Society of Actuaries in Ireland

Current Topics Paper 2018

PAPER BY

Fred Gilmore
Maria Gormally
Tomas Griffin
Ronan Judge
Sarah Keane
Joe Kelleher
Joanne Lonergan
Eilish Moloney
John Moran
Aileen Murphy
Deirdre O'Brien
Cian O'Toole
Jennifer Quigley
John Sexton

Date | 13.03.18

Contents

1. Foreword

Welcome to the Society's 2018 Current Topics paper. This continues a series which started with the first Current Topics paper in 2001 and it serves two main purposes:

- It gives a group of newly qualified actuaries a great opportunity to prepare their first paper for their professional peers; and
- It consolidates in one document the key current issues facing actuaries in our main areas of practice.

The paper was co-ordinated by Jennifer Quigley, Maria Gormally and Sarah Keane. Those who have contributed to this year's paper are:

Life & Health Insurance: Ronan Judge, Eilish Moloney, Aileen Murphy and Cian O'Toole

Pensions and Investment: Fred Gilmore, Tomas Griffin, John Moran and John Sexton

General Insurance and Wider Fields: Joe Kelleher, Joanne Lonergan and Deirdre O'Brien

A huge amount of work has gone into producing the paper and I would like to thank everybody involved for their time, energy and commitment.

The paper provides an excellent record of the main issues facing actuaries in 2018 both for current use and for posterity.

Maurice Whyms

President of the Society of Actuaries in Ireland

The following Paper is for general information, education and discussion purposes only. Views or opinions expressed do not necessarily represent the views or opinions of the Society of Actuaries in Ireland and they do not constitute legal or professional advice.

2. Overview

The Life & Health Insurance section outlines recent market developments and market share for both sectors. The main focus of the life insurance paper provides an update IFRS 17 and ongoing regulation changes, namely PRIIPs, the Insurance Distribution Directive, the CBI Consumer Protection Risk Assessment and the GDPR. It also provides an overview of the innovation that has occurred in recent times in the sector, as well as an update on developments with Solvency II.

The Pensions and Investment section outlines recent market developments in the pensions area. The Pensions section of the paper covers topical risk management tools, in particular pension increase exchange exercises and recent legislative updates including IORP II and the Social Welfare, Pensions and Civil Registration Bill 2017. It also provides an update on developments for defined contribution ("DC") schemes and covers potential bases for the wind-up of defined benefit ("DB") schemes. The investment section of the paper focuses on liability driven investments ("LDI") which has grown in prominence over recent years.

The General Insurance section outlines recent market developments, of which there have been many. It also provides an overview of IFRS 17 a focus on the key points of relevance for general insurers. It also provides an update on the Solvency II regime following the first full year-end cycle of the new regime.

A section on Wider Fields has been included in the Current Topics Paper for the first time. This focuses on the banking sector, and in particular the introduction of the IFRS 9 standard and the commonalities in the standard with actuarial processes.

3. Life and Health Insurance

3.1 Market Update

The period since the last Current Topics paper (presented in March 2016) has been a very busy and challenging time for the life and health insurance industry.

New regulatory requirements have been very much to the fore; companies have now been through their first full year of Solvency II and at the time of writing, are busy with their second year-end. The level of detail in the new reporting requirements and the associated timelines have proved particularly challenging for many companies.

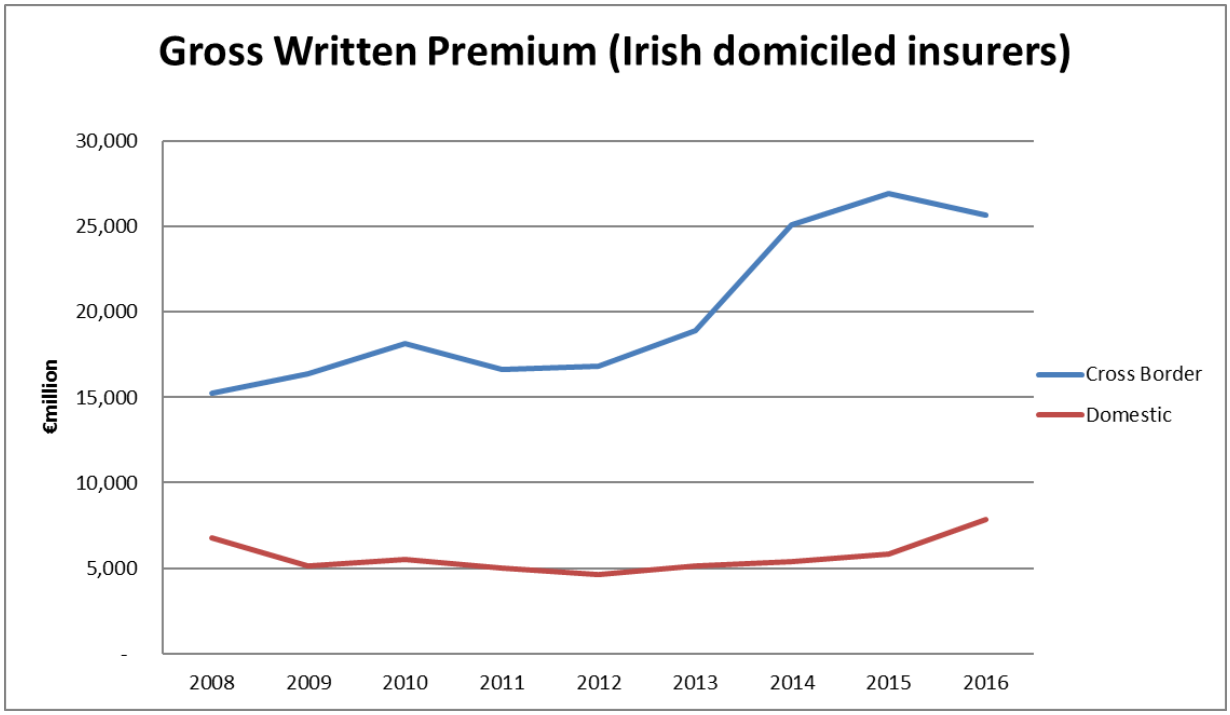
While getting to grips with Solvency II over the past two years, companies have been simultaneously preparing for Packaged Retail and Insurance-based Investment Products ("PRIIPS") and the Insurance Distribution Directive ("IDD"). These regulations come into force in 2018 and are discussed in more detail below. The new financial reporting standard IFRS 17 is also now on the horizon and will require a complete overhaul of the current financial reporting process, particularly for life insurers. This subject is also discussed in more detail below. Furthermore, as of May 2018 companies will face added data protection requirements under the rigorous General Data Protection Regulation ("GDPR"). With all the above in mind, we can certainly expect a very busy period ahead for the industry.

The period since the last paper also saw the UK decide to leave the EU (in June 2016), giving rise to the term "Brexit". This has been one of the biggest talking points for the insurance industry in recent times and, with it, there will be new challenges and opportunities. We expect to see some new faces in Ireland over the coming years as several UK based life insurers have chosen to set up here to retain "passporting" rights into the EU market.

In terms of sales/premiums, we have seen continued strong performance in both domestic and cross-border markets over the past number of years. There has also been corporate merger activity over the period, which we will highlight below.

3.1.1 Life Market Overview & Statistics

An analysis of the year-end 2016 Solvency and Financial Condition Reports ("SFCRs"), which include public versions of the QRTs, shows strong growth in the level of premiums written by domestic life companies regulated in Ireland. The analysis also indicates continued strong performance in the cross-border market, however growth appears to have plateaued here.

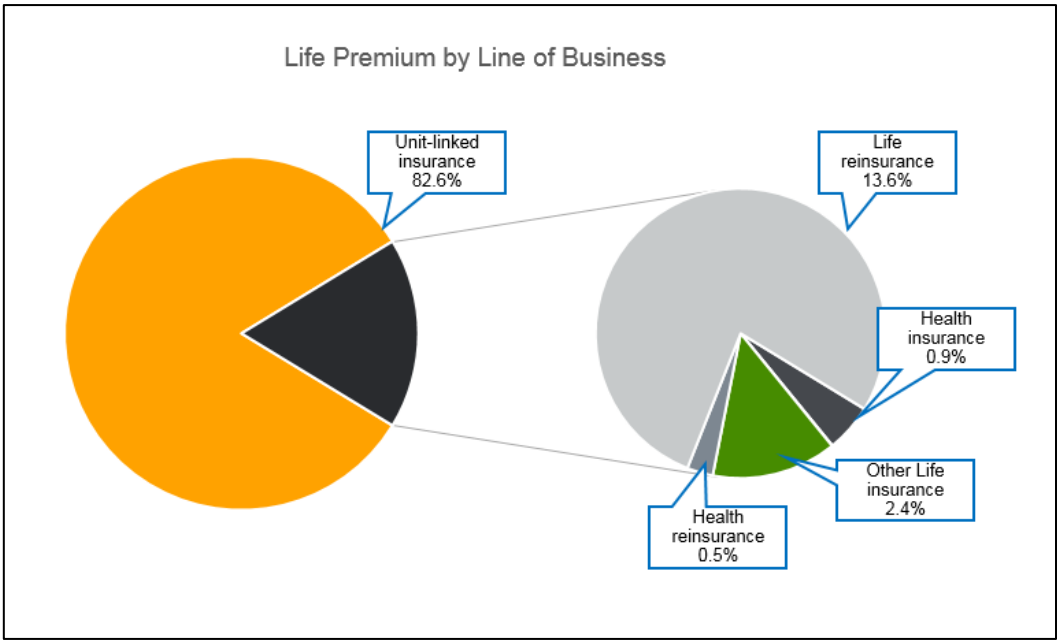


Note that the graph above uses SFCR analysis for the 2016 figures and the CBI Blue Books for years prior to 2015. The CBI Blue Books were based on the Solvency I returns and related to new business figures only whereas SFCR figures include regular premiums on existing business. Adjustments have been made to align the two sources[1], however given the different approaches between 2016 and other years, the results are not directly comparable.

At the time of writing, there are no figures available for 2017 performance, however market indicators would suggest that growth has continued into 2017.

There is a wide range of business sold by companies domiciled in Ireland. The following graph outlines the split in terms of Solvency II lines of business for the domestic and cross-border markets combined:[2]

[1] An adjustment has been made the SFCR figures to estimate the impact of existing business. The SFCR analysis covered approx. 90% of the market and have been grossed up to estimate 100% of the market.
[2] https://thebusinessofrisk.com/?p=3642#sthash.ftoH2s6v.dpbs



Most life insurance premium income is related to unit-linked insurance; this is true for both the domestic and cross-border markets. Life reinsurance is the next biggest Solvency II line of business in terms of premiums written, reflecting Dublin's position as a reinsurance centre. It is worth noting that private health insurance ("PHI") is classified under non-life business for Solvency II purposes and the health insurance referred to in the figures above relates to products such as long-term care. We discuss the PHI domestic market below.

3.1.2 Solvency Coverage Ratios ("SCR")

The SCRs of Irish life insurers have a wide distribution, ranging from 119% to 568%. However over half have coverage ratios between approximately 160% and 230%[3]. The average SCR for Irish life insurers is 184% compared to the average for European life insurers of 187%. The following table outlines some statistics comparing Irish life companies to European life companies.[4]

	Irish average	European average
RATIO OF ELIGIBLE OWN FUNDS TO SCR	184%	187%
RATIO OF ELIGIBLE OWN FUNDS TO MCR	515%	488%
MCR AS A % OF THE SCR	35%	36%

[3] Note that these figures are represent companies with 90% of market Gross Written Premium, so it is possible there are ratios above or below this level. Source: Milliman Analysis of life insurers' first set of Solvency and Financial Condition Reports - http://ie.milliman.com/uploadedFiles/insight/2017/Analysis_of_European_and_Irish_Life_SFCRs.pdf

[4] Milliman: Analysis of life insurers' first set of Solvency and Financial Condition Reports - http://ie.milliman.com/uploadedFiles/insight/2017/Analysis_of_European_and_Irish_Life_SFCRs.pdf

Most life companies in Ireland are using the Standard Formula. There are three Irish life insurers using either partial internal models ("PIMs") or full internal models ("FIMs"). The use of long term guarantee measures in Ireland is limited with only four Irish life insurers using the Volatility Adjustment ("VA") and perhaps more interestingly none are using the Matching Adjustment ("MA") or any transitional measures on technical provisions[5]. There is however one Irish domiciled life reinsurer is using the transitional measures on interest rates.

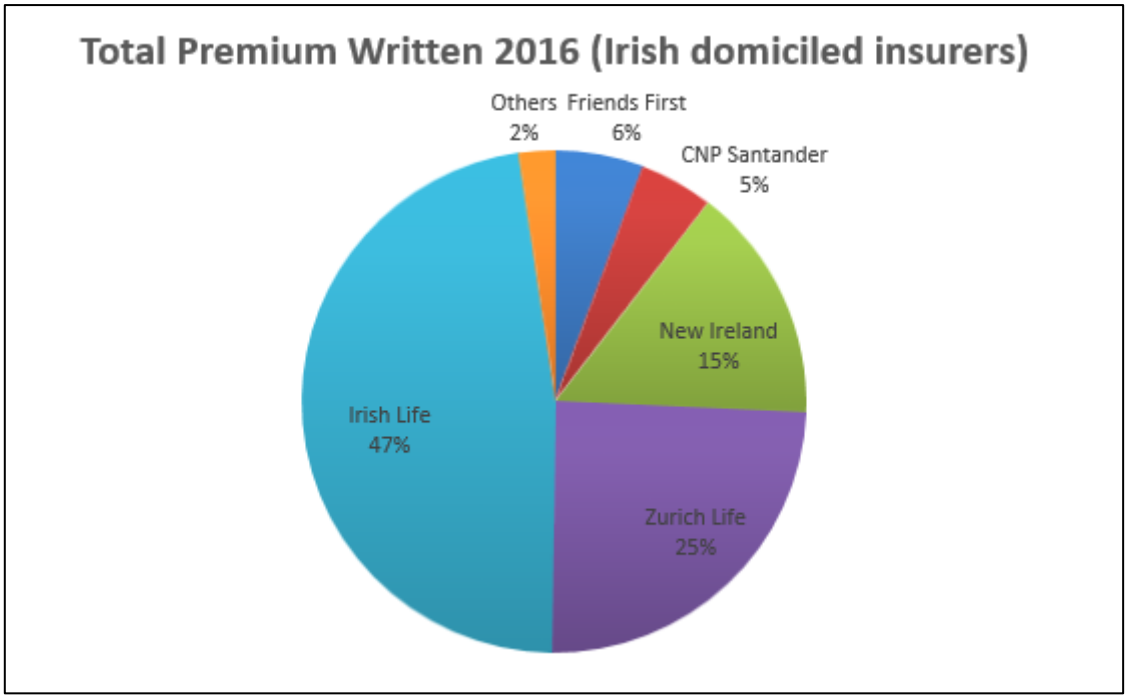
Other EU countries such as Germany, UK, Spain and Portugal have made significant use of the long term guarantee measures which results in very large impacts on the average SCRs for these countries. The impact of the matching adjustment alone increases the average SCR for UK life companies by approximately 96%. The overall impact of the long term guarantee measures for EU life companies is to increase the average SCR from just over 100% to 187%.[6]

3.1.3 Domestic Market

There are 16 undertakings selling into the domestic market, 11 of which have their Head Office in Ireland.[7] There are 3 main players accounting for approximately 80% of the market: Irish Life, Zurich Life and New Ireland.

Based on an analysis of the SFCRs for undertakings with Head Office in Ireland, the graph below indicates the split of total premiums received in 2016 between the primary domestic players. It should be noted that this reflects all premiums, including both new business and regular premiums as well as top-ups on existing business. In addition, premiums included in the SFCR analysis include investment only business.

