

Roadmap for EV Valuations in Taiwan

Hosted by AIROC

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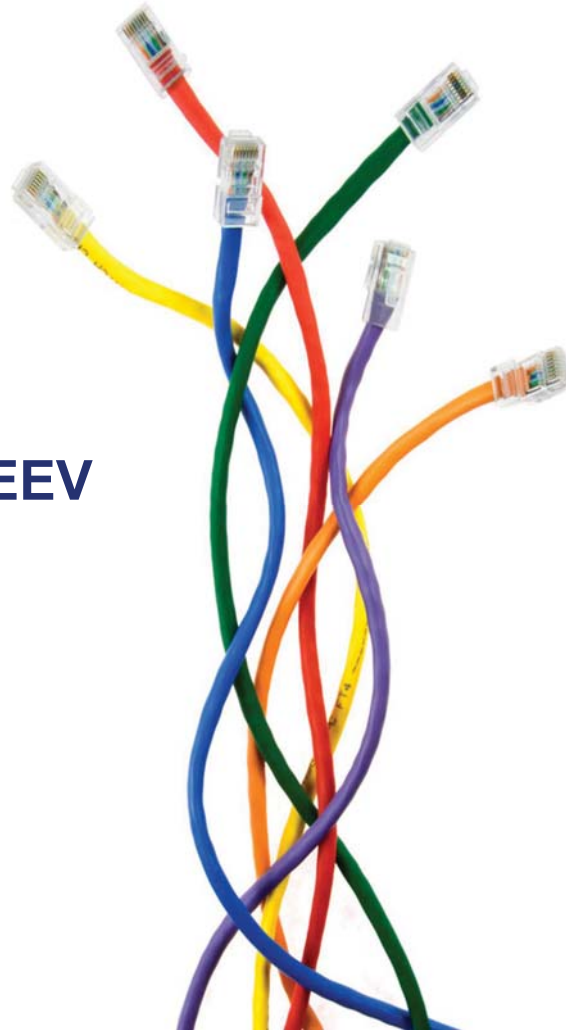


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Agenda

1. Comparison and contrast of TEV, EEV and MCEV
2. Factors to consider from the Taiwan market place
3. Break
4. EV practices in rest of the world
5. Linkage to IFRS4 Phase 2 & Solvency II in Taiwan
6. Break
7. Our proposed future EV approach for Taiwan

1. Comparison and Contrast of TEV, EEV and MCEV



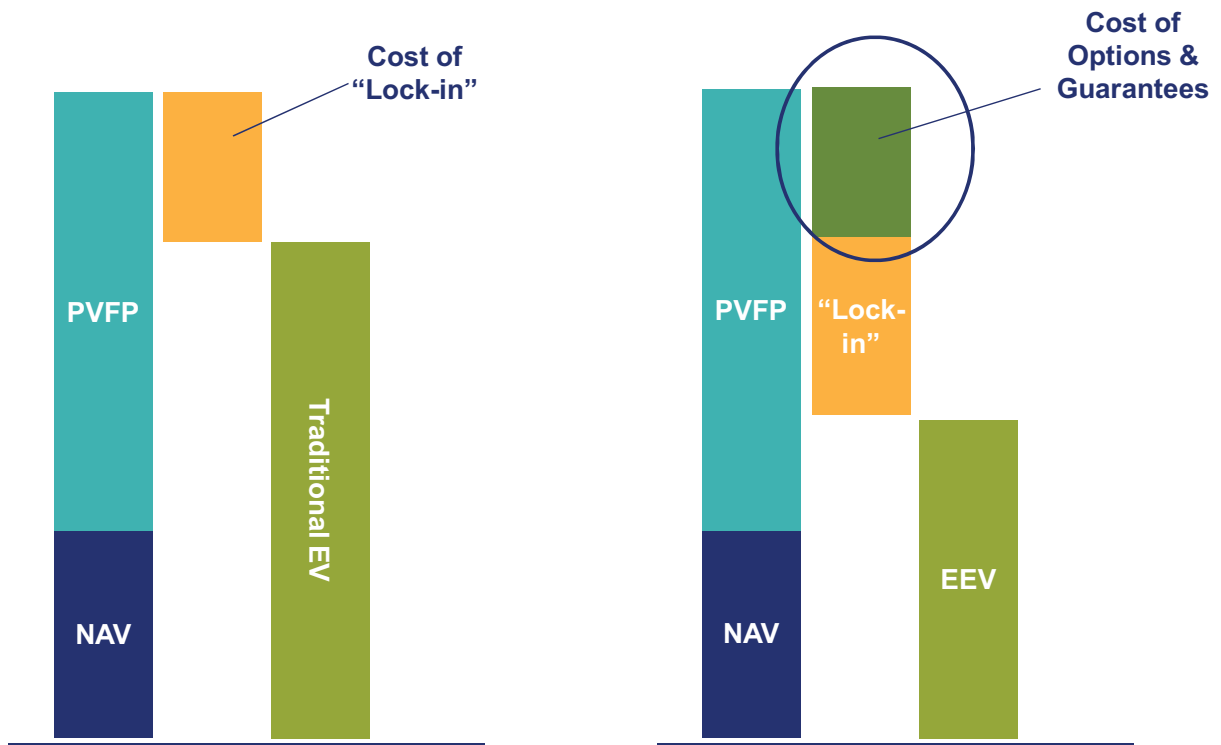
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Key Topics for Compare & Contrast of EV Methodologies

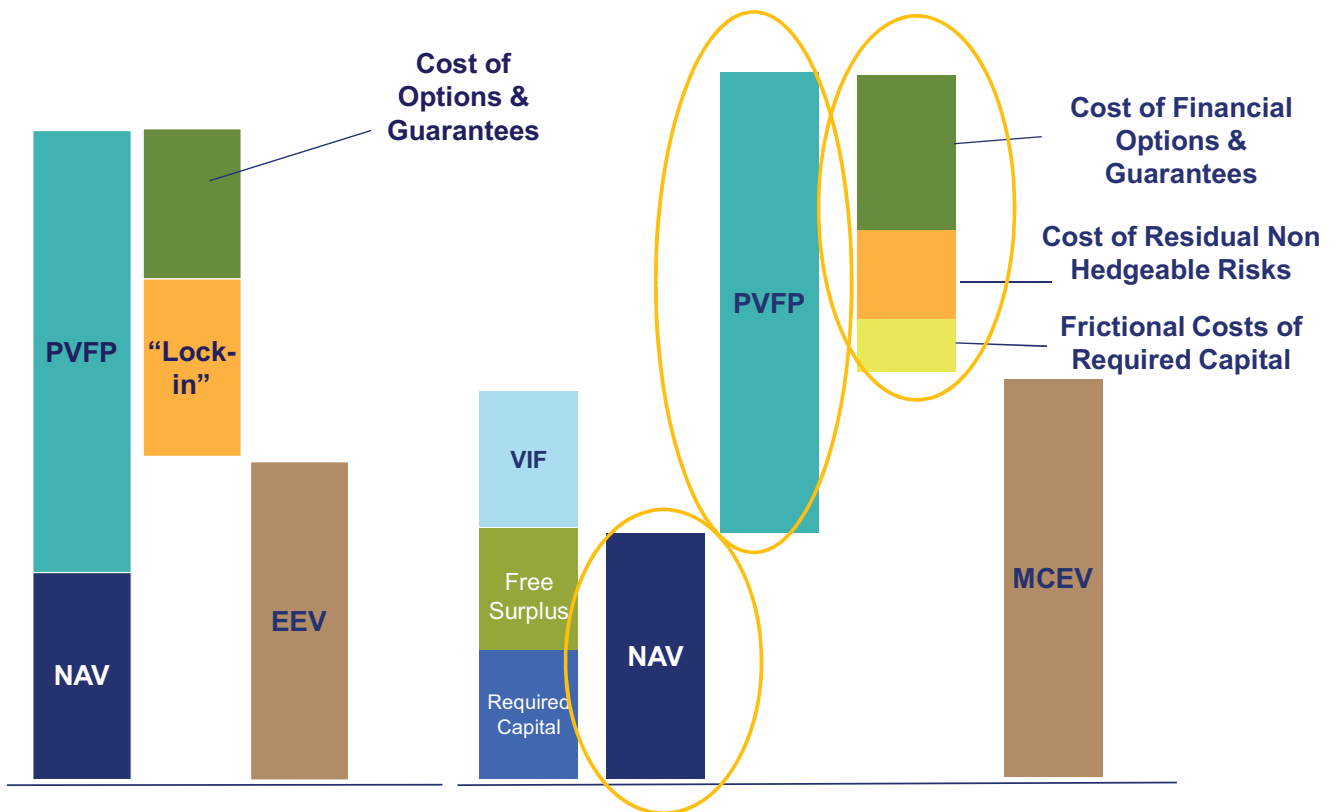
1. TEV, EEV, MCEV – comparison of methods and assumptions
2. Examples of results for typical products
3. Further details on methodology
4. Disclosure
5. EEV & MECV Principles

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TEV versus EEV



EEV versus MCEV



TEV, EEV and MCEV – Derivation of cash flows

Traditional EV ("TEV")	European EV ("EEV")	Market-Consistent EV ("MCEV")
<ul style="list-style-type: none"> • Deterministic approach 	<ul style="list-style-type: none"> • Deterministic approach for products with no guarantees • Stochastic approach for TVFOG of products with embedded future options & guarantees 	<ul style="list-style-type: none"> • Deterministic approach for products with no guarantees • Stochastic approach for TVFOG of products with embedded future options & guarantees

TEV, EEV and MCEV – Economic Assumptions

Traditional EV ("TEV")	European EV ("EEV")	Market-Consistent EV ("MCEV")
<p><u>Deterministic</u></p> <ul style="list-style-type: none"> • Government bonds earn risk free rate of appropriate term • Other asset classes earn risk free rate plus a risk premium margin • Inflation derived considering CPI 	<p><u>Deterministic</u></p> <ul style="list-style-type: none"> • Same as TEV <p><u>Stochastic</u></p> <ul style="list-style-type: none"> • Simulations based on real world assumptions • Must be internally consistent but not necessarily market consistent 	<p><u>Deterministic</u></p> <ul style="list-style-type: none"> • Assets earn the risk free rate e.g. the swap yield curve <p><u>Stochastic</u></p> <ul style="list-style-type: none"> • Risk neutral or real world simulations • Must be market consistent • Volatilities implied from market option prices

TEV, EEV and MCEV – Non economic assumptions

Traditional EV ("TEV")	European EV ("EEV")	Market-Consistent EV ("MCEV")
<ul style="list-style-type: none"> • Expenses • Lapse rates • Mortality • Disability/morbidity • Close to best estimate. Reflect company experience, level of prudence depends on margins to be capitalised / released over time 	<p><u>Deterministic</u></p> <ul style="list-style-type: none"> • Usually as per TEV <p><u>Stochastic</u></p> <ul style="list-style-type: none"> • Dynamic lapse and take up assumptions allow for policyholder behaviour for products with guarantees • May also allow for dynamic management behaviour (e.g. change in asset mix) 	<p><u>Deterministic</u></p> <ul style="list-style-type: none"> • Usually as per EEV <p><u>Stochastic</u></p> <ul style="list-style-type: none"> • Dynamic lapse and take up assumptions allow for policyholder behaviour for products with guarantees • May also allow for dynamic management behaviour (e.g. change in asset mix)

TEV, EEV and MCEV – Time value of embedded future options and guarantees (TVFOG)

Traditional EV ("TEV")	European EV ("EEV")	Market-Consistent EV ("MCEV")
<ul style="list-style-type: none"> • Some implicit allowance for time value of options & guarantees in RDR, but allowance subjective • No stochastic modelling or dynamic management behaviour or policyholder behaviour captured 	<ul style="list-style-type: none"> • Stochastic valuation of time value of options & guarantees captures: <ul style="list-style-type: none"> – Management behaviour – Policyholder behaviour – Cost of shareholder capital injections • Assumptions used not necessarily market consistent 	<ul style="list-style-type: none"> • Stochastic valuation of time value of options & guarantees captures: <ul style="list-style-type: none"> – Management behaviour – Policyholder behaviour – Cost of shareholder capital injections • Assumptions used need to be market consistent

TEV, EEV and MCEV – Discounting

Traditional EV ("TEV")	European EV ("EEV")	Market-Consistent EV ("MCEV")
<ul style="list-style-type: none"> • Constant RDR, usually expressed as risk-free rate plus risk margin • Risk margin captures allowance for various risks, including options & guarantees 	<ul style="list-style-type: none"> • Similar to TEV, constant RDR set equal to risk free rate plus a risk margin • One exception is that the risk margin no longer contains an allowance for the cost of options & guarantees, as there is an explicit allowance for those in the calculation 	<ul style="list-style-type: none"> • Implementation of market-consistent arbitrage-free valuation method • Risk free yield curve used for products with no guarantees • Deflators ("stochastic RDRs") replace constant RDR

TEV, EEV and MCEV – "Locking in" Cost of Capital

Traditional EV ("TEV")	European EV ("EEV")	Market-Consistent EV ("MCEV")
<ul style="list-style-type: none"> • Required capital often the statutory minimum • Cost of holding required capital reflected in EV • Usually, referred to as "cost of lock-in" • Cost of lock-in arises since in EV, typically, RDR > earned rate (net of tax) 	<ul style="list-style-type: none"> • Required capital needs to consider both <ul style="list-style-type: none"> – Amount required by regulators, and – Amount required by internal measures • Cost of lock-in defined as per TEV 	<ul style="list-style-type: none"> • No "cost of lock-in" in market-consistent world • Market risks allowed for in MCEV framework • Separate allowance made for specific costs and risks, i.e. frictional costs and non-hedgeable risks

TEV, EEV and MCEV – Cost of non-hedgeable risks (CNHR)

Traditional EV ("TEV")	European EV ("EEV")	Market-Consistent EV ("MCEV")
<ul style="list-style-type: none">• Implicit	<ul style="list-style-type: none">• Implicit	<ul style="list-style-type: none">• MCEV is less clear on approach for non-market risk. CFO Forum refers to non-hedgeable risks.• Identify which risks are non-hedgeable risks. Estimate amounts of capital for each. Allow for diversification.• Project forward and apply a risk margin.

Cost of non-hedgeable risks

- Market risk allowed for in MCEV framework
- No explicit allowance for non-hedgeable risk (insurance risk, business risk and operational risk) in MCEV
- Capital for non-hedgeable risk is economically determined capital (typically different to regulatory capital) based on 99.5% percentile
- Capital for non-hedgeable risks allows for diversification benefits
- Only require shareholder share of capital for non-hedgeable risk
- Run-off based on run-off of reserves using risk-free rates and discounting at risk-free rates
- Capital amounts will be determined by a number of different methods
- Even within MCEV, methodology is not consistent across all companies
- Can be done using stress testing

How is cost of non-hedgeable risk calculated?



Allowance for non-hedgeable risk = PV at risk free yield curve

TEV, EEV and MCEV – Frictional costs

Traditional EV ("TEV")	European EV ("EEV")	Market-Consistent EV ("MCEV")
<ul style="list-style-type: none"> • No explicit calculation • "Locking-in" has implicit allowance for tax on investment return on required capital • Typically, no allowance for investment expenses on required capital 	<ul style="list-style-type: none"> • Similar to TEV 	<ul style="list-style-type: none"> • Relate to actual costs that a shareholder incurs due to investment via an insurance company • Frictional costs include investment expenses and tax on investment return on required capital

Frictional costs

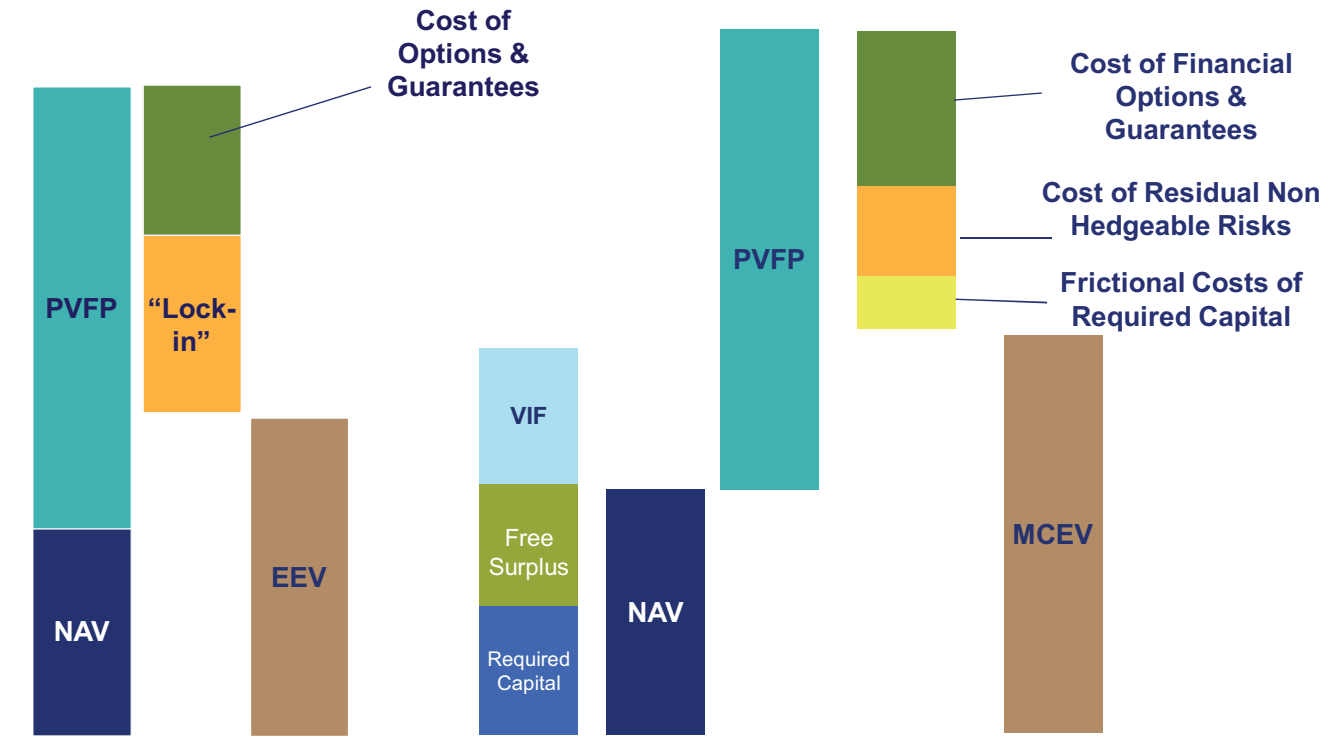
- “Frictional costs” occur due to shareholder investment via the structure of an insurance company
- Theoretical concept, need practical approach for implementation
- Taxation and investment expenses on “locked-in” shareholder funds represent real costs, and therefore, must be allowed for in MCEV
- Typically, “locked-in” shareholder funds relate to the required capital i.e. the shareholders share of the regulatory capital
- Run-off should be based on projected reserves using risk-free assumptions
- Other frictional costs such as agency costs and LLPO not allowed for – not appropriate for public disclosure

How are frictional costs calculated?



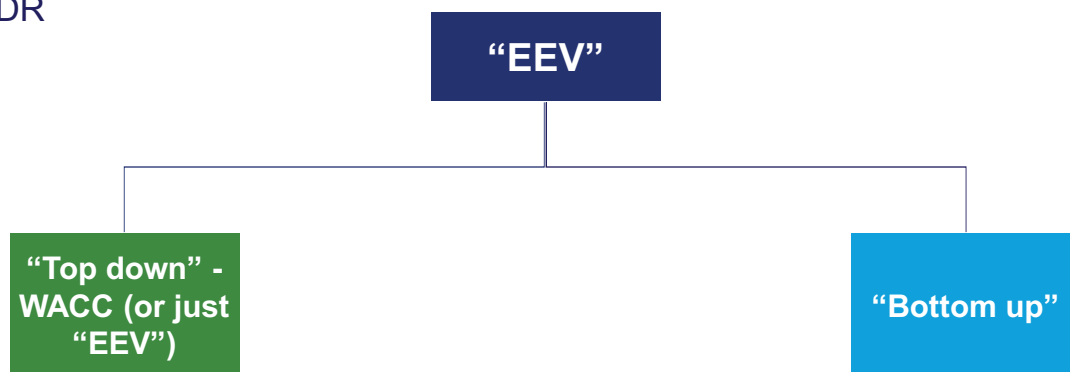
Allowance for frictional costs = PV at risk free yield curve

EEV versus MCEV



Variations on EEV Approaches – Allowance for Risks

- EEV permits a variety of different approaches
- One layer of variation revolves around the allowance for risks, i.e. determination of the RDR



- Essentially the method of determining RDR mentioned above.
- Base the risk discount rate on the company's WACC, typically calculated using tools such as the CAPM. It is normally used to give a single RDR risk margin, which is used for all parts of the business
- The bottom-up approach involves setting the RDR such that it directly reflects the each product's risk profile, enabling a more explicit and granular allowance for risk. It is not an EEV requirement to set individual RDR's for each block of business, but this is one variation of EEV.

