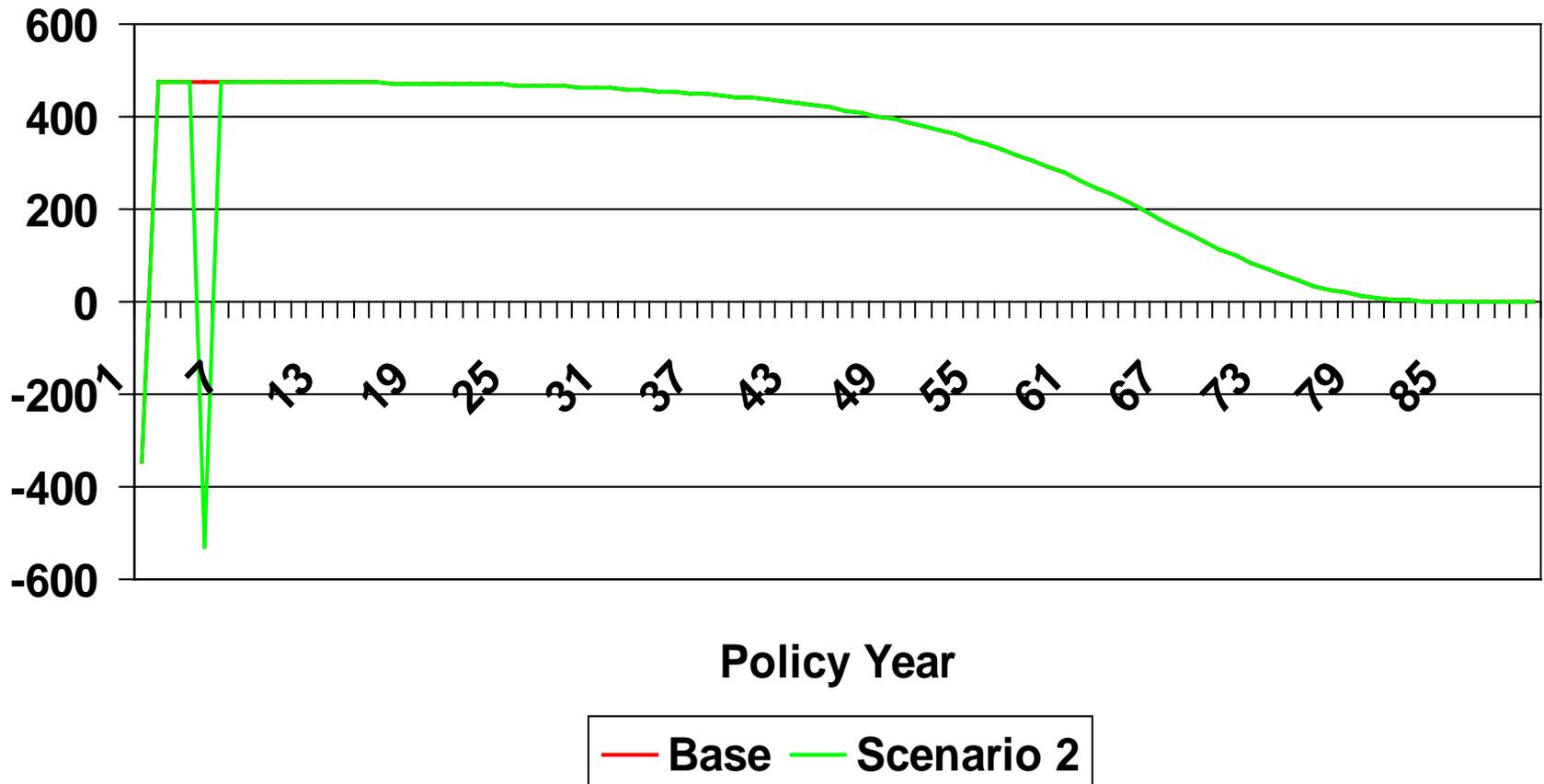
### Projected liabilities per policy issued



