

# Actuarial Society of Malaysia Appraisal Values

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## I. Actuarial Control Cycle

II. What is an Appraisal Value?

III. Uses of an Appraisal Value

IV. How an Appraisal Value is calculated

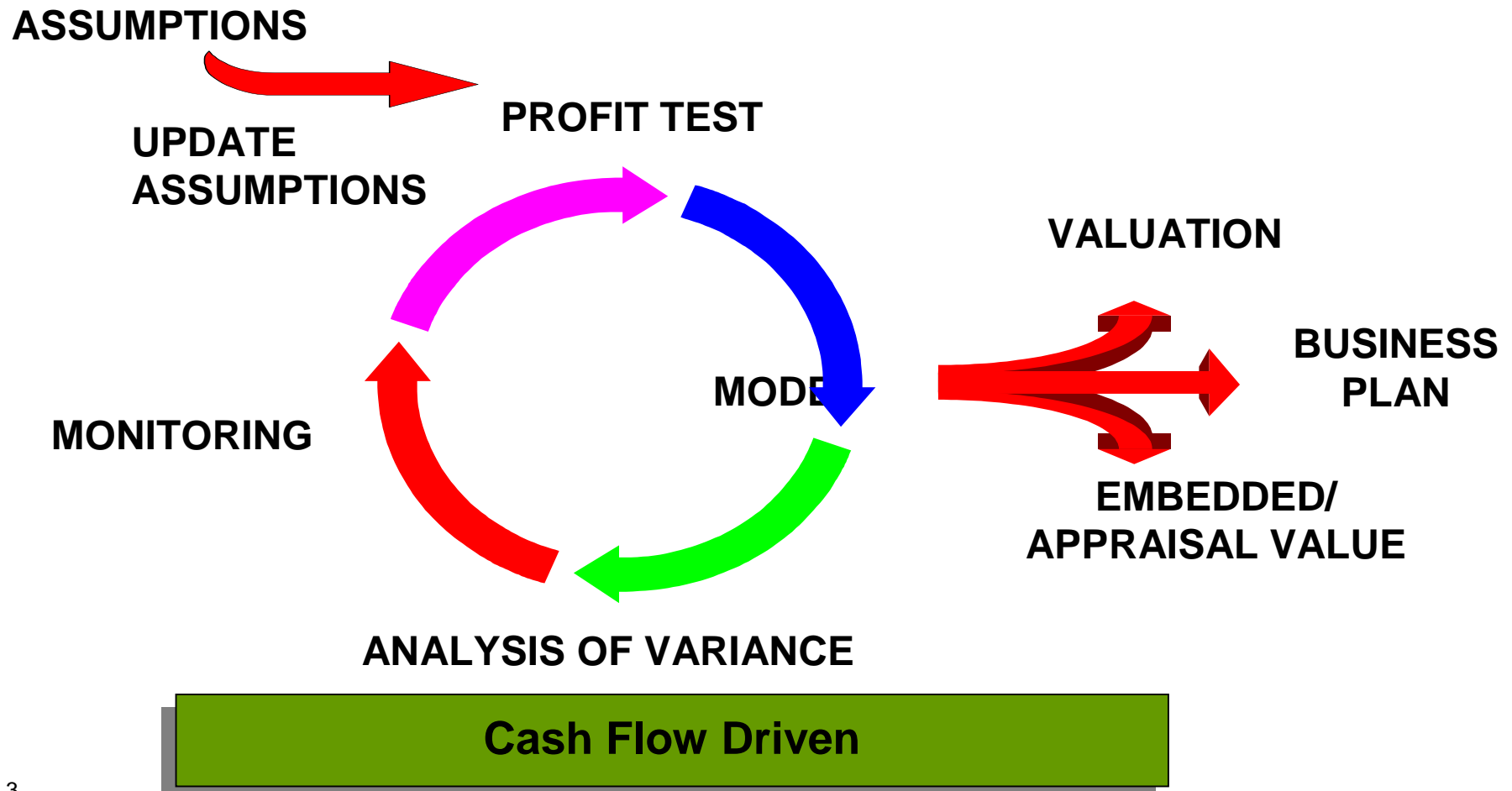
V. Valuation Assumptions

VI. My Experiences

VII. Conclusion

# Life control cycle

Financial outworking of a life insurance company can be summarized through the following control cycle



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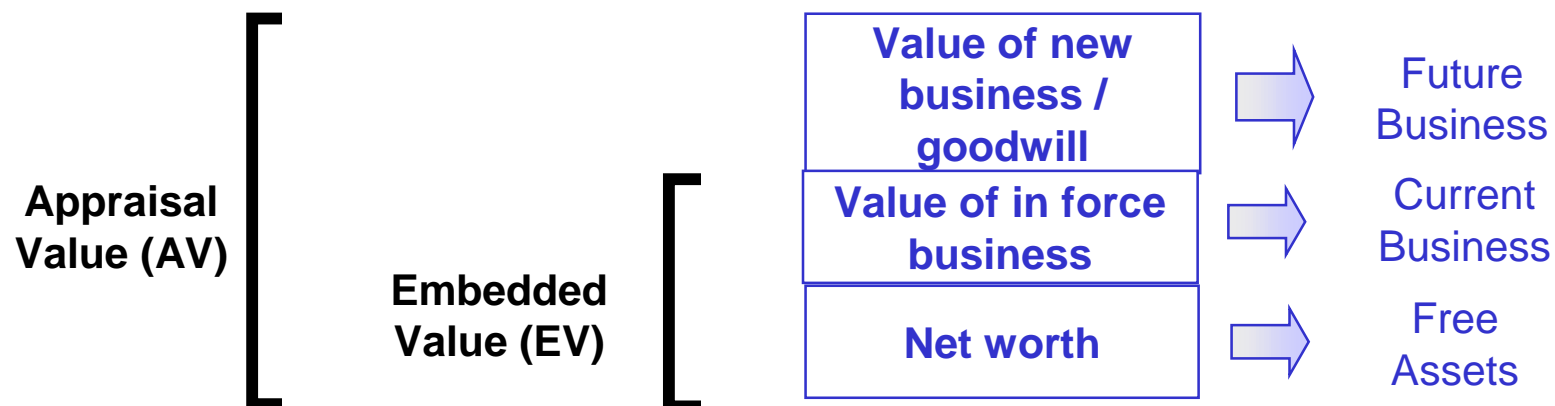
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## What is an Appraisal Value (AV)?

