

4th

INDONESIAN ACTUARIES SUMMIT 2019

"ACTUARY AND BUSINESS ETHICS"

NOVOTEL LAMPUNG, 28th -29th MARCH 2019



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PRICING WITH EV

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AGENDA

01

PRICING

02

WHAT IS EV?

03

**HOW TO CALCULATE
EV?**

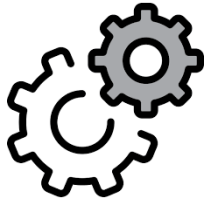
04

**PRODUCT MANAGEMENT
WITH EV**

05

**HOW TO TAKE IT
FURTHER?**

PRICING ROLES AND RESPONSIBILITY



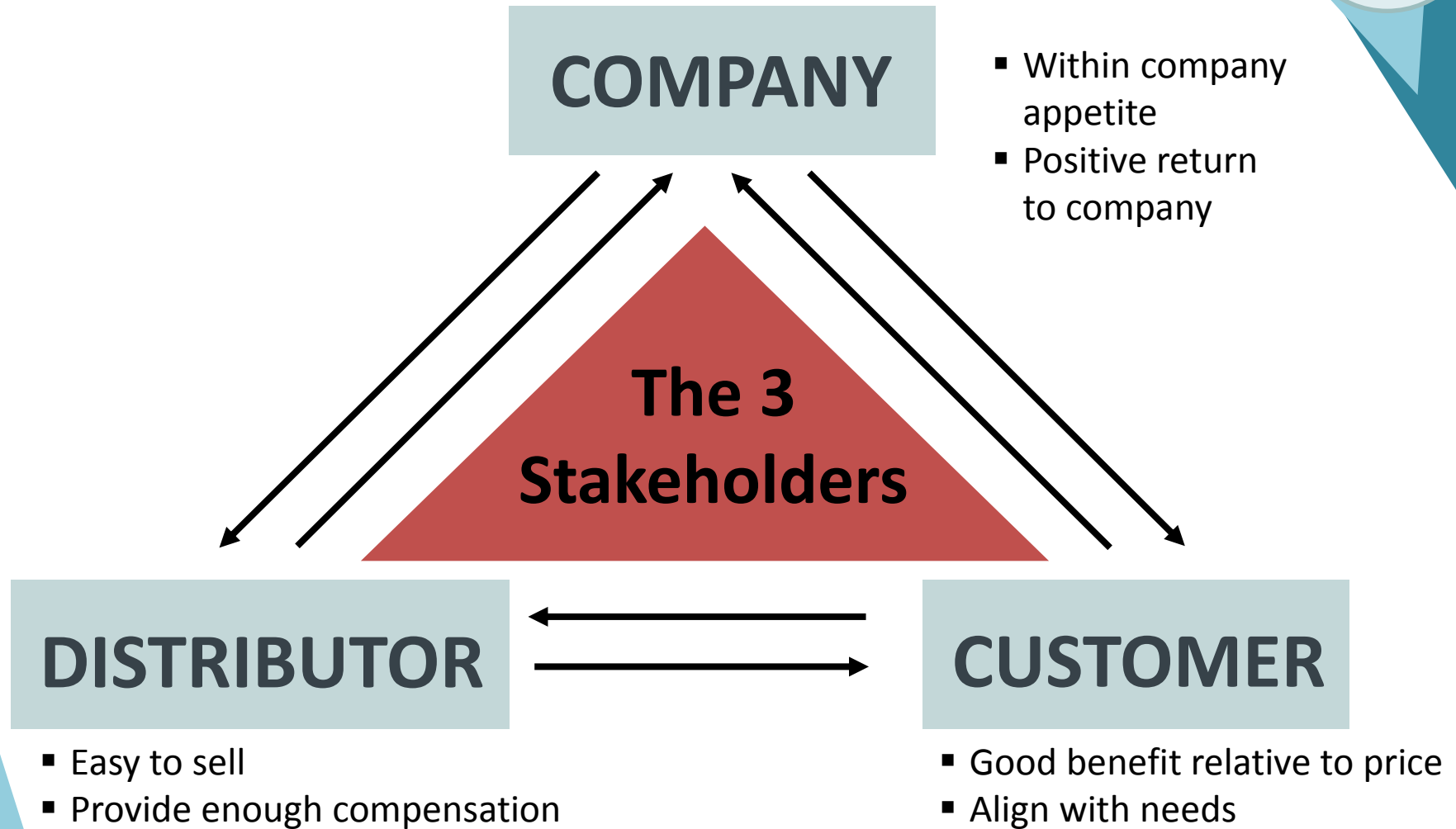
Setting up premium, commission and guarantee of product which take into account risk, company profits and product competitiveness

