Life Insurance 2.0

Back to basics : Lessons from our events

An underpenetrated market (and an increasing share of financial assets in savings) lend long term structural growth to India's Insurance sector. We currently have a buy on SBI Life (SBILIFE), ICICI Prudential Life (IPRU) and Max Financial Services (MAXF).

Over the last few months we have held two insurance events, namely (1) Life Insurance Investor Forum held on 9-Mar-18, and (2) Life Insurance Teach-In held on 14-Jun-18. Both events involved representatives from our coverage companies and also some industry experts. In this note we have attempted to pen down our key learnings.

- **Key product types:** We begin with developing an understanding of products at a very basic level. For example we have dissected Protection vs. Savings, Participating, Non-participating and Linked products, Individual vs. Group products and finally, Riders.
- **Margin framework:** We then go on to explain the need and concept of VNB and how VNB margins differ based on the type of product. We offer our calculations of VNB margins for each product category. The key is to understand how the cost of capital is accounted for.
- **Embedded Value (EV) framework:** We have attempted to incorporate a more refined analysis of the EV movement table.
- **Accounting:** Insurance accounting is complex, given that we have two income statements (policyholders account and share holders account). We have briefly covered differentiating features.
- **New accounting rules IND-AS 117 (IFRS 17) :** IND-AS 117 calls for a complete change in the way insurance companies will report financials. They will have to strip out protection profits from investment profits. This implies a significant reduction in topline. Further, the new standard also allows amortization of acquisition expenses (helps in smoothening profits over the tenure of the contract) and makes reported profits significantly more meaningful.
- **Regulations:** The sector is also heavily regulated by IRDAI. We have attempted to cover the current regulations that govern the sector (on investments, commission payouts, surrender values and solvency requirements).

Conviction BUY!

FINANCIAL SUMMARY

(Rs bn)	Reco	TP (Rs/sh)	M Cap (Rs bn.)	APE (Rs bn.)			VNB Margin (%)			P/VNB*		
				FY18	FY19E	FY20E	FY18	FY19E	FY20E	FY18	FY19E	FY20E
SBI Life	BUY	810	682.8	85.4	106.6	131.9	16.2	16.5	16.6	35.4	26.2	19.2
Max Financial	BUY	665	121.6	32.5	38.3	45.8	20.2	20.6	20.9	15.1	11.0	7.5
ICICI Prudential	BUY	515	537.7	77.9	90.6	108.6	16.5	17.5	18.3	27.2	20.5	14.8

Source: HDFC sec Inst Research *(Market Cap Less EV)/VNB

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Over the last few months we have held two insurance events 1) Life insurance Investor Forum held on 9th March, 2018 and 2) Life Insurance Teach-In held on 14th June, 2018. We had representatives from our coverage companies and also some industry experts to come and interact with our investors.

A list of participants is given below:

- **ICICI Pru Life:** Satyan Jambunathan (CFO), Mukesh Boobana (VP Finance), Vikas Gupta (VP - IR)
- **HDFC Life:** Vibha Padalkar (CFO), Sonali Johari (VP-IR), Manish Chheda (Manager - IR)
- **SBI Life:** Sangramjeet Sarangi (CFO), Smita Verma (VP Finance)
- **KPMG:** Sagar Lakhani (Partner), Abhishek Agarwal (Manager), Venkateswaran Narayanan (Director)
- **PWC:** Hariharan Mani (Director), Saigeeta Bhargava (Associate Director)
- **Wills Tower Watson:** Kunj B Maheshwari (Director), Ashik Salecha (Senior Analyst)

Satyan Jambunathan (CFO- ICICI PruLife) explaining life insurance products and regulations

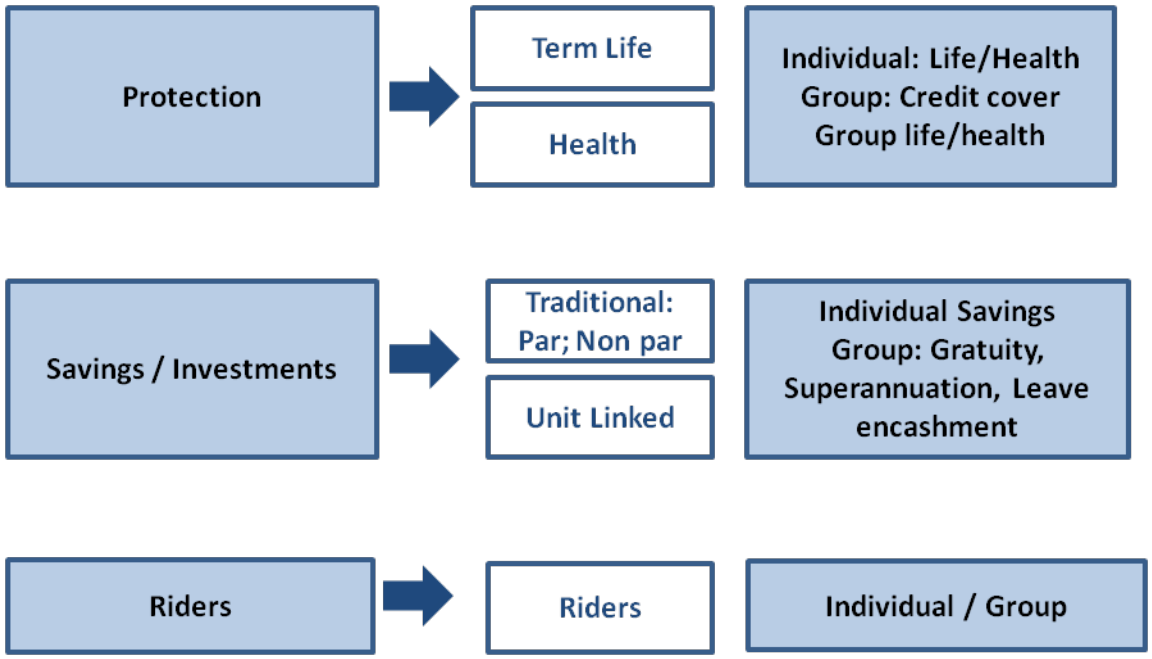
Sagar Lakhani (Partner, KPMG) breaking down the financial reporting framework for Life insurance companies

Sonali Johari (Investor Relations – HDFC Life) speaking in detail on the Embedded Value (EV) methodology

There are 3 broad categories- Protection, Savings and Riders and these can be sub-divided further.

Key product types

Below chart lays out the basics of how to look at insurance products



Pure protection insures for death or low probability high impact events such as life threatening diseases or debilitating accidents.

Par product entitles the holder to 90% of product surplus.

Non-Par products offer a guaranteed return without a share in surplus or a performance bonus.

Riders are customizable extensions offering extra protection at extra costs.

Protection

- Individual term life products cover mortality and pay only in the event of death. Health products offered by life insurance companies provide for extreme conditions and rare conditions. These products cover high impact low probability events.
- Group products include group credit-life, group-life and group health. These are B2B products and most of them have lower margins with the exception of group credit life where rates are 4-5x of industry.