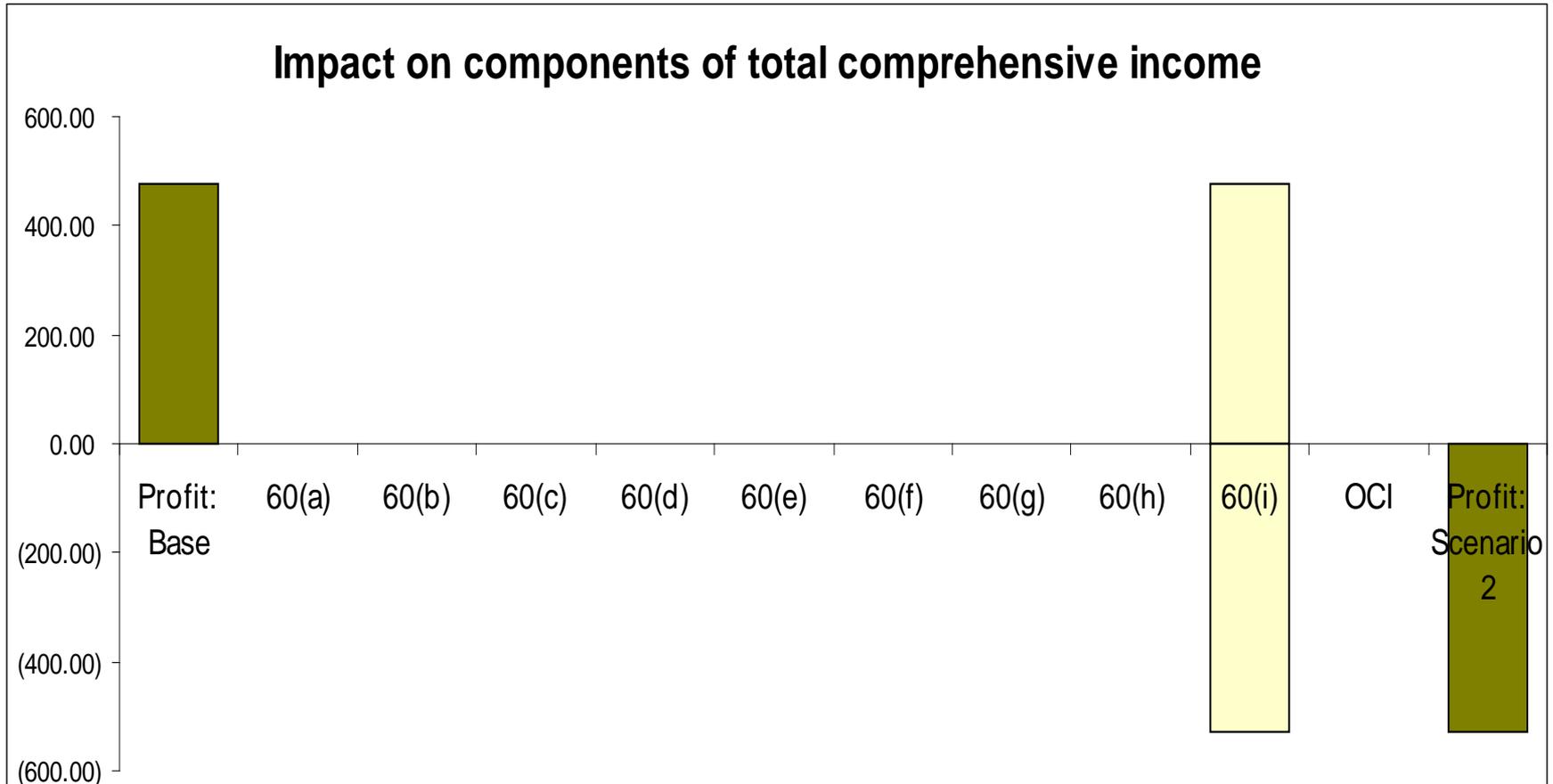
— Base — Scenario 2

## Scenario 2: Impact on profits

### Impact on profits