Variations on EEV Approaches – Presentation of Results

- Another layer of variation revolves around the implementation of calculation and presentation of results



- The indirect approach usually calculates the aggregate EEV and solves for the RDR in a traditional embedded value calculation that gives the same aggregate value. The results of the TEV models are then presented as the EEV results.
- The direct approach uses the EEV models directly to calculate the values for each product – separately for in-force and new business – and presents these as the EEV results.
- The single RDR is often referred to as the “Implied RDR”.

Simple examples for NP / True Par business

- Figures are based on sample policies for illustrative purposes only
- The actual figures are very sensitive to the assumptions used and, as a result, the results in reality may be quite different to those illustrated

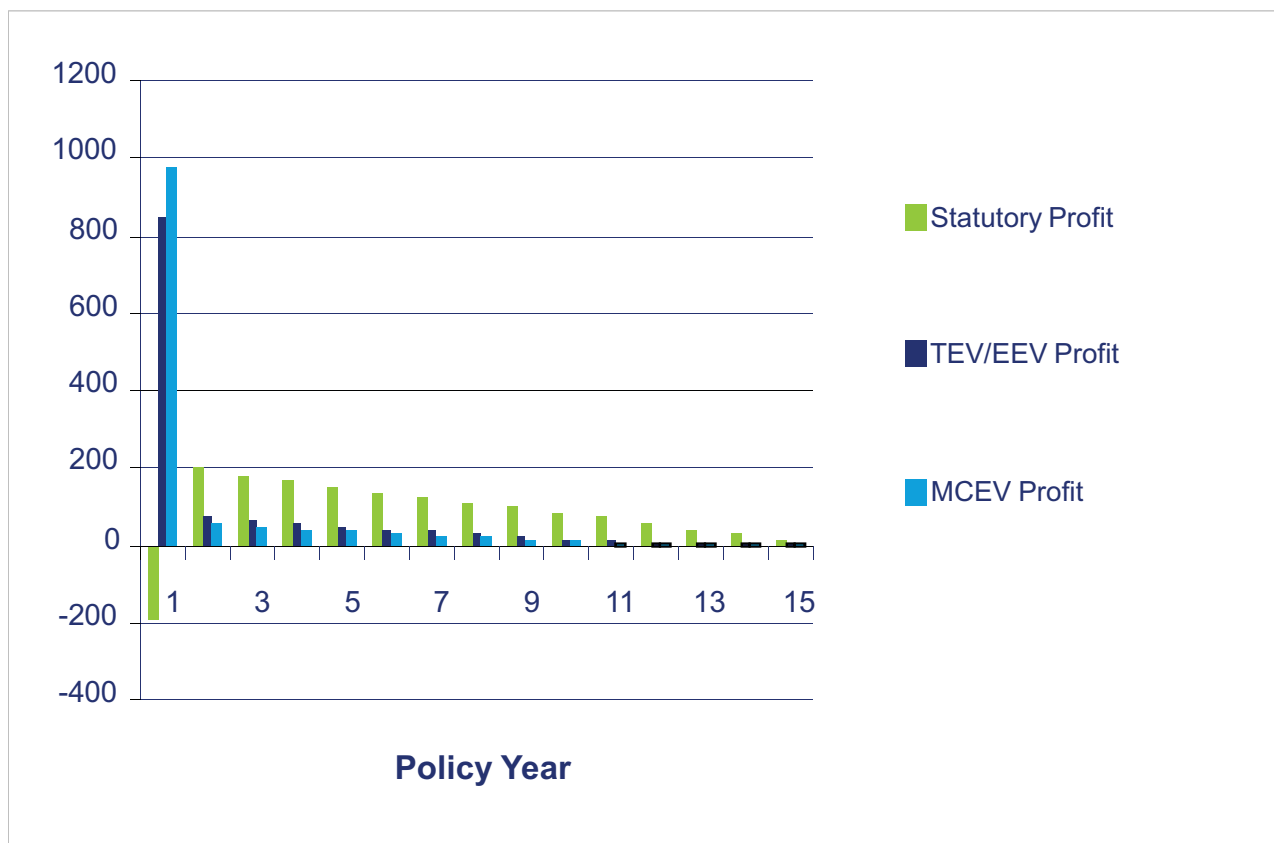
Example 1 – NP Term Assurance

Policy details and assumptions

- Policy term of 15 years
- Annual premium of \$360, sum assured of \$150k
- Initial expenses of \$150 and renewal expenses of \$30
- Risk-free rate of 5%
- RDR of 8% (TEV/EEV) and 5% (MCEV)
- Assume invested in corporate bonds and corporate bonds yield 5.5% pa. Growth rate of 5.5% pa (TEV/EEV) and 5% pa (MCEV)
- Lapses of 10% pa in Year 1, 7.5% pa in Year 2 and 5% pa for Years 3+
- No options and guarantees, therefore, TVFOG is 0
- Assuming same assumptions used for TEV and EEV, therefore, both the same

Example 1- NP Term Assurance

Results



Example 1 - NP Term Assurance

Comments

- Relatively small reserves, therefore, reduction of growth rate has little impact on projected profits under MCEV
- Main impact due to use of lower risk discount rate under MCEV relative to TEV and EEV, leading to a higher MCEV

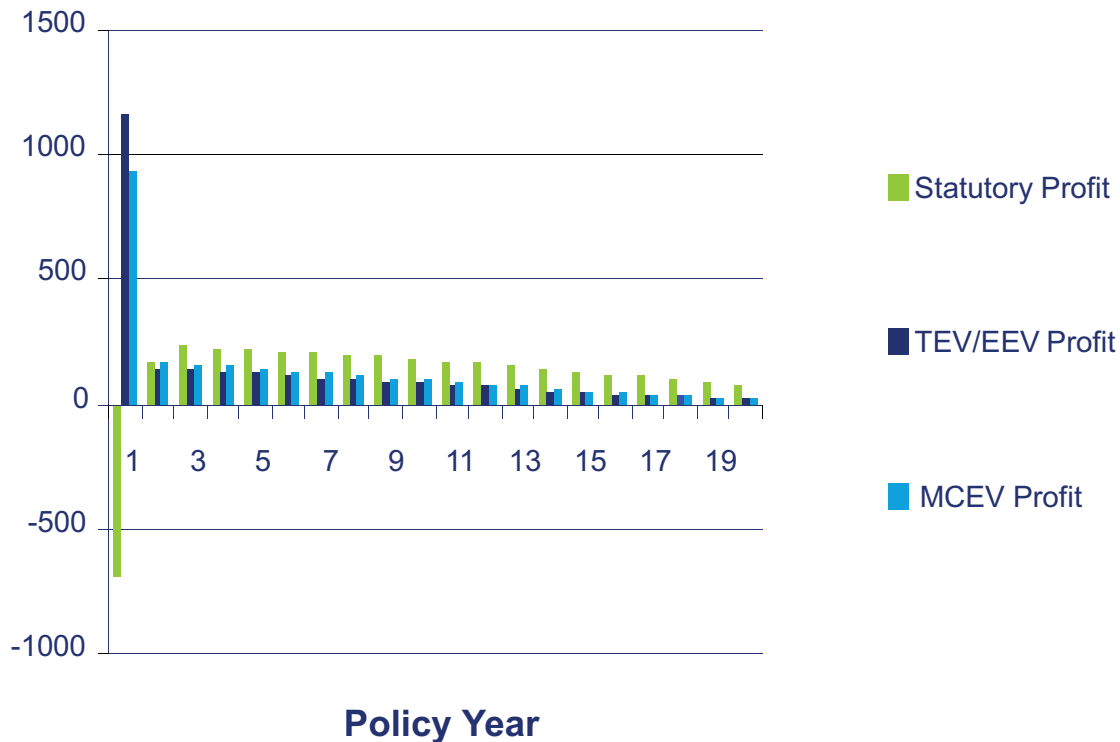
Example 2 – NP Immediate Annuity

Policy details and assumptions

- Male aged 65, single life annuity with no guarantee period
- Single premium of \$20,000, annual annuity of \$1,900
- Initial expenses of \$120 and renewal expenses of \$30
- Risk-free rate of 5%
- RDR of 8% (TEV/EEV) and 5% (MCEV)
- Assume invested in corporate bonds and corporate bonds yield 5.5% pa. Growth rate of 5.5% pa (TEV/EEV) and 5% pa (MCEV)
- No options and guarantees, therefore, TVFOG is 0
- Assuming same assumptions used for TEV and EEV, therefore, both the same

Example 2 – NP Immediate Annuity

Results



Example 2 – NP Immediate Annuity

Comments

- Main impact due to loss of corporate bond margin (0.5% pa) in MCEV compared to TEV and EEV combined with the relatively large reserves
- Leads to lower profits projected under MCEV, but partially offset due to use of lower risk discount rate

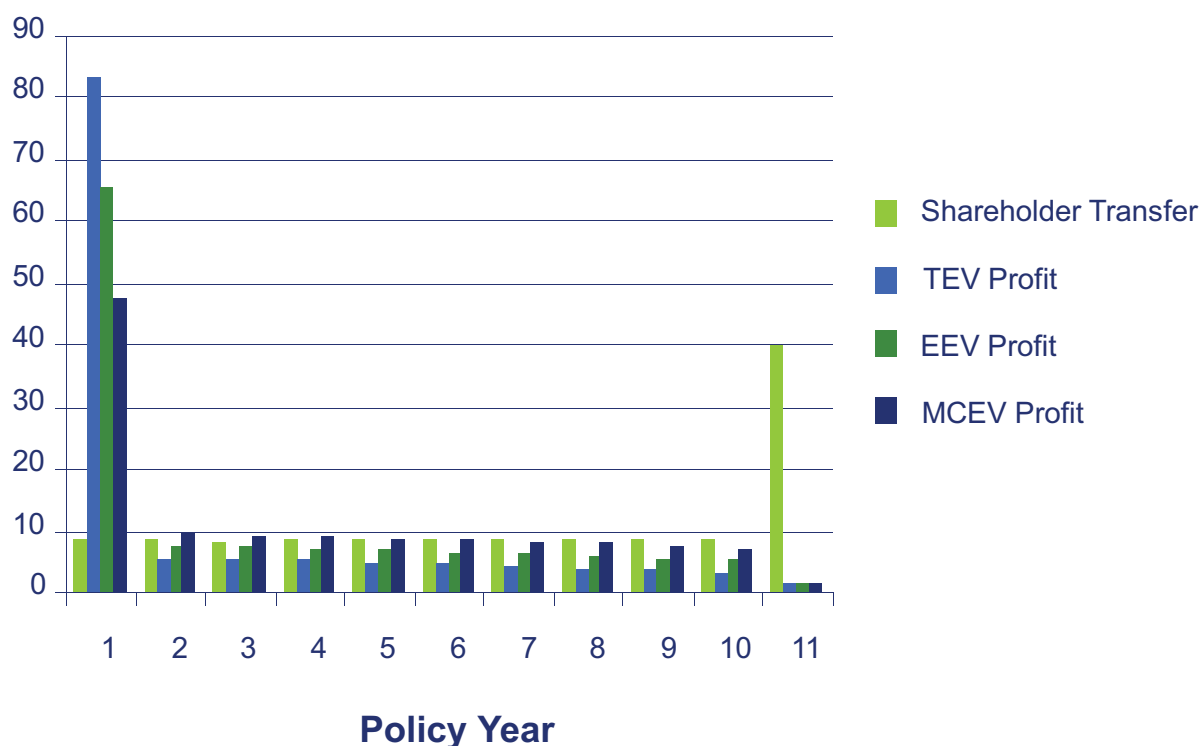
Example 3 – True Par Endowment

Policy details and assumptions

- Regular premium of \$532, sum assured of \$5,357, policy term of 10 years
- RDR of 8% (TEV/EEV) and 5% (MCEV)
- Risk-free rate of 5%
- Assume invested in equities and equities yield 7% pa. Growth rate of 7% pa (TEV/EEV) and 5% pa (MCEV)
- Regular RB and TB on claim

Example 3 – True Par Endowment

Results







Example 3 – True Par Endowment

Comments

- EEV/MCEV is lower relative to TEV due to the explicit allowance for the time value of options and guarantees
- We have assumed that MCEV produces a higher TVFOG than EEV
- At point of sale, TVFOG = 20 for EEV and TVFOG = 40 for MCEV
- Assume uniform “run-off” of TVFOG over duration of policy
- The extent of the reduction will depend on:
 - The size of the free estate – if large free estate then lower shareholder cost
 - Management decision rules in respect of bonuses and policyholder behaviour in respect of lapses in different scenarios and asset dynamic asset mixes
 - Different approaches and assumptions used for EEV and MCEV

Examples' summary

Product	TEV	EEV	MCEV
NP Term Assurance	830	100%	120% 
NP Immediate Annuity	1,150	100%	75% 
True Par Endowment	85	78% 	57% 

Disclosure compared

- EEV and MCEV have similar disclosure, and both have significantly more disclosure than TEV.

	TEV	EEV	MCEV
Methodology	<ul style="list-style-type: none"> • Simple 	<ul style="list-style-type: none"> • Complex, plus guidance on disclosure 	<ul style="list-style-type: none"> • Complex, plus guidance on disclosure
Deterministic economic assumptions	<ul style="list-style-type: none"> • Flat 	<ul style="list-style-type: none"> • Flat 	<ul style="list-style-type: none"> • Curve
Stochastic assumptions	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Several tables of volatilities and correlations 	<ul style="list-style-type: none"> • Several tables of volatilities and correlations

- Examples of additional methodology items under EEV/MCEV are TVFOG, frictional costs, cost of non-hedgeable risks, economic scenario generator, dynamic policyholder behaviour
- Examples of additional assumption items under EEV/MCEV are having a vector of assumptions for yield curve rather single assumption for TEV, two-dimensional matrix of volatility assumptions for swaptions, correlation.

Principle 1 – Introduction

EEV	MCEV
<ul style="list-style-type: none"> • Embedded Value (EV) is a measure of the consolidated value of shareholders' interest in the covered business. 	<ul style="list-style-type: none"> • Market Consistent Embedded Value (MCEV) is a measure of the consolidated value of shareholders' interest in the covered business. • Group Market Consistent Embedded Value (Group MCEV) is a measure of the consolidated value of shareholders' interest in covered and non-covered business.

Principle 2 – Coverage

EEV	MCEV
<ul style="list-style-type: none">The business covered by the EVM should be clearly identified and disclosed.	<ul style="list-style-type: none">The business covered by the MCEVM should be clearly identified and disclosed.

Principle 3 – EEV and MCEV Definitions

EEV	MCEV
<p>EV is the present value of shareholders' interest in the earnings distributable from assets allocated to the covered business after sufficient allowance for the aggregate risks in the covered business. The EV consists of the following components:</p> <ul style="list-style-type: none">Free surplus allocated to the covered businessRequired capital, less the cost of holding required capital; andPresent value of future shareholder cash flows from in-force covered business (PVIF). <p>The value of future new business is excluded from the EV.</p>	<p>MCEV represents the present value of shareholders' interests in the earnings distributable from assets allocated to the covered business after sufficient allowance for the aggregate risks in the covered business. The allowance for risk should be calibrated to match the market price for risk where reliably observable. The MCEV consists of the following components:</p> <ul style="list-style-type: none">Free surplus allocated to the covered businessRequired capital; andValue of in-force covered business (VIF). <p>The value of future new business is excluded from the MCEV.</p>

Principle 4 – Free Surplus

EEV	MCEV
<ul style="list-style-type: none">The free surplus is the market value of any capital and surplus allocated to, but not required to support, the in-force covered business at the valuation date.	<ul style="list-style-type: none">The free surplus is the market value of any assets allocated to, but not required to support, the in-force covered business at the valuation date.

Principle 5 – Required Capital

EEV	MCEV
<ul style="list-style-type: none">Required capital should include any amount of assets attributed to the covered business over and above that required to back liabilities for covered business whose distribution to shareholders is restricted. The EV should allow for the cost of holding the required capital.	<ul style="list-style-type: none">Required capital is the market value of assets, attributed to the covered business over and above that required to back liabilities for covered business, whose distribution to shareholders is restricted.

Principle 6 – Value of In-Force Covered Business

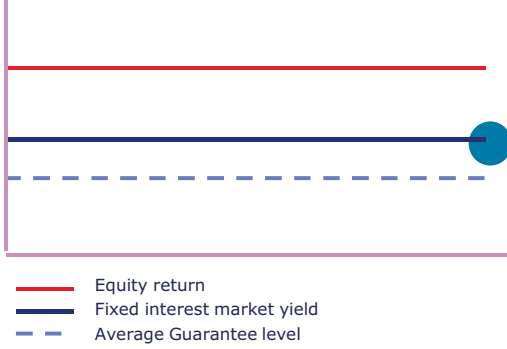
EEV	MCEV
<ul style="list-style-type: none">The value from future cash flows from in-force covered business is the present value of future shareholder cash flows projected to emerge from the assets backing liabilities of the in-force covered business (“PVIF”). This value is reduced by the value of financial options and guarantees as defined in Principle 7.	<p>The value of in-force covered business (VIF) consists of the following components:</p> <ul style="list-style-type: none">Present value of future profits (where profits are post taxation shareholder cash flows from the in-force covered business and the assets backing the associated liabilities) (PVFP)Time value of financial options and guarantees as defined in Principle 7Frictional costs of required capital as defined in Principle 8Cost of residual non hedgeable risks as defined in Principle 9.

Principle 7 – Financial Options and Guarantees

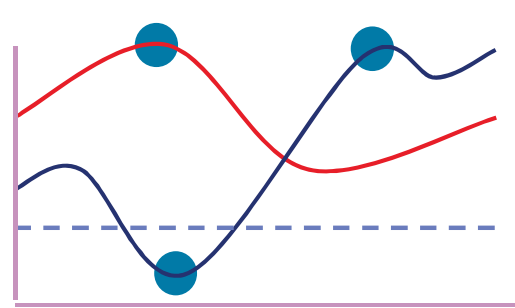
EEV	MCEV
<ul style="list-style-type: none">Allowance must be made in the EV for the potential impact on future shareholder cash flows of all financial options and guarantees within the in-force covered business. This allowance must include the time value of financial options and guarantees based on stochastic techniques consistent with the methodology and assumptions used in the underlying embedded values.	<ul style="list-style-type: none">Allowance must be made in the MCEV for the potential impact on future shareholder cash flows of all financial options and guarantees within the in-force covered business. The allowance for the time value of financial options and guarantees must be based on stochastic techniques using methods and assumptions consistent with the underlying embedded value. All projected cash flows should be valued using economic assumptions such that they are valued in line with the price of similar cash flows that are traded in the capital markets.

Principle 7 - Financial Options and Guarantees

Traditional EV

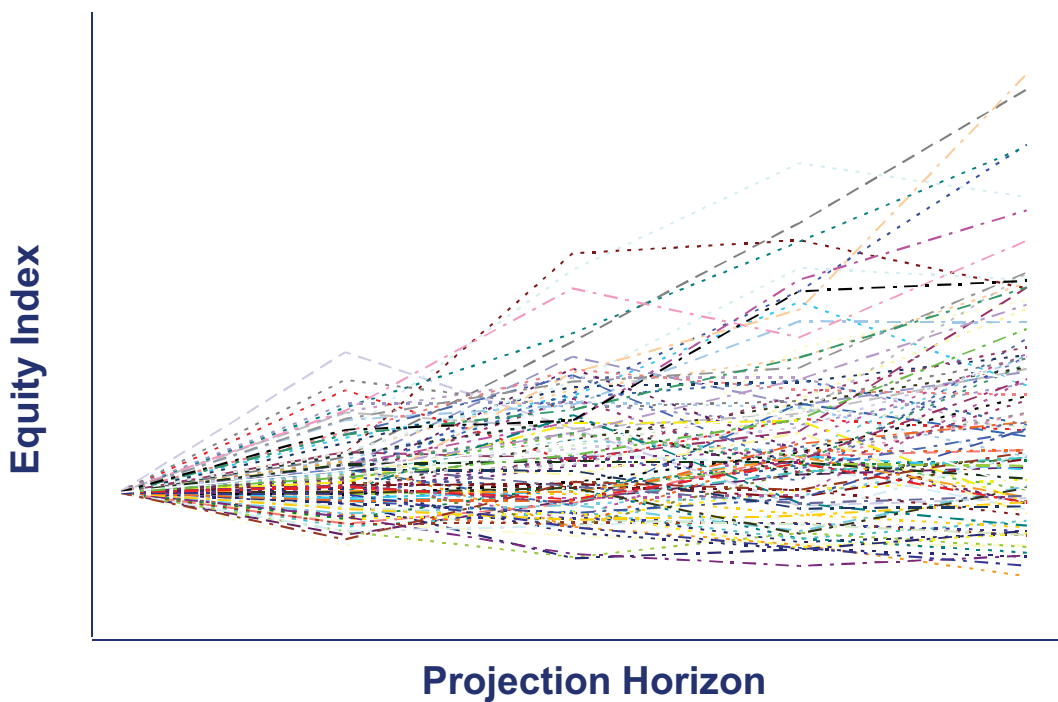


EEV



- Examples include with profit business and guaranteed annuity options
- Stochastic calculations used – consistent with how capital market would value these options and guarantees

Stochastic modelling scenarios



Principle 8 – Frictional Cost of Required Capital

EEV	MCEV
NA	<ul style="list-style-type: none">An allowance should be made for the frictional costs of required capital for covered business. The allowance is independent of the allowance for non hedgeable risks.