[5] https://www.centralbank.ie/docs/default-source/Regulation/industry-market-sectors/insurance-reinsurance/solvency-ii/supervisory-disclosures/aggregate-statistical-data.pdf?sfvrsn=2
[6] http://www.milliman.com/uploadedFiles/insight/2018/EU-UK-Life-SFCR-review.pdf
[7] Insurance Statistics 2015 – CBI Blue Book.



Note that these figures do not include companies with a Head Office outside of Ireland and as a result do not include Aviva, Royal London or Standard Life which are UK regulated.

Life insurance domestic sales are primarily achieved through brokers, with this distribution channel accounting for approximately 70% of the market in terms of Annual Premium Equivalent ("APE"). Banc-assurance and direct sales account for the remainder with approx. 15% of market share each.

3.1.4 Cross-border Market

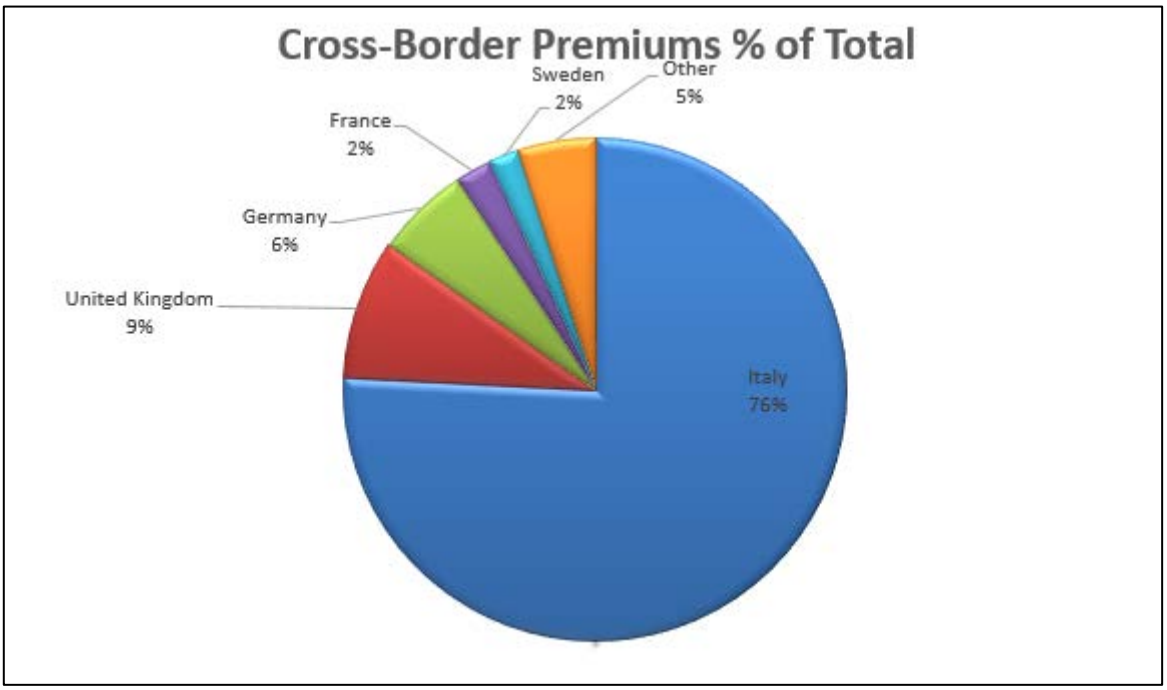
The cross-border market is very important to Ireland with over 35[8] life companies domiciled here. Insurance entities with a head office located in Ireland earned 85 per cent of their total premiums outside of Ireland on a Freedom of Establishment ("FOE")[9] and Freedom of Services ("FOS")[10] basis in 2016. This highlights the importance of foreign business to premium income in the Irish insurance industry.[11] Some of the key players include the following: Aegon, Allianz Global Life, AXA Life, Darta, Generali, Intesa Sanpaolo, MetLife, Prudential, Standard Life International and Zurich.

[8] https://www.centralbank.ie/docs/default-source/Regulation/industry-market-sectors/insurance-reinsurance/solvency-ii/supervisory-disclosures/aggregate-statistical-data.pdf?sfvrsn=2
[9] FOE: writing business in a country by establishing a branch in that country.

[10] FOS: writing business in a country directly from the head office or subsidiary located in Ireland

[11] https://centralbank.ie/docs/default-source/publications/quarterly-bulletins/quarterly-bulletin-signed-articles/insurance-corporations-statistics-in-ireland-introducing-the-new-quarterly-statistics-(kelly-and-osborne-kinch).pdf?sfvrsn=4

There is a particular Italian focus with almost 75% of cross-border life business written in the Italian market. The next largest cross-border market is the UK, with approx. 10% of cross-border premiums.



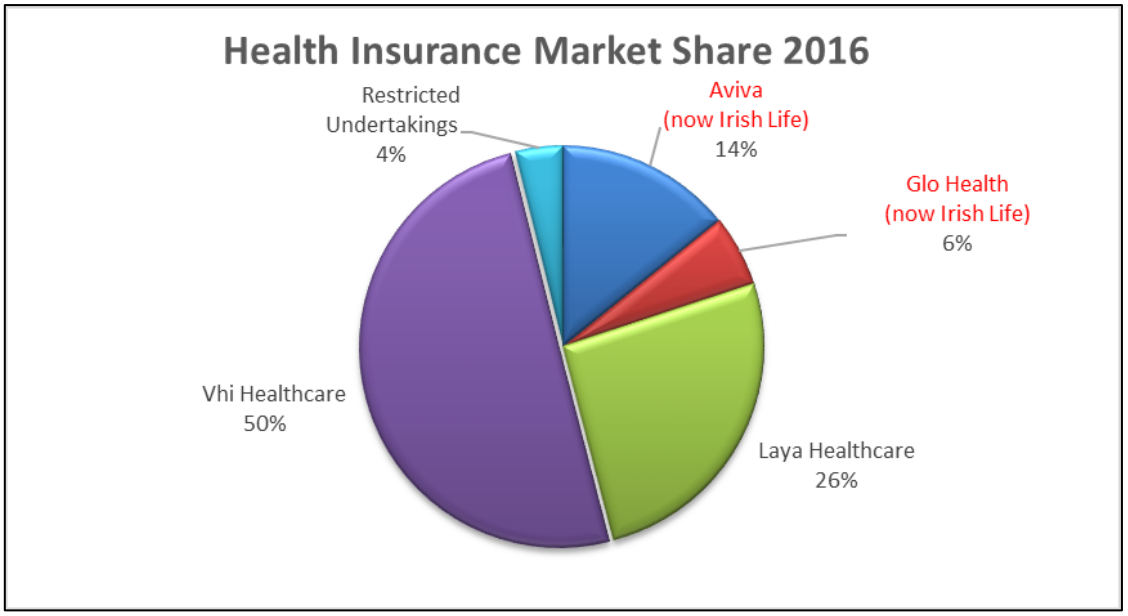
Some interesting merger and acquisitions news has developed in the period since the last Current Topics paper, including the following:

- Acquisition of Aviva International and Scottish Mutual International Life (SMIL) by Harcourt Life in 2016
- Acquisition of Generali by LCCG at the end of 2017
- AGER Bermuda to acquire Aegon Ireland (not completed at time of writing)
- Aviva to acquire Friends First (not completed at time of writing).

3.1.5 Health Market Overview

There are three main players in the domestic health insurance market in Ireland, accounting for approx. 96% of premium income[12]. The figures in the graph below show the respective market share for each company. The latest figures available are for the year 2016. It is important to note that since then Aviva Health was acquired by Irish Life and merged with GloHealth to form Irish Life Health.

[12] https://www.hia.ie/publication/market-statistics



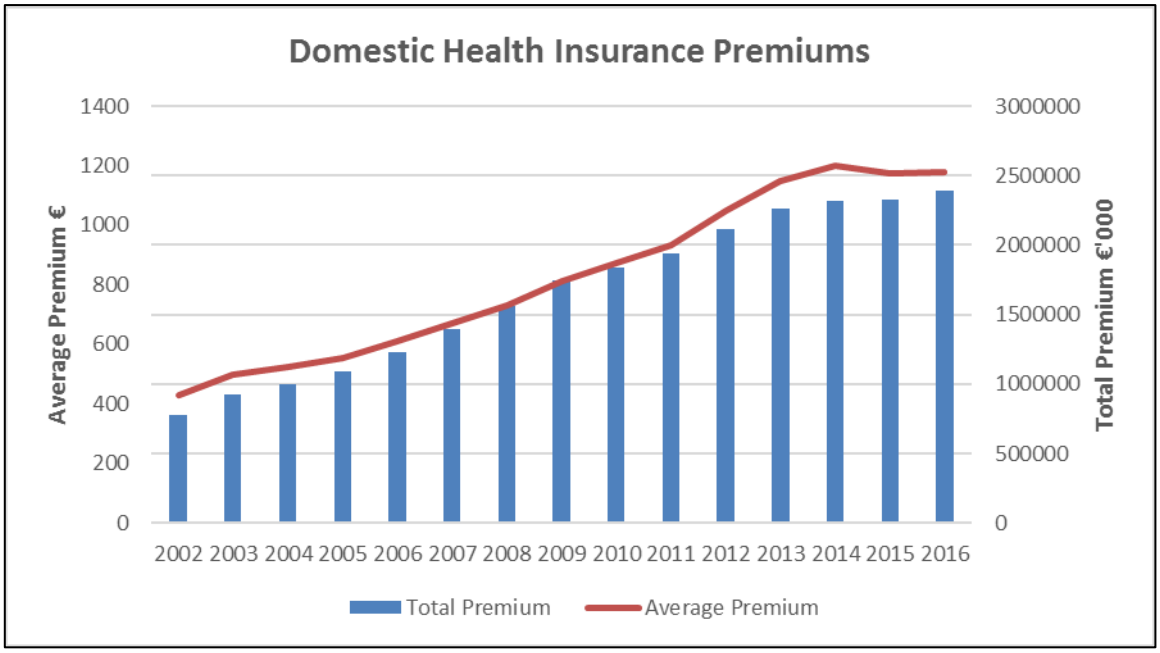
Some background on the market is as follows:

- VHI is the statutory body and up to the 1990s, VHI was the only dominant player in the market. In recent years, the European Union ruled for VHI to obey minimum solvency levels that apply to its rivals and, from July 31st 2015, VHI is authorised on the same basis as other private health insurance companies.
- Laya (previously Quinn Healthcare & BUPA) entered market in the 1990s. Laya was part of the Swiss Re group but, in January 2015, it was taken over by AIG.
- Irish Life acquired the Aviva Health book in 2016 and this merged with GloHealth in 2017:
    - Aviva (previously known as Vivas & Hibernian): Vivas were founded in 2004 and were purchased by Hibernian Group in 1999. In 2009 the company was rebranded as Aviva Health.
    - GloHealth was launched in 2012.
- Restricted undertakings are only available to particular groups e.g. ESB.

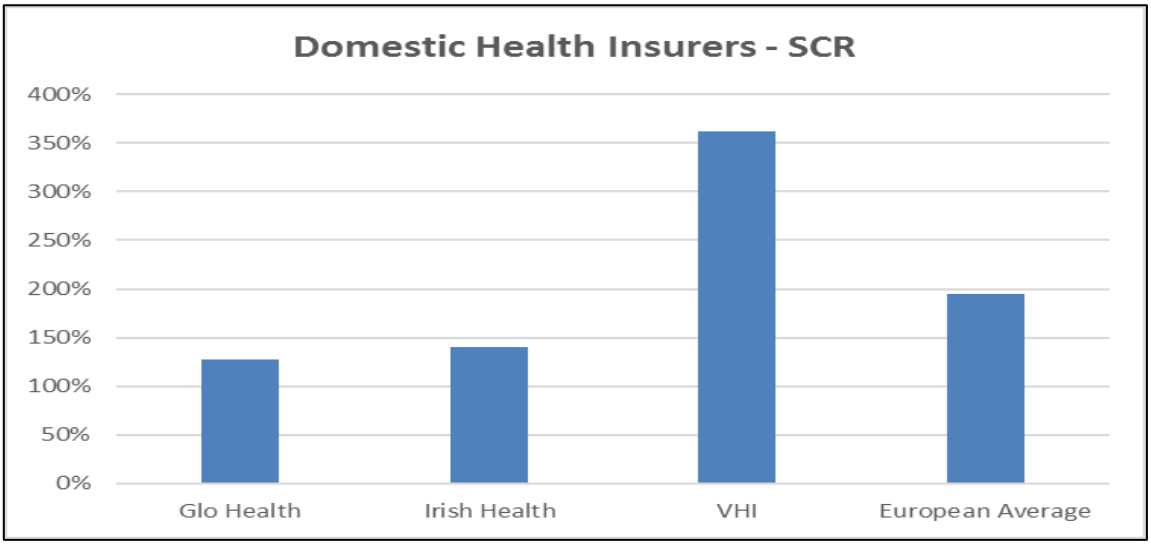
3.1.6 Health Market Statistics

The number of insured in Ireland has remained quite steady over recent years. As at year-end 2016 the number insured stood at 2.15 million. This equivalent number at year-end 2015 was 2.12 million and 2.03m at year-end 2014.

The following graph shows the evolution of premium income over the last number of years, as well as the average premium charged to policyholders over the same period.



All Irish health insurers are well capitalised as shown in the graph below. The average SCR for all Irish health insurers is 286%, which is significantly above the European average of 195%. However, the Irish average is boosted by the very strong position of VHI[13].



[13] http://www.milliman.com/insight/2017/Analysis-of-insurers-first-set-of-Solvency-and-Financial-Condition-Reports-European-health-insurers/

3.2 IFRS 17

3.2.1 Background

On 18th May 2017 the International Accounting Standards Board ("IASB") published IFRS 17 Insurance Contracts. The effective date for IFRS 17 is set for 1st January 2021.

IFRS 17 replaces IFRS 4, which was brought in as an interim Standard in 2004. IFRS 17 is designed to achieve consistent, principle-based application across all companies applying IFRS.

IFRS 17 requires entities to identify portfolios of insurance contracts, which comprise contracts that are subject to similar risks and are managed together. Each portfolio of insurance contracts issued shall be divided into a minimum of three groups:

- A group of contracts that are onerous at initial recognition, if any;
- A group of contracts that at initial recognition have no significant possibility of becoming onerous subsequently, if any; and
- A group of the remaining contracts in the portfolio, if any.

An entity is not permitted to include contracts issued more than one year apart in the same group. Furthermore, if a portfolio would fall into different groups only because law or regulation constrains the entity's practical ability to set a different price or level of benefits for policyholders with different characteristics, the entity may include those contracts in the same group.

3.2.2 Transition

An entity shall apply the Standard retrospectively unless impracticable, in which case entities have the option of using either the modified retrospective approach (the entity achieves the closest outcome to retrospective application that is possible using reasonable and supportable information) or the fair value approach (entity's share of the fair value of the underlying items less amounts payable to policyholders that do not vary based on the underlying items).

At the date of initial application of the Standard, those entities already applying IFRS 9 may retrospectively re-designate and reclassify financial assets held in respect of activities connected with contracts within the scope of the Standard.

Entities can apply either the general model or a simplified version called the Premium Allocation Approach.

3.2.3 General Model (Building Block Approach – "BBA")

At initial recognition, a group of contracts should be measured as the total of

> (a) the amount of fulfilment cash flows ("FCF"), which comprise probability-weighted estimates of future cash flows, an adjustment to reflect the time value of money (TVM) and the financial risks associated with those future cash flows and a risk adjustment for non-financial risk; and
>
> (b) the contractual service margin ("CSM").

At the end of each subsequent reporting period, a group of insurance contracts should be valued as the sum of the liability for remaining coverage and the liability for incurred claims. The liability for remaining coverage comprises the FCF related to future services and the CSM of the group at that date. The liability for incurred claims is measured as the FCF related to past services allocated to the group at that date.