- ❑ An AV is the “value” of a life insurance company
- Cash flows projections are the basis of an Appraisal Value calculation
- Appraisal Values are increasingly accepted as the basis of insurance valuations
  - Publication
  - Transaction

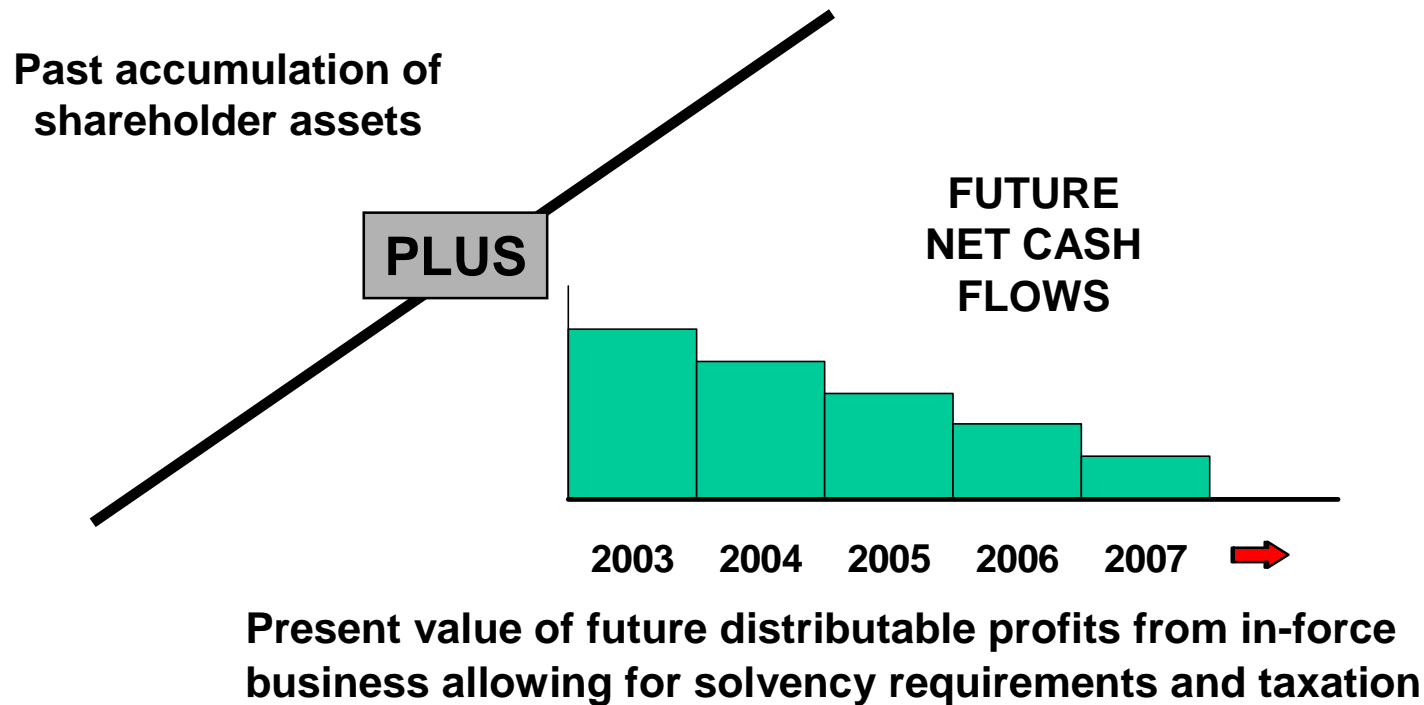
## What is an Appraisal Value (AV)?

- An AV has three principal components:



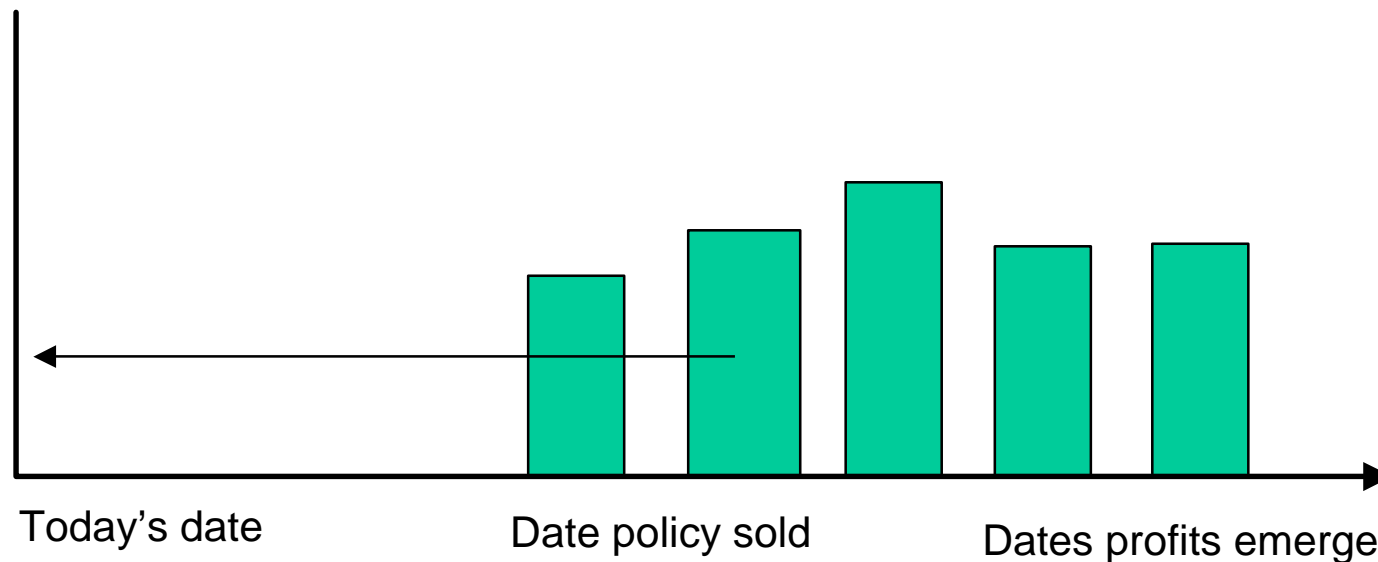
## What is an Appraisal Value (AV)?