Savings/Investment

- Savings products are investment products with a small component of protection. This product basket can be further sub-divided into Traditional: Participating (Par) and Non-participating (Non-Par) products and unit-linked products. The distinction between a Par product and a non-par product is that for **Par products** at least 90% of product surplus/pool has to go back to customer. The investment risk is to the extent of the guaranteed portion. **Non-par products** guarantee a return for buyers without any performance bonus thus insurance companies do not have any incremental liability to share profits with policy holders.
- Unit linked policies provide for a 10x cover on the annual premium. Unit linked policies are transparent in nature and clearly disclose the product charges-allocation, fund management, mortality/morbidity, folio charges etc. Beneficiaries get the unit linked AUM or sum assured, whichever is higher in case of death. In case of policy maturity, the unit linked AUM is distributed.
- Group savings products are basically fund management products where insurance companies manage funds for large business groups. Examples: gratuity, superannuation and leave encashment.
- Participants at our event believed that currently there is a need for pension products and that there is a gap in the market in this product category. Currently, as asset allocation options are limited, features for pension products are sub-optimal. Participants also believed that health indemnity products along with life cover are popular in several countries and need to be provided in India as well.

Riders

- Riders are extra benefits which can be attached with the main policy and provide for added protection against specific risks at nominal costs. Common riders in the industry include critical illness benefit rider, waiver of premium rider, accident & disability benefit rider, etc.

Value of new business is the appropriate measure to assess an insurer's earnings.

It is the present value of profits for the business written during a year post-adjusting for suitable assumptions (persistency, mortality, maintenance costs making)

Insurers derive disproportionately higher VNB margin from their protection business.

Margin framework

- Given that a life insurance company expenses acquisition costs upfront, profits for these companies come in later during their lifecycle. **Thus, accounting statements of life insurers in India do not give a correct picture of the company's true profitability.** Furthermore, during periods of high growth, the acquisition costs will be higher, and so will the strain on the business (acquisition expenses plus reserves) denting profitability even more.
- The following charts (see next pg) show how the profits of a typical insurance pool written in year one show up on the income statement.
- Additionally we also have a table showing how despite IPRU writing incrementally more new profitable business, kept reporting accounting losses, which at times were higher than that of previous years.
- As the earnings for a typical pool of contracts is not smooth we need a new measures to determine profitability for an insurance company – Value of new business (VNB) and VNB margin.
- Simply stating VNB is the present value of profits of insurance contracts written in the current year. The insurance company makes assumptions on persistency, mortality and maintenance costs (post overrun) etc. to determine and report VNBs. Further, VNB margin is Value of New Business divided by Annualized Premium Equivalent (Regular Premium +10% of Single Premium).
- You may re-collect our take on profit margins for various product types from our insurance 1.0 note.

New Business Margin On APE Basis

ULIP	PAR	Non-PAR	Protection	Group Fund Mgt
2-10%	12-20%	20-30%	50-100%	0.5-2%

Source: Industry Experts, HDFC sec Inst Research; APE=Regular Premium + 10% of Single Premium

- The above estimates are HDFC Securities estimates as insurance companies currently do not divulge product level profitability. While broadly profitability may range in these segments margins may vary dramatically for companies based on how evolved their respective business models are.
- We have also made our own computations of product level profitability, illustrations of which are available further on, in this note.

High acquisition costs (expensed immediately and not amortized) and initial reserves requirement leads to losses (optically) in the first year.

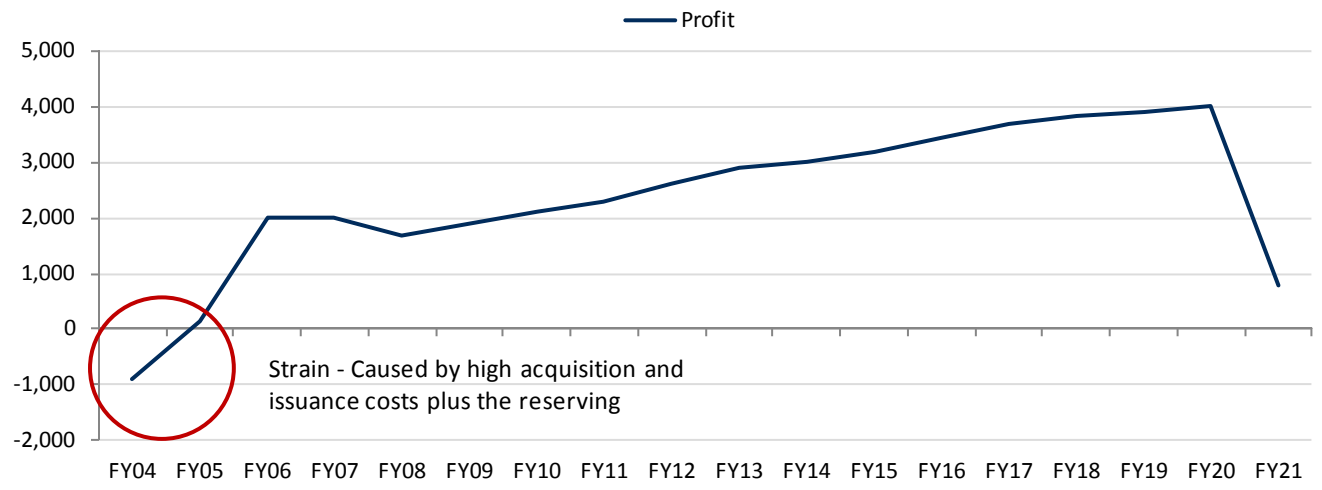
Illustration: Accounting profits on a pool written in year one

Time period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
New business premium	100						
Renewal business premium	0	97	90	84	69	60	55
Investment income	3	13	24	33	39	42	46
Total Income	**103**	**110**	**114**	**117**	**108**	**102**	**101**
Reserves	-82	-98	-97	-94	-81	-72	-68
Other Expenses	-47	-6	-5	-4	-4	-3	-3
Claims/benefits	-1	-1	-2	-7	-9	-9	-9
Actual Surplus/(Deficit)	**-27**	**5**	**10**	**12**	**14**	**18**	**21**

Source: ICICI Prudential Life insurance presentation

Accounting profits do appear but with a lag due to income/expense recognition mismatch.

Accounting profits on a graph



Source: ICICI Prudential Life Insurance presentation

Increase in new business premiums at a faster rate than renewal premiums puts more strain on the P&L (again this is optical)

Accounting profits as ICICI Prudential wrote incrementally more new business

Rs bn	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
New business premium(RWRP)	0.6	2.3	6.3	13.6	21.3	39.7	66.8	51.5	51.0
Total premium	1.2	4.2	9.9	23.6	42.6	79.1	135.6	153.6	165.3
Growth of new business (%)		263.0	182.0	114.0	57.0	87.0	68.0	-23.0	-1.0
Accounting profit/(loss)	-1.1	-1.5	-2.2	-2.1	-1.9	-6.5	-14.0	-7.8	2.6

Source: ICICI Prudential Life Insurance financials

Computation mechanics of a term product pool. VNB margins are much higher for the protection product. See assumptions and results table below.