BBA – Worked Example

- Coverage period is 2 years
- Premium of €500 paid immediately after start of coverage
- Total claims of €500 paid immediately after end of year 5
- A claim is expected at the end of each year of coverage => i.e. uniform pattern of risk
- Risk adjustment assumed to be zero
- Expenses and acquisition costs assumed to be zero
- Discount rate of 3% per annum (assumed not to change) **This example does not assume any changes in the discount rate. If there were changes in the discount rate, the insurer could choose to present the changes in the investment activity that are related to the effect of the changes in the discount rate in other comprehensive income*
- Investment return of 5% per annum on the premium that is invested

Premium to be paid immediately after inception

Component	Nominal Amount	Present Value
Expected inflows	500	500
Expected outflows	-500	-431
Net expected cash flows		69
Risk adjustment		0
Fulfilment cash flows		69
Contractual Service Margin		-69
Insurance contract asset/liability		0

€500 of claims expected to be paid immediately after end of year 5 discounted back to start of coverage period (i.e. 500 * 1.03^-5).

Assumed to be zero in this example

No profit can arise at inception, it is instead recognised over the coverage period when the service is provided.

At inception, before premium is due, the value of the insurance contract is zero. For onerous contracts, there would be no CSM and a loss is recognised instead.

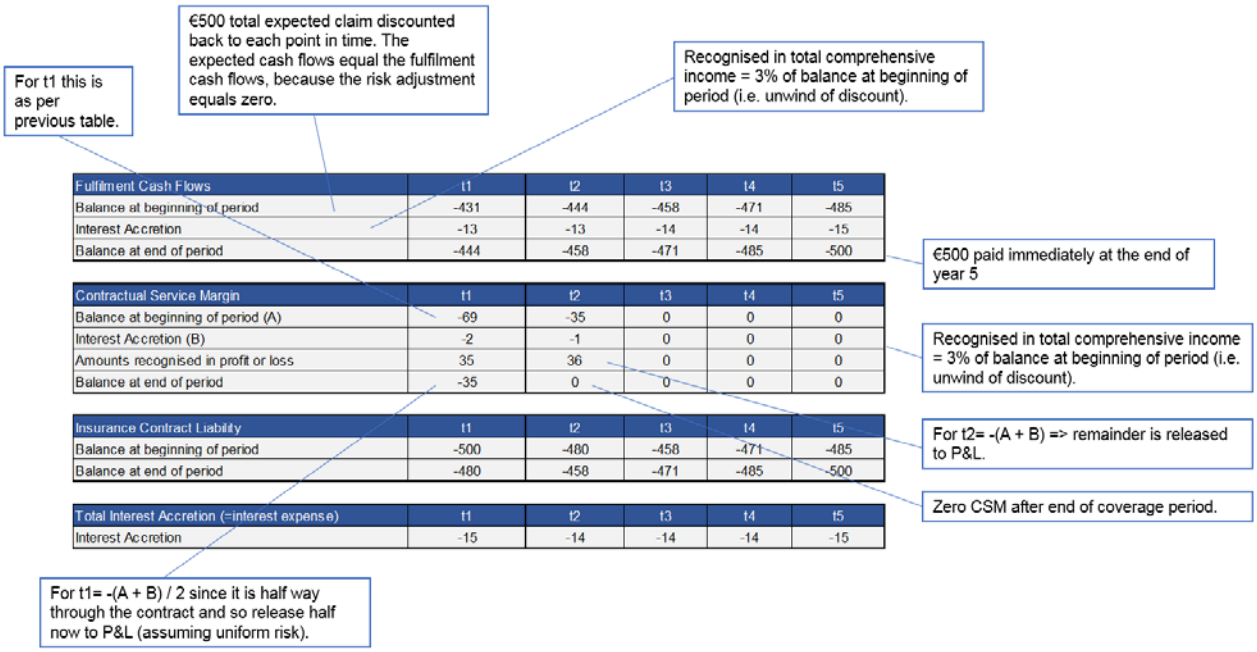
Immediately after the contract is issued, the first premium is received. Assets and liabilities both increase by 500.

Component	Nominal Amount	Present Value
Expected inflows	0	0
Expected outflows	-500	-431
Net expected cash flows		-431
Risk adjustment		0
Fulfilment cash flows		-431
Contractual Service Margin		-69
Insurance contract asset/liability		-500

Premium has been paid

As calculated previously

Difference between what the insurer has received and what it still needs to provide, i.e. received €500 cash but hasn't provided any service or paid any claims.

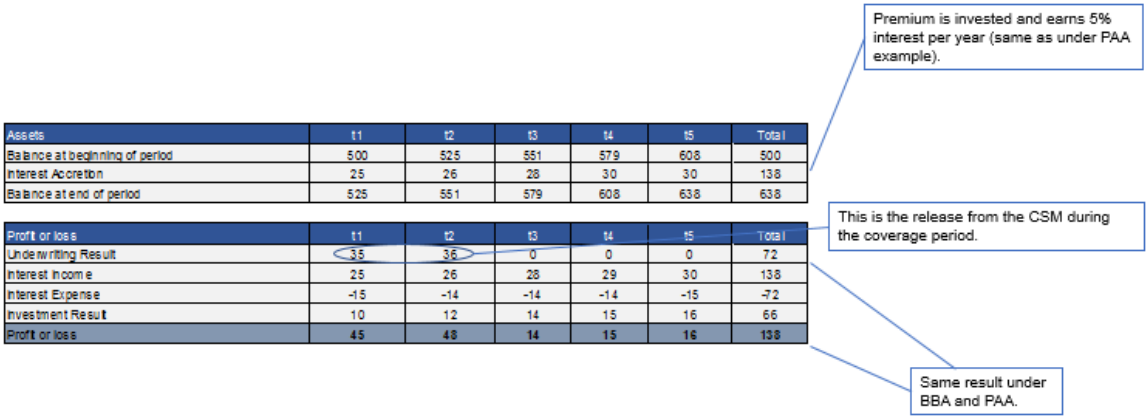


Fulfilment Cash Flows	t1	t2	t3	t4	t5
Balance at beginning of period	-431	-444	-458	-471	-485
Interest Accretion	-13	-13	-14	-14	-15
Balance at end of period	-444	-458	-471	-485	-500

Contractual Service Margin	t1	t2	t3	t4	t5
Balance at beginning of period (A)	-69	-35	0	0	0
Interest Accretion (B)	-2	-1	0	0	0
Amounts recognised in profit or loss	35	36	0	0	0
Balance at end of period	-35	0	0	0	0

Insurance Contract Liability	t1	t2	t3	t4	t5
Balance at beginning of period	-500	-480	-458	-471	-485
Balance at end of period	-480	-458	-471	-485	-500

Total Interest Accretion (=interest expense)	t1	t2	t3	t4	t5
Interest Accretion	-15	-14	-14	-14	-15

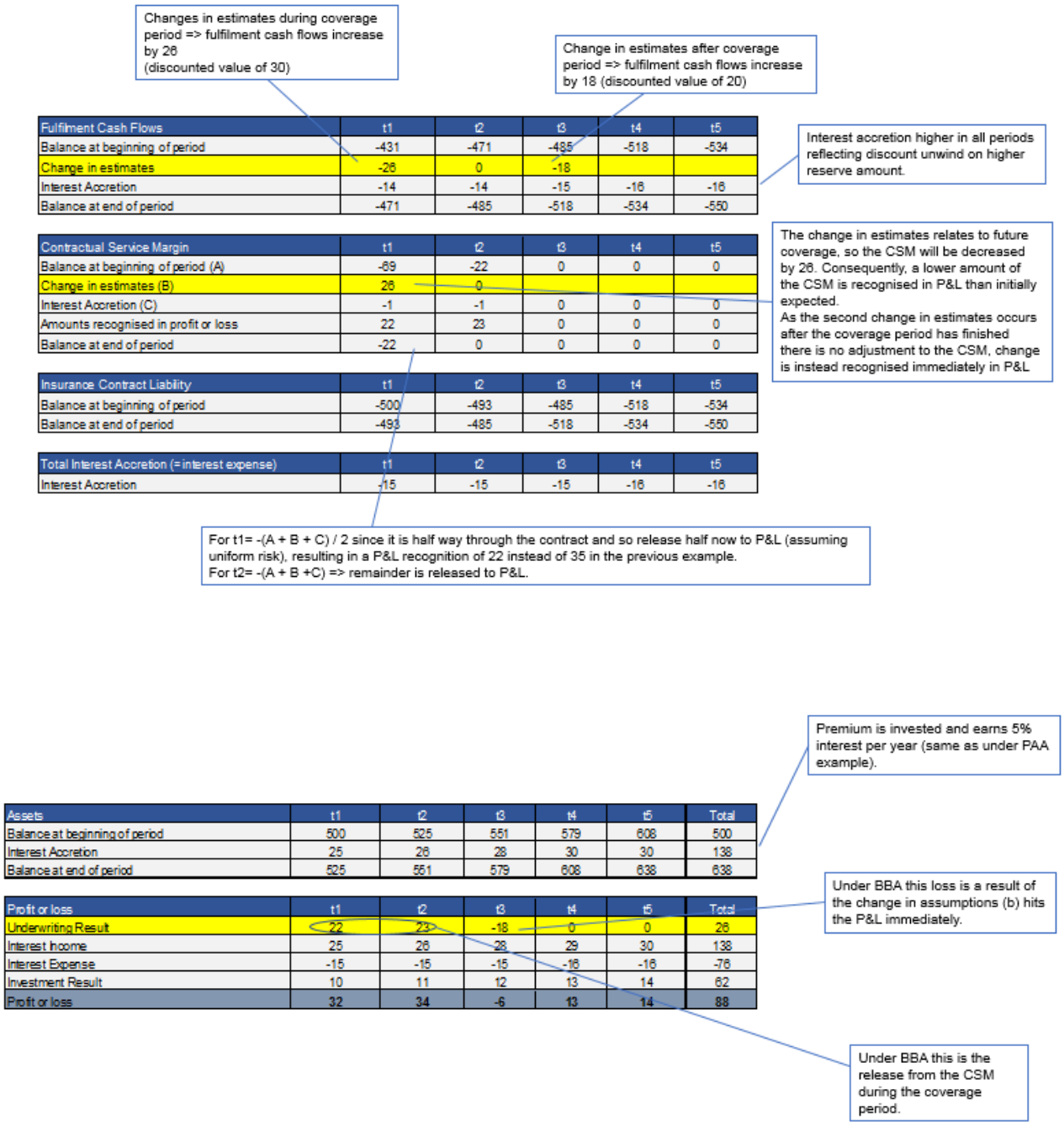


Assets	t1	t2	t3	t4	t5	Total
Balance at beginning of period	500	525	551	579	608	500
Interest Accretion	25	26	28	30	30	138
Balance at end of period	525	551	579	608	638	638

Profit or loss	t1	t2	t3	t4	t5	Total
Underwriting Result	35	36	0	0	0	72
Interest Income	25	26	28	29	30	138
Interest Expense	-15	-14	-14	-14	-15	-72
Investment Result	10	12	14	15	16	66
Profit or loss	45	48	14	15	16	138

The following scenarios also occur during the coverage period:

- a change in the expected cash flows during the coverage period shortly after the contract is written => the insurer expects the cash outflows to be 530 rather than the initially expected 500
- a change in the expected cash flows after the end of the coverage period immediately after the end of year 2 => the insurer estimates an additional increase in the expected cash outflows of 20



Fulfilment Cash Flows	t1	t2	t3	t4	t5
Balance at beginning of period	-431	-471	-485	-518	-534
Change in estimates	-26	0	-18		
Interest Accretion	-14	-14	-15	-16	-16
Balance at end of period	-471	-485	-518	-534	-550

Contractual Service Margin	t1	t2	t3	t4	t5
Balance at beginning of period (A)	-69	-22	0	0	0
Change in estimates (B)	26	0			
Interest Accretion (C)	-1	-1	0	0	0
Amounts recognised in profit or loss	22	23	0	0	0
Balance at end of period	-22	0	0	0	0

Insurance Contract Liability	t1	t2	t3	t4	t5
Balance at beginning of period	-500	-493	-485	-518	-534
Balance at end of period	-493	-485	-518	-534	-550

Total Interest Accretion (=interest expense)	t1	t2	t3	t4	t5
Interest Accretion	-15	-15	-15	-16	-16

Assets	t1	t2	t3	t4	t5	Total
Balance at beginning of period	500	525	551	579	608	500
Interest Accretion	25	26	28	30	30	138
Balance at end of period	525	551	579	608	638	638

Profit or loss	t1	t2	t3	t4	t5	Total
Underwriting Result	22	23	-18	0	0	26
Interest Income	25	26	28	29	30	138
Interest Expense	-15	-15	-15	-16	-16	-76
Investment Result	10	11	12	13	14	62
Profit or loss	32	34	-6	13	14	88

3.2.4 Simplified Model (Premium Allocation Approach – "PAA")

An entity may simplify the measurement of the liability for remaining coverage of a group of insurance contracts using the premium allocation approach on the condition that, at initial recognition, the entity reasonably expects that doing so would produce a reasonable approximation of the general model, or the coverage period of each contract in the group is one year or less.

PPA – Worked Example

- Coverage period is 2 years
- Premium of €500 paid immediately after start of coverage
- Total claims of €500 paid immediately after end of year 5
- A claim is expected at the end of each year of coverage => i.e. uniform pattern of risk
- Risk adjustment assumed to be zero
- Expenses and acquisition costs assumed to be zero
- Discount rate of 3% per annum (assumed not to change) **This example does not assume any changes in the discount rate. If there were changes in the discount rate, the insurer could choose to present the changes in the investment activity that are related to the effect of the changes in the discount rate in other comprehensive income*
- Investment return of 5% per annum on the premium that is invested

On initial recognition, the liability for the remaining coverage = premiums received under the contract, less any acquisition costs paid.

Liability for remaining coverage	t0	t1	t2	t3	t4	t5
Balance at beginning of period (A)	0	-500	-258	0	0	0
Interest Accretion (B)	0	-15	-8	0	0	0
Amounts recognised in profit or loss	0	258	265	0	0	0
Balance at end of period	-500	-258	0	0	0	0

Recognised in total comprehensive income = 3% of balance at beginning of period (i.e. unwind of discount).

For t2= -(A + B) => remainder is released to P&L.

Liability for incurred claims	t0	t1	t2	t3	t4	t5
Balance at beginning of period (C)	0	0	-222	-458	-471	-485
Interest Accretion	0	0	-7	-14	-14	-15
Claims incurred (D)	0	-222	-229	0	0	0
Balance at end of period	0	-222	-458	-471	-485	-500

Coverage period has ended => balance is zero from here.

Insurance Contract Liability	t0	t1	t2	t3	t4	t5
Balance at beginning of period	0	-500	-480	-458	-471	-485
Balance at end of period	-500	-480	-458	-471	-485	-500

Total Interest Accretion (=interest expense)	t0	t1	t2	t3	t4	t5
Interest Accretion	0	-15	-14	-14	-14	-15

For t1= -(A + B) / 2 since it is half way through the contract and so release half now to P&L (assuming uniform risk).

For t1= fulfilment cashflows of 444 /2 (i.e. half of the t1 fulfilment cash flows from BBA which related to the expired exposure).

Assets	t1	t2	t3	t4	t5	Total
Balance at beginning of period	500	525	551	579	608	500
Interest Accretion	25	26	28	30	30	138
Balance at end of period	525	551	579	608	638	638

Premium is invested and earns 5% interest per year

Profit or loss	t1	t2	t3	t4	t5	Total
Insurance Revenue	258	265	0	0	0	523
Claims Incurred	-222	-229	0	0	0	-451
Underwriting result	36	36	0	0	0	72
Interest Income	25	26	28	29	30	138
Interest Expense	-15	-14	-14	-14	-15	-72
Investment Result	10	12	14	15	16	66
Profit or loss	**45**	**48**	**14**	**15**	**16**	**138**

3.2.5 Similarities and Differences to Economic Reporting

Best Estimate Liabilities

The building blocks of IFRS 17 reporting for best estimate liabilities appear similar, but some differences arise; for example, different cashflows e.g. expenses and potentially different contract boundaries, the unbundling of components, and differing analysis of change ("AoC") requirements. IFRS 17 requires consistent application across the whole Group regardless of jurisdiction.