Principle 9 – Cost of Residual Non Hedgeable Risks

EEV	MCEV
NA	<ul style="list-style-type: none">An allowance should be made for the cost of non hedgeable risks not already allowed for in the time value of options and guarantees or the PVFP. This allowance should include the impact of non hedgeable non financial risks and non hedgeable financial risks. An appropriate method of determining the allowance for the cost of residual non hedgeable risks should be applied and sufficient disclosures provided to enable a comparison to a cost of capital methodology.

Principle 10 – New Business and Renewals

• EEV	MCEV
<ul style="list-style-type: none">New business is defined as that arising from the sale of new contracts during the reporting period. The value of new business includes the value of expected renewals on those new contracts and expected future contractual alterations to those new contracts. The EV should only reflect in-force business, which excludes future new business.	<ul style="list-style-type: none">New business is defined as that arising from the sale of new contracts and in some cases increases to existing contracts during the reporting period. The value of new business includes the value of expected renewals on those new contracts and expected future contractual alterations to those new contracts. The MCEV should only reflect in-force business, which excludes future new business. The value of new business should reflect the additional value to shareholders created through the activity of writing new business.

Principle 11 – Assessment of Appropriate Non-Economic Projection Assumptions

EEV	MCEV
<ul style="list-style-type: none">The assessment of appropriate assumptions for future experience should have regard to past, current and expected future experience and to any other relevant data. Changes in future experience should be allowed for in the value of in-force when sufficient evidence exists and the changes are reasonably certain. The assumptions should be actively reviewed.	<ul style="list-style-type: none">The assessment of appropriate assumptions for future experience should have regard to past, current and expected future experience and to any other relevant data. The assumptions should be best estimate and entity specific rather than being based on the assumptions a market participant would use. Changes in future experience should be allowed for in the VIF when sufficient evidence exists. The assumptions should be actively reviewed.

Principle 12 – Economic Assumptions

EEV	MCEV
<ul style="list-style-type: none"> Economic assumptions must be internally consistent and should be consistent with observable, reliable market data. No smoothing of market or account balance values, unrealised gains or investment return is permitted. 	<ul style="list-style-type: none"> Economic assumptions must be internally consistent and should be determined such that projected cash flows are valued in line with the prices of similar cash flows that are traded on the capital market. No smoothing of market or account balance values or unrealised gains is permitted.

Principle 13 – Investment Returns and Discount Rates

EEV	MCEV
NA	<ul style="list-style-type: none"> VIF should be discounted using discount rates consistent with those that would be used to value such cash flows in the capital markets.

- The ‘simplest’ approach is risk neutral modelling.
- All assets are modelled to yield ‘risk free rates’ and the discount rates are the same rates.
- Use of risk free rates is a mathematical solution that gives the right answer. We still expect assets to yield real world returns.
- Deterministic risk neutral calculations are called ‘certainty equivalent’.
- MCEV has consistency between investment returns and discount rates on a “market consistent” basis. This consistency does not necessarily apply to EEV.

Principle 14 – Reference Rates

EEV	MCEV
NA	<ul style="list-style-type: none"> The reference rates used should, wherever possible, be the swap yield curve appropriate to the currency of the cash flows

- These ‘reference rates’ are the equivalent of ‘risk free rates’ in financial economics theory. They are required to be swap rates.
- The rates are used for both investment return assumptions for assets and for the discount rates.
- **“No adjustments should be made to the swap yield curve to allow for liquidity premiums or credit risk premiums.” (G14.4).**
- Nevertheless, some companies have added a liquidity premium.

Principle 15 – Stochastic Models

EEV	MCEV
NA	<ul style="list-style-type: none"> Stochastic models and the associated parameters should be appropriate for the covered business being valued, internally consistent and, where appropriate, based on the most recent market data. Volatility assumptions should, wherever possible, be based on those implied from derivative prices rather than the historical observed volatilities of the underlying instruments.

- Stochastic modelling is required under both EEV and MCEV for the calculation of TVOG. Calculations are usually done using at least 1,000 simulations produced from an economic scenario generator (“ESG”). In other words, an ALM model has to be used for EEV but not necessarily MCEV.
- Under MCEV, the approach must be ‘market consistent’. “The calibration of the model should be based on market values such as equity option implied volatilities, swaption implied volatilities and the initial swap rate curve for market-traded contracts that are as similar as possible in nature to the option and guarantees contained within the liabilities.” (G15.2)
- “Volatility assumptions should be based on the most recently available information as at the valuation date.” (G15.3) Implied volatilities at 31 December 2008 were at historically high levels. Some companies used alternative approaches.

Principle 16 – Participating Business

EEV	MCEV
<ul style="list-style-type: none">For participating business the method must make assumptions about future bonus rates and the determination of profit allocation between policyholders and shareholders. These assumptions should be made on a basis consistent with the projection assumptions, established company practice and local market practices.	<ul style="list-style-type: none">For participating business the method must make assumptions about future bonus rates and the determination of profit allocation between policyholders and shareholders. These assumptions should be made on a basis consistent with the projection assumptions, established company practice and local market practice.

Principle 17 – Disclosure

EEV	MCEV
<ul style="list-style-type: none">Embedded value results should be disclosed at consolidated group level using a business classification consistent with the primary statements.	<ul style="list-style-type: none">MCEV results should be disclosed at consolidated group level using a business classification consistent with the primary statements, with clear description of what business is covered by MCEVM and what is not. Except where they are not considered material, compliance with the MCEV Principles is compulsory and should be explicitly disclosed.

2. Relevant Factors from the Taiwan Market Place



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Key Observations in the Market

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Coming & Going

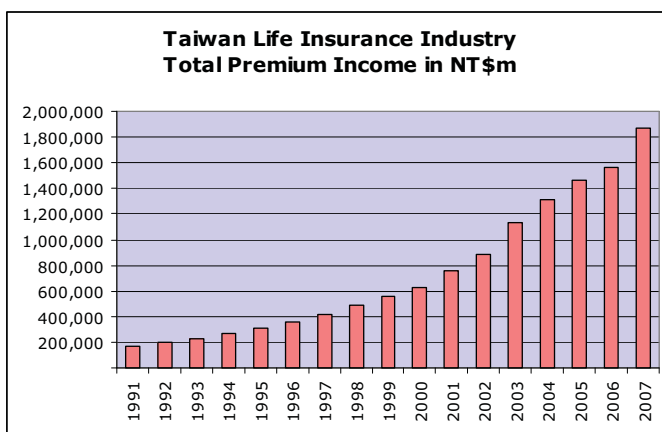
- We have categorised all companies into 5 groups for analysis purposes;
 - Large companies: FYP 2008: NT\$40bn upwards
 - Medium companies: FYP 2008: NT\$15bn to NT\$40bn
 - Small companies: FYP 2008: up to NT\$15bn
 - New entrants: Companies which entered the market between 2006 and 2008

Category	Company	FYP 08	Foreign?	Exited?
Large Companies	Cathay	205,976		
	Fubon	128,069		
	SKL	89,794		
	China Life	52,014		
	Far Glory	46,818		
Medium Companies	Chung Hwa Post	36,531		
	Nan Shan	36,181	Foreign	Exited
	ING	34,495	Foreign	Exited
	Allianz	32,169	Foreign	
	Taiwan Life	28,275		
	Mercury	27,659	Part Forgn	Exiting
	PCA	19,453	Foreign	Part exited
Small Companies	Aegon	9,102	Foreign	Exited
	Metlife	5,218	Foreign	Exited
	Hontai	3,355		
	ACE	3,198	Foreign	
	Manulife	2,950	Foreign	
	CIGNA	2,267	Foreign	
	NYL	2,096	Foreign	
	ALICO	1,493	Foreign	
	Prudential US	1,211	Foreign	

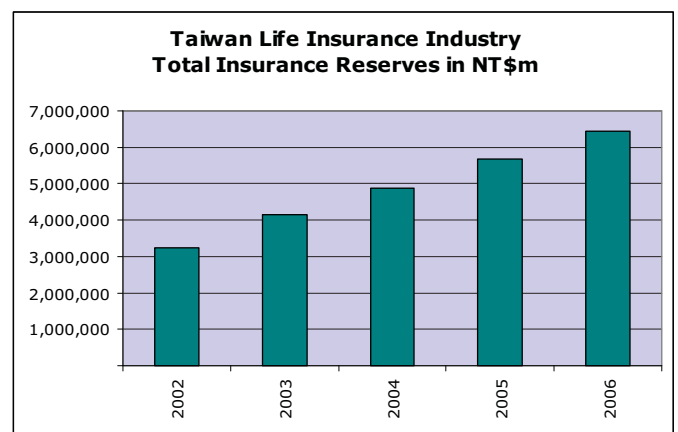
Category	Company	FYP 08	Size
New Entrants	Bank of Taiwan	37,032	Large/medium
	Cardif	17,046	Medium/small
	Aviva	11,607	Small
	HSBC	1,182	Very small
	ACE America	229	Very small
Companies with Negative Equity at Dec 2007	Singfor	11,284	Small
	Kuo Hwa	7,144	Small
	Global	830	Very small
	Sinon	712	Very small

Source: LIA New Business Flash Report

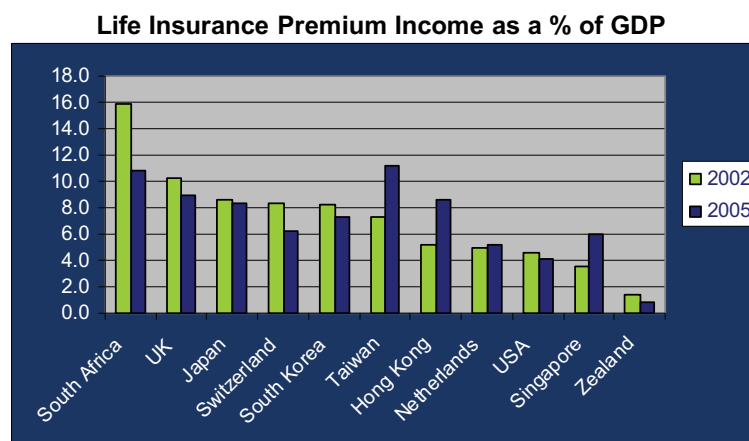
Growth



Source: TII Data



Source: TII Data



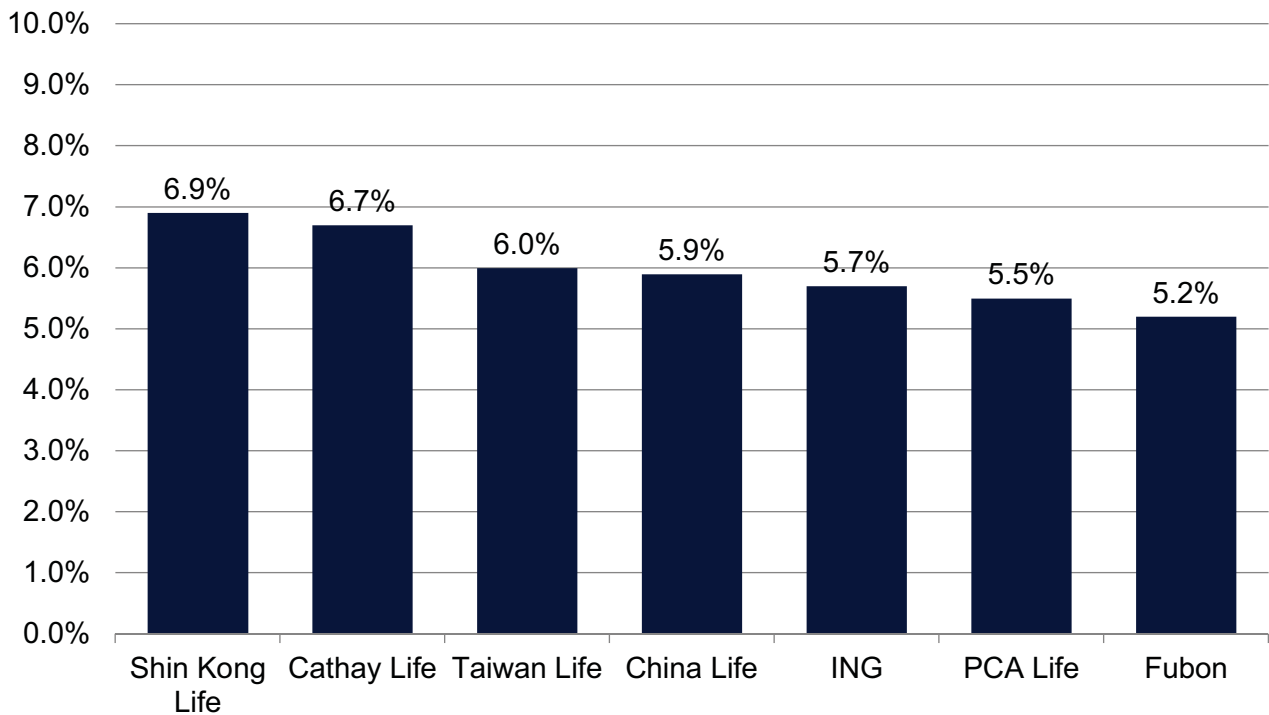
Source: Deloitte's presentation at 5th CEO Summit

Selection

Company Category	Company Focus: SP or RP		SP								Split of (RP+SP) by SP, RP		RP													
	Focus	Company	All T\$m	Move	Trad Life	Univ Life	ISA	Unit Link	VA	Strat Chge	SP	RP	All T\$m	Move	Trad Life	Univ Life	ISA	Unit Link	VA	Acci dent	Hlth	ISL	Strat Chge			
Large Companies	SP	Far Glory	22.3	→	●	○	○	○	○	■	95%	●	5%													
		SKL	47.3	↓	○	○	○	○	○	■	84%	●	16%													
		Cathay	103.3	↓	○	○	○	○	○	■	82%	●	18%													
	Balanced	China Life	12.0	→	○	○	○	○	○	■	43%	●	57%	8.8	↑	○	○	○	○	○	○	○	○	○	■	
		Fubon	28.0	↓	○	○	○	○	○	■	23%	●	77%	28.8	↑	○	○	○	○	○	○	○	○	○	■	
Medium Companies	SP	Allianz	23.2	↓	○	○	○	○	○	■	91%	●	9%													
		Taiwan Life	11.0	→	○	○	○	○	○	■	86%	●	14%													
	Balanced	Mercury	16.7	↓	○	○	○	○	○	■	73%	●	27%	2.4	↑	○	○	○	○	○	○	○	○	○	■	
		PCA	8.0	↓	○	○	○	○	○	■	46%	●	54%	4.9	→	○	○	○	○	○	○	○	○	○	■	
		Nan Shan	10.0	↓	○	○	○	○	○	■	33%	●	67%	16.7	↓	○	○	○	○	○	○	○	○	○	■	
	RP	ING	25.6	↓	○	○	○	○	○	■	12%	●	88%	4.7	↓	○	○	○	○	○	○	○	○	○	■	
Chung Hwa Post		12.6	↑	○	○	○	○	○	■	0%	●	100%	24.0	↑	○	○	○	○	○	○	○	○	○	■		
Small Companies	Balanced	Manulife	1.2	→	○	○	○	○	○	■	70%	●	30%	0.5	→	○	○	○	○	○	○	○	○	○	■	
		ACE	0.9	↓	○	○	○	○	○	■	69%	●	31%	0.1	↑	○	○	○	○	○	○	○	○	■		
		Aegon	4.2	↓	○	○	○	○	○	■	67%	●	33%	1.9	↓	○	○	○	○	○	○	○	○	○	■	
		ALICO	1.9	→	○	○	○	○	○	■	39%	●	61%	0.2	→	○	○	○	○	○	○	○	○	○	■	
	RP	NYL	0.3	→	○	○	○	○	○	■	17%	●	83%	0.4	→	○	○	○	○	○	○	○	○	○	○	■
		Prudential US	0.9	→	○	○	○	○	○	■	4%	●	96%	0.9	→	○	○	○	○	○	○	○	○	○	○	■
		Hontai	0.6	→	○	○	○	○	○	■	3%	●	97%	0.6	→	○	○	○	○	○	○	○	○	○	○	■
		CIGNA	1.6	→	○	○	○	○	○	■	0%	●	100%	1.2	→	○	○	○	○	○	○	○	○	○	○	■
	Metlife	1.7	↓	○	○	○	○	○	■	0%	●	100%	1.1	↓	○	○	○	○	○	○	○	○	○	○	■	
New Entrants	SP	Cardif	13.6	↓	○	○	○	○	○	■	96%	●	4%													
		Bank of Taiwan	2.8	↑	○	○	○	○	○	■	95%	●	5%													
		HSBC	14.1	↑	○	○	○	○	○	■	91%	●	9%													
		Aviva	21.1	↑	○	○	○	○	○	■	90%	●	10%													
	RP	ACE America	0.4	↑	○	○	○	○	○	■	0%	●	100%	0.1	→	○	○	○	○	○	○	○	○	○	○	■

Negative Spread

Estimated required yield on the Legacy block



Source: TII Data and JP Morgan estimates

Capital Pressures

- We have categorised all companies into 5 groups for analysis purposes;
 - Large companies: FYP 2008: NT\$40bn upwards
 - Medium companies: FYP 2008: NT\$15bn to NT\$40bn
 - Small companies: FYP 2008: up to NT\$15bn
 - New entrants: Companies which entered the market between 2006 and 2008

Category	Company	FYP 08	Foreign?	Exited?
Large Companies	Cathay	205,976		
	Fubon	128,069		
	SKL	89,794		
	China Life	52,014		
	Far Glory	46,818		
Medium Companies	Chung Hwa Post	36,531		
	Nan Shan	36,181	Foreign	Exiting
	ING	34,495	Foreign	Exited
	Allianz	32,169	Foreign	
	Taiwan Life	28,275		
	Mercury	27,659	Part Forgn	Exiting
	PCA	19,453	Foreign	Part exited
Small Companies	Aegon	9,102	Foreign	Exited
	Metlife	5,218	Foreign	Exiting
	Hontai	3,355		
	ACE	3,198	Foreign	
	Manulife	2,950	Foreign	
	CIGNA	2,267	Foreign	
	NYL	2,096	Foreign	
	ALICO	1,493	Foreign	
	Prudential US	1,211	Foreign	

Category	Company	FYP 08	Size
New Entrants	Bank of Taiwan	37,032	Large/medium
	Cardif	17,046	Medium/small
	Aviva	11,607	Small
	HSBC	1,182	Very small
	USF	1,158	Very small
Companies with Negative Equity at Dec 2007	Singfor	11,284	Small
	Kuo Hwa	7,144	Small
	Global	830	Very small
	Sinon	712	Very small