Pure Term VNB & VNB margin computation

Year	Persistency	Premium (Rs mn)	Commission cost (Rs mn)	Opex (Rs mn)	Operating Cost (Rs mn)	Investment Corpus (Rs mn)	Claims (%)	Claims (Rs mn)	Pool (Rs mn)	Capital Charge (Rs mn)	PV of Capital Charge (Rs mn)	PV of premium (Rs mn)
0	100%	10.6	2.7	0.0	2.7	8.0	0.0%	4.4	4.1	(9.2)	(9.2)	10.6
1	90%	9.6	0.7	0.0	0.7	8.8	0.0%	4.2	9.8	1.0	0.9	8.9
2	80%	8.5	0.6	0.0	0.7	7.8	0.0%	3.9	15.2	1.0	0.9	7.3
3	75%	8.0	0.6	0.0	0.6	7.3	0.1%	3.8	20.4	0.4	0.3	6.4
4	74%	7.9	0.6	0.1	0.6	7.2	0.1%	4.0	25.7	(0.1)	(0.1)	5.8
5	73%	7.8	0.6	0.1	0.6	7.1	0.1%	4.2	31.2	(0.1)	(0.1)	5.4
6	72%	7.7	0.6	0.1	0.6	7.0	0.1%	4.4	36.7	(0.1)	(0.0)	4.9
7	71%	7.5	0.6	0.1	0.7	6.9	0.1%	4.7	42.2	(0.1)	(0.0)	4.5
8	70%	7.4	0.6	0.1	0.7	6.8	0.1%	5.0	47.8	(0.1)	(0.0)	4.1
9	69%	7.3	0.6	0.1	0.7	6.7	0.1%	5.4	53.3	(0.1)	(0.0)	3.8
10	68%	7.2	0.5	0.1	0.7	6.6	0.1%	5.8	58.7	(0.0)	(0.0)	3.4
11	67%	7.1	0.5	0.1	0.7	6.5	0.1%	6.3	63.9	(0.0)	(0.0)	3.2
12	66%	7.0	0.5	0.1	0.7	6.4	0.1%	6.8	68.8	(0.0)	(0.0)	2.9
13	65%	6.9	0.5	0.1	0.7	6.2	0.1%	7.4	73.4	(0.0)	(0.0)	2.6
14	64%	6.8	0.5	0.2	0.7	6.1	0.1%	8.1	77.6	0.0	0.0	2.4
15	63%	6.7	0.5	0.2	0.7	6.0	0.1%	8.8	81.3	0.0	0.0	2.2
16	62%	6.6	0.5	0.2	0.7	5.9	0.2%	9.5	84.4	0.1	0.0	2.0
17	61%	6.5	0.5	0.2	0.7	5.8	0.2%	10.3	86.9	0.1	0.0	1.8
18	60%	6.4	0.5	0.2	0.7	5.7	0.2%	11.1	88.6	0.1	0.0	1.7
19	59%	6.3	0.5	0.2	0.6	5.6	0.2%	11.9	89.7	0.2	0.0	1.5
20	58%	6.2	0.5	0.2	0.6	5.5	0.2%	12.6	89.9	0.2	0.1	1.4
21	57%	6.1	0.5	0.2	0.6	5.4	0.2%	13.4	89.3	0.3	0.1	1.3
22	56%	6.0	0.4	0.2	0.6	5.3	0.3%	14.1	87.8	0.3	0.1	1.2
23	55%	5.8	0.4	0.2	0.6	5.2	0.3%	14.8	85.3	0.3	0.1	1.1
24	54%	5.7	0.4	0.2	0.6	5.1	0.3%	15.6	81.9	0.4	0.1	1.0
25		-	-	-	-	-	0.3%	-		5.2	0.8	-

Source: HDFC sec Inst Research

Our calculations suggest VNB margin at ~53.8% for a pure term insurance policy.

Term insurance: Assumptions and results

Assumptions		Results	
Policies	100	VNB	5.7
Premium/policy	106,320	VNB margin	53.8%
Sum assured /policy	100,000,000	PV of premiums	91
Premium paying term (yrs)	25	VNB/PV of premiums	6.3%
First yr commission payable	25%		
Trail commission 2nd year onwards	7.5%		
Operating expenses as % of AUM	0.20%		
Investment yield / Discounting factor	7.7%		
Tax rate	14.5%		

Source: HDFC sec Inst Research

Our calculations suggest VNB margin at ~27.1% for a Non-participating product.

Non-participating product VNB & VNB margin computation

Time	Persistency	Policy In Force (nos)	Total Premium (Rs mn)	Commission cost (Rs mn)	Opex (Rs mn)	Total Operating Cost (Rs mn)	Net Investment Corpus (Rs mn)	Claims (%)	Claims (Rs mn)	Total Surrender (Rs mn)	Pool Money (Rs mn)	Capital Charge (Rs mn)	PV of capital deployed (Rs mn)	PV of premium (Rs mn)
0	100%	100	10.0	2.1	0.0	2.1	7.9	0.2%	0.2	-	8.3	(0.2)	(0.2)	10.0
1	90%	90	9.0	0.7	0.0	0.7	8.3	0.2%	0.2	0.8	16.9	(0.2)	(0.2)	8.4
2	81%	81	8.1	0.6	0.0	0.7	7.4	0.2%	0.2	1.1	25.0	(0.1)	(0.1)	7.0
3	73%	73	7.3	0.5	0.1	0.6	6.7	0.2%	0.2	2.1	31.8	(0.3)	(0.2)	5.8
4	66%	66	6.6	0.5	0.1	0.6	6.0	0.2%	0.2	2.5	38.1	(0.1)	(0.1)	4.9
5	59%	59	5.9	0.4	0.1	0.5	5.4	0.3%	0.1	2.8	43.9	(0.1)	(0.1)	4.1
6	53%	53	5.3	0.4	0.1	0.5	4.8	0.3%	0.1	3.1	49.2	(0.1)	(0.0)	3.4
7	52%	52		-	0.1	0.1	(0.1)	0.3%	0.2	0.9	51.9	(0.6)	(0.4)	-
8	51%	51		-	0.1	0.1	(0.1)	0.3%	0.2	0.9	54.7	(0.1)	(0.0)	-
9	50%	50		-	0.1	0.1	(0.1)	0.4%	0.2	1.0	57.7	(0.1)	(0.0)	-
10	49%	49		-	0.1	0.1	(0.1)	0.4%	0.2	1.0	60.8	(0.1)	(0.0)	-
11	48%	48		-	0.1	0.1	(0.1)	0.4%	0.2	1.1	64.1	(0.1)	(0.0)	-
12		-								54.9	9.2	2.0	0.8	

Source: HDFC sec Inst Research

Assumptions		Results	
Policies	100	VNB	2.7
Premium/policy	100,000	VNB margin	27.1%
Sum assured	1,000,000	PV of premiums	44
Premium paying term (yrs)	7	VNB/PV of premiums	6.2%
First yr commission payable	21%	IRR for policy holder	5.5%
Trail commission 2nd year onwards	7.5%		
Operating expenses	0.20%		
Investment yield	7.7%		
Guaranteed returns	5.5%		
Tax rate	14.5%		

Source: HDFC sec Inst Research

Our calculations suggest VNB margin at ~16.4% for a participating policy.