# Scenario 2: Impact on profits: Year 5



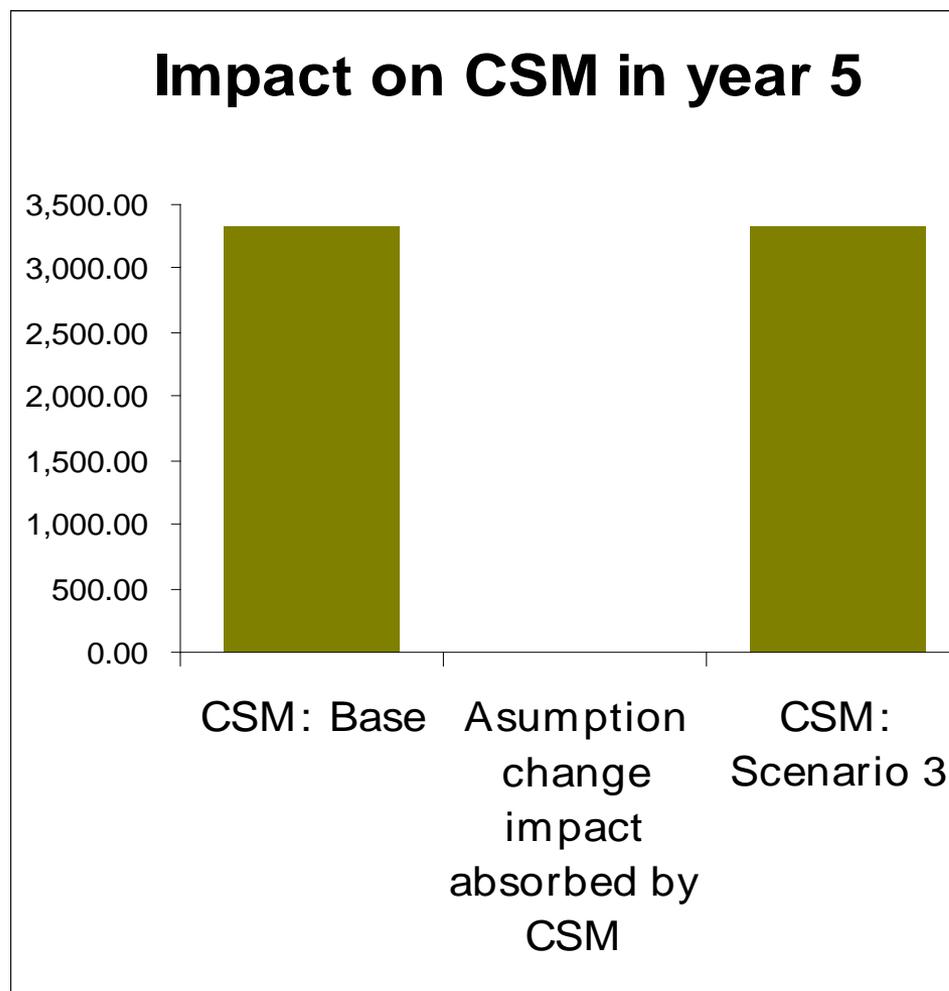
-  Decrease in profits
-  Increase in profits