### ❑ Embedded Value - calculation



## What is an Appraisal Value (AV)?

### □ New Business Value - calculation



- Present Value of future distributable profits from policies expected to be written in future
- Allowing for solvency and tax requirements



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## Uses of an Appraisal Value

### □ Purpose of Appraisal Valuation – AV puts a value on the company which can be used for:

#### ■ Merger / Acquisition

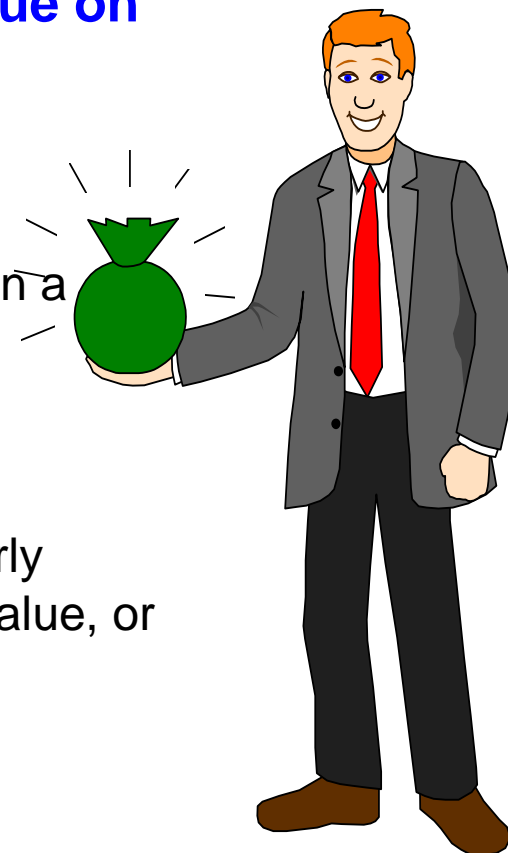
- Both parties calculate an AV and perhaps(!) agree on a certain value

#### ■ Listed companies

- For the offer document of a public offer, or to regularly inform the brokers and investors of the company's value, or as a defense against a takeover bid

#### ■ Realistic reporting

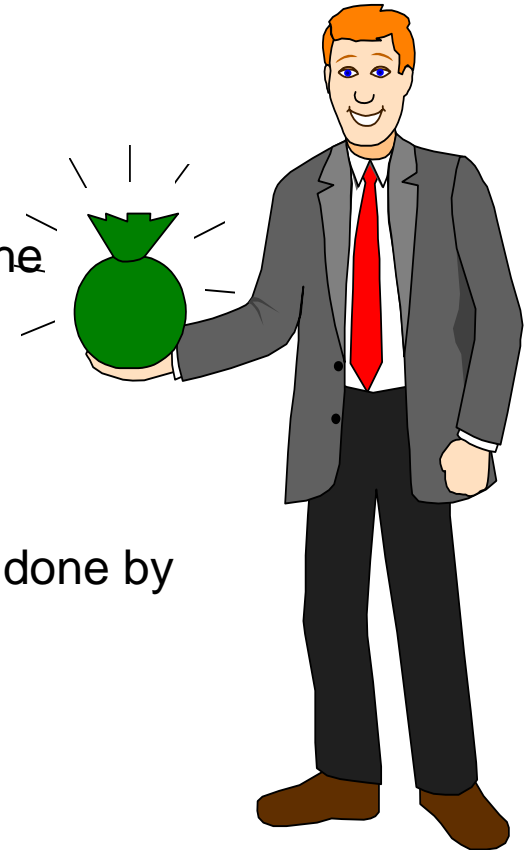
- AV gives a tool to management to monitor the health of the company on a realistic basis



## Uses of an Appraisal Value

### □ Purpose of Appraisal Valuation (continued)

- Measure management performance
  - AV can be used as a basis for the remuneration of the people in charge of the company
- Business Planning
  - Evaluation of alternative business strategies can be done by modelling the value they add to the company