Participating product VNB & VNB margin computation

Time	Persistency	Policy In Force (nos)	Total Premium (Rs mn)	Commission / Acquisition cost (Rs mn)	Opex (Rs mn)	Total Operating Cost (Rs mn)	Net Investment Corpus (Rs mn)	Claims (%)	Claims (Rs mn)	Total Surrender (Rs mn)	Pool Money (Rs mn)	Capital Charge (Rs mn)	PV of capital deployed (Rs mn)	PV of premium (Rs mn)
0	100%	100	10.0	2.1	0.0	2.1	7.9	0.2%	0.2	-	8.3	(0.2)	(0.2)	10.0
1	90%	90	9.0	0.7	0.0	0.7	8.3	0.2%	0.2	0.8	16.9	(0.2)	(0.2)	8.4
2	81%	81	8.1	0.6	0.0	0.7	7.4	0.2%	0.2	1.2	24.8	(0.1)	(0.1)	7.0
3	73%	73	7.3	0.5	0.1	0.6	6.7	0.2%	0.2	2.3	31.4	(0.3)	(0.3)	5.8
4	66%	66	6.6	0.5	0.1	0.6	6.0	0.2%	0.2	2.8	37.4	(0.1)	(0.1)	4.9
5	59%	59	5.9	0.4	0.1	0.5	5.4	0.3%	0.1	3.2	42.7	(0.1)	(0.1)	4.1
6	53%	53	5.3	0.4	0.1	0.5	4.8	0.3%	0.1	3.6	47.5	(0.1)	(0.1)	3.4
7	53%	53		-	0.1	0.1	(0.1)	0.3%	0.2	0.5	50.4	(0.7)	(0.4)	-
8	52%	52		-	0.1	0.1	(0.1)	0.3%	0.2	0.5	53.5	(0.1)	(0.1)	-
9	52%	52		-	0.1	0.1	(0.1)	0.4%	0.2	0.6	56.8	(0.1)	(0.1)	-
10	51%	51		-	0.1	0.1	(0.1)	0.4%	0.2	0.6	60.2	(0.2)	(0.1)	-
11	51%	51		-	0.1	0.1	(0.1)	0.4%	0.2	0.7	63.8	(0.2)	(0.1)	-
12		-										2.5	1.0	

Source: HDFC sec Inst Research

Assumptions		Results	
Policies	100	VNB	1.6
Premium/policy	100,000	VNB margin	16.4%
Sum assured	1,000,000	PV of premiums	44
Premium paying term (yrs)	7	VNB/PV of premiums	3.8%
First yr commission payable	21%	IRR for policy holder	7.7%
Trail commission 2nd year onwards	7.5%		
Operating expenses	0.20%		
Investment yield	7.7%		
Tax rate	14.5%		

Source: HDFC sec Inst Research

Our calculations suggest VNB margin at ~11.7% for a ULIP (higher than PAR/Non-PAR)

ULIP product VNB & VNB margin computation

Allocation charges	5.0%	
	Equity	**Debt**
Assets allocation	60%	40%
FM charges	1.20%	0.60%
Mortality charges		
Profit margin	18%	
Charge per Rs. 1000 of sum at risk (Rs)	2	
Premium paying term	7	
Policy maturity	10	
Tax rate	14.5%	
Sum assured	240,000	
Prem./policy	24,000	
Policies sold	10	
Investment yield	7.7%	
Results		
VNB		28,141
VNB Margins		11.7%
VNB/Discounted premiums		3.0%

Source: HDFC sec Inst Research

Income items

Year	Allocation Charges	AUM Charges		Other Misc. charges			Mortality Charges	Total positive cash flows
		Equity	Debt	Equity	Debt	Surrender charges		
1	12,000	1,623	561	576	384	0	780	15,923
2	10,200	2,851	985	514	343	3,000	587	18,480
3	9,180	3,978	1,375	486	324	1,275	455	17,073
4	8,262	4,937	1,707	459	306	765	339	16,774
5	7,436	5,745	1,986	434	289	0	237	16,128
6	6,692	6,421	2,220	410	273	0	149	16,165
7	6,023	6,980	2,413	387	258	0	72	16,133
8	0	7,420	2,565	407	271	0	49	10,713
9	0	7,891	2,728	427	285	0	24	11,355
10	0	8,392	2,901	448	299	0	0	12,041

Source: HDFC sec Inst Research

Expense items

Year	Commission expenses	Operating expenses	Profit before tax	Tax expenses	Post tax interest charge on capital deployed	Total negative cash flows	Overall cash flows	PV of cash flows	PV of premiums
1	19,200	935	-4,211	0	567	20,702	-4,778	-4,437	222,841
2	10,200	1,642	6,637	352	781	12,975	5,504	4,745	175,873
3	5,508	2,292	9,273	1,345	991	10,135	6,938	5,554	146,969
4	4,957	2,844	8,973	1,301	1,167	10,270	6,504	4,834	122,815
5	4,461	3,310	8,356	1,212	1,316	10,299	5,829	4,023	102,631
6	4,015	3,700	8,450	1,225	1,438	10,379	5,787	3,708	85,764
7	3,614	4,021	8,498	1,232	1,539	10,406	5,727	3,407	71,669
8	0	4,275	6,437	933	1,628	6,837	3,876	2,141	0
9	0	4,546	6,809	987	1,724	7,257	4,097	2,102	0
10	0	4,835	7,206	1,045	1,826	7,706	4,334	2,064	0

Source: HDFC sec Inst Research

In order to discount the future cash flows, the risk-free rate is used.

Embedded Value = Adjusted Net Worth + Value in force (VIF).

Why do we use the risk free rate for computation of VNB margins?

- Under the MCEV or IEV framework, the risk free curve is used to discount cash flows while computing VNB margins. This is because the cash flows in the numerator are already adjusted for risk. Insurance companies already use assumptions which are so conservative that the cash flows in the numerator are expected to be realized without any uncertainity. Further, under the MCEV or IEV framework insurance companies only build in the risk free rate as their investment returns. Given the two reasons sighted above the use of risk-free rate to discount future profits is logical.
- The Persistency ratio is very important. Life Insurance companies incur huge acquisition costs, owing to marketing and commission payouts, which are paid over the life of the policy. The higher the number of years the policy continues, higher is the profitability. In some cases lower persistency may improve margins. This is especially true for Non-Par policies and true in some cases even for Par policies.

Embedded Value (EV) concept

Given the constraints in the way financials of insurance companies are prepared namely profits for policies arise with a long lag, insurance companies cannot be valued on P/E, P/B or EV/Sales basis. To get over this constraint the industry has formulated Embedded Value (EV).

- Embedded Value (EV) is a globally-accepted measure of the value of a Life Insurance company. EV is computed as the sum of the adjusted net worth (ANW) and the discounted value of profits from in-force policies (VIF).

  Embedded value = Adjusted net worth (ANW) + Value in force (VIF)

  Where,

  ANW = Free Surplus (FS) + Required Capital (RC)

  VIF = PVFP – TVFOG – FCRC – CNHR

These concepts have been covered in more detail in our Insurance 1.0 note.

- Another question that arises here is that do investors then need to adjust EV to incorporate their cost of capital. We believe that this is not required as (1) conceptually an asset needs to be valued at the rate which appropriately incorporates the risk associated with the cash flows of the asset. In this case as the cash flows with this business are already risk adjusted (since VNB is risk adjusted as described in the VNB margins section) using a risk free rate is appropriate. (2) Assuming that the insurance company is conservative with its assumptions- in which case the cash flows will be higher than what have been built in; thus investors will be compensated for the risk taken by them and the unwind will be at a rate higher than the risk free rate.

The statutory profits and VIF do converge at a later stage in the policy's life.