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## Scenario 3: Description

- Decrease in assumption in respect of investment returns and discount rates by 20% (multiplicative) at the end of policy year 5
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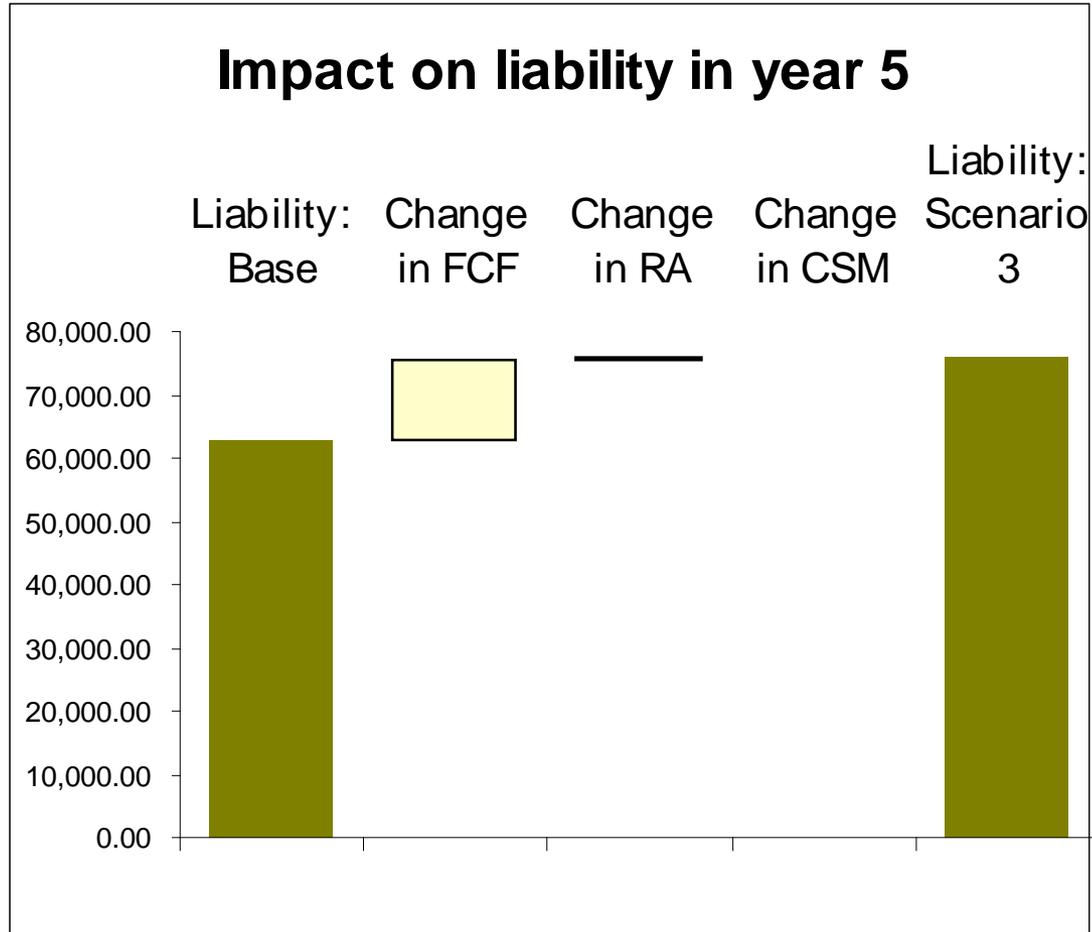
# Scenario 3: Impact on CSM – year 5