Discount Rate

Solvency II rules for setting discount rates are prescriptive, compared to a principles-based approach under IFRS 17. For example, under Solvency II, there are restrictions in the use of a matching adjustment, whereas under IFRS 17, a top down approach to setting the discount rate can be taken.

Risk Adjustment

Under Solvency II, the risk adjustment (i.e. risk margin) aims to value the risk on transfer of liabilities to a different entity, whereas under IFRS 17, the risk adjustment is a shareholder view. IFRS 17 also allows for Group diversification in the risk adjustment calculation where Solvency II, diversification is applied on a legal entity basis. The risk adjustment under IFRS 17 will be a lot more granular than under Solvency II.

CSM

The CSM is not relevant under Solvency II and new modelling systems will be required for IFRS 17, in order to capture locked in unwind and reinstatement possibilities.

3.2.6 Approaches for transition

A full retrospective approach should be used where historical data exists and hindsight is not required. When all historical information about historical cash flows is not available or can be constructed, two other options are available:

- Modified retrospective approach
- Measurement at fair value

3.3 Regulatory Update

3.3.1 PRIIPS

Since the last Current Topics Paper, the implementation timeline for PRIIPS was delayed until 1st January 2018.

The Society of Actuaries in Ireland set up a PRIIPS working group with the following objectives:

1) Consider the approach to disclosing projected values under PRIIPs and how this may affect policyholders' expectations of potential returns over time.
2) Consider areas requiring technical interpretation and review potential approaches to these areas of interpretation.
3) For Irish policyholders, consider the differences and areas of overlap with the current life disclosure regime.
4) Create awareness amongst SAI members of the issues considered under (1) to (3) above.

Key Information Document ("KID")

The KID is a pre–contractual document which must be given to potential investor 'in good time'. It must be available on the manufacturer website and must be referred to in marketing literature. The KID will standardise information provided to potential investors and should improve transparency and comparability in the market place. It must be updated at least annually but ongoing monitoring is also required.

The KID must contain the following sections:

1) Comprehension alert
2) Identity information
3) "What is this product?"
4) "What are the risks and what could I get in return?"
5) "What happens if [name of the PRIIP manufacturer] is unable to pay out?"
6) "What are the costs?"
7) "How long should I hold it and can I take money out early?"
8) "How can I complain?"
9) "Other relevant information"

The KID must contain a Summary Risk Indicator - one risk indicator combining credit, liquidity & market risk.

Summary Risk Indicator ("SRI")

The SRI is a guide to the product's level of risk, helping the investor to assess and compare it to other products. It takes into account how likely the investor is to lose money and the possibility of some form of protection.

Market Risk Measure ("MRM")
PRIIPs can be assigned to seven MRM classes and for this purpose, they are divided into four categories. Category I PRIIPs are assigned based on qualitative criteria, while for Category II, III and IV the basis for the MRM is the Value-at-Risk @ 97,5%. For example, Government Bond funds would be categorised as Class III.

Credit Risk Measure
Credit risk shall be assessed when the return on the investment depends on the creditworthiness of manufacturer or such party bound to make the relevant payment to the investor directly or indirectly. On AIFs and UCITS, credit risk shall be assessed on a look-through basis.

Liquidity Risk
For products tradeable over their life but for which no regulated liquid market exists, a warning should be included within the SRI, highlighting that selling the PRIIP before the RHP may not be possible and/or imply remarkable costs or losses

Key Considerations
Impact on policyholders/consumers

It remains to be seen how consumers and policyholders will react to the KID communication and indeed whether or not they find the information helpful and/or easy to understand. For example:

- Will they understand volatility and projections as shown on KID?
- Will projection figures exacerbate "herd mentality" (mentality characterised by a lack of individual decision-making or thoughtfulness) during bull/bear markets?
- Will the KID increase the potential for consumer complaints?
- How will the KID compare with other policyholder communications?

Impact on companies

Guidance is still needed on the required frequency of monitoring for costs, risk and performance:

- This should be carried out annually at a minimum, but SRI and performance scenarios are likely to be sensitive to new market data. When should cost ratios be re-calculated more frequently than once a year?

Additional guidance and flow diagrams were published by ESAS in August 2017 setting out calculation steps for the SRI and Performance scenarios.

3.3.2 Insurance Distribution Directive

Current regulation and the need for change

The Insurance Mediation Directive ("IMD") is the legislative document that regulates the sale of insurance products in the European Union. It applies only to insurance intermediaries such as brokers. Under IMD all insurance intermediaries are obliged to register in their home country and meet certain minimum requirements.

The economic environment has undergone significant changes since the introduction of the IMD in 2002. Insurance markets have become more complex and the global financial crisis has increased the focus on consumer protection. Both companies and customers are conducting business cross-border as the global marketplace becomes increasingly interconnected. The inconsistent implementation of the IMD across the EU only added to these challenges. On 22nd February 2016 the European Commission adopted a new rule, the Insurance Distribution Directive ("IDD"), aimed at addressing this.

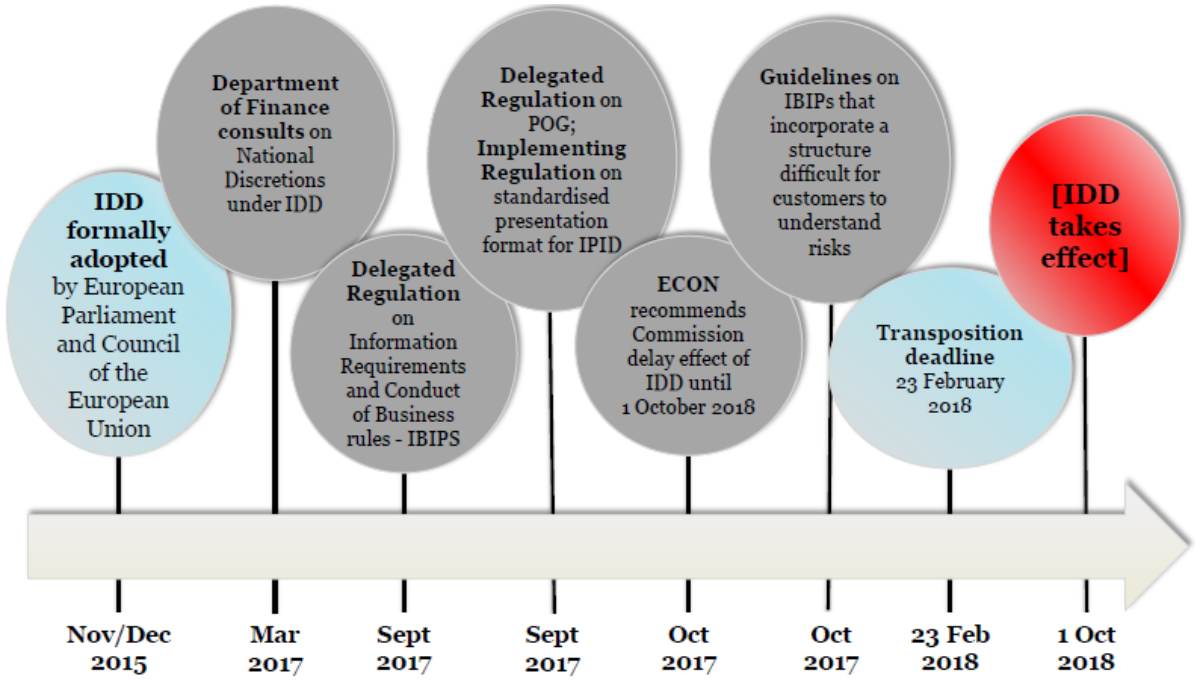
Objectives

The IDD is a minimum standards directive that seeks to:

1. Harmonise provisions concerning insurance and reinsurance distribution across the EU and ensure a level playing field across all participants selling insurance products. EU Member States can impose higher standards if they wish provided they comply with EU law.
2. Improve customer protection in the insurance sector through requirements for increased information provisions and advice, and by the creation of common standards for insurance sales, improving regulation and distribution practices across the single European market.

Timelines

The IDD entered into force on 22 February 2016, and is due to be transposed by all Member States by 23 February 2018.



Key developments

1. EIOPA's role strengthened

EIOPA have been granted additional powers in relation to insurance distribution. They can now:

- draft guidelines on conduct issues and monitoring insurance products
- investigate new products or instruments before they are distributed
- restrict temporarily the marketing, distribution or sale of certain insurance and reinsurance products or restrict types of financial activity undertaken by insurance or reinsurance undertakings. Note that this power can only be used where a Member State has failed to take action to address the threat posed by the product.

2. Extended scope

Under the IDD mediation has been replaced by the word "distribution" and new definitions for distributors and intermediaries have been introduced. As a result the scope is extended from agents and brokers to include insurers and reinsurers selling directly to customers. Price comparison websites will also remain in scope.

Scope will no longer extend to claims managers, loss adjusters or the expert appraisal of claims. In addition it will not apply to those who undertake insurance mediation as an ancillary activity to another profession so long as they do not take any additional steps to assist the customer in concluding the contract e.g. selling insurance in car dealerships.

3. Higher standard of professional skill and competence

The IDD introduces a minimum of 15 hours CPD for all staff. Minimum requirements apply to employees with responsibility for insurance distribution. This might include for example call centre agents whose role may be limited to conducting non-advised, script-based sales but the CPD can be tailored to allow for the nature and complexity of the employee's role.

4. New remuneration disclosure requirements

This requires the nature and basis of the remuneration received relating to the insurance contract to be disclosed pre-contract. Remuneration includes financial, non-financial, incentives or economic benefits of any kind.

5. Consumer protection

Product Oversight and Governance

Insurers and product manufacturers will be required to have in place a formal product approval process for each new product. Ultimately this will ensure a specific insurance product is designed to meet the needs of its specific target market.

This product approval process is to form an integral part of the insurer's risk management process. Delegated Regulation on Product Oversight and Governance was published by EIOPA on 21 September 2017. The requirements include:

- identifying a target market and market segments for which a product is not considered appropriate
- carrying out product analysis and reviews to check product performance and potential consumer detriment
- identifying relevant distribution channels, monitoring distribution channels and providing appropriate information on the product to distributors.

Existing products will need to be reviewed in their entirety (marketing, documentation, sales process etc.) to ensure compliance with IDD. This will be an onerous task and will require lots of effort especially for companies with a large number of products on sale.

Cross-selling

If an ancillary product or service, which is not insurance based, is offered together with an insurance product, then the distributor must inform the customer about the components, costs, charges, and risks of each component. The customer must be given the opportunity to buy these components (product or service) separately.

Meeting demands and needs

IDD requires a strict approach to the process of identifying the customer specific demands and needs and then only offering products that are consistent with those. Sales staff will

need to be fully trained on new products and the identified target market to ensure the appropriate customers are being targeted.

Conflicts of interest

Conflicts of interest management will now be subject to higher standards, which will be further detailed in the delegated acts. Insurance companies must ensure that any potential conflicts of interests between themselves and their customers are prevented during distribution activities, therefore a conflict of interest policy should be prepared. If conflicts of interest cannot be sufficiently managed, the general nature or sources of the conflict should be disclosed to the customer.

In any case, in the interest of the customer's protection, appropriate information must always be available to customers before the signing of the insurance contract. A general principle is introduced to ensure that intermediaries "always act honestly, fairly, trustworthily, honourably and professionally in accordance with the best interests of their customers".

Product distribution arrangements for distributor

Insurance distributors that do not manufacture products are subject to product distribution arrangements that include establishing measures and procedures for the products they intend to distribute, obtaining all relevant information from the manufacturer and defining a distribution strategy.

6. Insurance Based Investment Products ("IBIPs") requirements

IDD includes specific requirements for distribution of IBIPs. Under IDD, IBIPs specifically will not include:

- Non-life insurance products as listed in Solvency II Directive
- Life insurance contracts where the benefits under the contract are payable only on death or in respect of incapacity due to injury, sickness or infirmity
- Pension products recognised as having the primary purpose of providing the investor with an income in retirement, and which entitles the investor to certain benefits
- Officially recognised occupational pension schemes falling under the scope of Institutions for Occupation Retirement Provision or Solvency II Directives.

Key additional requirements:

Alignment with MiFid

For insurance investment products IDD requires that conduct of business standards are aligned with those in MiFID with the result that the two regimes are consistent. Accordingly, enhanced conduct of business standards will be imposed on insurance investment products. To ensure the alignment with MiFID investments, both the European Securities and Markets Authority and EIOPA are to work together to create guidelines on conduct requirements.

Suitability assessment

A suitability assessment is required to be conducted by insurance companies that provide advice to customers on IBIPs to enable them to recommend to the customer or potential customer the IBIPs that are suitable for that person. This advice has to be consistent with the customer's investment goals, financial situation, their ability to bear losses and their knowledge/experience level. Where an insurance company provides investment advice recommending a package of services or products bundled, the overall bundled package must be suitable.

Appropriateness assessment

When no advice is given, an appropriateness assessment should be performed to determine whether the customer has sufficient knowledge and experience to understand the underlying risks of the product. Where a bundle of services or products is envisaged, the assessment must consider whether the overall bundled package is appropriate.

7. Standardised IPID for non-life products.

The Insurance Product Information Document ("IPID") will be a simple standardised document summarising the main features of a non-life insurance contract. It is not the insurance contract and will not be required for life insurance contracts. It is designed to give customers basic information about the type of non-life insurance, the obligations of the parties, claims handling and a summary of the non-life insurance cover.

Conclusion

The IDD will significantly raise the minimum standards of the IMD and will ensure minimum harmonisation across the EU. However Member States will also be able to strengthen or "gold-plate" the directives by adding extra requirements when implementing the IDD if they choose to do so. At the time of writing this paper, Ireland has not yet decided on how it will implement the IDD and if any additional criteria will be set. However, it is important that all firms in scope consider the implications of the IDD in planning their future distribution strategy.

IDD Sources: EIOPA; European Commission; IDD Directive; Arthur Cox (timeline); CBI

3.3.3 CBI Consumer Protection Risk Assessment ("CPRA")

Historically under the Probability Risk and Impact System ("PRISM") conduct risk was defined by the CBI as the risk a financial services firm poses to its customers from its direct interaction with them. This has been mainly assessed by supervisors through an examination of a firm's products.

In 2016 the Central Bank enhanced its model for assessing conduct risk, recognising that risks to consumers can stem from a firm's strategy, business model, culture, governance and other internal structures, its systems and processes or the behaviours of individuals at any level within the firm (which the CBI defines as "consumer protection risk").

In March 2017 the CBI published a guide on its Consumer Protection Risk Assessment ("CPRA") Model. This sets out the CBI's approach to carrying out CPRAs and also describes its expectations of companies with regard implementing and enhancing frameworks for managing risks to consumers.

The CBI's CPRA model comprises five modules:

1. Governance and Controls: Is the board and management committee structure effective in identifying and managing risks to consumers?
2. People and Culture: Does the firm have a truly customer focused culture?
3. Product Development: Are the products described in a clear, fair and non-misleading way in advertisements and marketing material? Is there any potential misunderstanding by customers?
4. Sales/Transaction Process: Is management information to monitor and track sales performance sufficient to ensure fair outcomes for customers are being achieved?
5. Post-sales andling: Are post-sales systems and controls operating as consumers had been led to expect? Do these systems or controls lead to unreasonable post sale barriers for customers?

The CPRA model allows the CBI assess how firms are identifying and managing consumer risk in the context of their strategies, business models and their internal structures and processes.