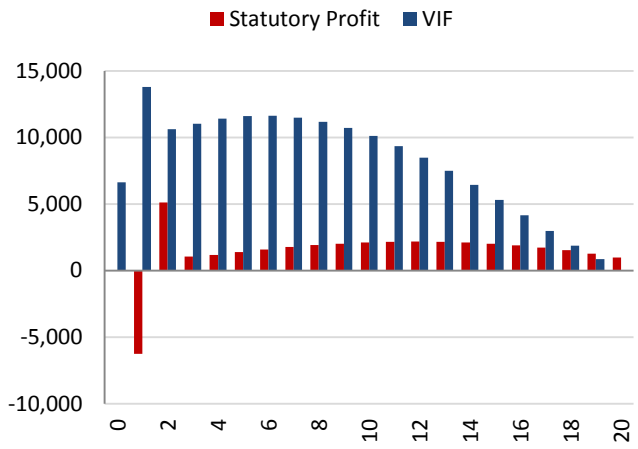
Price/EV is an appropriate measure to value mature companies where RoEVs and growth have stablised.

*Appraisal Value (EV+ VNB*multiple) is appropriate for companies displaying strong growth.*

In the Indian context, Appraisal Value is the preferred valuation methodology.

- The below chart is a comparison between accounting profits and Value in force of a single policy and it shows how each will move over a period of time.

Statutory profit profile vs. VIF



Source: KPMG, HDFC sec Inst Research

Valuation method 1 : Multiple of EV

- Much as the way book value multiples work companies are assigned a multiple on the embedded value. Multiples vary based on extent of growth and profitability.

  Valuation = EV (Net worth + VIF)* Multiple

- This method is more suitable for companies in mature stage where both growth and RoEVs have stabilized.

Valuation method 2 : Appraisal value

Appraisal Value (AV) refers to the value of an Insurance company coming from both its **in-force business and its new business.** AV is the summation of the present value of the existing business i.e. the business written in earlier years (called Embedded Value, or EV) and Structural Value.

AV = EV + Structural Value,

where

Structural Value = VNB * Multiple (x)

= (APE * VNB margin) * Multiple (x)

- The fair VNB multiple should be based on the margin, growth and longevity of growth. Given the underpenetrated nature of the Indian insurance market, high multiples are called for. Our valuation of insurance cos uses VNB multiples in the 25-26x range.

- It is worth examining why insurance companies should be valued by assigning a multiple to VNB (representing structural value) and adding it to EV (representing book value). This seems to suggest that capital is not used for writing new business. **Actually, VNB margins include a charge for the cost of capital required to do that particular business, ensuring that the cost of capital deployed is captured in the structural value.** *(Note: To see the product-wise VNB margin calculations, **click here**).*

Reconciliation between opening and closing EV is an important directional indicator of the business.

The biggest delta is VNB besides changes and variances in operating assumptions, investment variances and change in economic assumptions.

A thorough analysis for this reconciliation for multiple periods helps us in judging the aggressiveness /conservatism in the company's assumptions.

Analysing insurance companies

- Given the huge difference in reported profits and VNB on one hand and net worth and EV on the other, analyzing insurance firms becomes a challenge and investors have to rely on what insurance companies have reported over a period of time. Life insurance companies report an EV movement table between any two periods of time detailing the extent and the causes of changes to EV. Through an analysis of the explanations, one can infer on the assumptions made by the companies. For a quick refresh from our Insurance 1.0 find below the various heads under which these changes are classified.

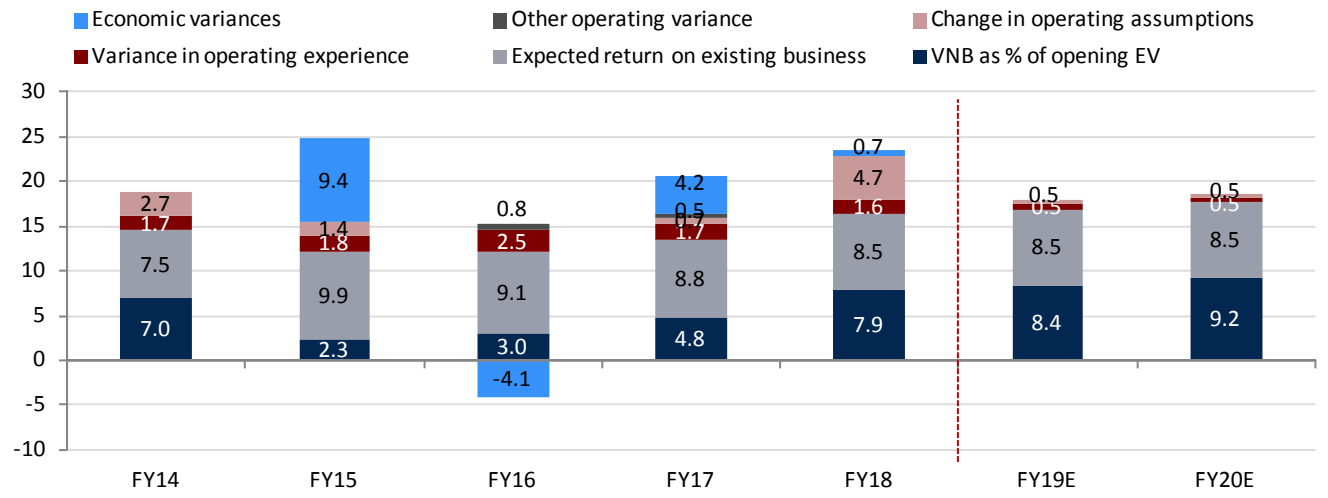
Movement In MCEV

Particular	Explanation
Opening EV	This reflects the previous year's closing EV
Unwinding/Expected return on existing business	This reflects the rollover or investment return on the opening EV. This is rolled forward at the reference rate, along with the expected return based on the asset mix
New Business Value	This represents the value from the new business underwritten in the reporting period
Change in operating assumptions	This represents the impact of change in the operating assumption on the EV
Variance in the operating assumptions	Variance in the performance of mortality-related claims, persistency, expenses and other operating parameters compared to the estimates at the start of the year
Investment variances and change in economic assumptions	This reflects the impact owing to the actual investment return being different from the expected returns, and the impact from the change in the yield curve at the end of the period, as compared to the yield curve at the start of the period.

- Some of the components are driven by external factors such as investment variance, economic assumptions, tax changes wherein management has no role to play. However, factors such as operating variance, operating assumption change, model changes, others etc are driven by management and hence critical for performance evaluation. These changes need to be analyzed for several periods.
- For a quick reference, we have published **RoEV charts of the top 4 private sector listed companies.**