 Decrease in liability

 Increase in liability

# Scenario 3: Impact on components of liability – year 5

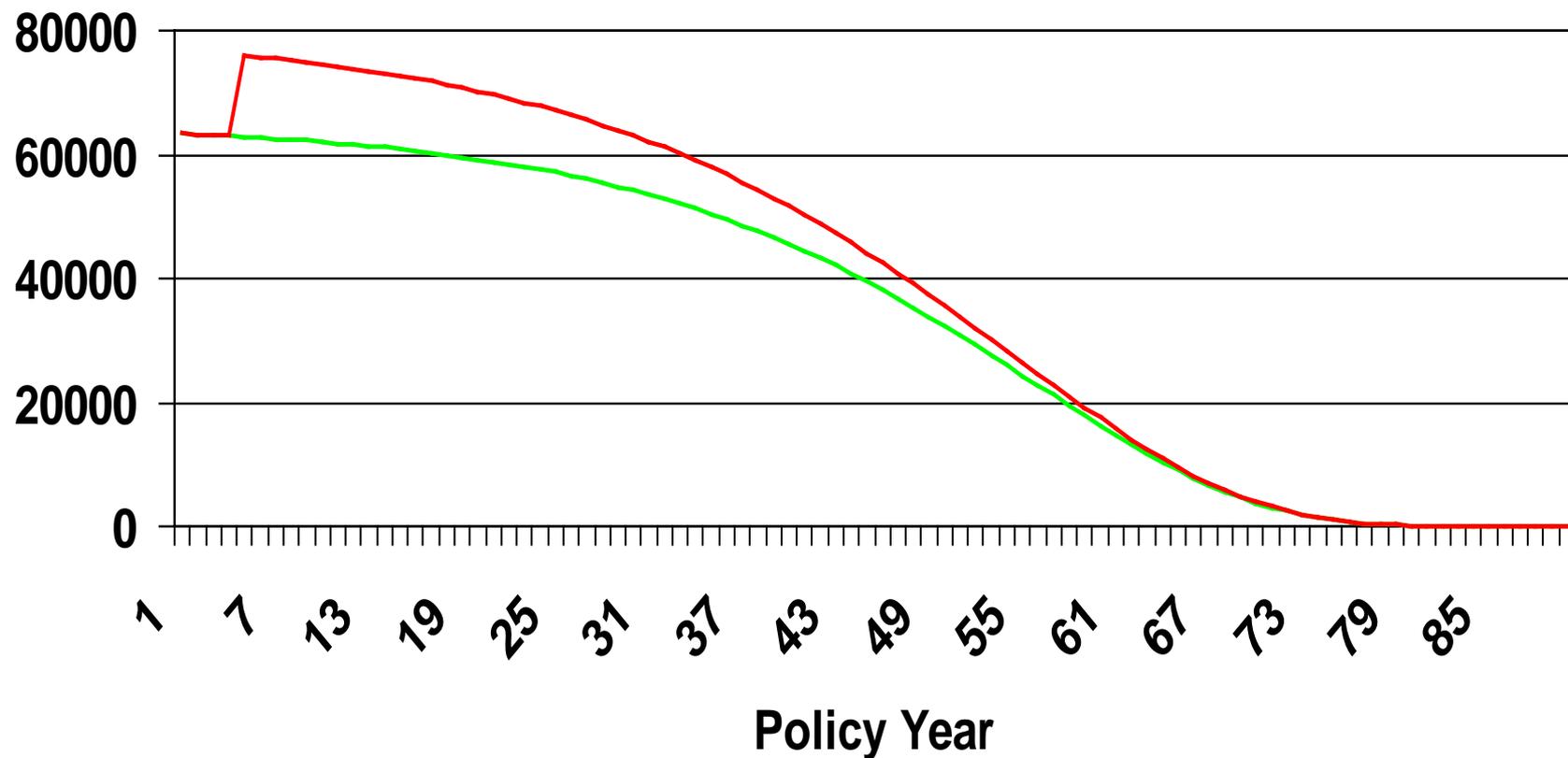