The CBI will carry out targeted CPRAs, focusing on priority risks. CPRAs are intrusive in nature. Once the design of the controls has been assessed, supervisors will then seek concrete evidence of how effectively the control operates in practice. The CPRA of the selected companies will then be rated by supervisors and this rating will be recorded on PRISM. This system of prioritisation of supervisory work based on risk allows the CBI focus resources on those areas where there is a significant threat to the CBI's consumer protection objectives.

In terms of what this means for companies, there is an expectation that Boards and senior management of regulated companies recognise their responsibilities in terms of consumer protection and make these responsibilities a priority. To effectively manage risk to consumers, companies must ensure that relevant systems and controls are embedded across all five modules above.

3.3.4 GDPR

What is the GDPR?

The General Data Protection Regulation ("GDPR") introduces substantial changes to European data protection law, along with severe financial penalties for non-compliance and must be considered as a top priority for the insurance industry. It paves the way for greater data protection harmonisation throughout the European Union ("EU") and seeks to enhance free movement of data. In addition a wide range of major changes designed to address the significant personal data risks associated with online activities as well as other key privacy risks will be introduced.

Timeline

The GDPR was initially published by the European Commission in January 2012. After four years of negotiation, it was finally adopted on 27 April 2016. Following a two year implementation period, the GDPR comes into force across the EU on 25 May 2018**.** It will replace the existing Data Protection Directive 95/46/EC.

Key points

- *Increased penalties* - For the first time, companies that breach data protection law can face fines calculated with reference to their annual turnover. Companies can be fined up to €20,000,000 or 4% of annual global turnover, whichever is higher. Fines can be imposed in addition to, or instead of, any corrective measures (such as warnings or reprimands).
- Wider scope - The regulation applies to both data controllers and data processors established inside the EU. It also applies to controllers and processors outside of the EU who offer goods and services to, or monitor EU residents. These businesses may need to appoint a representative in the EU.

- *One supervisor* - The principle that a company, established in one EU member state, should be subject to supervision by one Data Protection Authority ("DPA") is endorsed in the GDPR. However, the GDPR introduces a complex "consistency mechanism". This is a formalised consultation process where national DPAs are obliged to consult with other "concerned" DPAs if they are deciding on pan-European issues. A panel of DPAs, the European Data Protection Board, will also be empowered to overrule the decision of a national DPA through a two-thirds vote.

- *Data Protection Officer* – Organisations, like insurers, whose core activities involve regular and systematic monitoring of individuals on a large scale, or involve processing large quantities of sensitive personal data, must appoint a Data Protection Officer ("DPO"). DPOs must be expert in data protection law and privacy. They must also be able to act independently and report directly to senior management within organisations. The GDPR sets out the minimum tasks of a DPO:
    - *Inform and advise their colleagues of their data protection obligations*;
    - *Monitor compliance with the GDPR and the organisation's data protection policies*;
    - *Provide advice regarding privacy impact assessments*;
    - *Cooperate with the relevant supervisory authority*; and
    - *Act as a point of contact for the supervisory authority on data processing issues*.

- *Privacy culture* - The GDPR aims to establish a culture of privacy by requiring data privacy to be embedded into a business. Data controllers must ensure that privacy concerns are a key part of their decision making. The GDPR seeks to ensure that the privacy rights of data subjects are prioritised by data controllers when they make business decisions. Controllers will have to carry out privacy impact assessments for any actions that may pose a high risk for data subjects' privacy right taking into account their nature, scope and content.

- *Definition of personal & sensitive data* - The GDPR broadens the definition of personal and sensitive data. Personal data now expressly includes an identification number, location data, and online identifier. Sensitive personal data includes genetic data and biometric data. Data concerning criminal convictions is no longer classified as sensitive data, but it continues to benefit from special protection.

  Pseudonymisation is a privacy enhancing technique where directly identifying data is held separately and securely from processed data to ensure non-attribution. Although pseudonymisation can reduce risks to the data subjects, it is not alone sufficient to exempt data from the scope of the GDPR. Anonymised data is not considered to be personal data.

- *Obligations on Data Processors* - GDPR contains a longer list of terms that must be included in data processing contracts. The GDPR imposes certain direct statutory obligations on data processors meaning that they will be subject to direct enforcement by supervisory authorities, fines and compensation claims by data subjects. The GDPR limits the liability of the processors to the extent that they have not complied with their statutory obligations or have acted outside the instructions of the controller.

- *Accountability* - The new concept of accountability is introduced which requires controllers to be able to demonstrate how they comply with the data protection principles. Records of processing activities must be kept by controllers and supplied to supervisory authorities on request, to demonstrate their compliance with the GDPR.

- *Consent* - Data subjects must freely give specific, informed and unambiguous consent to the processing of their data. Where a data controller collects personal data for one specific purpose, the GDPR requires that data subjects give additional consent for each additional processing operation. The GDPR also gives EU member states discretion to decide what the minimum age will be for data subjects to consent to processing of their personal data.

- *Privacy Notices* - The GDPR provides a list of specific, additional, information that must be provided to data subjects to ensure all processing activities are transparent. This list includes, in particular, the legal basis for the processing and the data retention period or criteria used to determine same.

- *Lawful Processing Conditions including legitimate interests & further processing* - The grounds for processing data remain largely the same. Consent will become more difficult to rely on to legitimise processing. The GDPR blurs the distinction between consent and explicit consent, as both require some form of clear affirmative action. Silence or pre-ticked boxes will no longer be sufficient to constitute consent. The GDPR permits data subjects to withdraw their consent at any time. There is a higher bar for relying on "legitimate interests" and an indication of when it may be used. Public authorities cannot rely on "legitimate interests" to legitimise their processing. The GDPR contains a non-exhaustive list of factors to be taken into account when determining whether further processing is compatible with the purpose for which the data were collected.

- *Subject Access Requests* - The GDPR requires the provision of specific, additional, information to data subjects when responding to access requests. The time period for dealing with requests has been reduced from 40 days to 1 month. A data subject access request can only be refused where it is “manifestly unfounded or excessive, in particular because of its repetitive character."

- *Right to Rectification, Erasure, Restriction, Data Portability, Objection and Profiling* - The GDPR provides data subjects with new rights, including a right to data portability, and a right not to be subject to a decision based on automated processing, including profiling, in certain circumstances. It gives data subjects more control by enabling them to object to processing which is based on the legitimate interests of the controller or a third party (including profiling based on that ground).

- *Data breaches* - If a company suffers a data breach, the GDPR introduces a mandatory obligation to notify the local DPA without delay. Where possible, the GDPR states that companies should notify their local DPA within 72 hours. Where the data breach poses a high risk to the privacy rights of data subjects, affected data subjects must also be notified without undue delay.

- *International Data Transfers* - Data transfers to countries outside the EEA continue to be prohibited unless that country ensures an adequate level of protection. The GDPR retains existing transfer mechanisms, and provides for additional mechanisms, including approved codes of conduct and certification schemes. International data transfers are likely to continue to be a challenging issue. The GDPR prohibits any non-EEA court, tribunal or regulator from ordering the disclosure of personal data unless it requests such disclosure under an international agreement, such as a mutual legal assistance treaty.
- *Right to Compensation* - Data subjects can sue both controllers and processors for compensation for pecuniary or non-pecuniary damage suffered as a result of a breach of the GDPR. Where non-compliance with the GDPR is established, a controller or processor will bear the burden of proving they are not responsible for the event giving rise to the damage.

3.4 Innovation

Changing customer needs

Consumers have become accustomed to the choice and accessibility of retail sites, such as Amazon and the one click interaction of an Apple or Android app. They now want this experience from their insurers. As smartphones, tablets and other such versatile mobile devices proliferate, people want to be able to conduct business when they want, where they want and on the channel of their choice. Customers want greater transparency (allowing them to compare products), flexibility (products that adapt to their changing needs) and control (the comfort of being able to change their mind if not satisfied).

Distribution disruption and digitalisation of insurance industry

The digital economy is rapidly changing the way insurers market and sell their products and services. The emergence of market comparison sites and aggregators is the primary example of this. These websites collate information and compare products from multiple insurers. A potential customer can visit one website and immediately choose a product from the open market that best suits them. They benefit from increased choice, easily comparable products and most of all competitive pricing. Insurance companies compete directly on a platform where customers can clearly compare products rather than, say, make a phone call to 6 different insurance companies. As a result insurer's profit margins are being driven lower with increased importance being placed on control of loss ratios, commission payments and profitability metrics to ensure viability.

- In the UK, comparison sites have transformed the motor insurance industry. These websites now control nearly 50% of the private motor market and with it much of the customer relationship. Social media is taking customer rating one stage further by allowing consumers to share ratings and become advocates for a particular product or service.

- In Ireland, Low.ie is a comparison website for mortgage protection insurance which is compulsory insurance for anybody taking out a mortgage. Low.ie offers mortgage protection from the established international life companies in Ireland. All customer policies are directly with these companies.

The digitalisation of the insurance industry will bring new business opportunities. Mobile technology allows customers to use products and services when the need arises—anywhere and anytime, and this is something that will need to be capitalised on. Technology will introduce new elements of competitive differentiation and improved customer experience will enable insurers to increase the perceived value of their products and services by enhancing consumer satisfaction and meeting rising expectations. Companies need to move

quickly to find new customers, deliver new products and open new markets. Some companies are already successfully adapting to the new demands of the marketplace.

- *Community Life*, a German start-up, launched a digital portal in 2015 which offers clear, excellent value disability and term life insurance products as well as empowering customers to engage in product development. The portal acts as an insurance broker, turning the traditional life insurance distribution on its head through the use of simple insurance contracts without technical jargon. It continuously rethinks the customer journey, using technology as the enabler for a better customer experience. By building an online insurance community, the company will also enable a new form of mutuality among customers. Customers can get involved, exchange information and benefit from their bundled purchasing power to secure excellent product offerings. The company focuses on everything around the customer, allowing its insurance partners to focus on management of the technical risk.

- *Max Life Insurance*, one of India's leading life carriers, has launched a digital campaign called "Second Chance" to create public awareness of the need for protection through life insurance. The campaign uses videos of human-interest stories on social media platforms, such as YouTube, Facebook and Twitter, and directs viewers to a website to learn more about life insurance.

- *Genertellife,* a subsidiary of Generali Italia, in Italy has launched i-Life, a life insurance policy that can be easily accessed by users of mobile devices. Prospective customers are provided with a full quote online in around five minutes. The product includes incentives that reward customers who take care of their health. If they take advantage of the free medical check-up, for example, they receive an immediate discount of 10 percent on their policy premium and a further 10 percent if they are found to be in good health.

- *ERGO Direkt*, a subsidiary of ERGO Group and the third-largest direct life insurer in Germany, enables customers to use an electronic signature to buy term life insurance online after entering their data and answering health questions on their smartphone. Customers receive their policies within three business days.

- *Irish Life Health* have developed an online doctor feature which enables people to have an online GP visit removing the need to physically visit a doctor. This attractive feature may have an ultimate benefit of reducing the cost of claims with illnesses being identified earlier and treated before they become more serious. In addition, the Irish insurer has developed on online claims handling platform that enables policyholders send through a photo of their receipts when they have a medical claim. This speeds up the claims handling process reducing the need for receipts to be posted in, manually scanned to a system and then reviewed. Instead the process is automated reducing the workload of the claims handler allowing for more focus to be placed on

claims decision-making and better service (including earlier claim payment) for the claimant.

Big Data

Data analytics is the discovery, interpretation, and communication of meaningful patterns in data. It relies on the simultaneous application of statistics, computer programming and operations research to quantify performance.

Advances in analytics are already allowing life and pensions businesses to develop a better understanding of their risks and price more keenly. The most important differentiator is going to be how to extract customer profiling data from all the purchasing, social media and other digital trails people leave. A lot of this information is unstructured, and new techniques are emerging to analyse this "big data".

For example, transactional data is being used to find out where and what customers buy to determine "well-being" scores, which can then be used to identify whether they are a good risk. Analysis of these sources of data would allow companies to develop a clear and comprehensive profile of the health, wealth and behaviour of the customer before he or she applies, saving all the form filling and verification needed. This would in turn allow companies to target particular customers and offer instant online cover.

Other techniques include:

- Association rule learning
- Classification tree analysis
- Machine learning – examples are:
    - Multivariate Analysis
    - Regression analysis.

There are many examples in the medical industry that may ultimately have an impact on insurance and in particular the diagnosis and treatment of certain diseases.

- *Google Deepmind* uses machine learning to determine radiotherapy plan for oral, head and neck cancers.
- *IBM Watson* have developed the "Watson Paths" project which examines a medical case and draw conclusions via machine learning.
- *Enlitic* have developed technology that can interpret a medical image in milliseconds via deep learning. This was found to judge the malignancy of nodules in chest CT images 50% more accurately than an expert panel of radiologists. In addition it can scan cases for multiple clinical findings, determine their priority and route them to the most appropriate doctor in the customer's medical network.

All of the above will enable earlier diagnosis and treatment and may ultimately reduce the cost of claims (health, critical illness and death) in the long run.

Wearable devices

Wearable devices measure physical activity. At their simplest, they do this through a relatively new metric called steps which counts how many steps you take a day. It is by no means a scientific measurement but as a result we have all become increasingly aware of the need to be active and to achieve at least the 10,000 step daily benchmark.

FitBit is just one player in a crowded wearable market and at the end of 2016, Fitbit had sold 60 million of its products. Wearables began to hit a peak in 2014. Thousands of products were launched and this peak culminated in the launch of the most successful individual wearable product technology to date, the Apple Watch, in April 2015. After purchase the initial consumer enthusiasm for many devices may fade however they have made a substantial cultural impact and people have become increasingly aware of the need to be active.

Current wearable technology in the consumer market is limited in what they measure e.g. steps. The next challenge is to develop consumer wearables to track and measure medical-grade information. There is lots of ongoing work already in this field. In the US a pilot study is being done on cardiovascular patients who have been given a medical grade device, following their medical procedure. The patients return home and the device measures their vital signs and feedbacks to the doctor. If the vital signs show any abnormalities, it enables instant intervention and treatment. A chart below shows the evolution of the wearable device:

Medical grade devices will play an important role in the management of consumer health in the future. One of the examples of a medical device company moving into the consumer space is Swiss producer *Biovotion*, in whom Swiss Re has a strategic shareholding. Biovotion has brought to market a system that brings together a specialised knowledge of tracking medical vital signs with an ease of use to appeal to consumers. The Biovotion wearable is discrete and wirelessly connected. It currently covers various vital signs such as heart rate, blood oxygenation, skin temperature, skin/blood perfusion and steps/motion. A number of future

parameters will be added, most notably blood glucose levels. The downloaded results from Biovotion form an easy-to-understand circular chart. It makes users aware of their sleep patterns, of the effects of food and drink, of stress levels and of exercise. It provides a personalised report on how individuals can moderate their behaviour to influence their overall health outlook. It takes users beyond generic goals to a personalised picture of their daily behaviour and its effects on their fitness and well-being.

Wearables are already used in the value chain of some US insurers to encourage general fitness. In return for downloading their physical activity data, as well as lifestyle and other forms of data, consumers can enjoy incentives and premium discounts. Examples of some of these can be seen below:

Insurance company	Fitness tracker	Rewards
Oscar NY	Misfit (Flash)	$1 credit every time step goal was reached, upto $250 annually in Amazon vouchers
John Hancock	Fitbit	Upto 15% off premiums for hitting targets
Vitality Health	Various	Various reward schemes based on activity
UnitedHealthcare	Fitbit	Offers health management app linking to Fitbits
Aetna	Various	Offered via corporate employer partners
Cigna	Various	Offered via corporate employer partners

Using wearable devices to gather data for consumers and ultimately derive incentives and premium discounts is a new concept for insurers. For the insurers above it is not clear how scientific the data and pricing models are in arriving at the incentives on offer. Improved data will provide the basis for a more structured approach for discount schemes. To this end, a medical-grade device will provide a better understanding of an individual's health and the correlations between the health readings and the impact on mortality or morbidity.