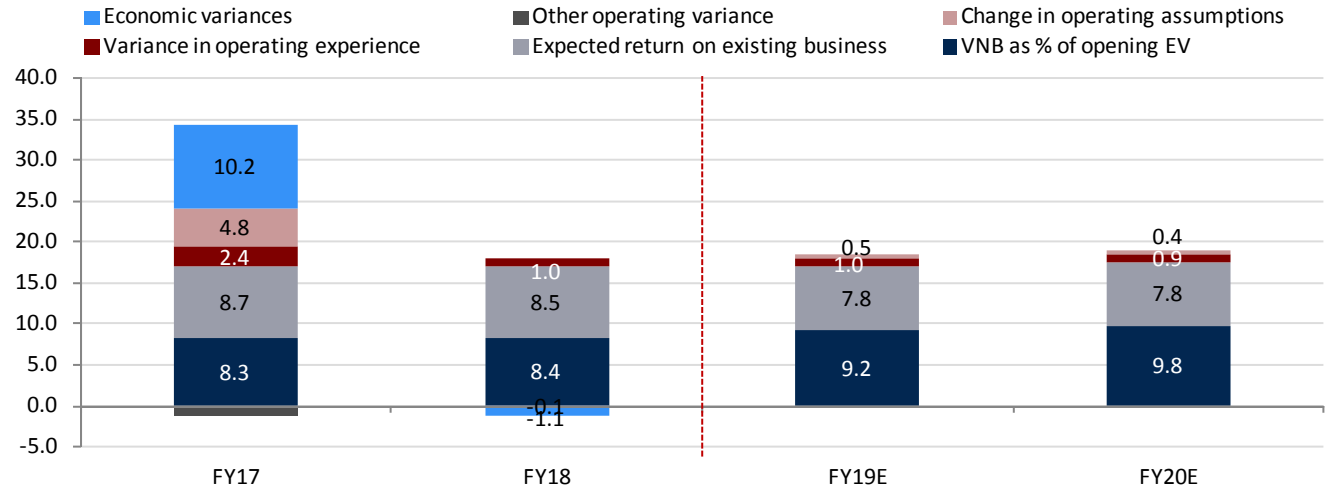
Insurers derive significant RoEV from the value of new business and un-winding.

ICICI Prudential Life Insurance Total RoEV breakdown



Source: Company, HDFC sec Inst Research

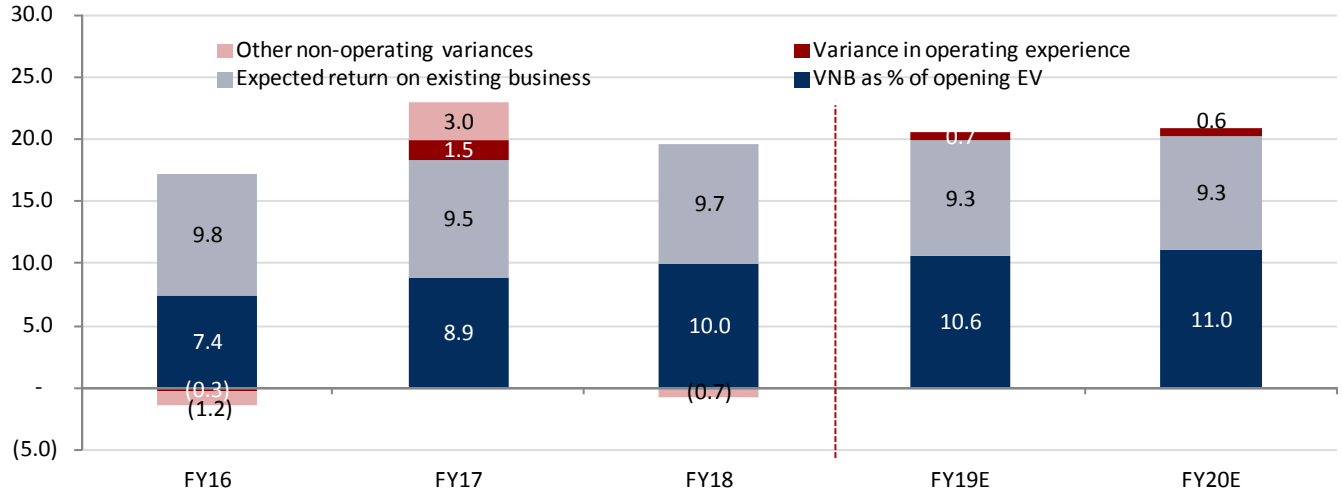
SBI Life Insurance Total RoEV breakdown



Source: Company, HDFC sec Inst Research

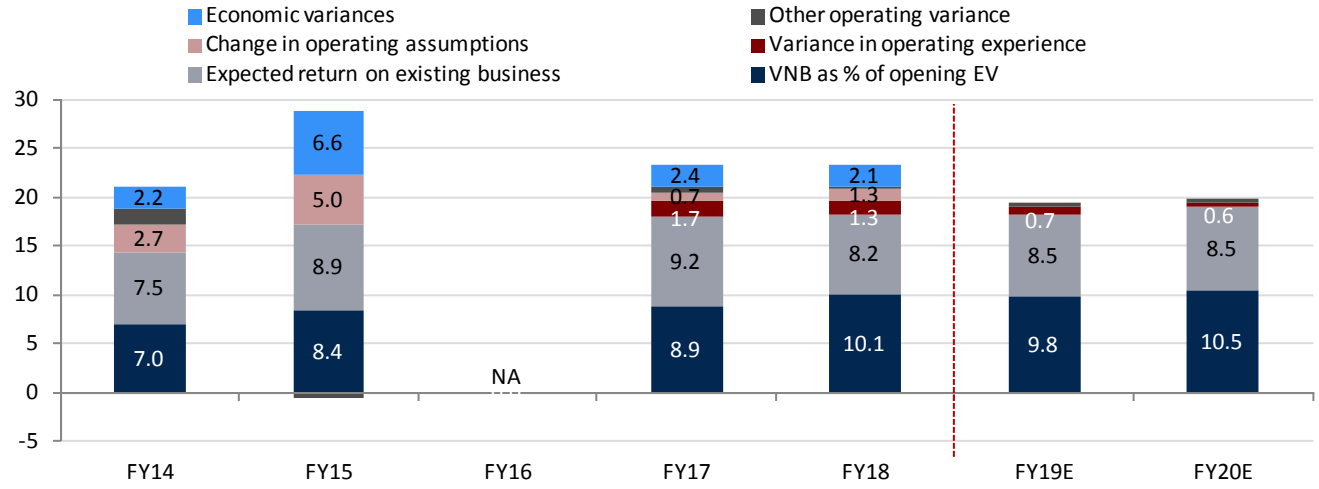
Insurers derive significant RoEV from the value of new business and un-winding.

Max Life Insurance Total RoEV breakdown



Source: Company, HDFC sec Inst Research

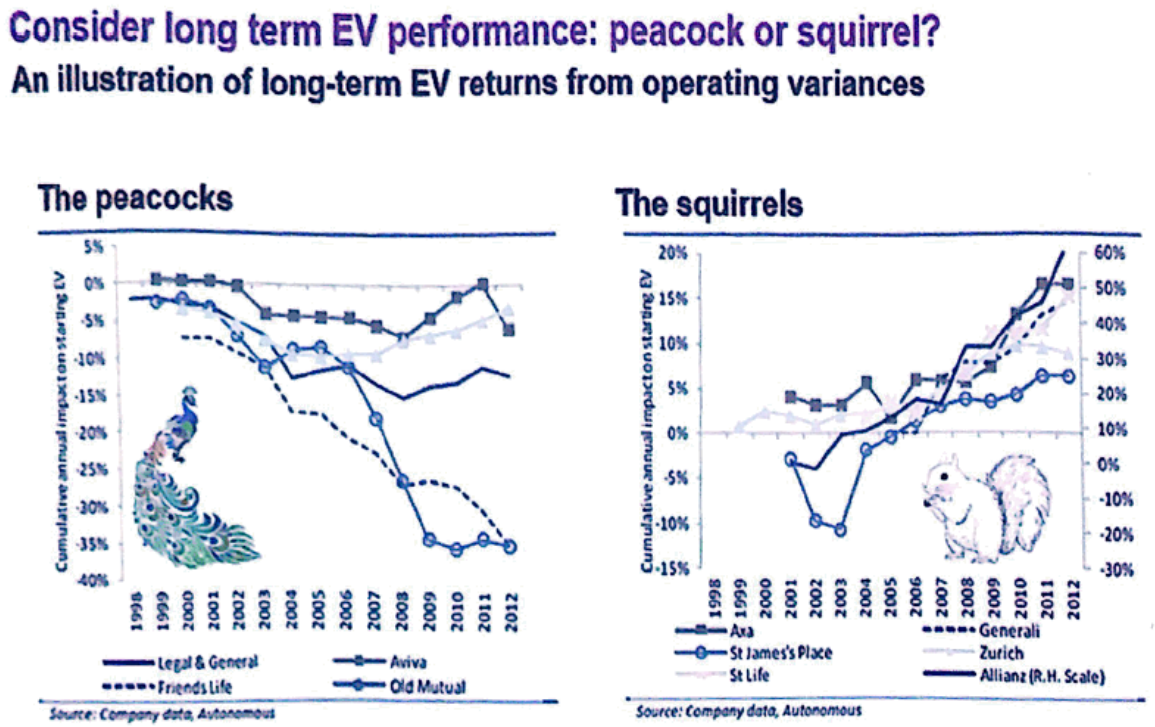
HDFC Life Insurance Total RoEV breakdown