Understand the risk embedded to product or initiative, provide mitigation strategy and communicate residual risk to be fully understood by management

Making sure products or initiatives are aligned with company risk appetites

PRICING PRINCIPLES

01



PRICING METHODS

01



AGGRESSIVE PRICING

Pricing at the lower end of the market

Usually to get economic of scale or penetrate new market



PROFIT TARGET PRICING

Pricing at the company target profit



MARKET DRIVEN PRICING

Pricing at market price

Price is set below the average market place



PREDATORY PRICING

Pricing to beat certain competitor or product in the market

ADVANTAGES OF PRICING USING EV

Have allowed for risk adjustment

Allow international comparison

Takes into account capital requirement

Calculated based on return offered to share holder

WHAT IS EV?

EV (Embedded Value) is value based measure of product or company

EV is calculated based on share holder perspective

$$EV = ANW + VIF$$

ANW (Adjusted Net Worth):

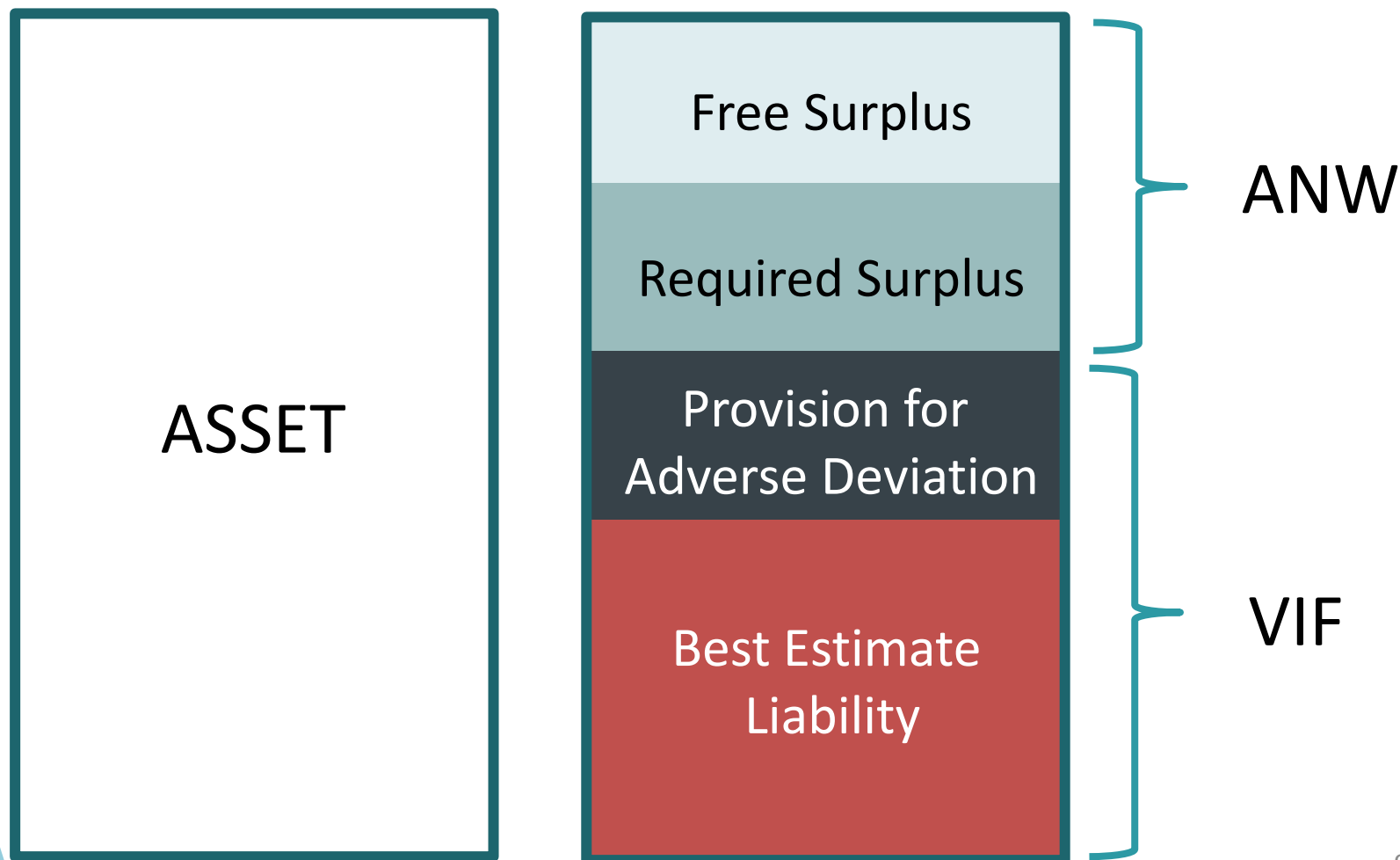
Shareholder equity adjusted to reflect the market value of asset.