Source: LIA New Business Flash Report

Regulations

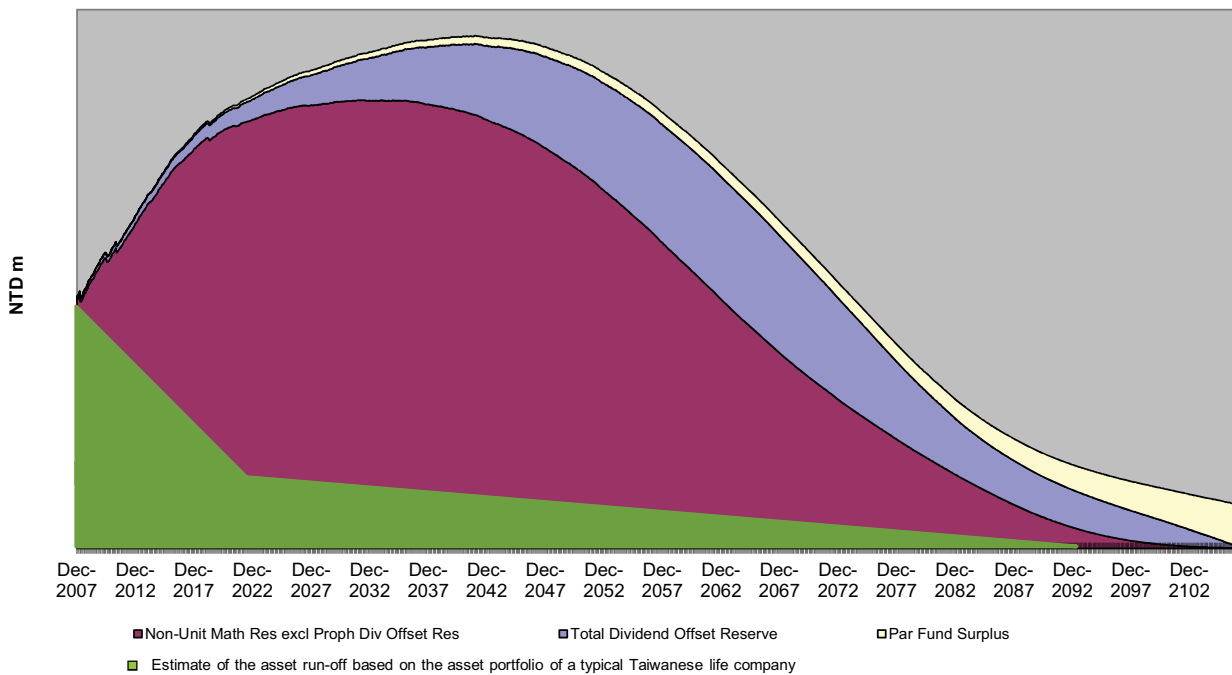
- Product types
- RBC changes
- Investment types & limitations
- Appointed Actuary regulations
- Distribution
- IFRS4 Phase 1

- IFRS4 Phase 2
- Solvency II

Profile of the In Force Business

Liability & Asset Duration Mismatch

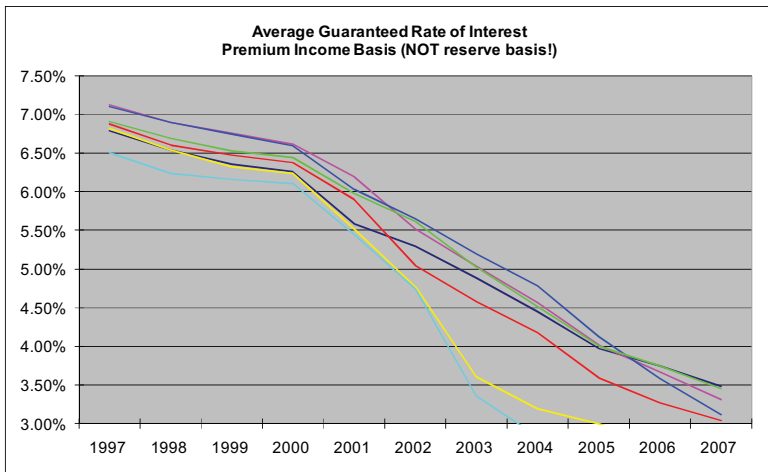
Reserves



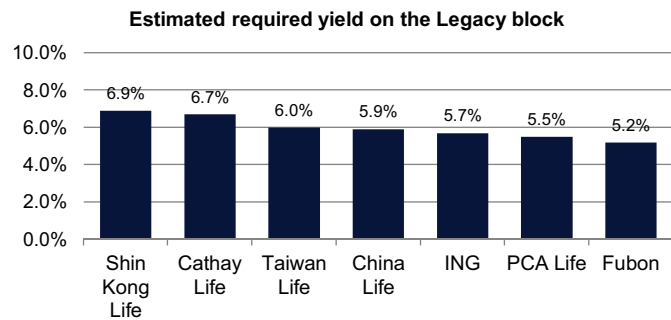
About Age 25

Source: Deloitte's projection using a sample Taiwanese life company

Is everyone the same?

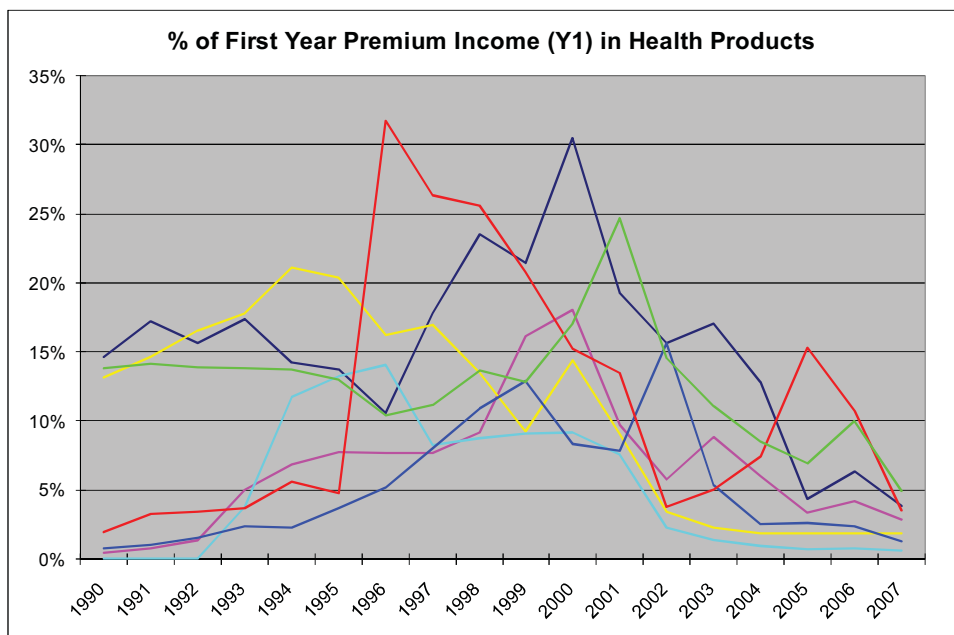


Source: TII data and knowledge of the level of interest rate guarantees in each year



Source: TII Data and JP Morgan estimates

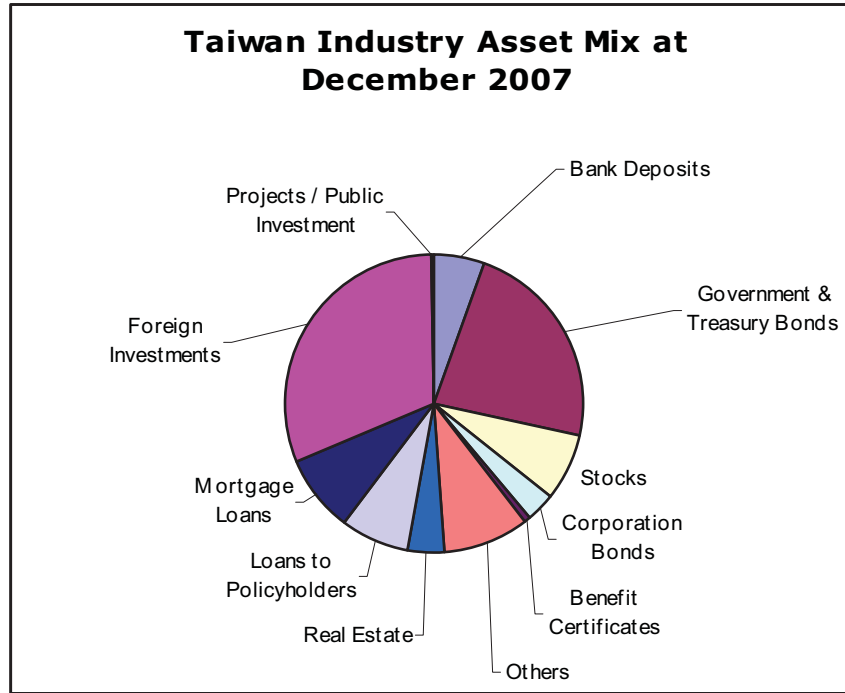
Guaranteed Health Products



Source: TII Data



Asset Mix



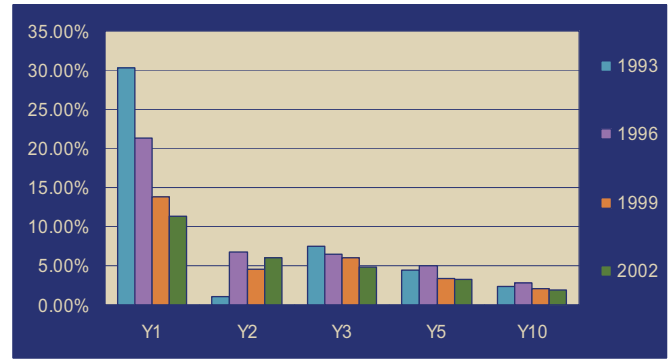
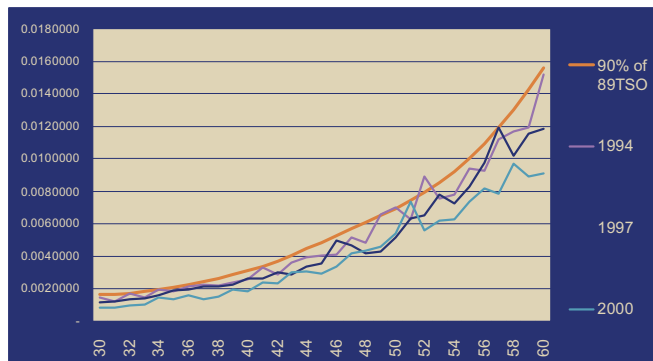
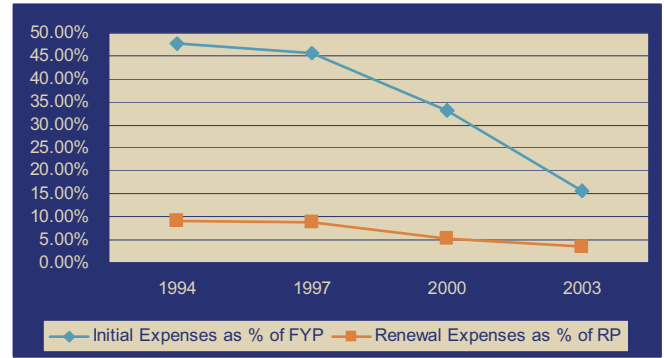
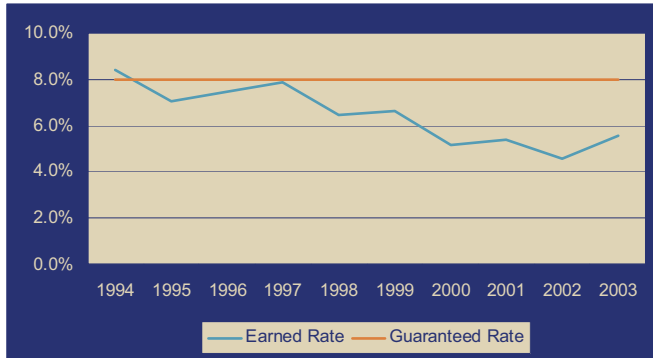
Source: TII Data

FX



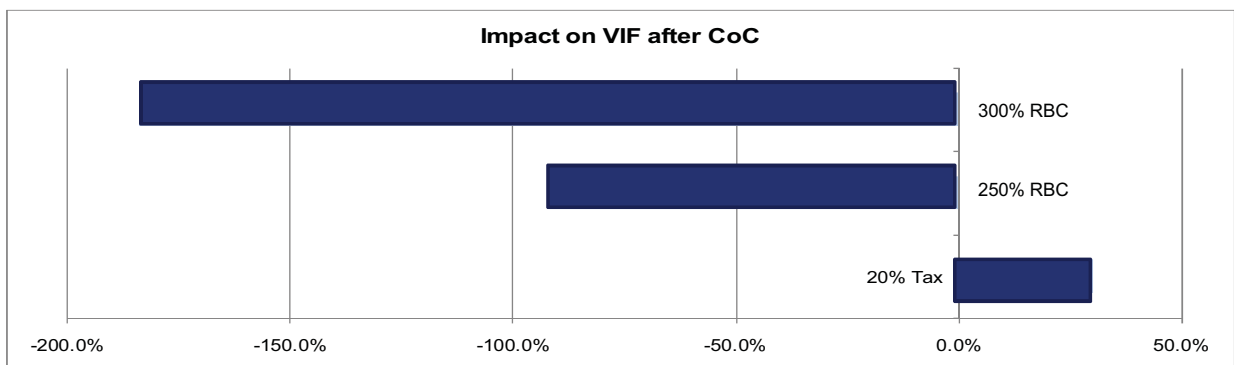
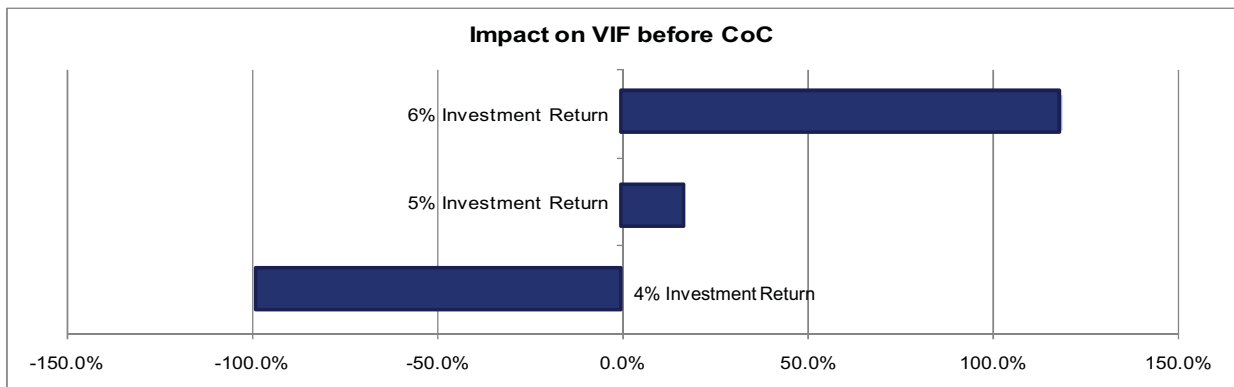
Source: Yahoo! Finance

Profits: Experience over 10 Years from 1994



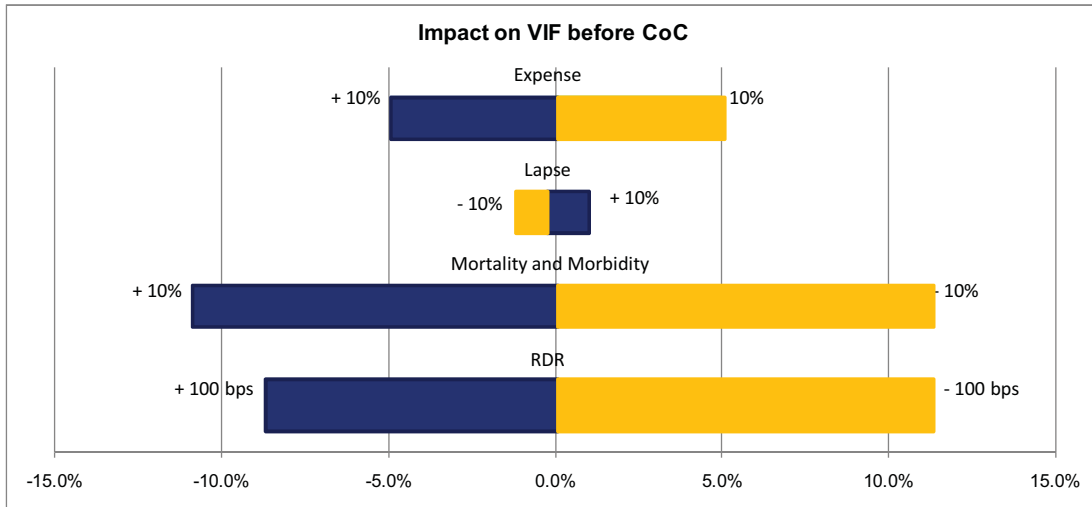
Source for all charts: Deloitte's presentation at 5th CEO Summit

Profitability: Sensitivity



Source: Deloitte's study using a sample Taiwan life insurance company

Profitability: Sensitivity



Source: Deloitte's study using a sample Taiwan life insurance company

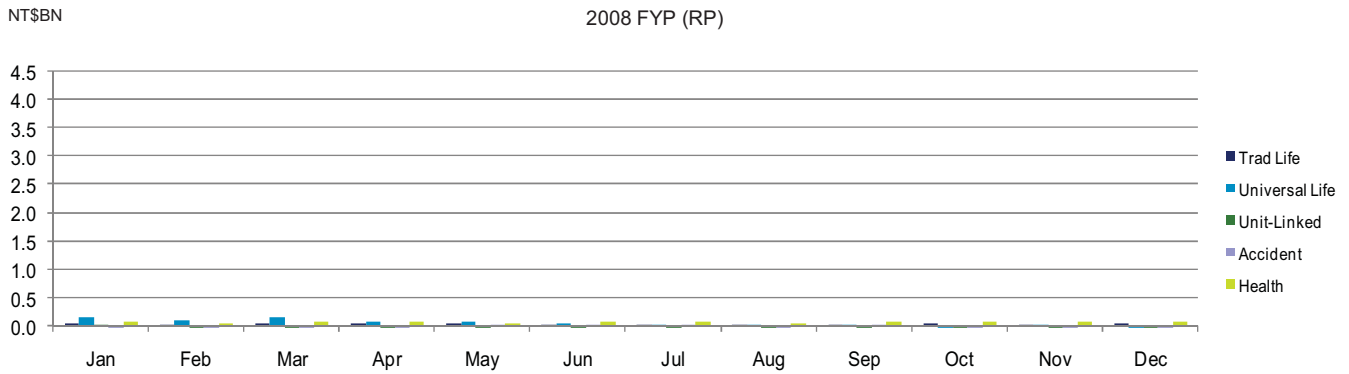
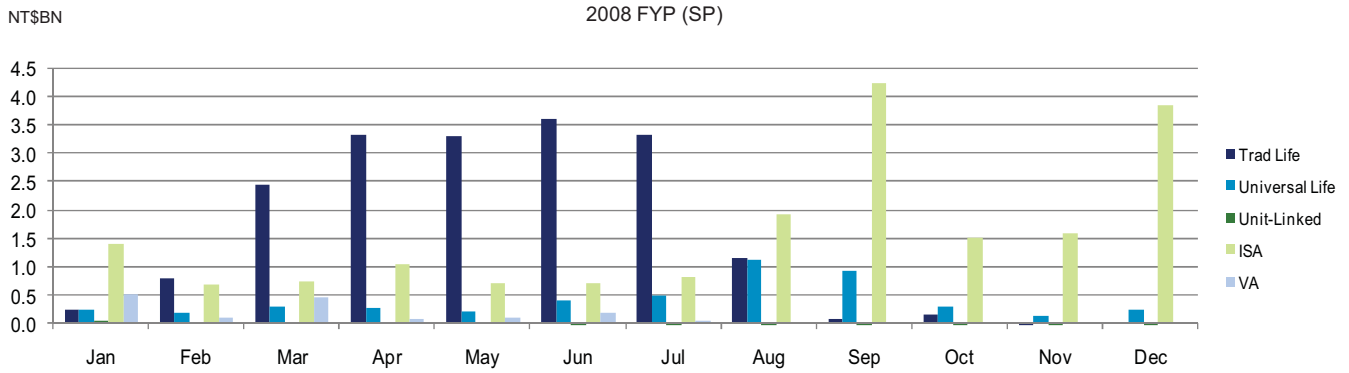
Behaviours & Beliefs



Things people say (paraphrased)