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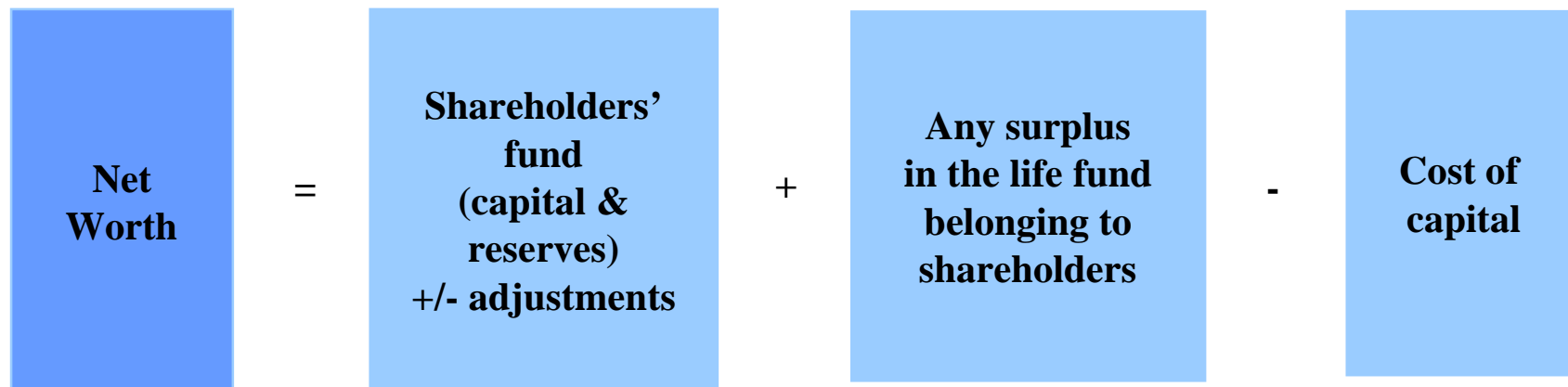
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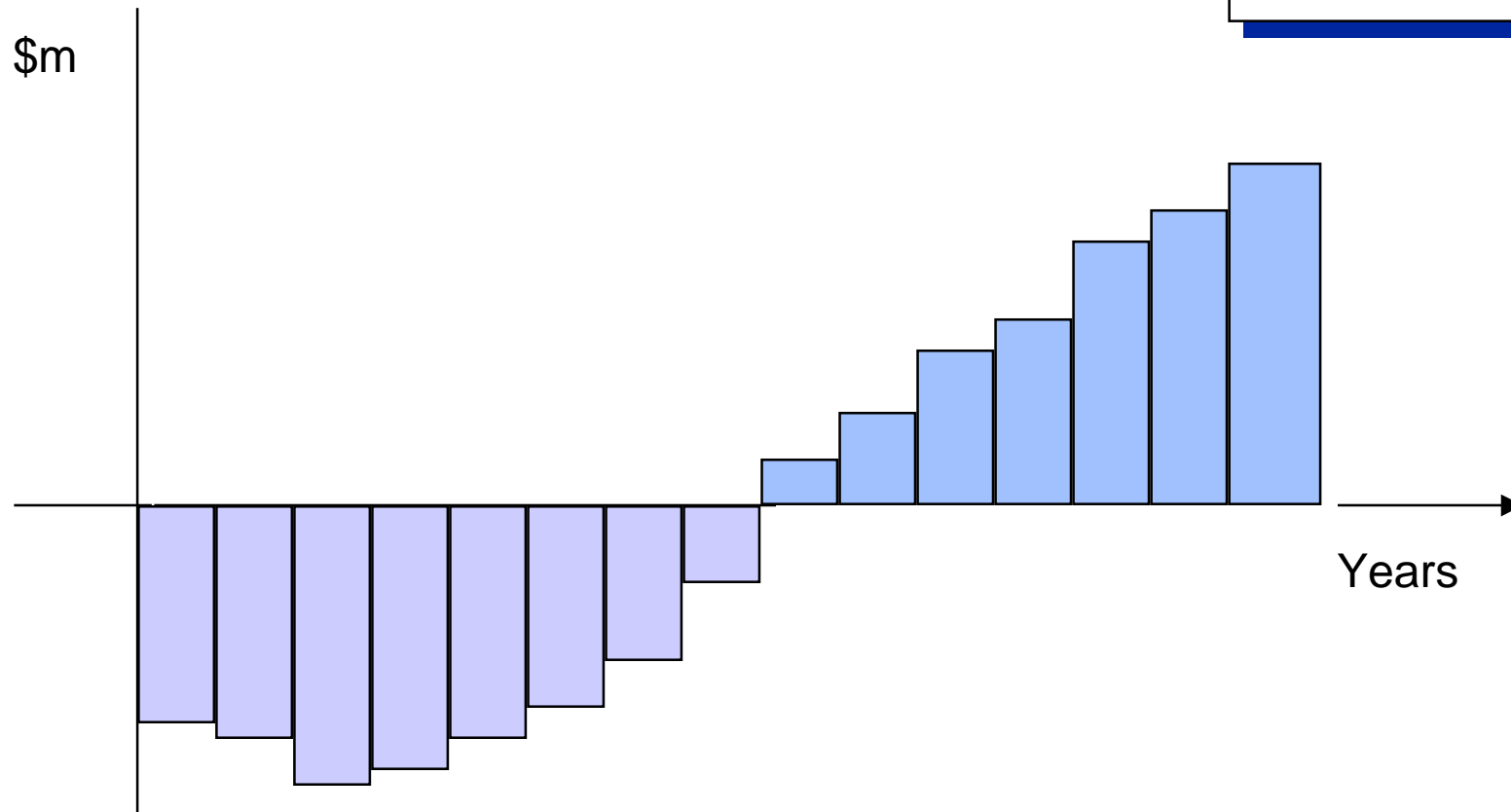
## How an Appraisal Value is Calculated