Source: Company, HDFC sec Inst Research

High delta (negative/ positive) in operating variances gives us color on how aggressive or conservative the assumptions have been in the past.

- The consistency at which and the extent to which companies report negative/positive operating variances gives us color on how aggressive or conservative the companies assumptions are. International markets have shown that insurance companies may become extremely aggressive in their assumptions and may show a continuous decline in value. Below is a chart made from a presentation made at our 9th March, 2018 event by Wills Tower Watson.



Source: Presentation by Wills Tower Watson on 9th March, 2018.

Accounting in Life Insurance Companies

Presently the accounting framework is governed by IRDAI. The reporting does not present the true economic value of the business.

Current regulations notably prescribe the following:-

1. The total premium collected is treated as revenue while accrual accounting would suggest adjustments being made to single premiums and premiums collected in advance

2. Policy liabilities are calculated by the appointed actuaries based on IRDAI guidelines

3. Bonus due to a participating policy holder flows through the Revenue account.

4. There is no uniformity for reporting the tax expense

- At present, Life Insurance accounting framework is driven by IRDA. The framework was set up in 2006 and it hasn't evolved over a period of time. There is no specific Accounting Standard for Life Insurance accounting. However this is expected to change as the industry is expected to move to IND-AS 117 w.e.f. FY21 with FY20 as comparable.
- Unlike traditional financial statements, financials of life Insurance entities contain Revenue account (Policyholder account), Profit & Loss account (Shareholder account), Balance sheet, and Receipt and payment account (cash flow as per direct method).
- Currently, Indian reporting standards are not aligned with the US & European standards. The new IND-AS 117 is expected to plug this hole to a large extent and make financials comparable across geographies.
- As discussed earlier, financial statements of life Insurance companies in India do not reflect the true economic value of business performance. This is largely owing to the fact that acquisition cost (one of the biggest costs) is charged up front instead of being amortized.

Below are some of the industry specific accounting treatments:

- Total Premium collected is accounted as revenue, whereas accrual principles would require adjustments to single premiums or advance premiums collected.
- Investment Income: For non-linked business equity investments are marked to market through fair value change account on balance sheet whereas bonds are valued at cost. For linked business MTM on all investments happens through revenue account.
- Policy liabilities (also known as mathematical reserves) is the sum of present value of estimated benefits an insurance company has contractually agreed to pay to the policyholders and present value of future expenses less present value of future premiums. The computation of this sum is done by the appointed actuary of the company based on IRDAI guidelines. Regulations require companies to hold reserves above their best estimates.
- Contribution from shareholder funds: In case of PAR products, surplus/deficit is calculated at each product cohort level. Any shortfall is then funded by the shareholders.
- Income Tax: There is no uniformity in reporting the tax expense. Some Companies disclose it in the policyholder account while others report the same in the shareholders account. Tax expense in the policyholder's account refers to the taxation on the surplus on the PAR policies. Tax in shareholders account refers to the tax expense on all lines of business and attributable to shareholders.
- Funds for Future Appropriation (FFA): Insurance regulations require minimum 90% of surplus under PAR business to be distributed to the policyholders. Thus until bonus declaration by the company, entire surplus under the PAR business is appropriated via Policyholders' Revenue account under FFA. On declaration of Bonus, the said amount gets appropriated from FFA to the policyholders.

In order to make the financials aligned with US/Europe reporting standards and geographically comparable, insurance companies will have to adopt IND-AS-117 w.e.f. FY21 (with FY20 comparable)

Radical changes expected are:

1.***Segregating of insurance and investment components, unbundling of insurance contract***
2. Acquisition costs to be amortized over the life of the policy.
3. Topline to include only 'insurance contracts revenue'
4. Provide more granularity w.r.t. contract groupings for valuation purposes
5. Income/expense on reinsurance contracts disclosed separately.

IND-AS 117 (IFRS 17)

IND-AS-117 (IFRS 17) will certainly reduce investors' reliance on company reported EV and shift the same to company reported audited financial statements.

Under the new accounting rules companies will be required to:

- Classify contracts into investment contract or insurance contract based on assessment of significant insurance risk.
- Separate insurance and investment components and unbundle the insurance contract- Insurance component, embedded derivative, and distinct investment components.
- Evaluate packaged products and contracts with different rights and obligations into onerous or profitable. Loss on onerous contracts have to be separated and recognized on the first day itself.
- Capitalize and allocate Insurance acquisition cash flows during the period of the contract and amortize the same in the pattern in which revenue is recognized.
- Recognize impact on insurance liabilities due to changes in discount rate in either in OCI or in P&L. Using OCI will reduce P&L volatility.
- Change revenue line item to "insurance contracts revenue" and all premium revenue will not be contained in the topline.
- Provide more granularity in contract groupings for valuation purposes- portfolio of insurance contracts to be split into annual cohorts which would be further split into at least three groups based on profitability bucket.
- Present income/expense from reinsurance contracts held separately from expense or income from insurance contracts issued.
- Disclose in detail for the new insurance contracts issued- growth of entity's insurance business, level of aggregation applied and expectation with respect to CSM recognition in future periods.

IND-AS 117 will significantly change the financial statements and valuation dynamics for life insurance companies. The new accounting standard will result in separation of insurance and investment income streams. Additionally, the amortization of acquisition costs over the premium payment term of the contract will further help in stream-lining the profitability of companies. These changes also mean separation of insurance and investment incomes. These changes probably mean that reliance on VNB margins and EVs as a measure to track performance of insurance companies will reduce and investors should be able to directly use statutory filings to value life insurance companies.

Currently the world is expected to adopt IFRS 17 in CY2021 with CY2020 as comparable. For IND-AS 117 (Indian equivalent of IFRS 17), India has set an adoption date target of FY21 with FY20 as comparable. India with its current time line is targeting to be nine months before the world. We have spoken to companies and given current state of preparedness we believe that this target will most likely be deferred to March 2022.

Regulations

With the objective of protecting consumers and controlling mis-selling activities IRDAI regulates acquisition costs. For this products are differentiated into single premium and regular premium for two categories individual and group.