There are a number of companies seeking to create more accurate models and build correlations between wearable data and health outcomes. These include, for example, going beyond traditional underwriting criteria to build in data sets from wearable devices. These models have shown linkages between health information provided by wearables and health outcomes linked to heart disease, depression, mortality and diabetes among others.

As wearable technology develops to include more medical information insurers will need to develop means of using this data to offer a more personalised insurance proposition. Insurers will add value through technology that has the ability to:

- Predict disease progression and allow for early disease intervention
- Develop new underwriting methods where wearable data plays a role
- Personalise premiums whether that be to impaired lives or preferred lives
- Increase use of lifecycle premium changes as data emerges from an individual's wearable device showing changes in their health status.

Blockchain and health insurance

Blockchain is a public distributed ledger or shared database maintained by a network of computers rather than using a centralised intermediary. Transactions and data are secured using cryptographic principles; once data is recorded (blocks) it is nearly impossible to modify or erase, and new information can only be added at the end of the ledger (chain). It is thus well suited for applications requiring transparency on data records. Recently, this technology has been made famous through its application in cryptocurrencies such as Bitcoin and Ethereum.

The healthcare industry is now looking at implementing blockchain to maintain medical records for each patient, with UAE and Estonia already implementing projects in this space. The aim is to have better integrity and security around patient data and optimise interactions between healthcare professionals, policyholders and insurance companies. In this way blockchain can bring decentralised entities together. Some examples of how such a system will impact on insurers are as follows:

- Lower reserves: Incurred but not paid reserves would be expected to decrease by reducing the time between when a medical procedure is provided to when it is paid for. A blockchain system transfers and processes data between users at a very quick pace, allowing for almost real-time adjudication of claims.
- Reduction in fraud: By securely linking separate data sources, greater fraud detection and analysis can be undertaken. For example, a procedure carried out will be recorded on a patient's blockchain record; an insurer will be able to see if this has already been paid for by a different insurer, as well as the exact details of the procedure.
- Data security: Secure exchange of health information on policyholders through encryption.
- Lower costs: Lower costs by processing customer transactions more quickly.

3.5 Solvency II

3.5.1 Domestic Actuarial Regime[14]

We have now been through two year-end cycles since Solvency II was introduced into legislation. Since the last Current Topics paper, in addition to requirements for the actuarial function introduced by Solvency II, the Central Bank of Ireland introduced specific domestic requirements regarding the actuarial function and related governance requirements.

These "Domestic Actuarial Regime and Related Governance Requirements under Solvency II" set out the domestic requirements, which retain many of the elements of the previous regime that were not provided for within the Solvency II framework.

HoAF role

The legislation introduced a requirement for a specific Head of Actuarial Function ("HoAF") role to be held by one individual who is suitably fit and proper. The HoAF is required to provide an Actuarial Opinion on Technical Provisions ("AOTPs") to the CBI and an Actuarial Report on Technical Provisions ("ARTPs") to the Board, both on an annual basis. The HoAF must also provide an actuarial opinion to the Board regarding the range of risks and the adequacy of the scenarios, including financial projections, considered as part of each ORSA process of the undertaking.

The CBI also issued associated "Guidance for (Re)Insurance Undertakings on the Head of Actuarial Function Role", which covers general expectations of the HoAF role, and guidance on the HoAF's contribution to the effective implementation of the risk management system, and on providing an opinion on the underwriting policy, the ORSA process and the adequacy of reinsurance arrangements.

Peer review

A requirement was introduced for all High, Medium High and Medium Low Impact Solvency II undertakings to engage a reviewing actuary (the "RA") to conduct a peer review of the TPs of the undertaking and the related AOTPs and ARTPs.

Life (re)insurance sector-specific requirements

(1) For HoAFs in direct life undertakings, additional responsibility for monitoring the undertaking's compliance with requirements relating to disclosure of information to domestic policyholders.
(2) The ARTPs for life undertakings shall include:
    a. Where any rights of life assurance policyholders entitle them to participate in profits related to a particular fund or part of a fund, a recommendation on any allocation of profits related to those policyholder rights.
    b. Where policy conditions confer discretionary powers in reviewing certain charges or product features, the HoAF's opinion on any such matters.

[14] Source: https://www.centralbank.ie/

c. The HoAF's interpretation of "policyholders' reasonable expectations" and how these have been considered in establishing the TPs.

Industry feedback

The Guidance provided by the CBI is quite prescriptive and this is reflected in the general feedback from the industry. In general, it was felt that the introduction of a specific HoAF role to be held by one individual was a positive step forward for industry.

Recent updates

In February 2017, the CBI issued letters addressed to the Chairmen of Boards and to HoAFs. The letters came on the back of the CBI's review of key life insurance pricing and reserving assumptions which was initiated in June 2016. The key findings from this review was that Boards were *"generally not fulfilling their role in relation to oversight and governance of the assumptions"* and HoAF's were *"generally not fulfilling their role in relation to informing the Board of the reliability and adequacy of the calculation of technical provisions."*

The letters set out a list of prescriptive requirements for HoAFs, covering:

- Responsibility for communicating guidance on key assumptions
- Opinion on the use of marginal costing in underwriting
- Ensuring assumptions reflect uncertainties in a range of scenarios

In December 2017 the CBI issued letters to HoAFs following a review of AOTPs and ARTPs. The objectives of this review were:

- To assess whether HoAFs had complied with the regulations in the Domestic Actuarial Regime; and
- To provide feedback which might contribute to the improvement of future AOTPs and ARTPs.

In general, the review found that the ARTPs were of a high standard and complied with the Domestic Actuarial Regime. The letter set out areas of non–compliance that were found and feedback that could be used to enhance the usefulness of AOTPs and ARTPs.

Particular areas of concern highlighted by this review include:

1. Inconsistencies between the AOTPs and ARTPs when reporting reliances placed on others in the calculation of TPs;
2. Where material concerns, limitations and recommended improvements were set out in the ARTPs, they were not always reflected in the AOTPs;
3. Inadequate documentation of methods employed by the HoAF to assess the completeness, accuracy and appropriateness of data used; and
4. Material gaps in reporting of methodologies, assumptions and experience analysis, including a lack of detail around simplifications, expert judgement and materiality.

It is expected that most firms will consider the requirements and guidance set out in these letters when assessing overall compliance with the Domestic Actuarial Regime.

3.5.2 Capital Optimisation

Arriving at the second anniversary of the Solvency II regime, companies are increasingly focusing on ensuring no value is left on the table in terms of their balance sheet. While much of the low hanging fruit has already been exploited, significant opportunities still exist in terms of capital optimisation under Solvency II.

Unit-linked matching

Own funds for a unit-linked company typically include a negative liability (i.e. an asset) that reflects the future profits expected to be earned on the business. These profits include future management fees on the funds that the company have under management.

This negative liability is subject to stresses in the SCR, mainly market-related. This results in a significant capital requirement for companies with large unit-linked books - the stresses impact unit fund values and therefore reduce future management fees. The matching requirements under Solvency II mean that unit-linked assets only need to be held to match the unit-linked liabilities, i.e. the unit fund amount less the negative liability. This means the company can take the amount of the unit-linked assets up to the negative liability and invest it elsewhere (in cash for example). This amount is no longer dependent on markets and so is not stressed as part of the SCR. By deliberately holding unit-linked assets below unit-linked liabilities the equity market stress can be reduced and thus the company can hold a lower SCR.

Consider the technical provisions on a book of unit-linked business as follows:

Unit Reserve + Negative BEL + Risk Margin

The unit reserve is traditionally invested to exactly match the policyholder's fund choices; however the performance and volatility of the assets now impact the negative BEL, which forms part of the company's own funds. The value of the assets is stressed through the SCR, with the resultant change in negative BEL feeding into the Company's risk capital. In the example below we consider how this dynamic can be altered. For simplicity we will ignore the risk margin.

	Fully matched UL assets and UL liabilities			Fully matched UL assets and UL TPs		
Prices	**-20%**	**Base**	**+20%**	**-20%**	**Base**	**+20%**
Unit price	0.8	1.0	1.2	0.8	1.0	1.2
Unit-linked assets	800	1,000	1,200	760	950	1,140
Cash	-	-	-	50	50	50
Total assets	**800**	**1,000**	**1,200**	**810**	**1,000**	**1,190**
Unit-linked liabilities	800	1,000	1,200	800	1,000	1,200
PV of future profits	-40	-50	-60	-40	-50	-60
Total Unit-linked TPs (BEL only)	**760**	**950**	**1,140**	**760**	**950**	**1,140**
NAV	40	50	60	50	50	50
SCR	16	20	24	8	10	12
Coverage ratio	250%	250%	250%	625%	500%	417%

In the second scenario where unit-linked assets and unit-linked technical provisions are matched we assume that the company invests 50 in cash. By reducing the unit-linked assets to the amount of technical provisions, the undertaking has immunised the NAV against price movements. The cash investment will not fluctuate in value with unit price movements so this will stabilise the NAV to a certain degree. The SCR is reduced as the equity stress is lower. The Company is left with a small, but more volatile SCR. The upside potential from future profits is also reduced.

Reinsurance

Under the Solvency I regime capital optimisation through reinsurance was well understood and widely used. The actual transfer of risk was not always a key component of the arrangements, as regulatory arbitrage and simplistic capital rules were exploited.

The dynamic, risk-based nature of the Solvency II requirements require genuine risk transfer where reinsurance arrangements are used. However there are still many avenues for reinsurance to play a key part in balance sheet optimisation, as detailed below.

Mass Lapse Reinsurance

The mass lapse stress in the standard formula SCR requires companies to calculate risk capital based on 40% of individual profitable policies and 70% of group profitable policies immediately lapsing. This is the stress that tends to "bite" for companies with large unit-linked books of business; from the three lapse stress scenarios of mass lapse, lapse up and lapse down. Companies with significant negative BEL often find this a large part of their SCR and a reduction would materially increase their solvency ratio.

Based on historical data there is a low risk of lapses exceeding 20% to 30%. Through the use of reinsurance, it can be possible to transfer some of this risk to a reinsurance company, for example any lapses between 20% and 40% in over a 12 to 18 month period. The cedant retains the risk exposure to lapses below the attachment point and above the detachment point. In this scenario the cedant is covered in the case of a mass lapse event of 40%. Arrangements like this can have a significant impact on the solvency coverage ratio of a company.

However there are certain limitations which could reduce the effectiveness of the arrangement:

- Cost to lapse reinsurance
- Renewal terms
- Additional risks that may be created
- Buy-in from regulators

Longevity

The standard formula stress for longevity risk is a 20% decrease in mortality rates, meaning people live longer and hence the discounted present value of future claim payments are higher. Historically low interest rates have resulted in this SCR cost rising. The risk margin is calculated as the cost of capital (set at 6%) associated with the SCR required over the period of the liability, discounted at the risk free rate. The long duration of the annuity liabilities, low interest rates and high cost of capital mean that the risk margin for annuities has become onerous. One way to alleviate this is through a longevity swap, as shown in the example below:

Example of €100m annuity liabilities with 50% longevity swap	Base Position	Post Longevity Swap	Note
Best Estimate Liabilities	100	101	Longevity Swap close to the money will have a small impact on BEL
Risk Margin	8	5	Risk margin impact will reduce significantly due to lower SCR
SCR	10	6	SCR will reduce by a similar amount as the % of the longevity swap.
Capital release		**6**	Significant capital release, in this case 6% of the BEL.

Financial

The contribution to negative BEL arising from future premiums on many regular premium products (particularly unit-linked) cannot be recognised on a company's Solvency II balance sheet. This is known as the policy having an immediate contract boundary. Through financial reinsurance it can be possible for a reinsurer to guarantee the income to the cedant, thus bringing it into the insurers own funds. The reinsurer pays the cedant the capital now and the cedant pays the reinsurer from VIF outside the contract boundary, as it emerges. This does not impact the liability of the cedant as VIF on contracts outside the contract boundary are not included in the calculation of own funds under Solvency II. Some considerations with this approach:

- In the future as the negative BEL is recognised on the balance sheet the SCR will increase. However own funds will not increase as the profit has already been recognised up front and this amount is now owed to the reinsurer.
- Cost of implementing the financial reinsurance.

Corporate Structure

Group capital is calculated on a consolidated basis, however individual companies need to hold capital calculated at entity level. This results in reduced diversification and capital becomes “locked” at entity level. These rules result in the fungibility of capital being impaired and mean insurance groups can have large amounts of “locked-in” capital, which can impact solvency ratios and dividend capacity. The locked-in capital is the sum of all the individual SCR amounts at entity level less the Group SCR on a consolidated basis.

Internal risk transfer can lower the stand alone SCR of subsidiaries, which would reduce locked in capital. This can be done by setting up another internal company and transferring risks from individual entities to this new company where they can be diversified. While it is possible to mathematically solve for optimal balance of risks it is important to consider the cost and timelines involved in setting up a new company and the additional risks that may be created in doing this.

Pension scheme

A Company's pension scheme impacts on the solvency coverage in three ways:

- The IAS 19 deficit on the balance sheet
- The SCR for the pension scheme (which would be ring fenced for a DB scheme and hence get no diversification)
- Future regular contributions are included in the Company's modelled renewal expenses and hence are in the BEL
- Even a well-funded pension scheme has a significant capital drain.

Example of capital tied up due to a DB pension scheme	Base Position	Note
IAS19 Liabilities	(500)	IAS19 Liabilities calculated with reference to a corporate bond yield
Pension Scheme Assets	470	Investment strategy decided mainly by the trustees, likely to hold significant portion of real assets to match inflation and growth.
Deficit	(30)	In this example there is a relatively small deficit to be held on the balance sheet.
SCR	(60)	The SCR stresses the liability for interest rates. Fixed interest assets will offset this movement in liability; however as mentioned above the scheme will likely also be holding a significant portion of real assets which are stressed at equity levels.
SCR buffer	(30)	Most companies will aim to hold a buffer above their SCR, for example targeting 150% SCR coverage. This means more capital is being held due to the pension scheme.
Total Capital	(120)	The capital required is a multiple of the deficit.

Companies have some options to address this issue, though many require agreement from trustees which can prove a difficult exercise:

- De-risking of the assets
- Asset Liability Matching within the scheme
- Hedging interest rate exposure
- Liability clean up exercises.

3.5.3 EIOPA Solvency II Review

EIOPA has launched a project dedicated to the review of Solvency II and in particular the SCR standard formula. The purpose of the project is to respond to the call for advice of the European Commission. The aims of this project are:

- to ensure a proportionate and technically consistent supervisory regime for (re)insurance undertakings;
- to look for possible simplifications in the SCR standard formula and to ensure the proportionate application of the requirements.

Outlined below is the timetable of the Solvency II review.

Timetable:

Dates	Progress expected
End of 2016 until beginning of 2017	• Call for information not collected via the reporting templates. Public consultation of a draft discussion paper on the first call for technical advice
May 2017	• Call for evidence to stakeholders on the second call for technical advice: Debt without a rating by an External Credit Assessment Institution ("ECAI") and unlisted equities
July 2017 until February 2018	• Analysing annual reporting data only available as of July 2017 • Consulting relevant stakeholders • Drafting of the final technical advice
July to August 2017	• Public consultation on a draft technical advice for the items in the first set of advice
End of October 2017	• Providing technical advice for the items in the first set of advice subject that these elements can be amended in EIOPA's final technical advice to be delivered end of February 2018.
November to December 2017	• Public consultation on a draft technical advice for the items in the second set of advice
At the latest on 28 February 2018	• EIOPA's final technical advice to the European Commission

As part of this review EIOPA will suggest changes in methods, assumptions and standard parameters as well as additional policy options. So far two consultation papers have been published outlining feedback received and a synopsis of its view. The latest consultation paper was published in Q4 2017. The main areas covered were:

Recalibration of mortality and longevity risks

EIOPA proposes to maintain the 20% stress for longevity risk as it judges this to be appropriately calibrated. However, EIOPA proposes to increase the mortality stress factor for mortality risk to 25%, an increase of 10% above the current stress of 15%. Changing the mortality stress to 25% is a large change and will have material impacts for life insurers. There are concerns about the potential implications for insurers and knock-on impacts for consumers.