VIF (Value of inforce):

Present value of future profits net of taxes of all policies that inforce at the valuation date after allowance from Cost of guarantee, Cost of non financial risk and Cost of holding capital.

WHAT IS EV?

$$EV = ANW + VIF$$



HOW TO CALCULATE EV?

03

$$\text{VIF} = \text{PVFP} - \text{CoC} - \text{CoG} - \text{CoNFR}$$

PVFP : Present value of future profits

Coc : Cost of Capital

CoG : Cost of Guarantee

CoNFR : Cost of Non Financial Risk

HOW TO CALCULATE EV?

Discount rate / Hurdle rate / Risk discount rate

$$\text{DISCOUNT RATE} = \text{RISK FREE} + \text{RISK PREMIUM}$$

- This represent return offered to the shareholder on his investment in the company.
- Risk premium depends on market, company and line of business riskiness.
- Cost of Non Financial Risk is reflected in discount rate.

HOW TO CALCULATE EV?

03

Go to excel spreadsheet



HOW TO CALCULATE EV?

CoG = Cost of Guarantee

- **CoG exist if there is asymmetry profitability to company. For example, unit linked with minimum fund guarantee.**
- **Because cashflow in EV only based on based estimate or mean scenario.**
- **CoG is the difference between the mean of PFVP and PFVP under mean scenario.**

HOW TO CALCULATE EV?

CoG = Cost of Guarantee

Scenario	Return	Cost	Chance	Without Guarantee		With Guarantee of 3%	
				Policy Holder	Company	Policy Holder	Company
Scenario 1	0.0%	1%	6.7%	-2.00%	1.0%	3.0%	-4.0%
Scenario 2	1.0%	1%	6.7%	-1.00%	1.0%	3.0%	-3.0%
Scenario 3	2.0%	1%	6.7%	0.00%	1.0%	3.0%	-2.0%
Scenario 4	3.0%	1%	6.7%	1.00%	1.0%	3.0%	-1.0%
Scenario 5	4.0%	1%	6.7%	2.00%	1.0%	3.0%	0.0%
Scenario 6	5.0%	1%	6.7%	3.00%	1.0%	3.0%	1.0%
Scenario 7	6.0%	1%	6.7%	4.00%	1.0%	4.0%	1.0%
Scenario 8	7.0%	1%	6.7%	5.00%	1.0%	5.0%	1.0%
Scenario 9	8.0%	1%	6.7%	6.00%	1.0%	6.0%	1.0%
Scenario 10	9.0%	1%	6.7%	7.00%	1.0%	7.0%	1.0%
Scenario 11	10.0%	1%	6.7%	8.00%	1.0%	8.0%	1.0%
Scenario 12	11.0%	1%	6.7%	9.00%	1.0%	9.0%	1.0%
Scenario 13	12.0%	1%	6.7%	10.00%	1.0%	10.0%	1.0%
Scenario 14	13.0%	1%	6.7%	11.00%	1.0%	11.0%	1.0%
Scenario 15	14.0%	1%	6.7%	12.00%	1.0%	12.0%	1.0%
Weighted Avg	7.0%			5.0002%	1.0%	6.0%	0.0005%

PRODUCT LAUNCHING

04

Profit and VNB analysis

- Profit and VNB is acceptable given risk exposure

Risk analysis and mitigation

- Align with company appetite

Impact toward company capital

- RBC impact
- Capital projection

EV MONITORING

04

Product Launching

- Impact to RBC
- VNB or EV contribution and its sensitivity towards changes

Monthly/ Quarterly

- Product mix, actual vs assumption tracking
- Income statement analysis

Annually

- Assumption changes, profit and VNB projection, RBC projection
- Make sure all products are still profitable

Less Frequently

- Comprehensive analysis of product on shelf

HOW TO TAKE IT FURTHER?



Inclusion in Performance Indicator and Bonus



EV training to management and distribution



Develop VNB Committee to improve VNB



Use VNB for decision making

Thank
you