 Decrease in liability

 Increase in liability

# Scenario 3: Projected liabilities

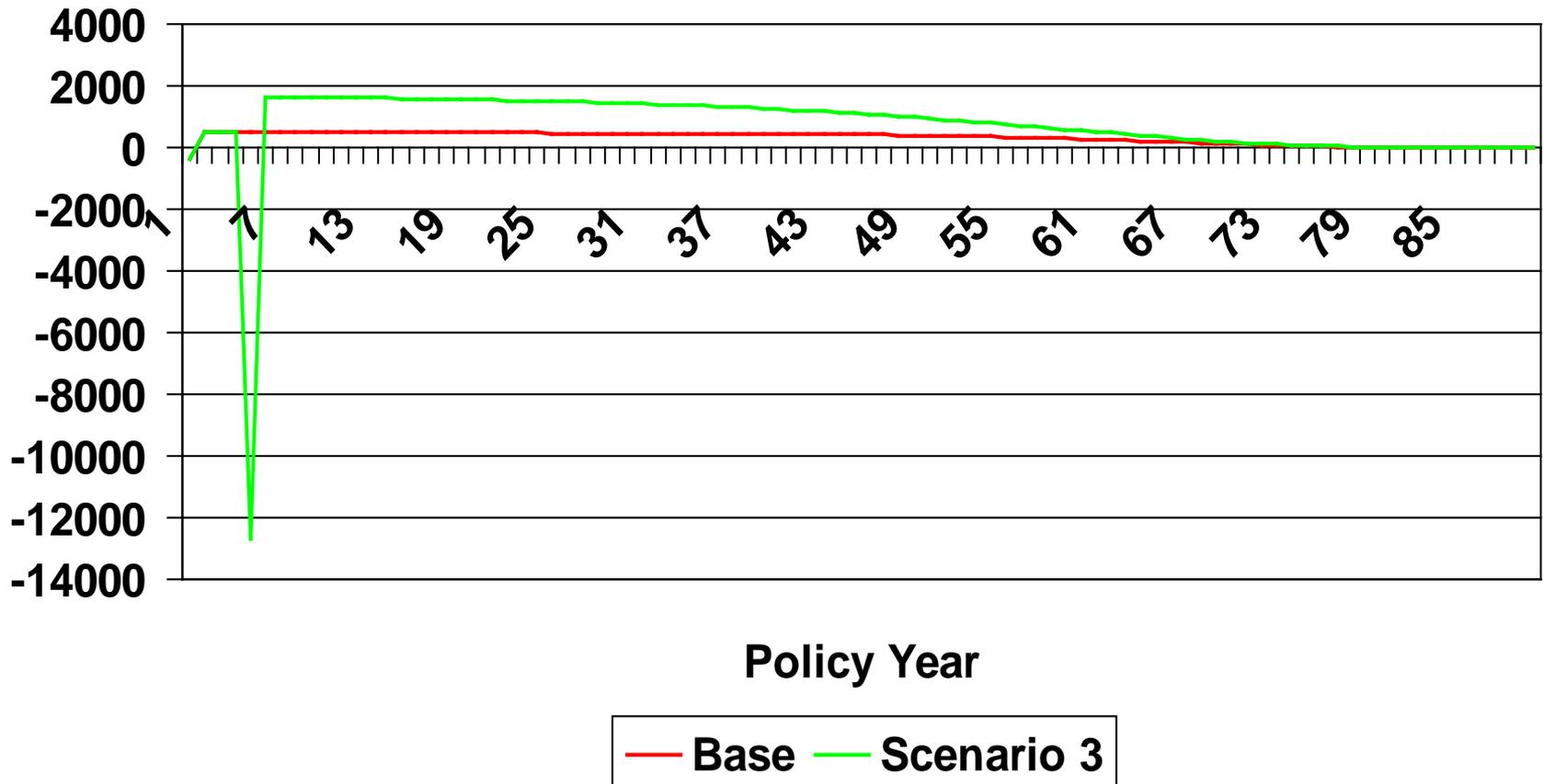
## Projected liabilities per policy issued