IRDAI regulates acquisition costs to protect consumers and control mis-selling.

Single premium policies:

No.	Category of life insurance product	Maximum commission/remuneration
1	All individual life products except pure risk products	2%
2	Individual Pure Risk products	7.5%
3	Individual Immediate/ Deferred Annuity	2%
4	One year renewable group pure risk insurance	5% of premium paid during the year or Rs 1mn, whichever is less
5	Group Pure Risk (incl Group credit)	5%
6	Group Savings Variable Life Insurance	2%
7	Group Fund based	0.5% of premium paid during the year or Rs1mn, whichever is less

Source: IRDAI, HDFC sec Inst Research

Regular premium policies:

No.	Category of life insurance product	Maximum commission/remuneration	
		First year premium	Renewal premium
1	Individual Pure Risk products	40%	10%
2	Individual other than pure risk:		
	A) Premium paying term term 5 to 11 years	3% X premium paying term	7.5%
	B) Premium paying term term 12 years or more	35%	7.5%
3	Individual Deferred Annuity / Pension	7.5%	2%
4	Group Pure Risk (incl Group credit) and Group Savings Variable Life	7.5% (only on pure risk premium)	7.5%
5	**Government Scheme-Life-Health**	As per government notification	

Source: IRDAI, HDFC sec Inst Research

In order that insurance companies do not make unreasonable profits on surrender by charging excessive surrender charges, IRDAI has framed surrender rules.

IRDAI also regulates the surrender charges (product-wise) to prevent excessive profit making.

Cap on surrender charges

Current regulations prescribe a cap on surrender charges and hence a certain amount is guaranteed to policy holders as surrender value for their policies. The regulations as they stand today are different for unit linked vs. non-linked and within the broad categories further bifurcate products into regular and single premium pay.

ULIPs

ULIP Regular pay

Year of Surrender	Surrender charge for savings product	
	Premiums < Rs 25,000 p.a.	Premiums > Rs 25,000 p.a.
Year 1	Lower of 20% X Higher of (APE or Fund value) subject to maximum of Rs 3,000.	Lower of 6% X Higher of (APE or Fund value) subject to maximum of Rs 6,000.
Year 2	Lower of 15% X Higher of (APE or Fund value) subject to maximum of Rs 2,000.	Lower of 4% X Higher of (APE or Fund value) subject to maximum of Rs 5,000.
Year 3	Lower of 10% X Higher of (APE or Fund value) subject to maximum of Rs 1,500.	Lower of 3% X Higher of (APE or Fund value) subject to maximum of Rs 4,000.
Year 4	Lower of 5% X Higher of (APE or Fund value) subject to maximum of Rs 1,000.	Lower of 2% X Higher of (APE or Fund value) subject to maximum of Rs 2,000.
Year 5	Nil	Nil

Source: IRDAI, HDFC sec Inst Research

ULIP Single premium:

Year of Surrender	Surrender charge for savings product	
	Premiums < Rs 25,000 p.a.	Premiums > Rs 25,000 p.a.
Year 1	Lower of 2% X Higher of (SP or Fund value) subject to maximum of Rs 3,000.	Lower of 1% X Higher of (SP or Fund value) subject to maximum of Rs 6,000.
Year 2	Lower of 1.5% X Higher of (SP or Fund value) subject to maximum of Rs 2,000.	Lower of 0.5% X Higher of (SP or Fund value) subject to maximum of Rs 5,000.
Year 3	Lower of 1% X Higher of (SP or Fund value) subject to maximum of Rs 1,500.	Lower of 0.25% X Higher of (SP or Fund value) subject to maximum of Rs 4,000.
Year 4	Lower of 5% X Higher of (SP or Fund value) subject to maximum of Rs 1,000.	Lower of 0.1% X Higher of (SP or Fund value) subject to maximum of Rs 2,000.
Year 5	Nil	Nil

Source: IRDAI, HDFC sec Inst Research

IRDAI also regulates the surrender charges (product-wise) to prevent excessive profit making.

ULIP: Cap on total charges for unit linked policies:

Insurance company cannot charge in excess of the below difference to customers in all its charges excluding mortality/morbidity.

Number of years elapsed since inception	Maximum reduction in yield (Difference between gross and net yield (% p.a.))
5	4.00%
6	3.75%
7	3.50%
8	3.30%
9	3.15%
10	3.00%
11 and 12	2.75%
13 and 14	2.50%
15 or more	2.25%

Source: IRDAI, HDFC sec Inst Research

Non-linked:

Non-linked regular pay:

Year of Surrender	Non-linked
Year 1	100% of all premium; no cap
Year 2-3	70% of all premium; no cap
Year 4-7	50% of all premium; no cap 10% of all premium; no cap if surrendered during the last two years of the policy
Year 8 onwards	10% of all premium; no cap

Source: IRDAI, HDFC sec Inst Research

Non-linked single premium:

Year of Surrender	Non-linked
Year 0-3	30% of single premium
Year 4 onwards	10% of single premium

Source: IRDAI, HDFC sec Inst Research

IRDAI has also fixed solvency requirements.

IRDAI uses a two factor based approach in setting the basic solvency requirements

- IRDAI has a two factor based approach to calculating capital required for each type of business. The basic simplified formula assuming there is no re-insurance is as follows:-

  Capital required = (0.85 X Mathematical reserves X First factor + 0.5 X Sum at risk X Factor 2) X 150%

Where:

Mathematical reserves (simplified) = PV of future death/disability + PV of future expenses – PV of future premiums

Sum at risk = PV of future death/disability - accumulated reserves

The first and second factors to be considered are defined by the IRDAI in its regulations, for example:

Product type	First factor	Second factor
Pure term	3%	0.1%
Non-linked life business	3%	0.3%
Unit linked without guarantees	0.8%	0.2%
Non-Par	3%	0.3%

Source: IRDAI, HDFC sec Inst Research

Investment restrictions

Further, the permissible investment instrument is also regulated by weights.

- Investments made by insurance companies have to be regulated given that the companies issue long term protection/savings commitments and accept monies from public at large. Currently investments of assets of life insurance products except for unit linked, pension, general annuity, and group business have to comply with the below:

1	Central government securities	Not less than 25%
2	Central, state government, and other approved securities	Not less than 50% (incl. 1 above)
3	Debentures, preferred equity (which have paid dividends in last two consecutive years), listed equity (which have paid out at least 10% dividends in last two consecutive years), unencumbered immovable properties, loans on life insurance policies upto surrender value, fixed deposits, CBLO, ABSs, CPs, Money market instruments	Maximum of 50%
4	Investment in housing and infrastructure	Not less than 15%

- In addition to above the IRDAI has also prescribed exposure/prudential norms for maximum exposures to single instruments and to sectors.
- Investments of assets of life insurance products for unit linked, pension, general annuity, and group business have to comply with the below:

1	Central government securities	Not less than 20%
2	Central, state government, and other approved securities	Not less than 40% (incl. 1 above)
3	Debentures, preferred equity (which have paid dividends in last two consecutive years), listed equity (which have paid out at least 10% dividends in last two consecutive years), unencumbered immovable properties, loans on life insurance policies upto surrender value, fixed deposits, CBLO, ABSs, CPs, Money market instruments	Maximum of 60%

Source: IRDAI, HDFC sec Inst Research

Disclosure:

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