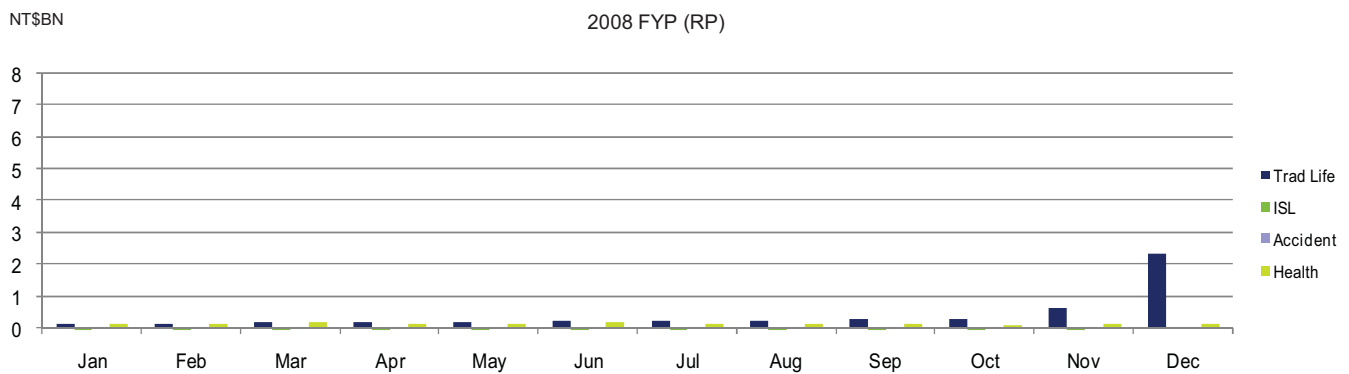
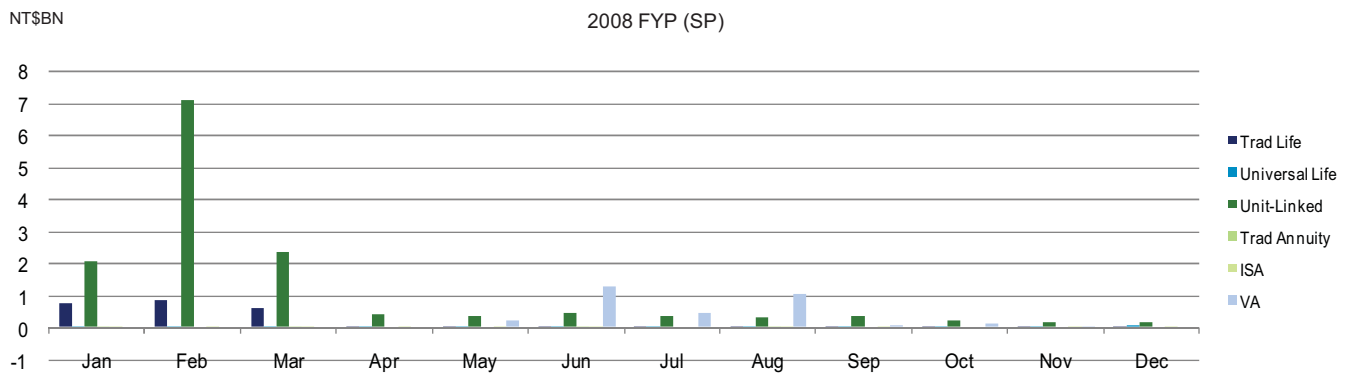
- Companies
 - “The negative spread is the problem”
 - “We just need interest rates to go up”
 - “Why can’t we invest more in foreign assets?”
 - “We really need longer-duration bonds”
 - “Proxy hedging is like hedging but it’s cheaper”
 - “IFRS4 Phase 2 and Solvency II methodology is a bit silly”
 - “We have a China strategy, that will help”
 - “If we need to raise capital, there’s plenty of it in Taiwan, so no need to go to New York, London, Hong Kong,…”

Sales in 2008: Company A



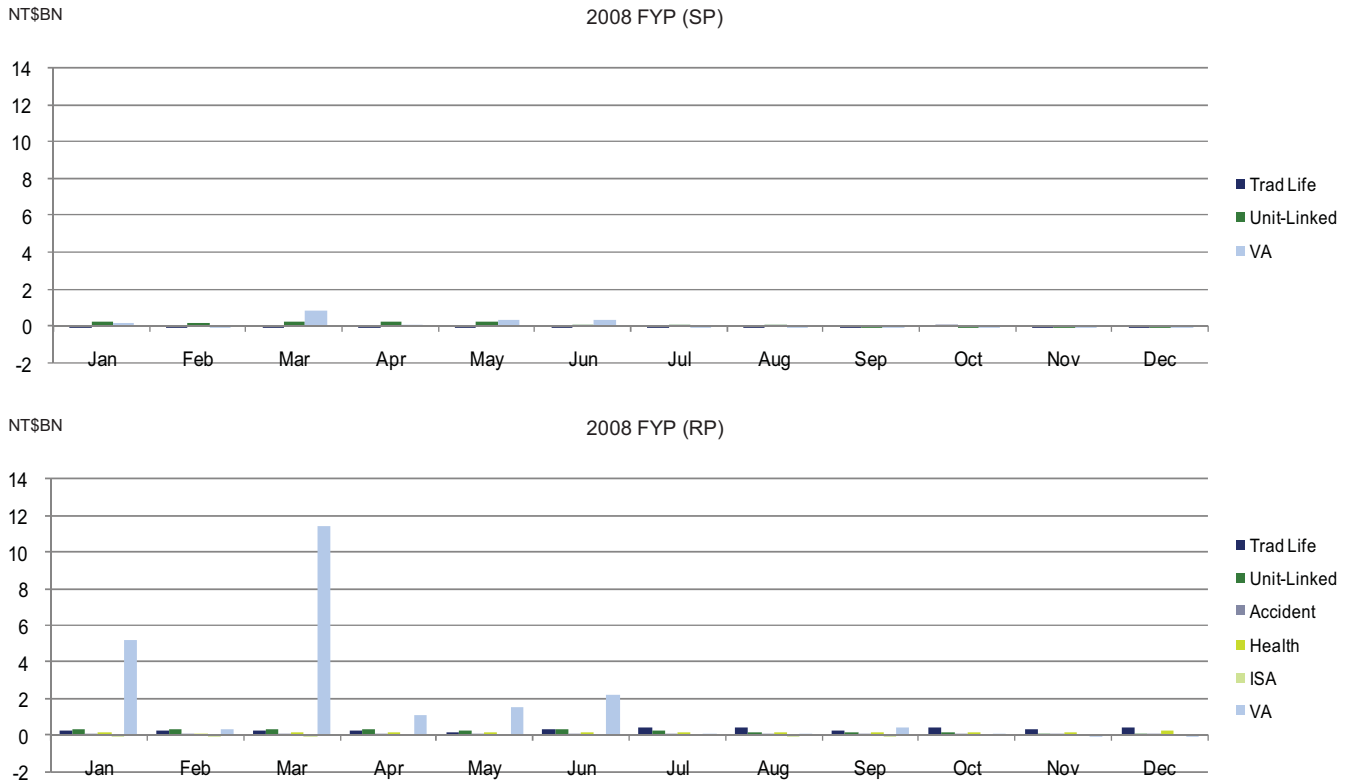
Source: LIA New Business Flash Report

Sales in 2008: Company B



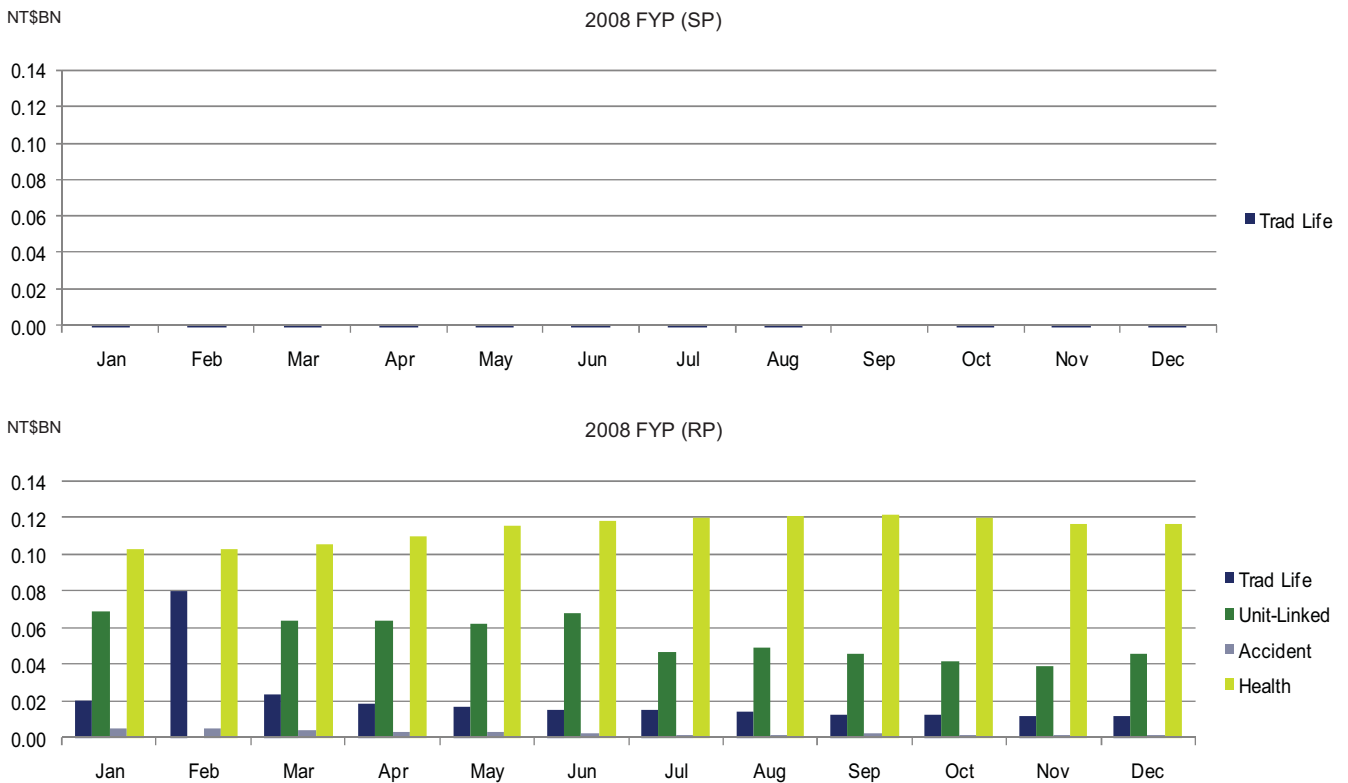
Source: LIA New Business Flash Report

Sales in 2008: Company C



Source: LIA New Business Flash Report

Sales in 2008: Company D



Source: LIA New Business Flash Report

Published EVs & Market Observables

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Taiwan – Summary of Recently Published EV Results

	As at 31.12.2010				
	Cathay	Shin Kong	Fubon	China Life	TW Life
Published Results (NT\$BN)					
ANW	193.00	148.50	81.90	48.10	12.134
VIF before CoC	338.00	62.30	114.50	36.00	21.159
CoC	-82.00	-34.80	-40.90	-12.96	-6.119
VIF	256.00	27.50	73.60	23.04	15.04
EV	449.00	176.00	155.50	71.14	27.18
VNB	43.00	12.60	24.80	6.88	4.27
Method & Assumptions					
Method	TEV	TEV	TEV	TEV	TEV
RDR (VIF)					
	10%	10.00%	11.00%	10.50%	10.00%
RDR (VNB)					

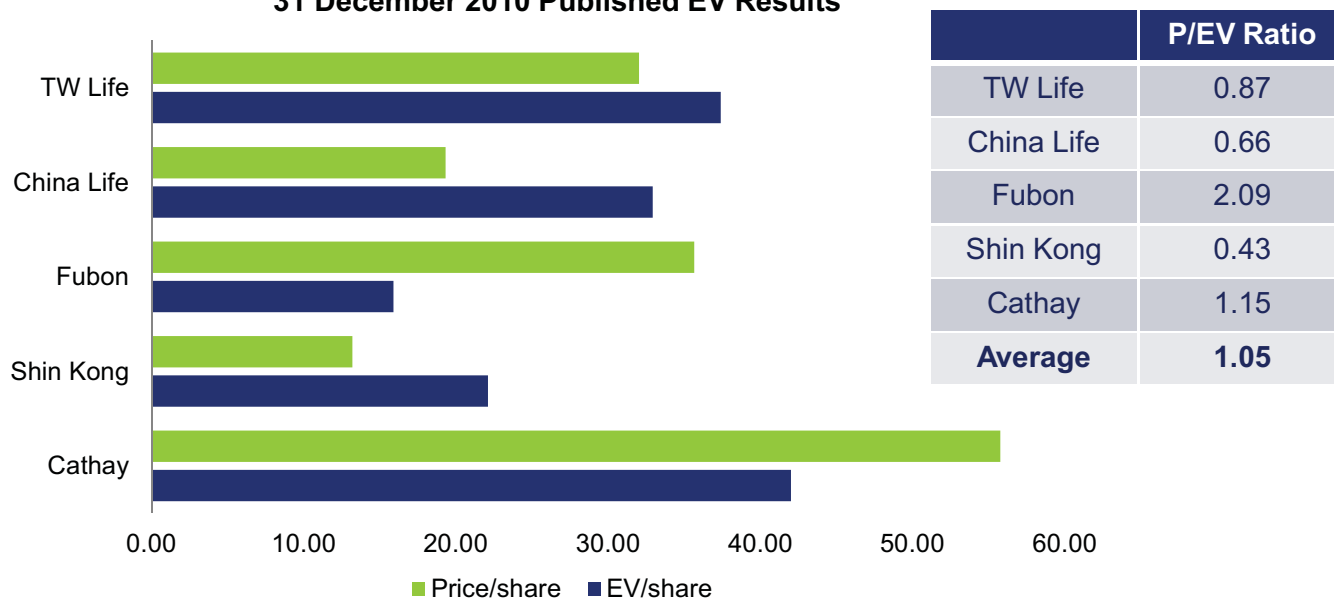
Source: company's published EV disclosure

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Taiwan – P/EV Ratio of Recently Published EV Results

31 December 2010 Published EV Results



	P/EV Ratio
TW Life	0.87
China Life	0.66
Fubon	2.09
Shin Kong	0.43
Cathay	1.15
Average	1.05

Source: company's published EV disclosure and internet information

Taiwan – Recent Transaction Prices

	Fubon/ING	Aegon/Meifu	NanShan / Ruentex	Metlife / Chinatrust
Published Results (NT\$BN)				
Announcement Date	Oct-08	Apr-09	Feb-11	Oct-11
Transaction Value	19.50	2.73	64.80	5.30
Stated Book Value	27.33	4.65	148.04	9.80
Price/Book Value	0.71x	0.59x	0.43x	0.55x

Source: internet information

Assume that Transaction Value = Appraisal Value
= Embedded Value + Value of Future New Business

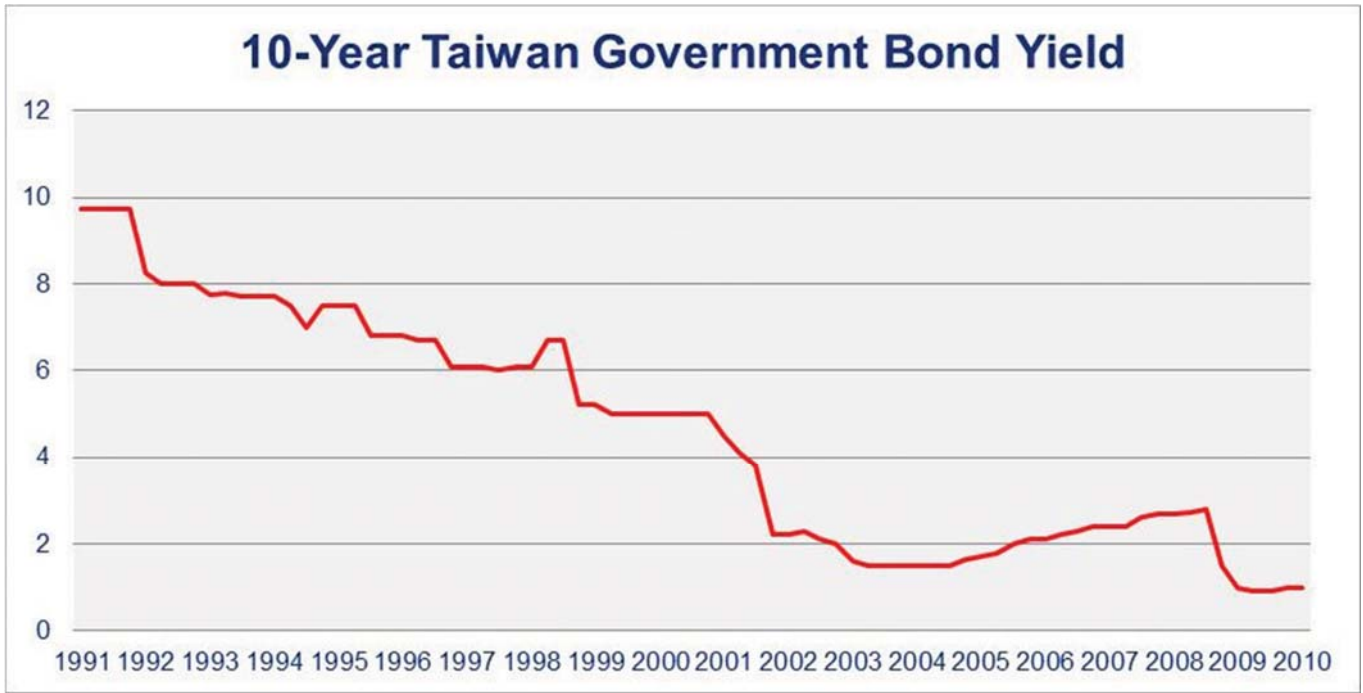
Assume that Value of Future New Business > 0