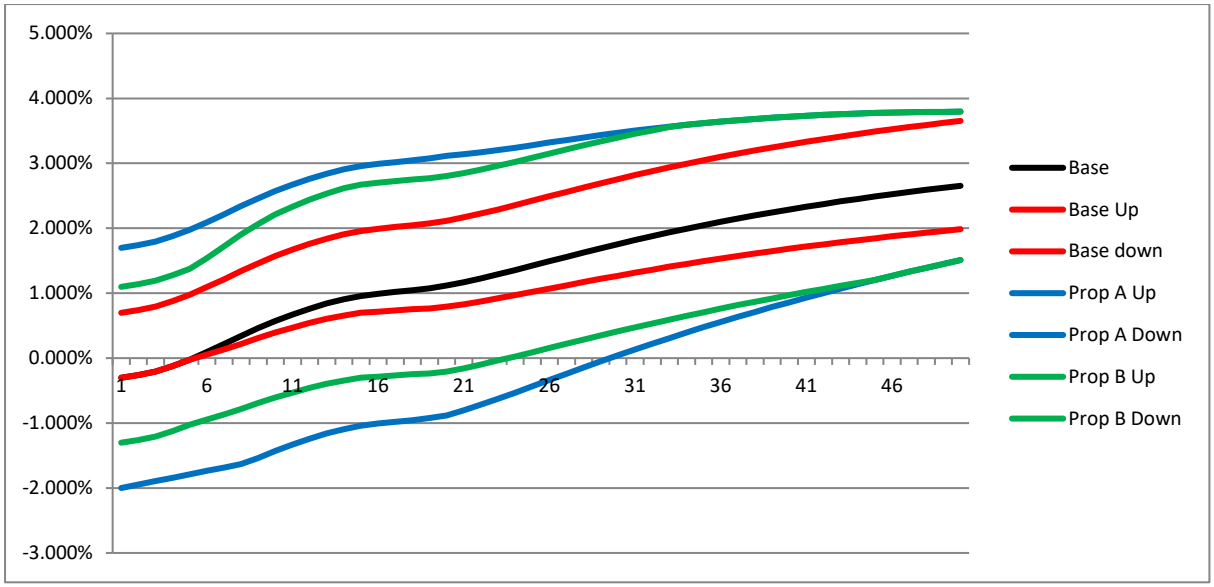
This shock is calibrated by simulating all mortality rates until the insured person dies, using both the Lee-Carter and the CBD model. In general, these models yield higher upward (mortality risk) than downward (longevity risk) stresses. However, the mortality shock will largely be applied to term life insurance contracts, which have a much shorter duration than lifelong insurance. For both term life insurance contracts and whole of life insurance contracts policyholder lapses will be a much bigger decrement than the mortality rate. This would not be the case on a longevity/annuity contracts. As a result both the term life insurance contracts and whole of life insurance contracts will have much shorter durations. There are also questions around whether the stress should reflect the structures of the life insurance products in question e.g. products with decreasing sums assured will have even shorter durations.

The proposed 20% stress for longevity and the 25% stress for mortality risk have been set based on an average age of insureds of around 60 years old. For some products there will be a lower average age than 60.

It could be viewed as more logical to either produce a separate shock for these short run contracts, or to lower the general shock. Taking into account the shorter duration will lead to lower shocks, since the volatility produced by the Lee-Carter and CBD model in the short run is limited. Given these issues it may be more appropriate to use a life insurance model allowing for these other decrements to calibrate the mortality stress factor.

Interest rate risk

The consultation paper sets out two possible proposals for the interest rate shocks. Proposal A is more severe and equates to a shift in interest rates of broadly 2% up and down at early durations. Therefore the interest rate down stress is significantly negative at the start of the projection and remains negative for about 30 years. Proposal B is a blend between the current approach and Proposal A and therefore the impact lands between the two. The graph below sets out the detail:



In particular, if the interest rate down shock is most onerous for a company, the impact on the SCR will be significantly larger. To stress negative interest rates downwards by a further amount of up to 2% would appear to be very onerous.

Additionally, for companies with a defined benefit staff pension scheme, stressing a very significant fall in interest rates will result in a large increase in the IAS 19 liability. This, in turn, would lead to increased capital requirements for such pension schemes. As the pension scheme is treated as a ring-fenced fund, there is no correlation benefit with the other risks of the company and hence the impact is likely to be very large. Given the already onerous capital requirements for defined benefit pension schemes, this could call into question the ongoing viability of such schemes.

Currency risk at group level

The current stress is a 25% fall in the value of non-euro denominated assets. EIOPA found that currency exposure can vary considerably from one group to another. The paper notes that while the current standard formula may be an appropriate trade-off between simplicity of calculation at group level and risk sensitivity in cases where the exposure is not important, this may be different for groups with significant exposure. EIOPA proposes to provide these groups with the flexibility to select a "local" currency other than the one used for their consolidated accounts, for the purpose of the calculation of the currency risk sub-module.
This proposal is a modest improvement on the current position. Questions have arisen on whether this flexibility should be limited to groups. As single legal entities can transact in multiple jurisdictions, this flexibility could be extended to all insurance undertakings. Even with this change, there is still the issue that the currency SCR formula encourages undertakings to hold all own funds in a single currency even if their underlying risks are in multiple currencies. This creates a currency mismatch between the SCR and own funds, creating solvency ratio volatility. While there is clearly no perfect solution, as each entity will still need to choose a reporting currency, allowing each legal entity the flexibility to select a "local" currency would be an improvement.

Simplification of the counterparty default risk

EIOPA notes that the relative significance of the counterparty default risk is higher for smaller undertakings. The paper also notes the scale of undertakings using simplifications for the counterparty default risk module and that these are among the most used simplifications based on NSAs. These findings demonstrate the complexity of the module and indicate that if there were new simplifications these would also be used.

EIOPA is proposing simplifications in the following areas; treatment of derivatives, definition of a financial risk-mitigation technique, calculation of the risk-mitigating effect of derivatives, calculation of the loss-given-default on derivatives and clarification around the calculation of the hypothetical SCR. It is thought that companies will be supportive of EIOPA's efforts to provide optional simplifications to make the calculation more workable for companies.

Simplification of the look-through approach

EIOPA have proposed changes to what has been considered the onerous look-through approach for calculating the market SCR on unit-linked contracts. It is proposed to "carve-out" from the 20% limit assets for unit/index linked products that either do not significantly contribute to the SCR or where the change in the value of the underlying assets do not significantly affect the available own funds (due to future profits).

Where the look-through approach cannot be applied, it is proposed that the SCR may be calculated also on the basis of the last reported asset allocation of the collective investment undertaking or fund, provided that the underlying assets are (and will be) managed strictly according to that reported asset allocation. It is also proposed to allow the usage of some grouping of exposures when the target asset allocation is not available to the level of detail required, provided grouping is applied in a prudent manner.

Loss absorbing capacity of deferred taxes

LACDT is the idea that undertakings are able to compensate part of their shock loss by taking account of the lower tax liability that could be due in such a scenario. The calculation of the LACDT is complicated and it is evident that there are divergent practices. EIOPA has made efforts to set out principles in relation to the projection of taxable profits in a post stress scenario.

It should be noted that there is no single correct approach to this. A number of issues need to be considered including the nature of the company, its historic financial strength, the tax regime of the country in which it operates etc. Therefore the development of principles should not be designed with the intention of achieving a convergent approach for all companies across all countries. On a technical point, the consultation paper refers to future profits stemming from (a) new business and (b) returns on assets. Some companies believe that profits from premiums received outside the contract boundary should also be considered. In many instances the contract boundary is immediate based on the Solvency II rules (e.g. unit-linked regular premium business with no rider benefits). However, premiums would be expected to be received beyond the boundary and in many cases this is more certain than new business.

4 Pensions and Investment

4.1 Introduction and Market Update

Since the last Current Topics Paper was completed in 2016, defined benefit ("DB") occupational pensions have continued to be in the news. High profile cases making national news have included Independent News and Media, Danske Bank and Aer Lingus with sponsors having to implement a number of risk reducing measures. An environment of very low interest rates has increased liability valuations, which has resulted in larger contribution demands and deficits in employers' balance sheets.

From 1 January 2017, the Pensions Authority changed the minimum funding standard basis for calculating the minimum liability defined benefit pension schemes should fund. This also affected the individual transfer value a member would receive. The changes included a reduction in discount rates and revaluation. These changes were offset somewhat by a change in best practice mortality table. The change affected younger members the most, increasing the transfer value which they would normally receive.

The Pensions Authority have invited a number of both defined benefit and defined contribution scheme trustees to discuss their specific pension schemes and gather some market information. It is unclear how long this is expected to continue.

The State pension increased by €5 a week on 10 March 2017 and will increase it again by €5 a week on 26 March 2018. These increases are a welcome announcement for pensioners. The increase also affects all defined benefit pension schemes which have a state offset with a reduction in pensionable salary definition. This in turn can reduce future contributions (when a percentage of pensionable salary) and the size of the accrued pension.

A Citizens' Assembly was held in July 2017 in which the group discussed the ageing population and pensions. The main outcomes regarding pensions from the assembly were:

- 87% of the members recommended the introduction of a mandatory pension scheme to supplement the State pension
- 86% of the members recommended abolishing mandatory retirement based on age.

There were a number of changes to the Society of Actuaries Actuarial Standard of Practice for Pensions (ASP-PEN) since the last Current Topics paper. These included:

- ASP-PEN 1 - Funding defined benefits – Actuarial reports
- ASP-Pen 10 - Compliance monitoring reviews of the statutory work of scheme actuaries
- ASP-PEN 12 - Statements of Reasonable Projection - Occupational Pension Schemes and Trust RACs

Further information on these changes can be found on the Society of Actuaries website.

4.2 Risk Management Tools – Pension Increase Exchanges

Pension scheme deficits on company balance sheets, funding requirements and a higher focus on future risk have pushed risk management tools higher in priority in recent years. Transfer value exercises, often at enhanced levels, have been a popular example of a risk management tool. Another option is to run a pension increase exchange ("PIE") exercise. As enhanced transfer values were covered in the 2016 Current Topics Paper, we have concentrated on PIE exercises here.

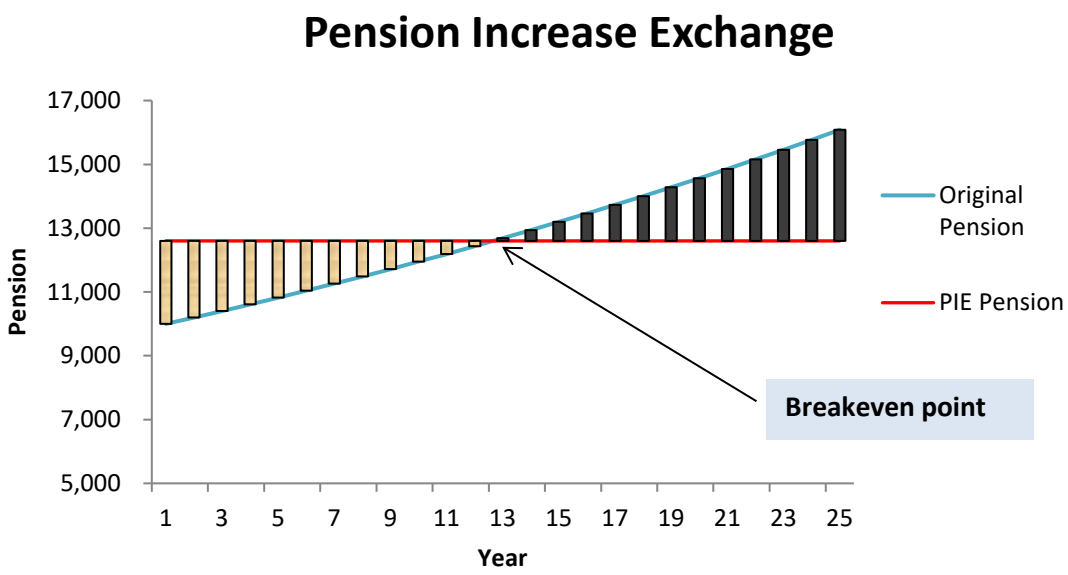
How it works

- A PIE is an offer made to existing pensioners to exchange the increases on part, or all, of their pension for a higher immediate, but non-increasing, pension. The offer could also be extended
- to active and deferred members once they reach normal retirement age.

The design and structure of the offer could be controlled by the company or may be agreed with the scheme trustees. In either situation, it is advantageous to have trustee support. As with any benefit change, the trustee should take legal advice where appropriate to ensure compliance with any regulatory requirements set out by the Pensions Authority.

The offer should be structured in a way that is fair and attractive to scheme members while also meeting the needs of the company. Equity and attractiveness are important considerations for the scheme trustee in agreeing to and supporting the offer. There may also be other trustee concerns that will require discussion.

The chart below illustrates a potential PIE structure for a pension of €10,000. The rules dictate that the pensioner is expecting escalation in line with inflation each year and has a life expectancy of 25 years. In this example, an immediate 26% increase is regarded as cost neutral to the scheme. The member will therefore receive a pension that is higher than originally expected for the next 13 years and a lower pension thereafter.



Employer Perspective

There are many advantages to the company of a PIE. The structure of the offer to members could reflect the objective that is most important to the company as a driver for the exercise.

Funding:

The company could structure the offer relative to the ongoing position. Doing so, up to a risk neutral position, would mean that no future cash injections are needed above current ongoing funding contributions. If the funding standard is the main driver of funding, a surplus on the funding standard basis may be released back to the scheme from the exercise, leading to immediate and/or long term reductions in funding requirements.

Risk Profile:

Inflation risk is reduced if pension increases are linked to future inflation when pensions are uplifted to a higher non-increasing level. Longevity risk is also reduced as a function of the reduction of inflation risk.

Accounting:

Company balance sheets may improve as a result of the offer. It may also lead to a positive immediate and ongoing impact on the profit and loss account, depending on the terms of the offer compared to the accounting basis.

The below chart sets out an illustrated liability for a 65 year old single male pensioner with a pension of €10,000, increasing in line with inflation. Also included, across all bases, is the illustrated liability of a €12,000 p.a. fixed pension.

Benefit	€10,000 increasing with inflation			Fixed €12,000		
Basis	Annuity	Ongoing	Accounting	Annuity	Ongoing	Accounting
Liability	€297,000	€206,000	€219,000	€279,000	€202,000	€214,000

Member's perspective

The main advantage of a PIE offer for members is flexibility. As members do not have to accept the offer, it is a decision they can make that best suits their own needs. Some of the reasons for accepting are as follows:

- To provide a higher immediate net replacement ratio on retirement
- To help re-shape their pension income to meet their requirements
- To reduce the drawdown requirement on any current DC funds
- Member has low expectations for future inflation
- Member has pessimistic expectations for personal longevity
- To protect against future reductions in DB benefits

Conversely, a member may decide to reject the offer for any of the following reasons:

- For tax purposes e.g. not wanting to move immediately into the higher tax bracket
- Member has high expectations for future inflation
- Member has optimistic expectations for personal longevity
- Not wanting to move some benefits down the priority order on wind-up, i.e. if uplift brings their pension above €12,000 or €60,000
- An immediate increased benefit may push a member over the threshold for other means-tested benefits

Trustee's perspective

It is important to gain trustee approval for a successful PIE exercise. In the case of a PIE offer, there is no obligation on the member to accept. Each individual member can make the decision to suit their individual circumstances. As the trustee has an obligation to act in the best interest of the member, they will endeavour to ensure that members are given the appropriate tools to make the decision that is best for them. This may involve the provision of sufficiently detailed and easy to understand member communications and the provision of independent financial advice. In addition, the trustee needs to ensure that the scheme rules allow for a once-off increase of this nature. If an amendment is needed to the rules, then they should ensure that the amendment is possible and should obtain legal advice before they proceed past the planning stage of any exercise.