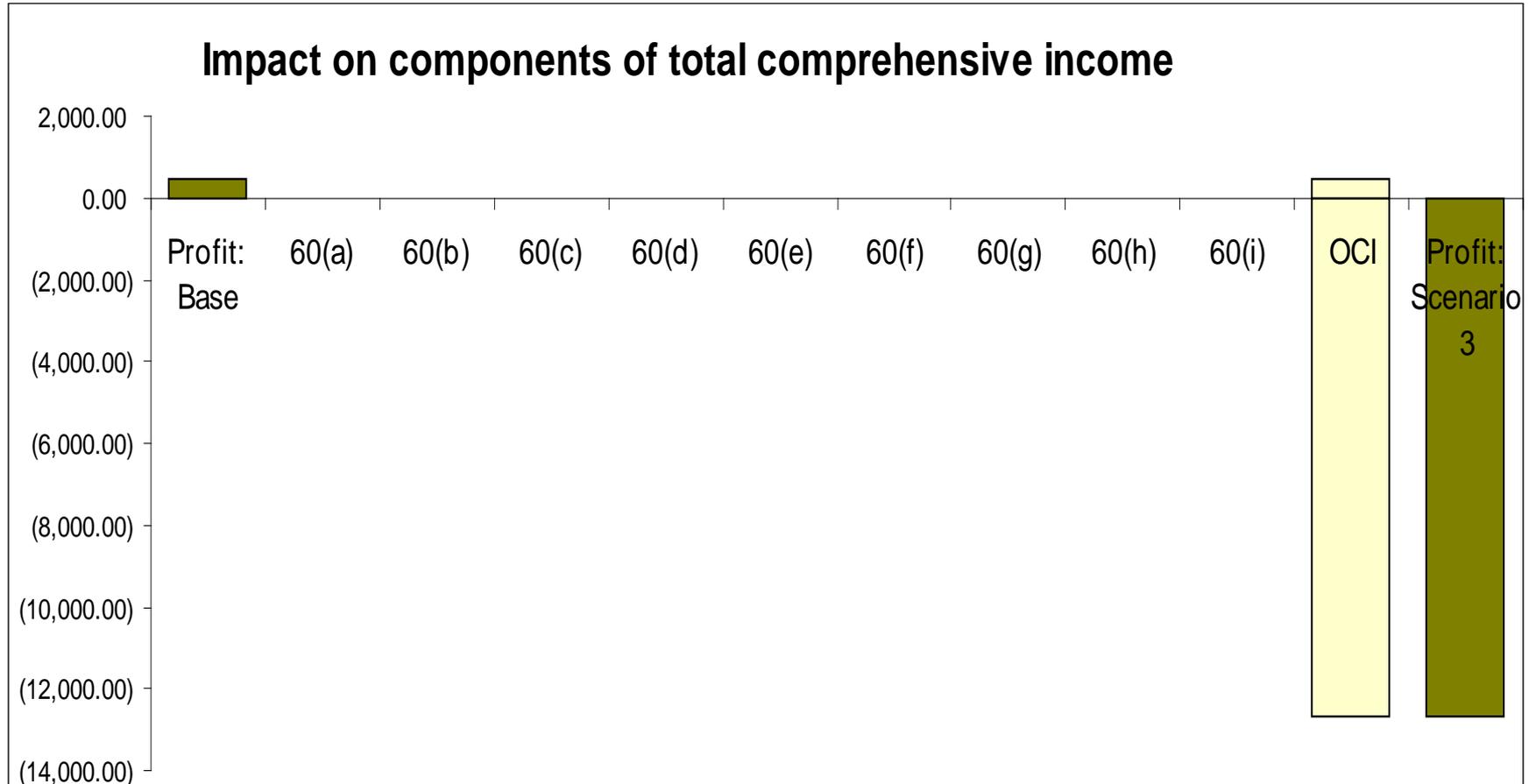
— Base — Scenario 3

# Scenario 3: Impact on profits

## Impact on profits



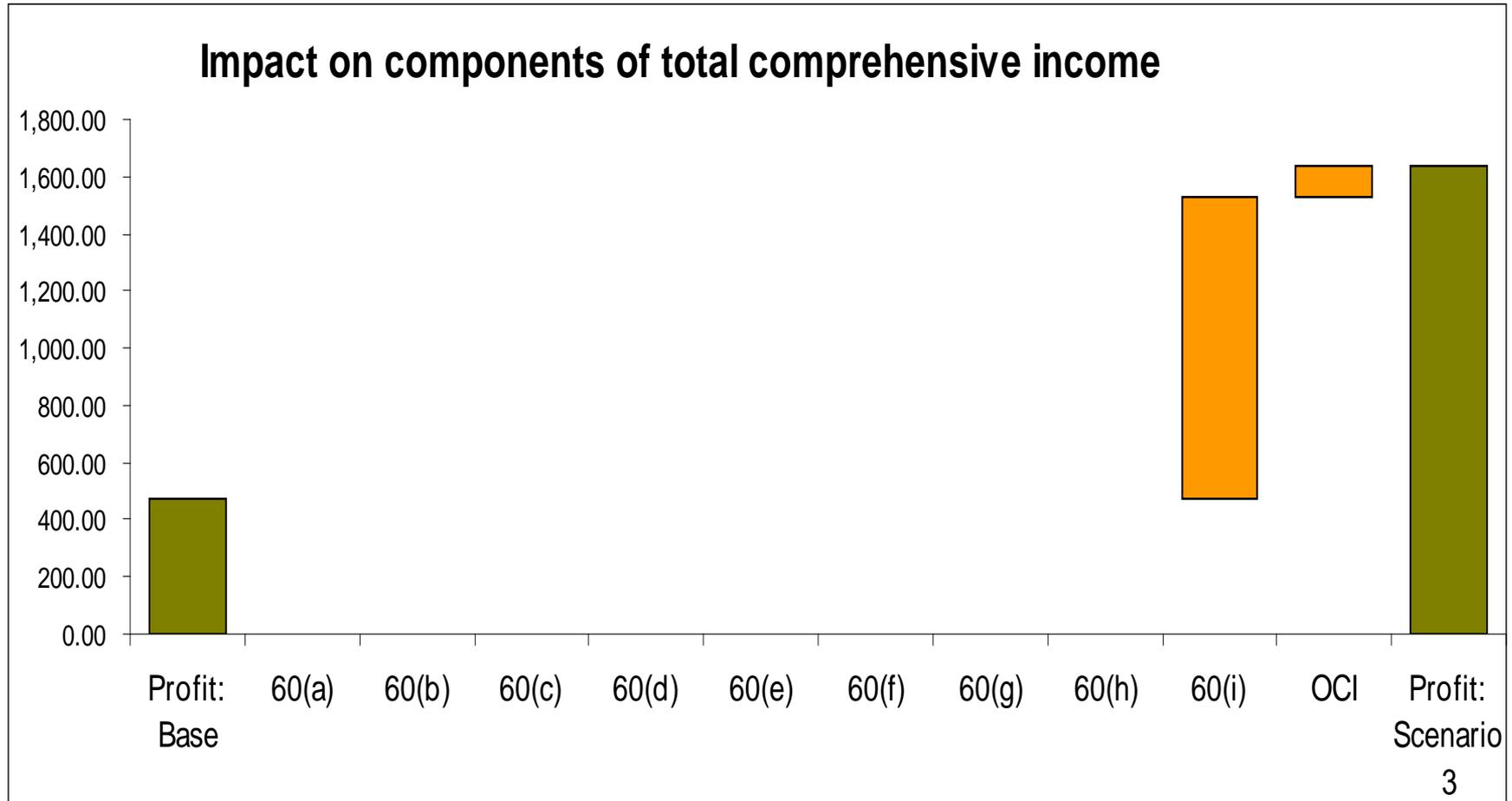
# Scenario 3: Impact on profits: Year 5



 Decrease in profits

 Increase in profits

# Scenario 3: Impact on profits: Year 6



 Decrease in profits

 Increase in profits

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Thank you

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