So Transaction Value > Embedded Value
> Book Value + VIF

But Transaction Values < Book Value

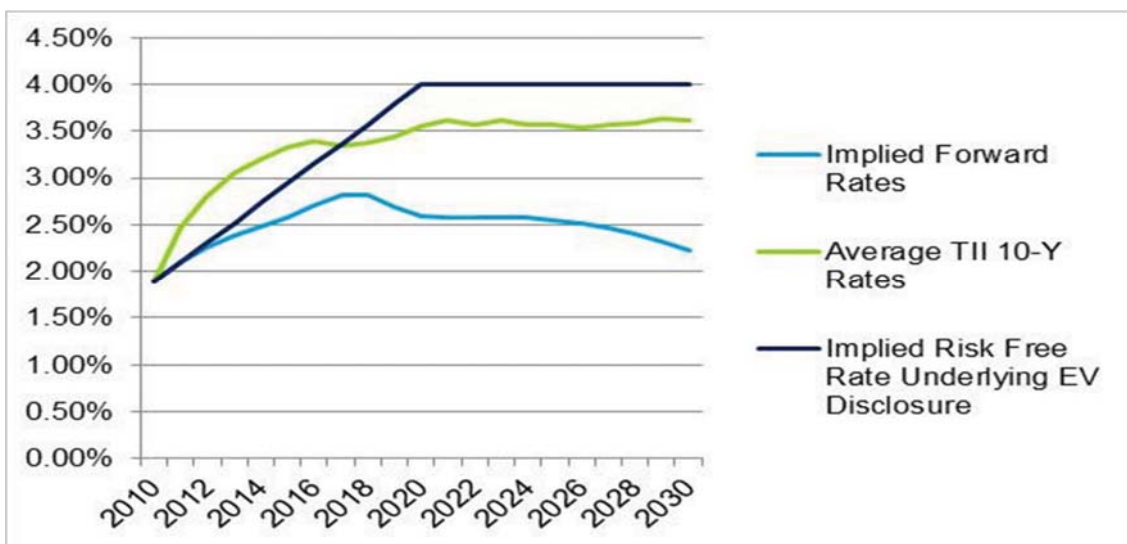
Means VIF < 0

Taiwan – Recent History of Taiwan Interest Rates



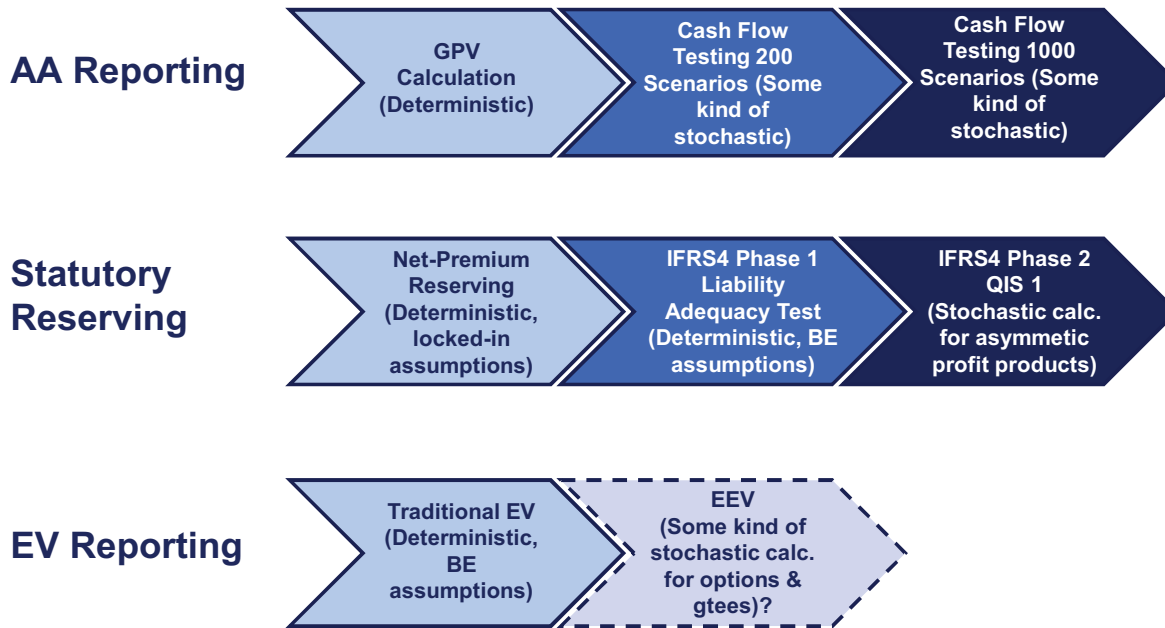
Source: TII data

Taiwan – Spectrum of Views on Future Interest Rates

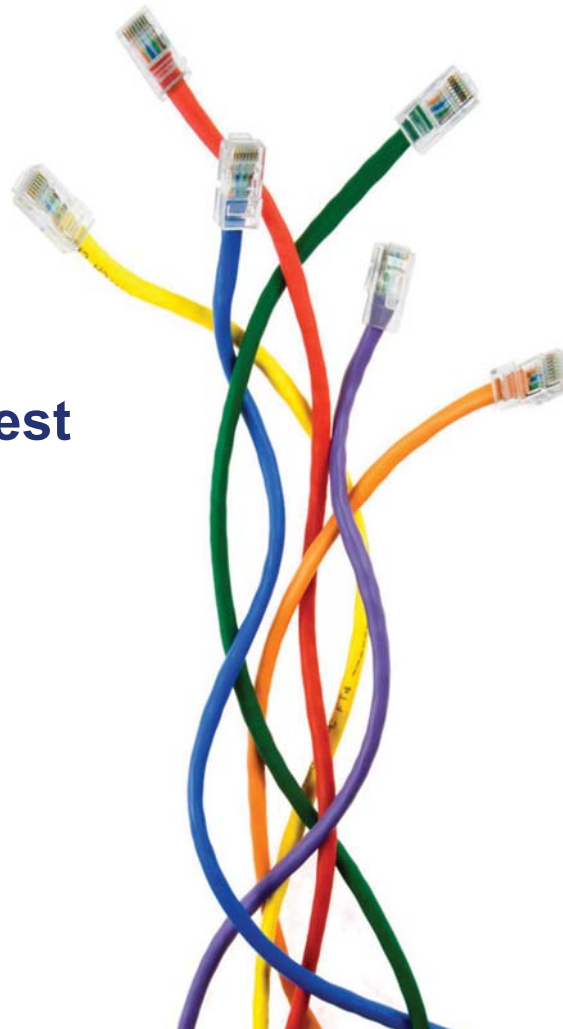


- **Implied forward rates:** Implied based on the government bond spot rate curve published on the OTC website.
- **Average TII 10-year rates:** Average 10-year spot rate over the 1000 scenarios published by TII for 2010 AA reporting.

Taiwan – Developments in Various Types of Calculations

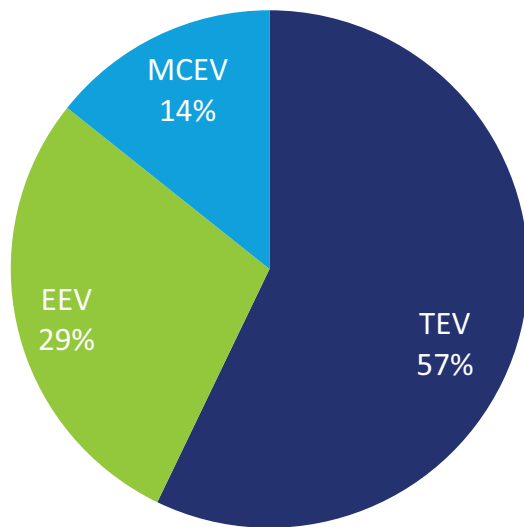


3. EV Practices in Rest of the World



Japan – Overview of EV Practices in Market

Japanese Market at 31 March 2010 - Distribution of EV Practices



- As of 31 March 2010, 14 **domestic** companies publish EV results.
- In other words, this overview shows **no Japanese branch/subsidiary** of multinational insurers.
- Majority still publish using the TEV approach, but there is a move towards the EEV and MCEV approaches.
- If Japanese branch/subsidiary of multinational insurers are included in the study proportion of EEV and MCEV is likely to increase.

Japan – RDR & Risk Free Rate Assumptions

Company	EV Method for 31 Mar 2010	Change from TEV to EEV/MCEV	RDR / Risk Premium	Risk Free Rate (rfr)
Fuji	TEV	NA	8% / 6%	20Y JGB
ORIX	TEV	NA	6.5% / 5%	10Y JBG
Nippon Koa	TEV	NA	8% / 6%	20Y JGB
Tokio Marine Nichido Anshin	TEV	NA	8% / 6%	20Y JGB
Tokio Marine Michido Financial	TEV	NA	8% / 6%	20Y JGB
IOI	TEV	NA	8% / NA	NA
Mitsui Sumitomo Kirameki	TEV	NA	7% / NA	NA
Sumitomo	EEV	2010	JBG (par yield)	JGB (par yield)
Dai-ichi	EEV	2010	JBG (par yield)	JGB (par yield)
Mitsui	EEV	NA	Swap rates	Swap rates
T&D	EEV (Direct)	2008	Swap rates	Swap rates
Sompo Japan Himawari	MCEV	2010	Swap rates	Swap rates
Sony Life	MCEV	2009	Swap rates	Swap rates

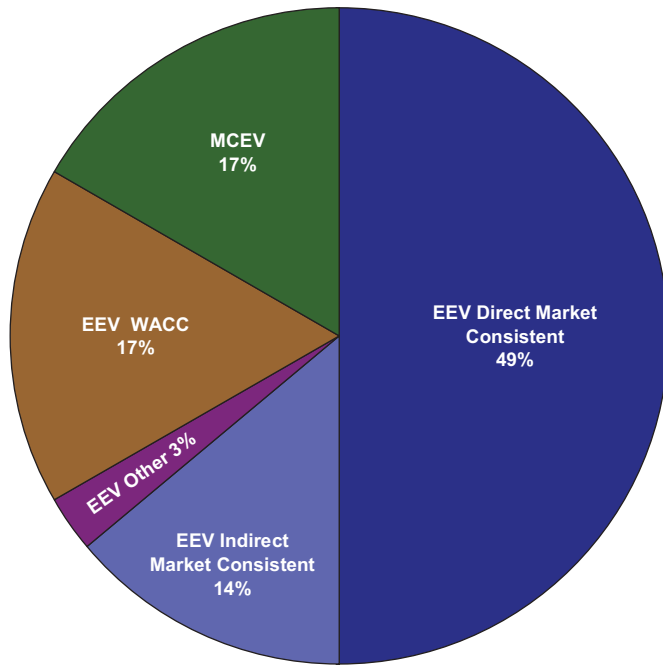
Japan – Incentives for Moving to EEV/MCEV

- The **T&D Life Group** stated the following in its 31 March 2008 Annual Report and EEV Report:
 - **“We have decided to move to EEV-based disclosure with the aim of enhancing the transparency of our yardstick for measuring corporate value.”**
 - **“In an attempt to solve some of the problems inherent in the traditional EV (TEV) approach and thereby improve the transparency of EV disclosure, the Group began using the European Embedded Value (EEV) Principles to calculate EV from 31 March 2008.”**
 - **“2.4.1 TEV increases if more high-risk assets are assumed to be held.”**
 - **“2.4.2 Subjectivity of Risk Discount Rate.”**
 - **“2.4.3 Recognition of Cost of Options and Guarantees”**
 - **“2.4.4 Cost of Capital”**

Japan – Lessons for Taiwan

- A move away from TEV to EEV/MCEV started in around 2009 – some companies (like T&D) started earlier whilst some companies (like Dai-ichi, Sumitomo) later in 2010.
- Companies publish TEV results whilst studying EEV/MCEV results internally.
- For companies following the EEV/MCEV approaches there is a relatively large amount of disclosure, in line with general principles of EEV/MCEV.
 - **Dai-ichi** has 37 pages of disclosure on its EEV results.
 - **T&D** has around 30 pages of disclosure on its EEV results.
 - A relatively large amount of EV disclosure in the T&D 2008 annual report (the first time that it disclosed EEV results) explains the approach for **educational purposes**.

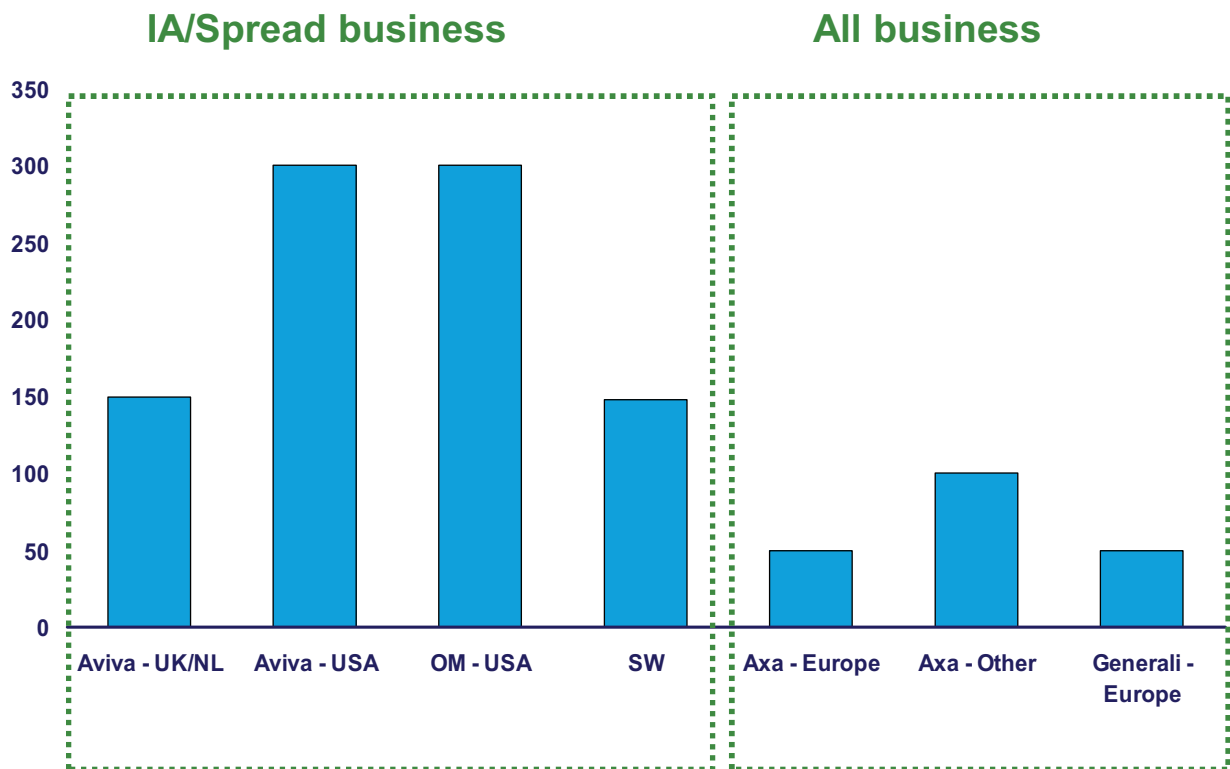
Europe – Overview of EV Practices in Market



- **No TEV** method at all.
- Still a **diverse** set of methodologies used to calculate EV
- Controversy around **liquidity spreads** applied
- Different methods used for **volatility settings**
- Little clarity prevails around setting of non-market risks

Europe EV Reporting: Sources of Inconsistency

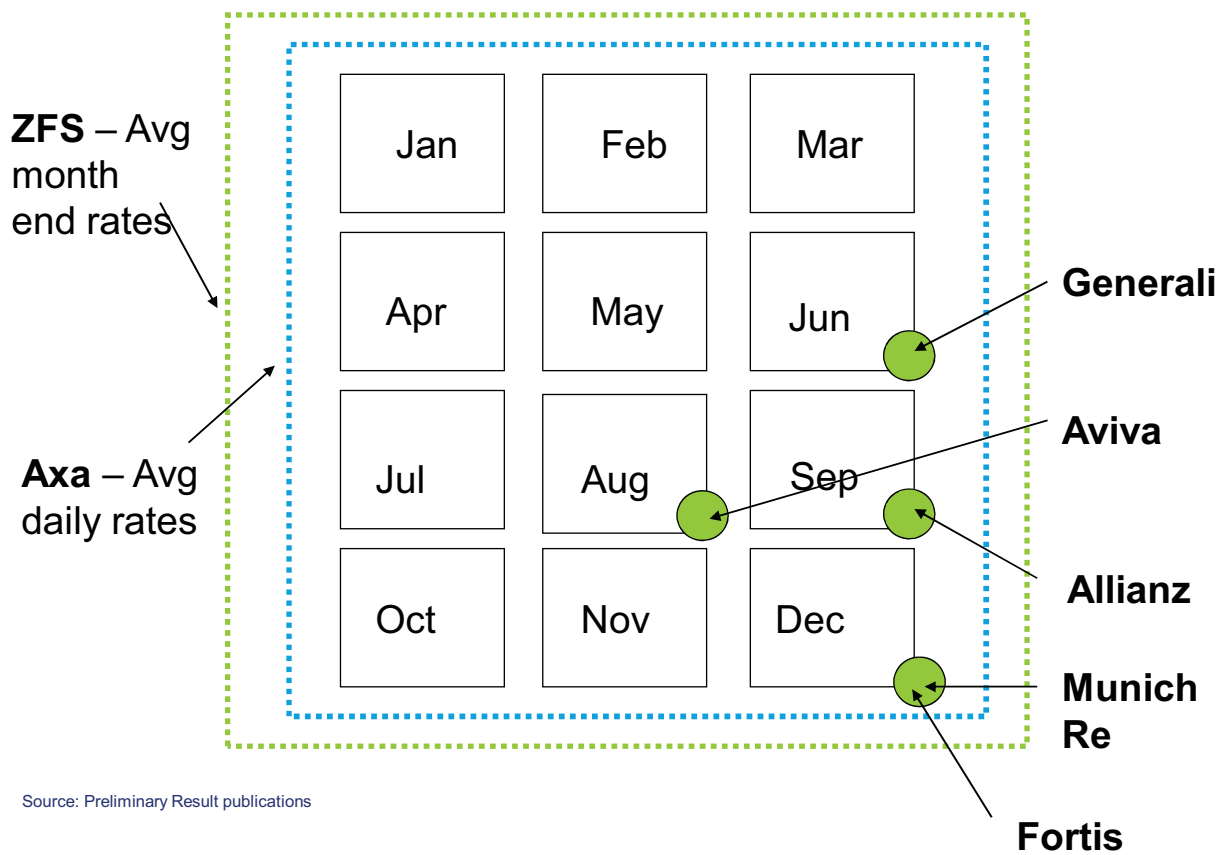
Illiquidity premiums



Source: Preliminary Result publications

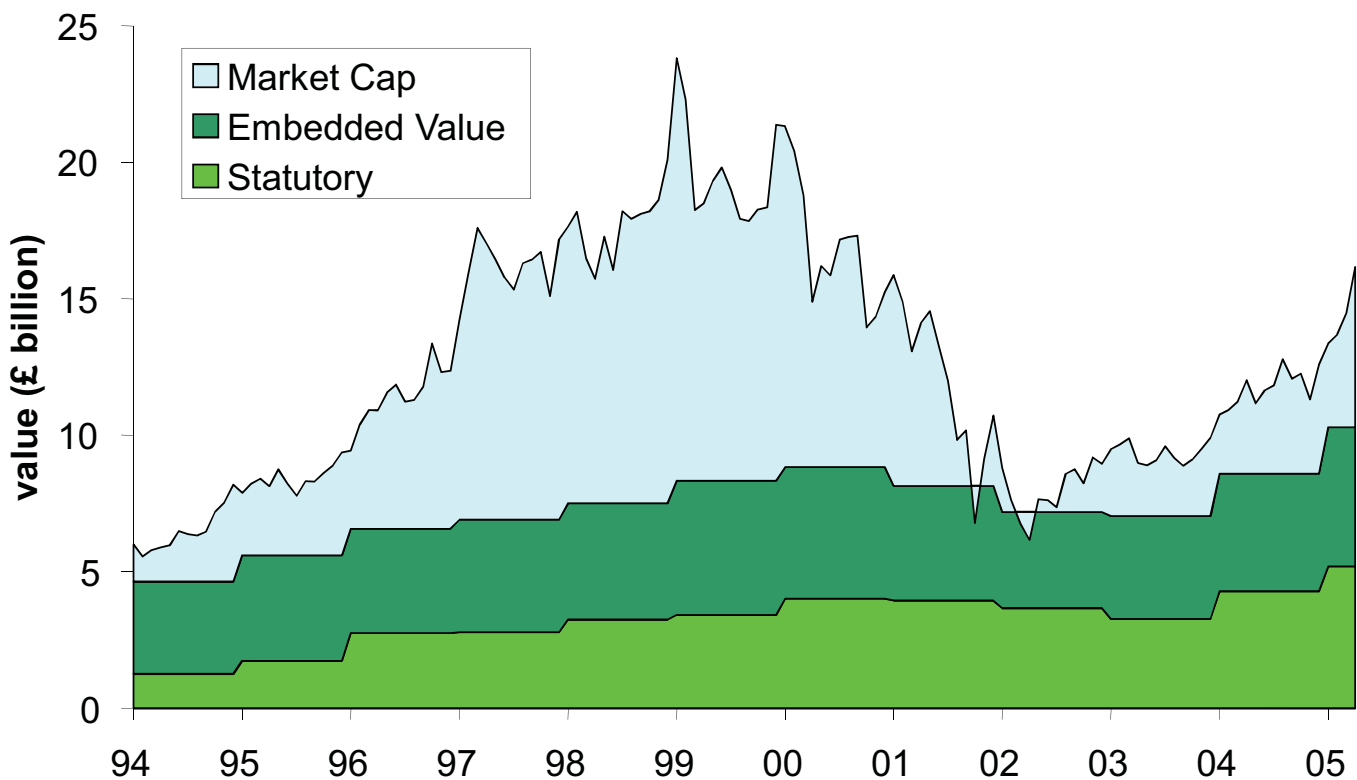
Europe EV Reporting: Sources of Inconsistency

Volatility Assumptions in 2008



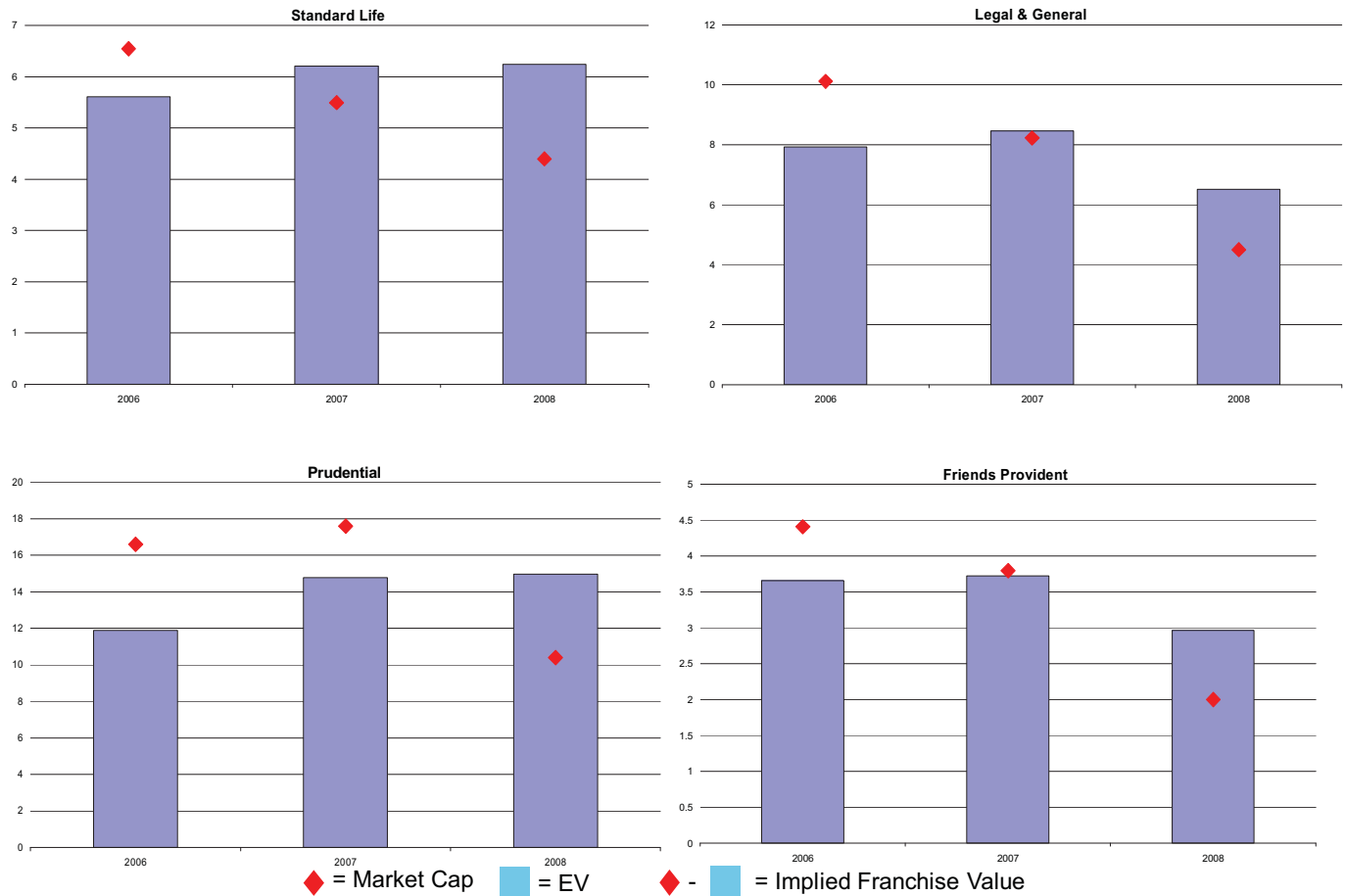
Europe EV Reporting

Prudential UK Market Capitalisation vs Published Embedded Value



Source: Prudential's annual reports

Europe EV Reporting: Franchise Value – Comparison of Market Cap and EV



93 Source: company's published EV disclosure and analysts' reports

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Why are some insurers currently trading at less EV?