### □ Net Worth – Definition

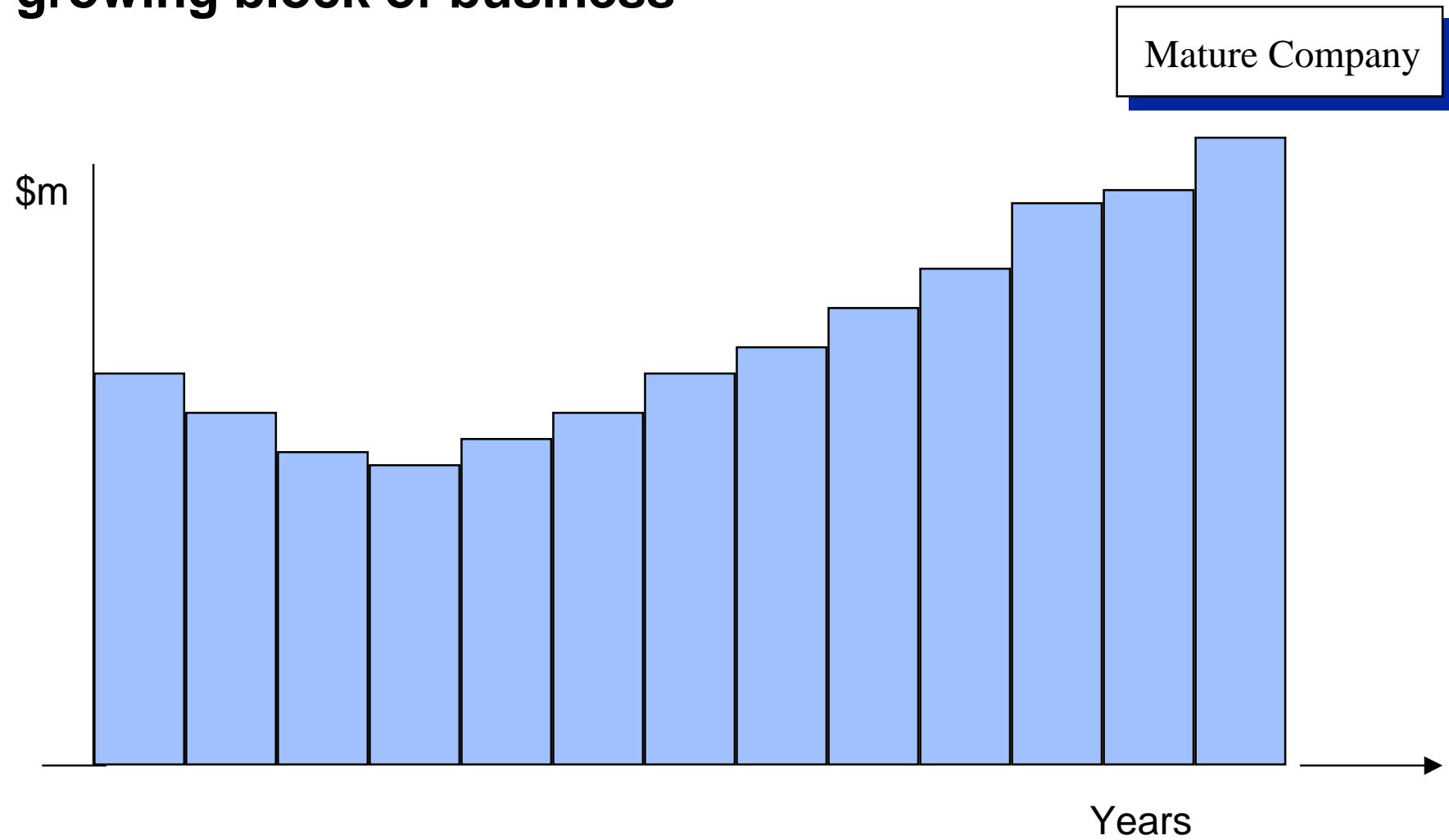


# Typical future earnings pattern on a growing block of business

Young Company

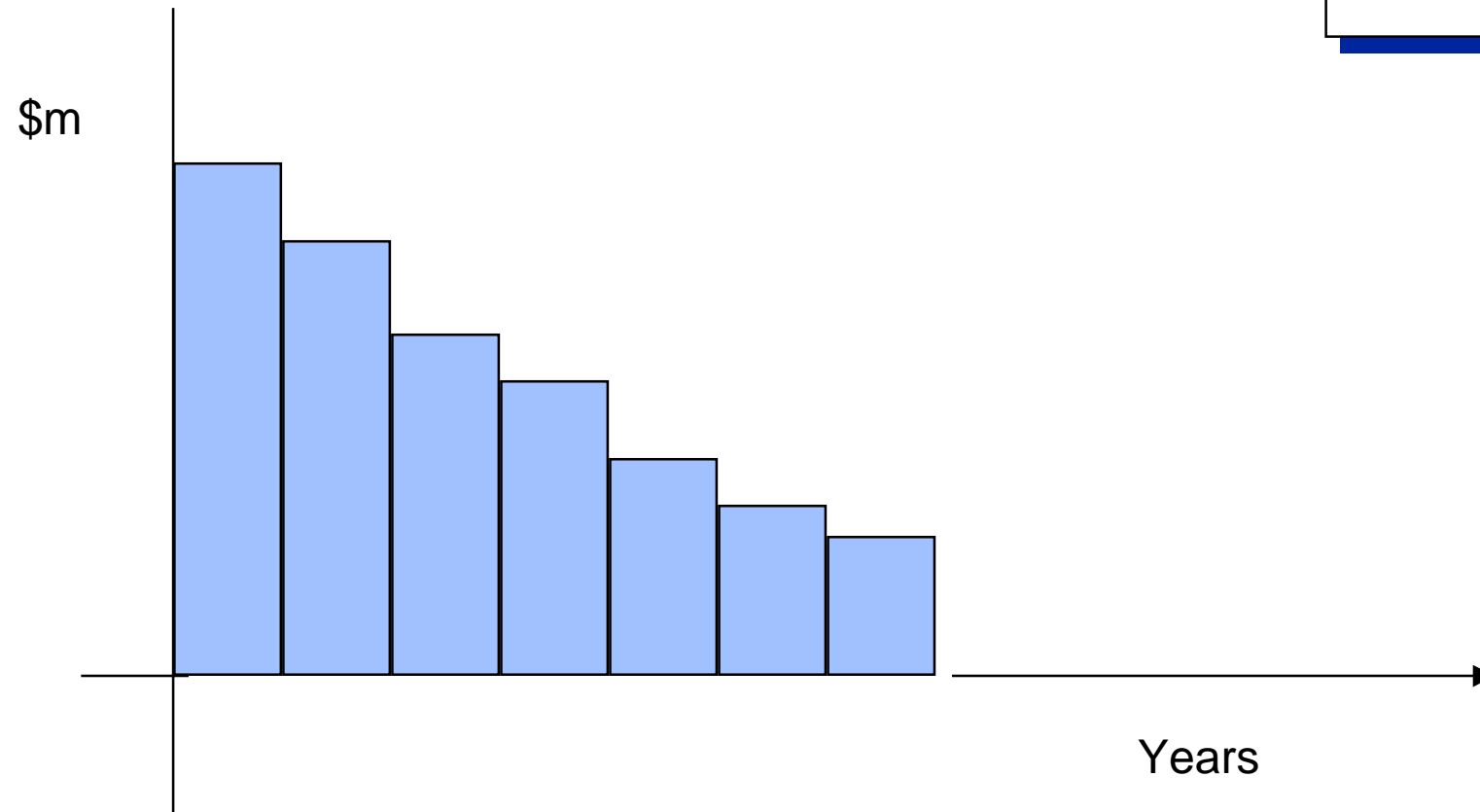


# Typical future earnings pattern on a growing block of business



# Typical future earning pattern on a company with little new business

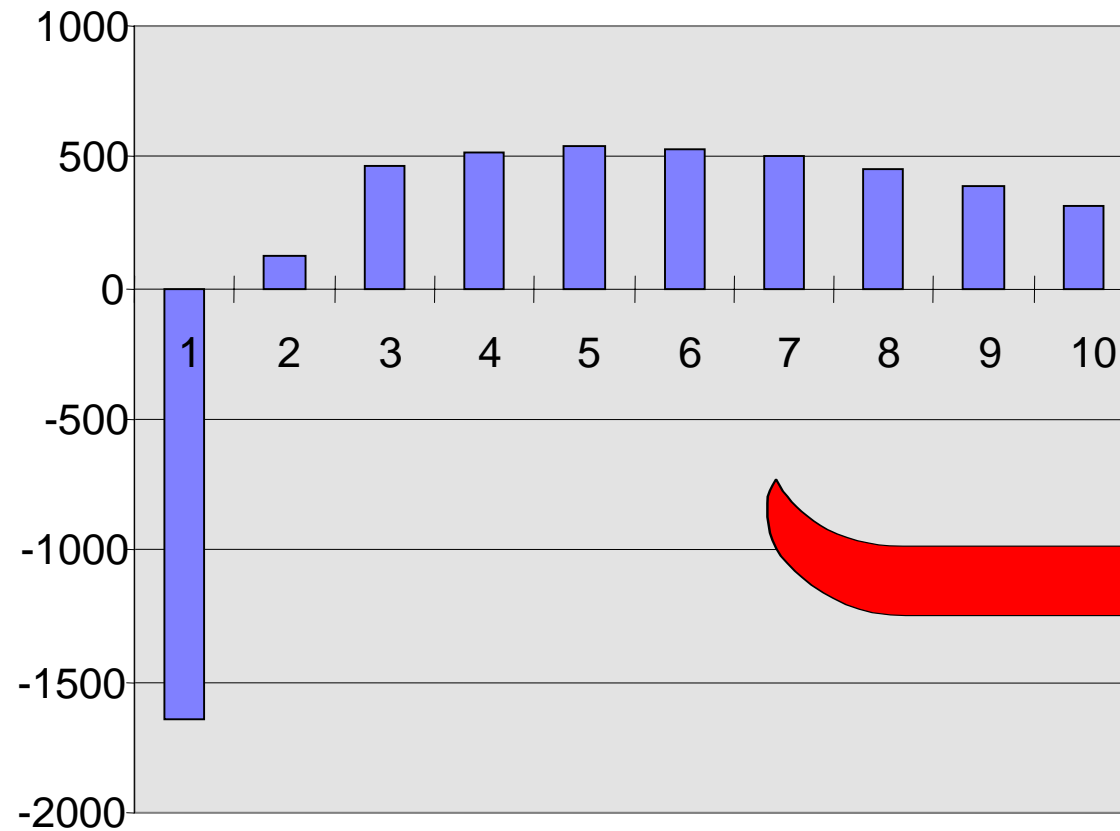
Declining Company



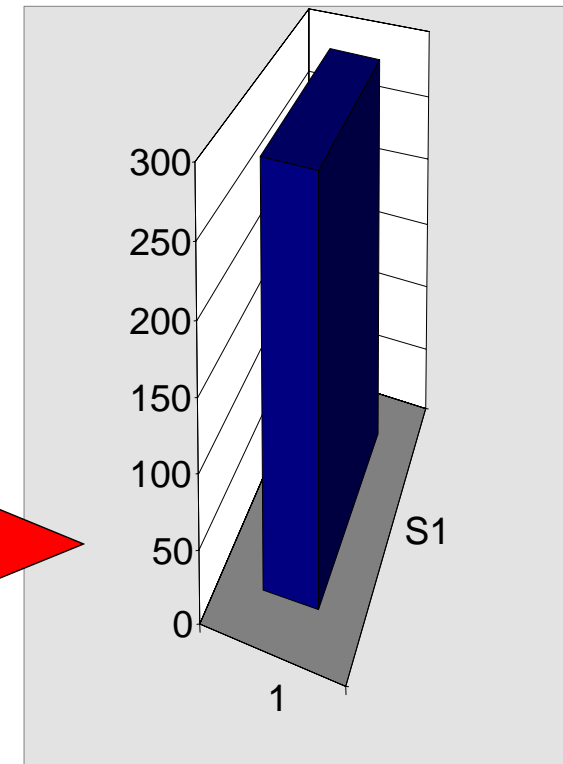