- Contagion from banking sector
- Adjustments for assumptions such as liquidity premium and average volatilities which investors may not consider to be appropriate
- Fear of life company insolvency if economic conditions worsen, leading to higher lapse rates and other potential consequences.
- Concerns over possible future 'bad news' as life companies look into their balance sheets.
- Timing

Australia – Overview of EV Practices in Market (1)

- Most Australian companies still are using **TEV**:
 - Primary reason being that MCEV when it was introduced in Australia did not get much traction and analysts in particular were very skeptical as to what the numbers represented.
 - As most Australian business has limited guarantees, there is not a lot of additional informational value in an MCEV currently.
 - Companies with European parents will produce MCEV – however this is a relatively small number.
- Usage in the market:
 - Widely used – there would be very few Australian companies which do not prepare them as management information.
 - There are only a few companies that publicly report them, as only a few of the Australian life companies are standalone listed entities.

Australia – Overview of EV Practices in Market (2)

- Economic assumptions in **TEV**:
 - In general companies in Australia using TEV derive an RDR based on CAPM – with an equity risk premium in the 4 to 5.5% range.
 - Investment earnings will be based on actual asset mix and best estimate investment returns, with the bond rates based on market rates at the valuation date.
 - Beta will either be a company wide view based on market observed betas – or alternatively a **product based beta** which tries to better reflect the relatively low betas that apply to insurance businesses relative to wealth/investment business.

South Africa – Overview of EV Practices in Market

- In general, the South African companies use EEV in line with the CFO Forum Principles, but have freedom to use MCEV if a company wishes.
- In terms of local practice:
 - **No TEV at all**
 - **Mostly EEV**
 - **Old Mutual uses MCEV, mainly driven by Old Mutual Plc in the UK**
- Practice on economic assumptions
 - Most companies use a risk-free rate based on the yield curve at the valuation date (either using a yield curve or a single rate from the curve consistent with the discounted mean term of the liabilities), with assumed equity return 3.5% above this, and a risk discount rate which is some “Beta” multiple of the equity risk premium over the risk-free rate (the Beta measured from the company’s share price where listed or some proxy measure).

South Africa – Industry Embedded Value Reporting Guidelines (1)

- Guidance notes on EV reporting issued by local actuarial society (Actuarial Society of South Africa or ASSA).
- First version effective from 2001; ongoing revisions with latest version effective from 31 December 2009.
- Rationale and Goals
 - **Encourage consistent application between peer insurance companies**
 - **Improve consistency and transparency of disclosure**
 - **Keep up with evolving professional practice standards worldwide**

South Africa – Industry Embedded Value Reporting Guidelines (2)

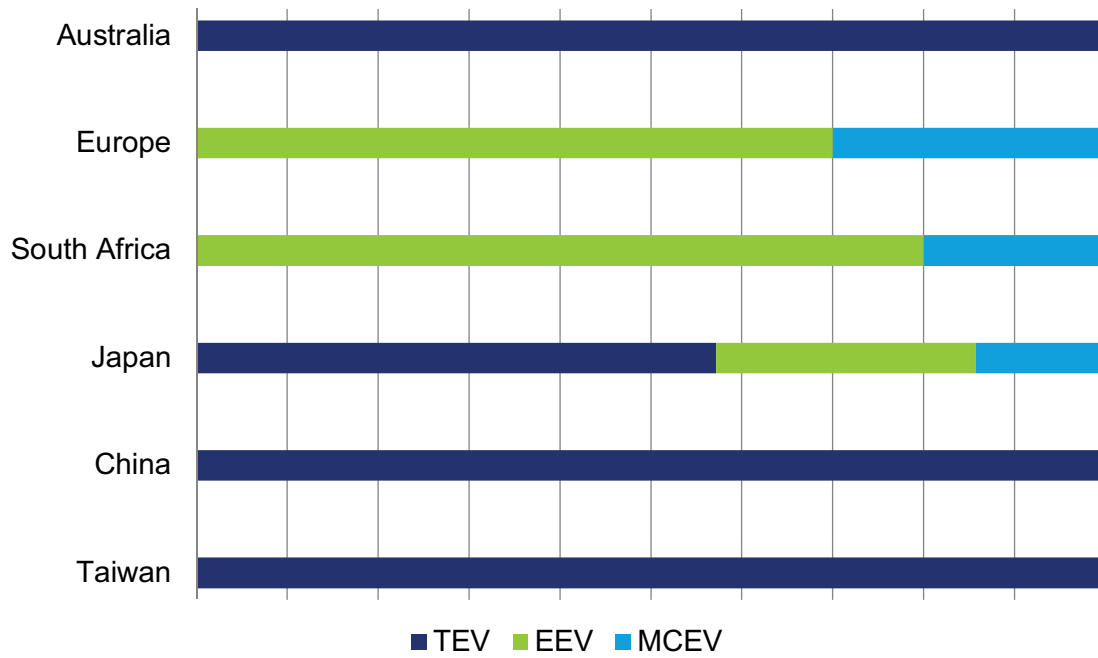
- Methodology
 - Recognises a number of approaches that allow for risk including TEV and MCEV, and uses several concepts and wording from the EEV Principles and Guidance.

China – EV Practices in Market

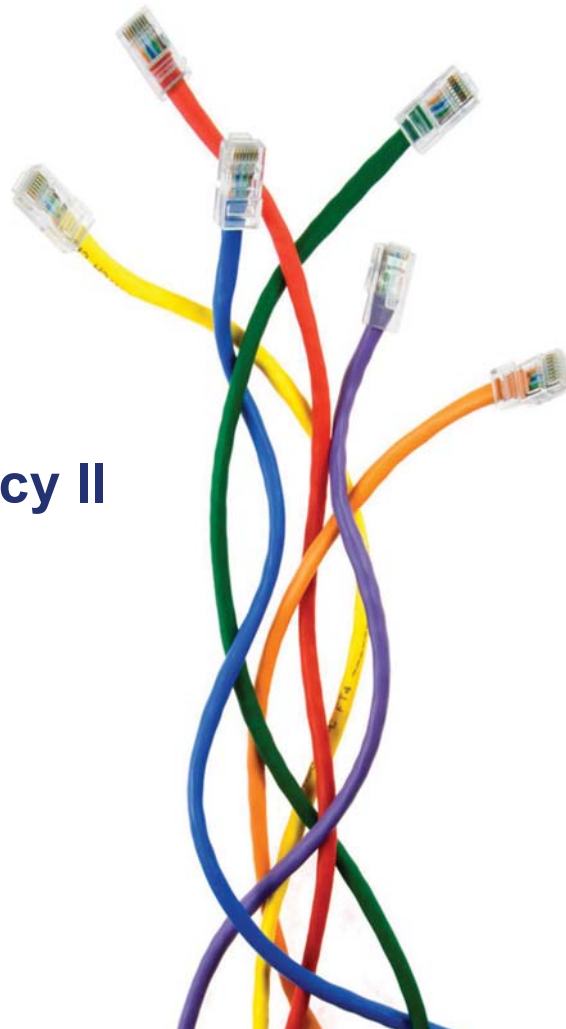
- **Regulatory requirement:** All life insurance companies are required to submit a full EV report on TEV basis to CIRC on an annual basis.
- **Internal reporting:** In addition, Chinese branch/subsidiary of European life insurers carry out EEV/MCEV calculations for internal reporting purposes. These include Aviva, Prudential, AXA, Standard Life, Hanover Re and Munich Re.

Where does Taiwan Stand?

Distribution of EV Methodologies Across Countries



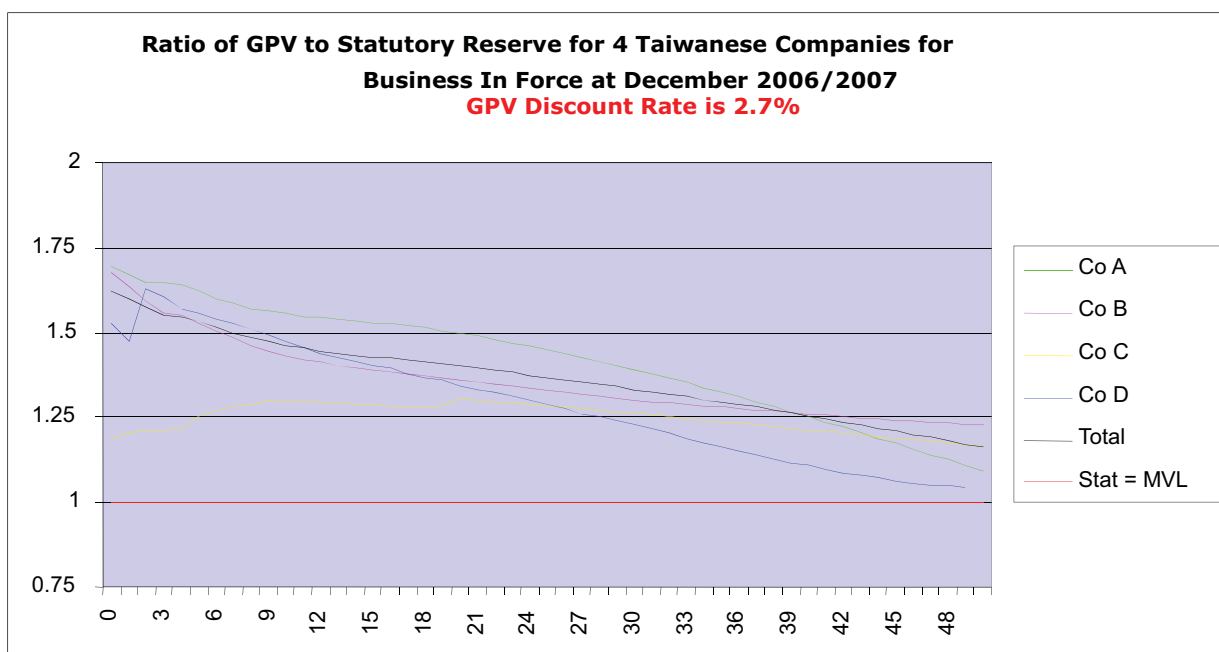
4. Linkage to IFRS4 Phase 2 & Solvency II in Taiwan



IFRS4 Phase 2 & Solvency II

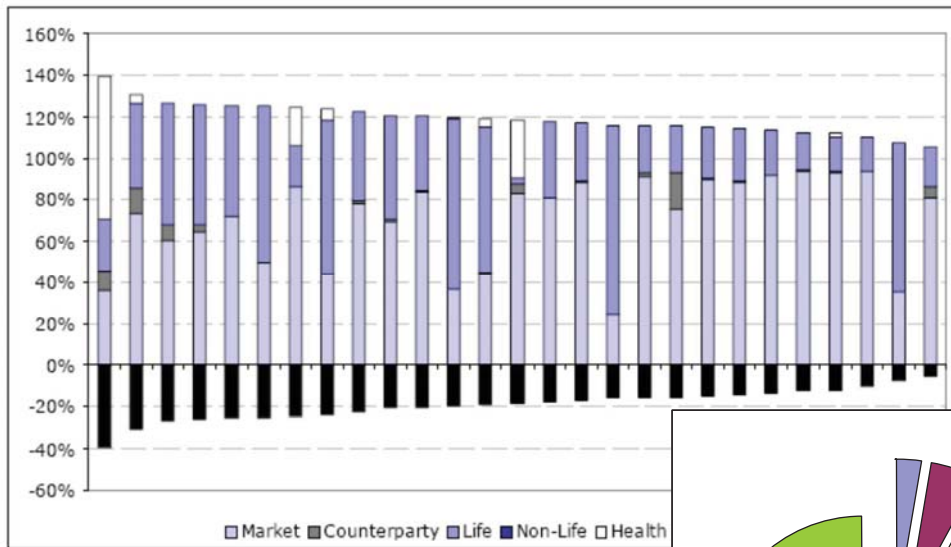
- Studies are currently being done in Taiwan on:
 - “QIS 1” on IFRS4 Phase 2
 - Solvency II-style stress tests, but on a statutory basis
- There’s a lot of talk about liquidity premiums

Possible Impact of IFRS4 Phase 2: Reserve Deloitte observations from 2008



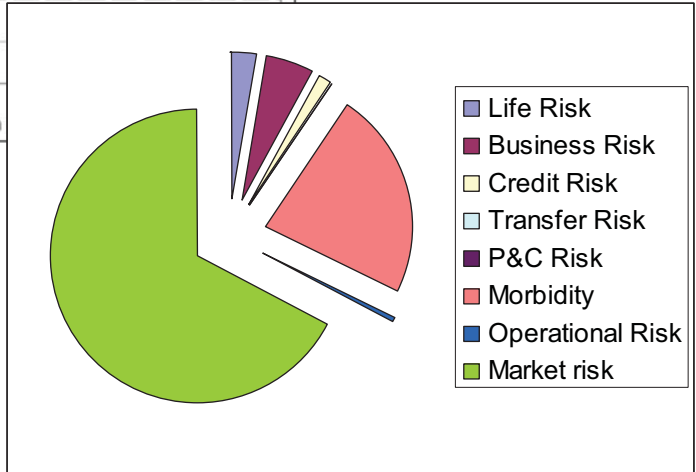
Source: Deloitte's study

Possible Impact of Solvency II: Solvency Capital QIS4 & Example Taiwan S2 Risk Capital

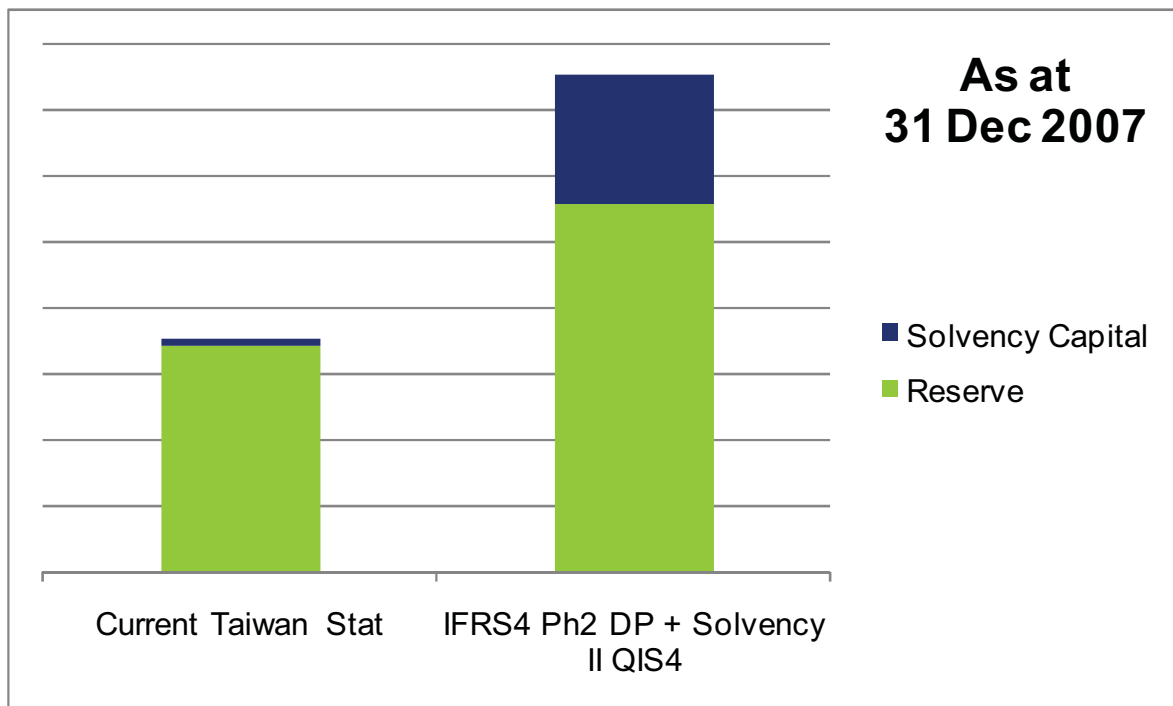


Source: Deloitte's study on Economic Capital for a sample Taiwan life company

Source: CEIOPS report on QIS4



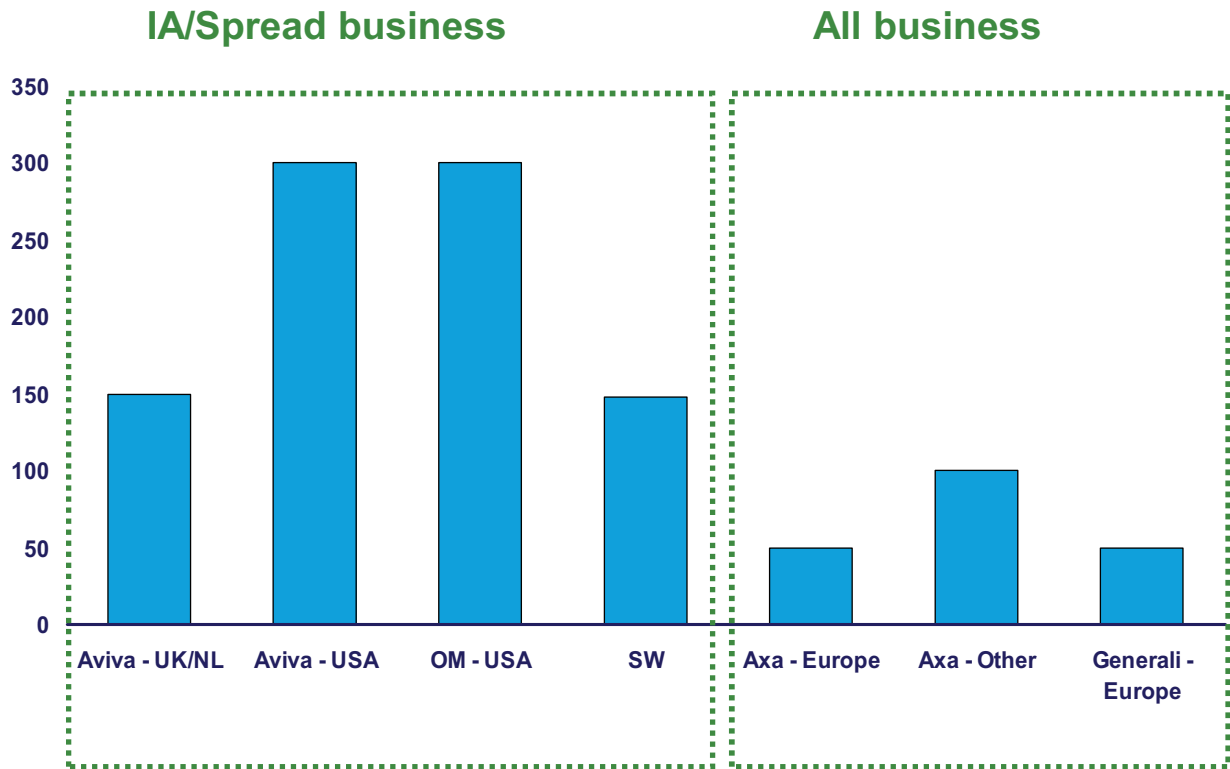
Possible Impact of IFRS4 Phase 2 & Solvency II Deloitte observations from 2008



Source: Deloitte's estimates

Illiquidity Premiums

Real Examples from Europe



Source: Preliminary Result publications

Illiquidity Premiums – Example Impact for Aviva Group

2008 Embedded value (net of tax and minority interest)	As reported in M10 £m	Risk free rate as swap yields £m
United Kingdom	4,887	(2,117)
France	2,519	–
Ireland	990	–
Italy	645	–
Netherlands (including Belgium and Germany)	2,110	(120)
Poland	1,228	–
Spain	655	–
Other Europe	236	–
Europe	8,383	(120)
North America	64	(3,862)
Asia	424	–
Australia	331	–
Asia Pacific	755	–
Total	14,089	(6,099)

The CFO Forum has indicated its intention to review the use of liquidity premium.

Source: Aviva Statements

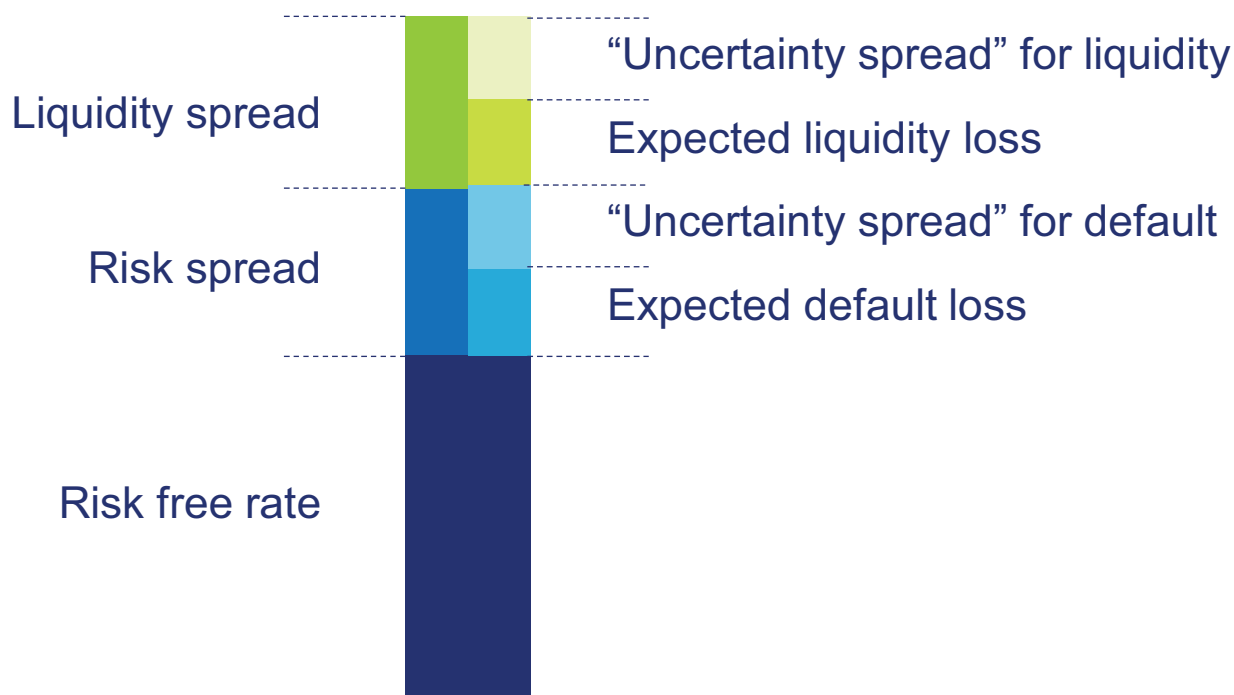
Illiquidity Premiums

Why were some insurers trading at less EV?

- Contagion from banking sector
- Adjustments for assumptions such as liquidity premium and average volatilities which investors may not consider to be appropriate
- Fear of life company insolvency if economic conditions worsen, leading to higher lapse rates and other potential consequences.
- Concerns over possible future 'bad news' as life companies look into their balance sheets.
- Timing

Illiquidity Premiums

So what is an Illiquidity Premium?



Illiquidity Premiums

How does this apply to liabilities?

- Default risk of liabilities
 - Not allowed to decrease liabilities / increase VIF due to risk of own default
- Liquidity risk of liabilities
 - Liabilities can be illiquid in two ways:
 - No surrender value
 - Surrender value is below the fair market value
 - Many liabilities in Taiwan have these characteristics
 - In particular the compulsory dividend business
 - So it is ok to consider an illiquidity premium on liabilities

Illiquidity Premiums

What does an illiquidity premium look like?

- To measure illiquidity on policies, for which there is no open market, you need to identify the illiquidity premium on something similar in the open market
 - Is there anything similar?
 - General approach is to refer to corporate bonds
- Matching principle means that it should be possible to remove liquidity risk by investing in assets with the same illiquidity
 - So if you can find a corporate bond with very similar liquidity characteristics to your policies, you can hedge the liquidity risk by buying that bond, and this would reduce your liability
 - If you apply an “illiquidity premium” which is higher than an observable illiquidity premium in the open market, you’re taking asset mismatch risk (by assuming you can make a return due to liquidity even though you can’t find any examples of it)

Illiquidity Premiums

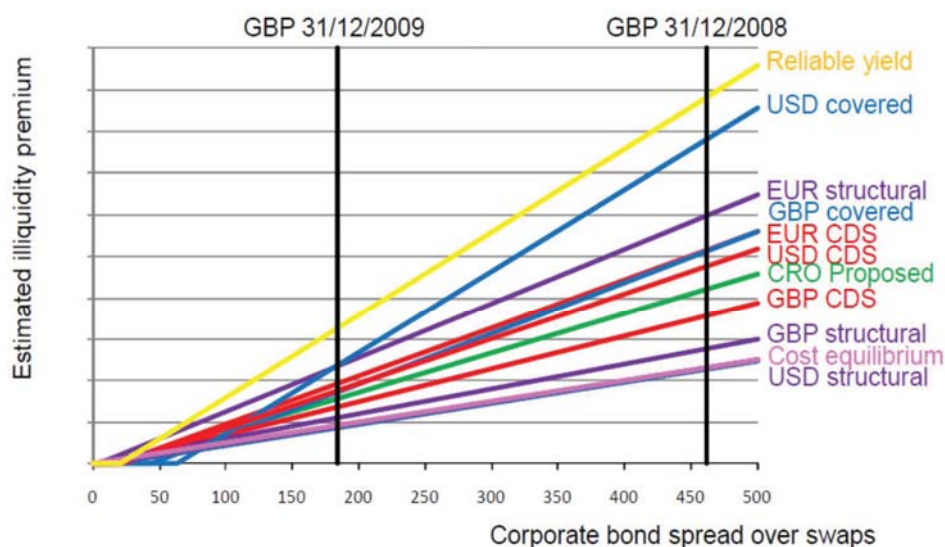
General approach to measuring illiquidity premiums

1. Understand how illiquid your liabilities are
2. Find some assets in the open market which have similar illiquidity characteristics and get the yield
3. Strip out the default spread bit of the yield, so you're only left with the illiquidity spread

Illiquidity Premiums

The difficulties of measuring the illiquidity premium

- Depending on which method you use, you get very different illiquidity premiums, especially when corporate bond spreads are wide
- Choice will have a major impact on liability valuation
- How to get consensus?



Source: CRO forum risk free calibration / Deloitte calculations.

Illiquidity Premiums

Observed Spreads on Corporate Bonds in Taiwan

Date	10-Y TwAAA	10-Y TwAA	10-Y TwA
31/12/2009	0.165%	0.387%	0.773%
31/12/2008	0.790%	0.955%	1.242%
31/12/2007	0.237%	0.337%	0.483%
31/12/2006	0.250%	0.349%	0.466%
Average	0.360%	0.507%	0.741%

Source: Bloomberg and OTC website

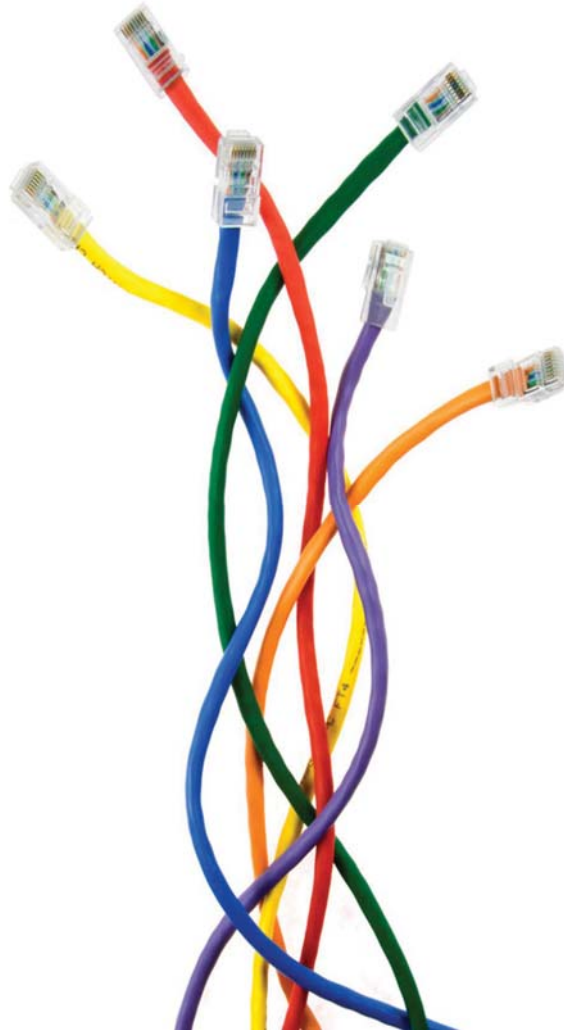
- Are the above corporate bonds “illiquid enough”?
- If not, where do find more appropriate ones?

Illiquidity Premiums

Some thoughts for Taiwan

- Some kind of illiquidity premium would be nice if we want to do IFRS4 Phase 2, Solvency II or MCEV in Taiwan
- In particular, something like 2.5% would be nice
- The theory suggests that getting 2.5% will be very difficult...
- ...but in practical terms it would still be nice
- This being the case, it might be that:
 - We quietly acknowledge that it’s “an illiquidity premium” and not “the Illiquidity Premium”
 - We quietly acknowledge that people outside Taiwan might disagree with this
- Finally, any level of illiquidity premium will not remove the volatility

5. Our Proposal



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Issues with TEV in Taiwan – Methodology

- Investment return assumptions
 - Objectivity difficult to demonstrate
 - Risk margins capitalised (riskier assets => higher EV)
- Allowance for risk
 - Cost of options and guarantees not fully recognised
 - Same RDR for all product types
 - Cost of capital limited to 200% RBC

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Issues with TEV in Taiwan – Credibility

- EVs more optimistic than implied EV in actual life company transactions
 - Many transactions
 - Implied VIF negative in every case
 - VIF in published EV positive in every case
 - Are transacted companies different from those with published EVs?
- EVs higher than market capitalisation in some cases
 - Observed over several years in some cases
 - But market cap is for whole listed Group, not just the Taiwan life insurance entity...
- Other studies suggest that EEV or MCEV would be lower

Issues with TEV in Taiwan – International Benchmarking

- TEV has **disappeared** in some places:
 - Europe, where EV was invented
 - South Africa
- It seems to be **disappearing** from some places in Asia:
 - Japan
- It is still **widely used** in some places:
 - China – but there the reasons for holding back from EEV or MCEV do not (in general) include concern over the result
 - Australia – but there is evidence that the result would not be much different EEV or MCEV

Issues with TEV in Taiwan – Local Benchmarking

- IFRS4 Phase 2
 - Government has stated a desire to “align with international reporting standards”
 - Impact study being carried out now
- Solvency capital
 - Government has stated a desire to “align with international reporting standards”
 - AA cash flow testing now stochastic, being enhanced every year
- EV
 - No changes

Issues with TEV in Taiwan – Objectivity

- Written standards
 - CFO Forum standards only started with EEV
 - No local standards
 - Reliance on independent sign-off – but independent reviewers desire objective standards too
- Disclosures
 - Current public disclosures vary widely
 - CFO Forum disclosures very comprehensive

Issues with TEV in Taiwan – Other

- Practicality
 - Stochastic methods now standard in Taiwan
- Understandability
 - Some complaints about MCEV
 - Not so many about EEV
- Are analysts & investors really asking for this?
 - They don't talk about it much
 - Market cap situation => EV adjustments are downwards
 - High awareness of implied VIF figures in transactions
 - Overseas analysts & investors do ask overseas companies

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Options: Overview

Methodology

Status Quo TEV	Progress EEV	International Best Practice MCEV
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Written Standards & Disclosures

Status Quo None / Elementary	Progress Local Guidance	International Best Practice CFO Forum-style
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Timing

Status Quo Wait until someone asks	Progress Investigate then judge	International Best Practice Do it ASAP
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Methodology: Keep the Status Quo

Methodology



- There is a **credibility risk** in keeping the status quo
 - Results not consistent with market observables
 - Objectivity of assumptions can be challenged
 - Benchmarking internationally becoming more difficult
 - Benchmarking locally becoming more difficult
 - Reliance on independent sign-off could become restricted

Methodology: Going to MCEV

Methodology



- Results would be **much more dependent on non-controllable risk**
 - Without a high “liquidity premium”, the VIF would be very negative
 - Even with a high “liquidity premium”, the VIF will be very volatile
- In the short term, unlikely to be much pressure to move to full MCEV
 - Full MCEV is still evolving anyway
 - Pressure to improve on TEV is not immediate, so there is time to move to MCEV later if necessary

Methodology: Something in Between

Methodology



- Only viable medium-term option
- Helpful flexibility within EEV approaches

Written Standards & Disclosures



- There are **various risks** in keeping the status quo
 - Little disclosure could lead to questioning of credibility (IFRS4 will have more?)
 - Pressure from IB
 - Pressure from independent reviewers
 - Benchmarking internationally shows differences
- Standards should be developed locally, with reference to international best practice (eg IFRS4, RBC)
- Requires a working group to draft, then energy to discuss and agree
- This is a **good longer-term aspiration**
- Standards should match chosen method; if EEV, can refer to first draft CFO Forum principles
- Factual disclosures should follow best practice
- Disclosures around results require understanding, and understanding can require time

Timing



- It is not clear when EEV will be demanded, but...
- ...sooner or later China will move to EEV or MCEV
 - At the latest when they start buying European entities
 - The impact on their EV will be less than on Taiwan EVs, so they can implement more quickly
- In Taiwan:
 - Question of moving to EEV (or MCEV) is “when” not “if”
 - **Implementation** date = earlier of:
 - Demand from IB, analysts or independent reviewers
 - When companies are confident about the results
 - **Investigation** start date = as soon as possible

Our Proposal for Taiwan

Methodology



Written Standards & Disclosures



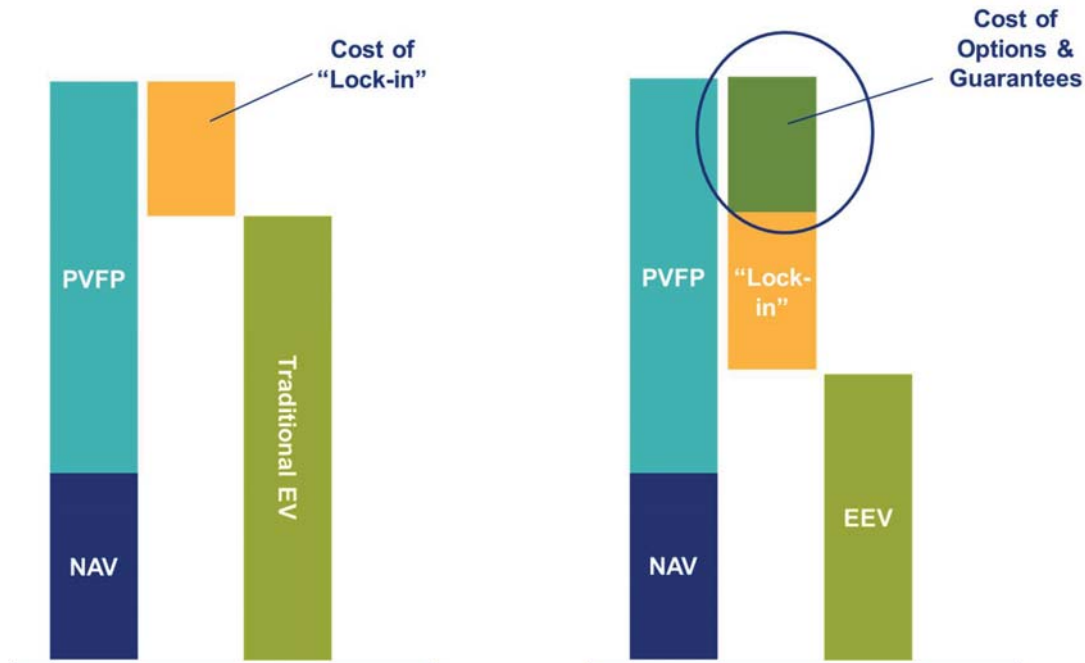
Timing



Working Group should start as soon as possible

Our Proposal for Taiwan – Methodology

- EEV following the original CFO Forum principles
 - Top-down RDR is fine: $RDR = \text{risk-free} + 2.5\%$ (?)
 - “Direct” approach but only for main portfolios



Our Proposal for Taiwan – Methodology: EEV

Cash Flows	Economic Assmpns	Non-Econ Assmpns	TVOG	Discounting	Cost of Capital
<ul style="list-style-type: none"> • Deterministic approach for products with no guarantees • Stochastic approach for TVFOG of products with embedded future options & guarantees 	<p><u>Deterministic</u></p> <ul style="list-style-type: none"> • Same as TEV <p><u>Stochastic</u></p> <ul style="list-style-type: none"> • Simulations based on real world assmpns • Must be internally consistent but not necessary market consistent 	<p><u>Deterministic</u></p> <ul style="list-style-type: none"> • Usually as per TEV <p><u>Stochastic</u></p> <ul style="list-style-type: none"> • Dynamic lapse and take up assmpns allow for p/holder behaviour for products with gtees • May also allow for dynamic mangment behaviour 	<ul style="list-style-type: none"> • Stochastic valuation of time value of options & guarantees captures: <ul style="list-style-type: none"> – Mangmt behaviour – P/holder behaviour – Cost of s/holder capital injections • Assumptions used not necessarily market consistent 	<ul style="list-style-type: none"> • Similar to TEV, constant RDR set equal to risk free rate plus a risk margin • One exception is that the risk margin no longer contains an allowance for the cost of options & guarantees, as there is an explicit allowance for those in the calculation 	<ul style="list-style-type: none"> • Required capital needs to consider both <ul style="list-style-type: none"> – Amount required by regulators, and – Amount required by internal measures • Cost of lock-in defined as per TEV

Our Proposal for Taiwan – Investment Return & Capital

- Investment return assumptions
 - Use the stochastic cash flow testing assumptions
 - Brings in objectivity, easier disclosure
 - Live with the fact that risk margins are capitalised (riskier assets => higher EV)
 - This was part of the original EEV approaches, so can be explained as part of “Taiwan’s transition”

- Allowance for risk
 - Continue to use 200% RBC
 - Objective, easier disclosure
 - Only consistent with CFO Forum disclosures if companies state that “amount required by internal measures” = 200% RBC

Potential Impact on Results

Product	Move from TEV to EEV
Compulsory Dividend	↓
Traditional Non Par	↑
Traditional True Par	↓
Interest Sensitive Annuities	↓
Universal Life	↓
Unit Linked	↑
Variable Annuities	?
Riders	↑
TOTAL VIF	↓

Practical Approach

1. Set up an EV Working Group (two streams: methodology & disclosures) on an industry-only basis (but with reviewers)
2. Start with the original CFO Forum EEV methodology, on a top-down, partially-indirect basis
3. Use the stochastic cash-flow testing assumptions and $RDR = \text{risk-free} + 2.5\%$, and investigate the results
4. Understand the results, focus on drivers and main influencers on the results – go bottom-up, fully direct?
5. Finalise a medium-term approach with transition plan (over n years, where n is 3+)



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