# How an Appraisal Value is Calculated

## Value of In Force Business - Definition



**VIF**



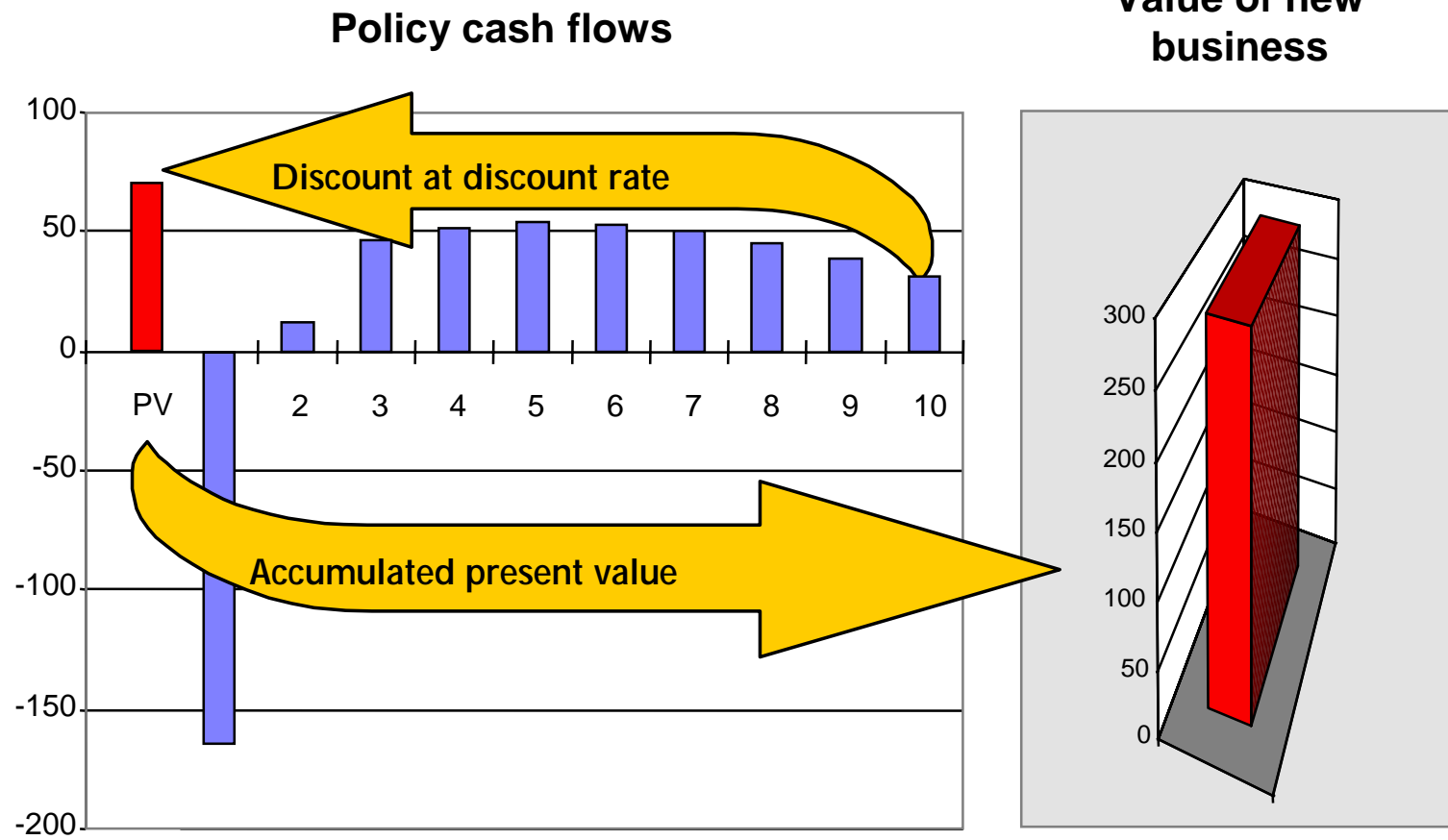
## How an Appraisal Value is Calculated

### □ Value of New Business / Goodwill - Definition

- The ability of the company to generate profitable future business
- Varies with:
  - Product profitability
  - Volume of business sold
  - Sales force characteristics
  - Distribution channels
  - Brand strength
- Setting assumptions requires judgments and hence may be subject to negotiation **but the value is still based on a predefined method of calculation**

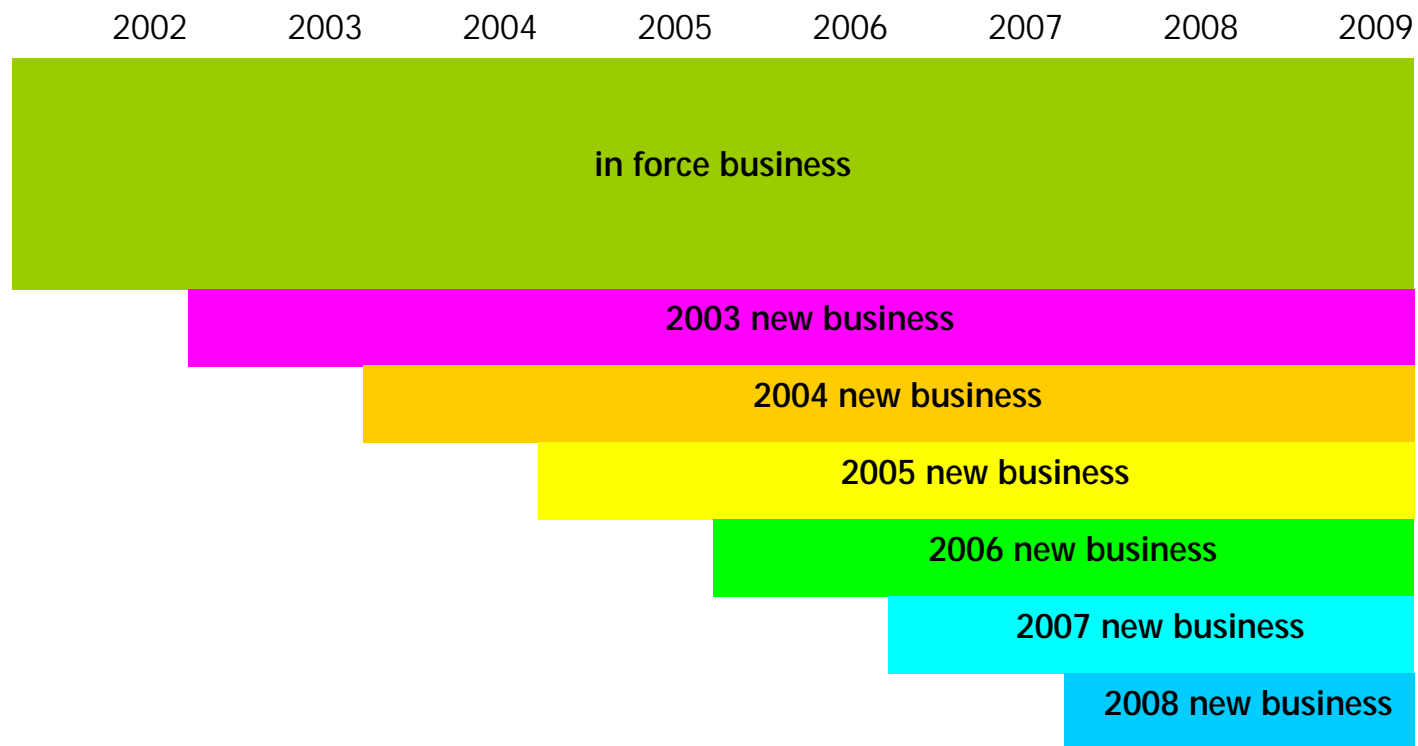
# How an Appraisal Value is Calculated

## □ Value of New Business - Definition



## New business composition

- Each future year of new business is valued and added to the appraisal value separately



# Value of New Business

□ Two methods of calculation

1.

One year New Business

X

New Business multiplier

2.

n years projected new business



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## Valuation Assumptions

- **economic**

- risk discount rate
- investment earnings
- inflation
- taxation

- **portfolio**

- lapse / surrender
- commission
- mortality
- loss ratio

- **expenses**

***Sensitivity tests will highlight the most important assumptions ( differing by product )***

## Assumptions - risk discount rate

- **required return on capital**
  - risk free rate + margin
  - consistency with
    - investment earning rate
    - dividend rates
    - expenses rates
    - inflation rate
  - consistent approach from year to year





## Assumptions - investment earnings

- actual rates
- market trends
- company's investment strategy
- consistency with asset value
- consistency with RDR
- reflect income and capital gains

## Assumptions - policy discontinuance

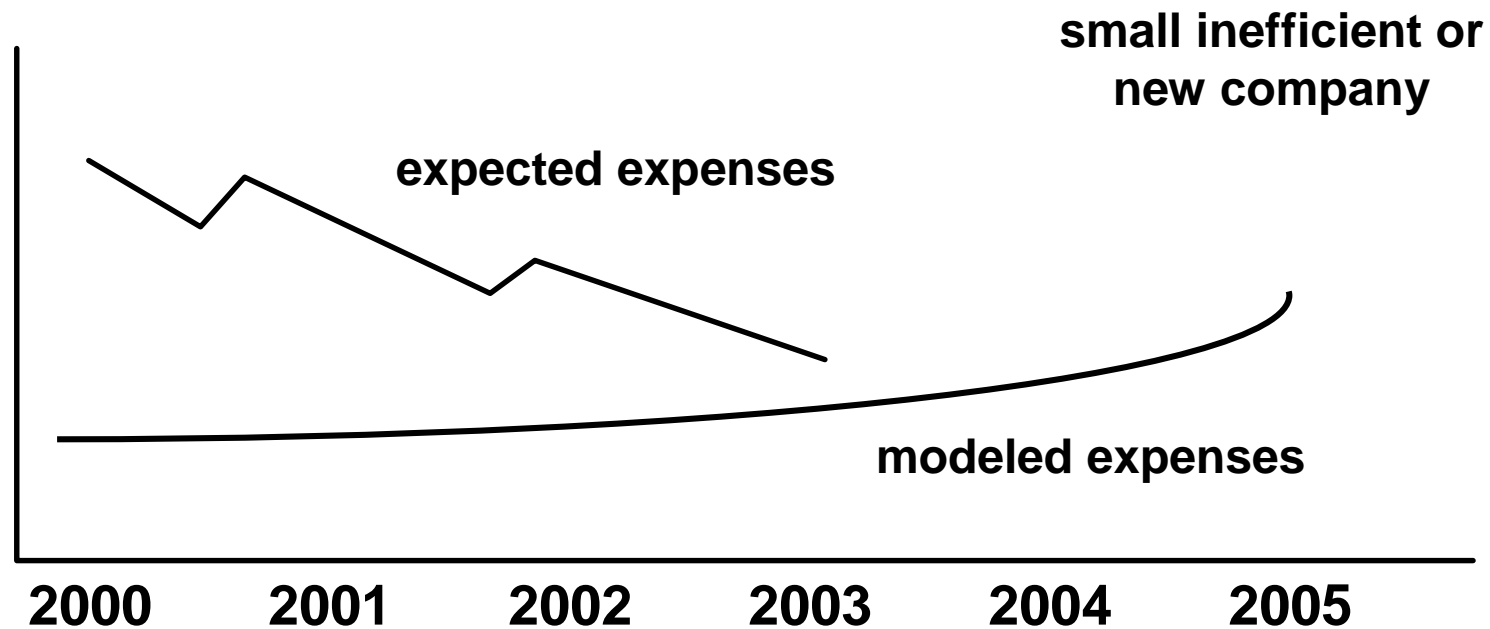
- company's experience
- market trend
- company's strategy

## Assumptions - expenses

- company experience ( maintenance & acquisition )
- company expense strategy
- industry experience
- expense overrun

## Expense overrun - calculation

- The excess of expected total expenses over the expense allowance in the appraisal value model



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## My Experiences

### □ How useful is an Appraisal Value?

- Single AV figure – not of much use
- Range of AVs is better – sensitivity to key assumptions reveals much more information
- Regular measurement over time adds more to understanding a business
- Crucial in business planning and new strategy assessment
- Some companies only determine (publish) EV and not AV

## My Experiences

### □ There are sceptics .... and AVs do have limitations

- Only a best estimate
- Main limitations:
  - deciding on assumptions
  - Goodwill value
  - approximations / software limitations
- Market values of listed companies and AVs do vary!

## My Experiences

### □ Consistency in setting assumptions is critical for credibility:

- The actuary's audience (clients, management, buyers /sellers, etc) is usually very demanding
- Given that actuarial judgement is exercised, imperative that there is a sound underlying basis and rationale
- Trowbridge uses a CAPM framework:
  - a “building block” approach, which starts with the risk free rate in a particular country
  - Risk discount rates, investment earnings rates, inflation rates are then set in an internally consistent manner



## Economic Assumptions – an example

30 September 2002	Malaysia	Indonesia
Risk Free Rate (US\$ long rate + inflation differential)	4.1%	10.3%
Beta	1	1
World Equity Premium	5.5%	5.5%
Country Risk	1.7%	3.0%
Risk Discount Rate	11.3%	18.8%

## My Experiences

### □ M & A

- Price paid may (usually?) bear no relationship to AV
- Price reflects supply and demand
- Price will reflect how important the acquisition is to the buyer's strategy in that country
- However, AV is usual starting point
- AV is used to test strategies, assess synergies, economies of scale

## My Experiences

### □ M & A - Examples

- Aviva and DBS / ICS in Singapore, 2001
  - What were the key drivers here?
- Malaysian M & A: EON CMG Life?

## My Experiences

### □ Market Entry

- India – Market opened in Dec 2000
  - Local companies must hold at least 74% equity
  - Not all are financial institutions; none were insurers
  - Great need to understand all aspects of insurance, especially about value creation and capital requirements for a new company
- Taiwan / South Korea – Bancassurance Deals

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## Conclusion

### □ Appraisal Values .....

- An excellent methodology / tool that an actuary can use to answer WHY and WHAT in many business situations, eg:
  - Why buy this company? What cost?
  - Why start bancassurance distribution? What cost?
  - What return on capital?
  - Why develop this new product?
- Actuaries are ideally placed to use this technique – as opposed to other professionals – as a result of their training and knowledge of the way long term insurance contracts work.

# Questions?