In the case of the decision to carry out a PIE exercise, the trustee will need to balance their obligation to all members of the scheme against those who will qualify for a PIE. The benefits from a trustee perspective would be that members receive a much more certain pension into the future (where increases are linked to inflation). It will also put the scheme in a better positon for a future buy-in/out as the annuity market for non-increasing pensions is more competitive and makes an ultimate buy-out less expensive as it is easier to match non-increasing bonds.

The main negative point for the trustee is that providing additional immediate pensions in payment will decrease the security of active and deferred members in a wind-up scenario where the scheme is underfunded on the minimum transfer value basis. This is because fixed pensions in payment are high in priority order with future pension increases ranking below active and deferred benefits. Benefit administration may also become more complex and therefore expensive. This may possibly lead to poor administration experience and dissatisfaction in future. Any additional expense associated with more complex administration could be paid by the company in future.

Cashflow considerations may be a concern from the scheme. The scheme investments, along with current contributions, may be set up to meet current pension payments. An increase to current pensions along with possible decreases in company funding may require the trustee to restructure their investment portfolio. Any costs or risks associated with a restructure should be discussed with the company.

Summary

PIEs may be an attractive solution to company balance sheet and funding issues. However, high take-up of any member offer is important to the success of any exercise. Therefore trustee support, clear communication, company support and an offer that is genuinely of benefit to members is important.

Many schemes have experienced benefit reductions through the removal of pension escalation. Where an exercise of this nature is undesirable or not possible, PIEs are a genuine alternative method of reducing both funding requirements and risk while increasing the flexibility for members in retirement.

Lessons may be learned from PIEs in the UK, where these exercises are more popular, albeit in a different regulatory environment where pension increases are mandatory.

Pension Adjustments for State pension age change

The age at which people will become eligible for the State pension increased in 2014 from 65 to 66. This State pension age is due to increase to 67 in 2021 and further increase to 68 in 2028. Some reasons for the change were in recognition of ongoing increased longevity and to ease future pressure on government social welfare payments.

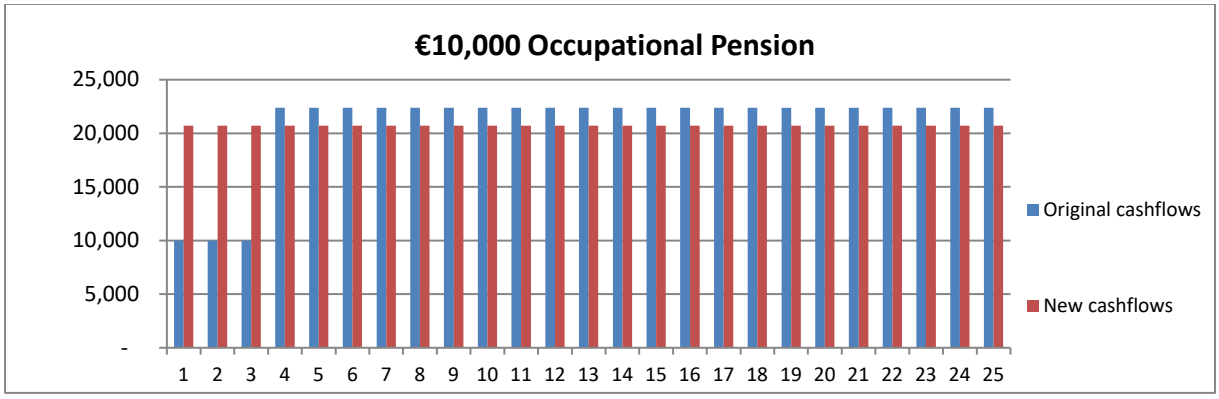
For many, the normal retirement age from their DB pension scheme is set at 65. There is potentially a three year period where members will be in receipt of a total pension (State and occupational) which is below the pension they were expecting. While members are eligible for social welfare payments through job seekers allowance for at least some of the period, it was never the intention to have a system that simply shifted people from one social welfare payment system to another. Many people would also prefer to keep working rather than receive social welfare when they feel able to do so.

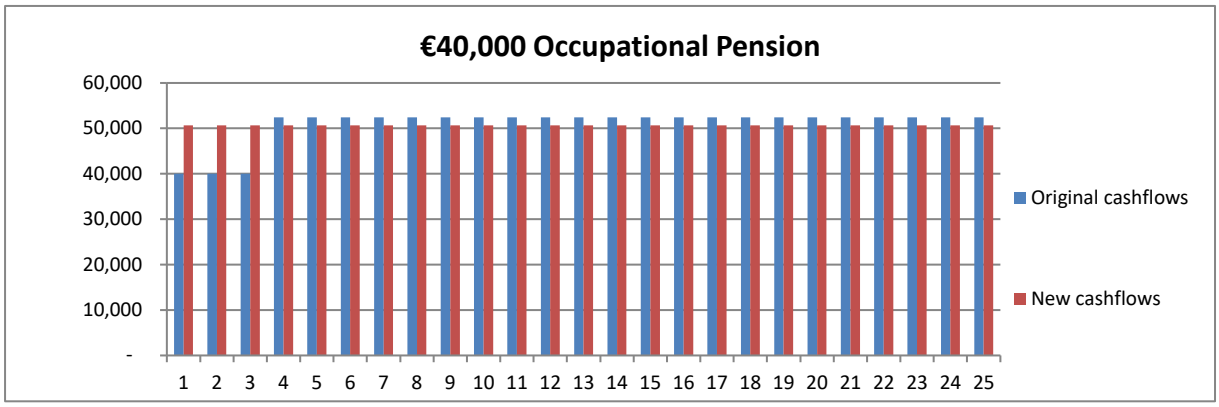
The obvious solution for employees is to allow them to work until the new State pension age. However, this solution may not be possible or is legally difficult for some companies.

Therefore, companies and pension schemes will need to consider other solutions as the problem is going to become more pronounced over time.

One possible solution for schemes, assuming the rules allow for and/or legal advice indicates that it is possible, is to allow a member to receive a larger initial pension until they reach the State pension age and lower pension for the rest of their lifetime, so that they receive a total pension that is consistent over time. While they will not receive a total pension in line with original expectations, their total pension will be smoothed over time. This could be an option which would give the member additional flexibility in retirement.

The overall decrease, in percentage terms, will be smaller for those on larger occupational pension pensions as illustrated by the below charts. The first chart is for a member with an accrued pension of €10,000, while the second is for a member with an accrued pension of €40,000. Both charts assume a future life expectancy of 25 years.





There is a cost to the scheme from the above method as the larger payments are brought forward. The scheme may want to make an adjustment for the cost given that it is a choice of the member to accept the new payment stream. In the current low yield environment, the cost may be deemed small and funding could be discussed with the scheme sponsor.

There are several other solutions that could be used, depending on the needs and suitability to both the company and scheme members.

4.3 IORP II

Background

A new European Pensions Directive on Institutions for Occupational Retirement Provision regarding the activities and supervision of institutions for occupational retirement provision (generally known as the IORP II Directive) came into force under EU law on 12 January 2017. It applies to all occupational pension schemes. The Directive introduces a number of specific measures designed to "*guarantee a high degree of security for all future pensioners through the imposition of stringent supervisory standards, and to clear the way for the sound, prudent and efficient management of occupational pension schemes.*"

EU member states have to implement the Directive's provisions in their national law by 13 January 2019. The Department of Social Protection is drafting legislation to include the requirements of the Directive into Irish law. The exact requirements for Irish occupational pension schemes will depend on how the IORP II measures are transferred into Irish legislation, and how the references to proportionality in respect of various items are interpreted.

This Directive imposes more detailed requirements for the management, governance, risk management and supervision of occupational pension schemes. The Directive also makes changes to member communications, ethical investing and the cross border pension regime. The Directive requires schemes to have in place the following key functions: risk management, internal audit and, where applicable, an actuarial function. The Pensions Authority recently held a consultation on the key functions and the Society of Actuaries in Ireland made a submission as part of this.

As above, the main requirements of the Directive relate to governance and risk management. The specific requirements surrounding these topics include an internal governance system with:

- clearly defined responsibilities
- an effective system for transmitting information
- regular internal reviews
- a system to be "proportionate to the nature, scale and complexity" of the scheme.

Other requirements include written policies on prescribed areas, an effective internal control system and contingency plans to ensure continuity going forward. The process should have fit and proper management. There should be a documented own-risk assessment carried out at least every three years. The scheme's annual report and accounts should be publically disclosed. The statement of investment policy principles should be reviewed at least every three years.

There will now be a requirement to have in place three 'key functions', namely

- an internal audit function
- a risk management function
- an actuarial function.

These functions can be outsourced, although the responsibility for compliance remains with the scheme.

Key Function Holder Requirements

Internal audit function

Schemes will be required to have in place an effective internal audit function and to enable holders to undertake their duties effectively in an objective, fair and independent manner. The internal audit function will include an evaluation of the adequacy and effectiveness of the internal control system and other elements of the system of governance including, where applicable, outsourced activities.

The internal audit function holder will be required to have adequate professional qualifications, knowledge and experience to properly carry out their functions and they must be of good repute and integrity.

Risk management function

Schemes will be obliged to have an effective risk management key function in place and enable holders to undertake their duties effectively in an objective, fair and independent manner.

The risk management function must be structured in such a way as to facilitate the functioning of a risk management system for which the scheme shall adopt the strategies, processes and reporting procedures necessary to identify, measure, monitor, manage and report to the trustees regularly the risks, at an individual and at an aggregated level, to which the scheme is or could be exposed and the interdependencies of these risks.

The risk management system shall cover risks which can occur in schemes or in undertakings to which tasks or activities have been outsourced, at least in the following areas, where applicable:

- underwriting and reserving
- asset-liability management
- investment, in particular derivatives, securitisations and similar commitments
- liquidity and concentration risk management
- operational risk management
- insurance and other risk-mitigation techniques
- environmental, social and governance risks relating to the investment portfolio and the management thereof.

The risk management key function holder will be required to have adequate qualifications, knowledge and experience to properly carry out their functions and they must be of good repute and integrity.

Actuarial function

In summary, schemes will be required to have, where applicable, an actuarial key function in place and enable holders to undertake their duties effectively in an objective, fair and independent manner.

Where a scheme provides cover against biometric risks or guarantees an investment performance or a given level of benefits, the scheme must provide for an effective actuarial function to:

- coordinate and oversee the calculation of technical provisions
- assess the appropriateness of the methodologies and underlying models used in the calculation of technical provisions and the assumptions made for this purpose
- assess the sufficiency and quality of the data used in the calculation of technical provisions
- compare the assumptions underlying the calculation of the technical provisions with the experience
- inform the trustees of the reliability and adequacy of the calculation of technical provisions
- express an opinion on the overall underwriting policy in the event of the scheme having such a policy
- express an opinion on the adequacy of insurance arrangements in the event of the scheme having such arrangements
- contribute to the effective implementation of the risk management system.

The actuarial key function holder will be required to have adequate professional qualifications, knowledge and experience to properly carry out their functions and they must be of good repute and integrity. The Authority will assess these requirements and it is likely that the Scheme Actuary will become the actuarial function in future in Ireland.

Initial thoughts for Pension Schemes

Activities of a pension scheme

- The new requirements state that pension schemes "*shall take into account the aim of having an equitable spread of risks and benefits between generations in their activities*"
- This may require a change in priority order on wind-up.

Funding of technical provisions

- A pension scheme will be permitted to have insufficient assets to cover technical provisions for a limited period
- How long is a limited time period?

General governance requirements

- There is no requirement for an internal audit or for a person to run the pension scheme at present
- This requirement will add to the operating costs, which could be significant for smaller schemes

Requirement for fit and proper management

- This will require for persons who contribute to the pension scheme (trustees, actuary, auditor, etc in Ireland) to ensure their qualifications, knowledge and experience is collectively adequate
- This is likely to be a step up from the current requirement where trustees have to receive training within 6 months of appointment and every two years thereafter. This will require more time and commitment than required at present, with the potential for CPD requirements for trustees. This was further emphasised in the Roadmap for Pensions Reform 2018-2023 published in February 2018.

Risk management

- Financial management guidelines were introduced in 2015
- Further work will be required to satisfy the requirements under IORP II.

Annual reports

- The new requirement to publicly disclose the document could well attract media attention to certain schemes akin to company annual reports.

General provisions

- Irish legislation requires annual statements to be issued to active members
- There will be a new requirement for schemes to issue annual statements to deferred members, resulting in additional operating costs to schemes with potential difficulty in obtaining addresses of deferred members.

Next Steps

At the Society of Actuaries in Ireland's Pensions Forum, held on 13 December 2017, Brendan Kennedy of the Pensions Authority noted that the consultation on the key functions had concluded and the Pensions Authority is reviewing the responses. The Department of Social Protection will be publishing legislation in advance of 13 January 2019 and the Pensions Authority will be publishing guidelines regarding this IORP II legislation. In the Roadmap for Pensions Reform 2018-2023 published in February 2018 by the Government, they noted that this legislation will be published in Q3 2018 in advance of the January deadline. The Pensions Authority already has a strong focus on scheme operations, governance and risk management through the codes of governance for defined contribution schemes and the financial management guidelines for defined benefit schemes. We expect the IORP II guidelines to be an extension of these guidelines already in place.

4.4 Defined Contribution Schemes

Introduction

Defined contribution ("DC") pensions have become the norm over the last decade for new entrants to private sector companies with an occupational pension schemes. This is due in part to the number of DB pension schemes closing to new entrants. In fact, there are now over 280,000 members in active DC schemes. Despite this growth, there is still a low level of pension coverage in the private sector. We examine here some of the reaction and trends emerging as a result of both the growth to DC schemes and the low level of pension coverage.

Pensions Authority 2016 annual report and paper on reform and simplification

In their latest annual report, the Pensions Authority highlighted their main concerns which are listed below:

- Number of schemes, especially small ones
- Number of trustees
- Scheme governance
- Costs
- Coverage

As part of their reaction to the concerns highlighted, the Pensions Authority have developed codes of governance for DC schemes which set out the standards trustees will be expected to adopt to demonstrate their commitment to serving the best interests of members and beneficiaries. There were 11 codes in total issued in 2016.

The Pensions Authority also issued a paper on reform and simplification of supplementary funded private pensions. The below list is a summary of the main points from their paper.

- Low public confidence in pension outcomes and difficulty understanding pensions;
- More rigorous regulatory expectation and supervisory approach;
- High costs borne by many members and contributors;
- The need for compliance and governance standards in the existing system to reflect the current environment;
- The need to rationalise the number of pension schemes;
- External drivers of reform (e.g. EU pensions legislation).

Auto-enrolment

As part of the response to the low levels of private sector pension coverage, there is possible impending legislation that will require all companies to not only provide members with access to a pension scheme (as is now the case), but it will require a minimum contribution from both the employer and the employee into the scheme.

The details of the legislation are not yet available but there has been some debate in the recent past on issues including:

- Whether there should be State tax relief on contributions (as is currently the case) or an additional contribution from the State and employer.
- Opt-out option (as is available in the UK) or mandatory participation.
- Current DC pension scheme arrangements and what impact the implementation of auto-enrolment will have on these schemes.

Similar legislation was introduced in the UK in 2012 and is widely deemed successful although a lot of work was required from companies to become "auto-enrolment ready". UK members have an opt-out option but experience so far has shown that the majority of members have not taken up the option.

Debate and interest has also been high regarding the level of contributions that will be required by both the employer and employee. Current and previous government social welfare ministers have vowed that we will see "meaningful" levels of contributions so that beneficiaries will have an opportunity to receive a reasonable level of income replacement in retirement, however what "meaningful" means in terms of an exact rate is still not clear.

The government paper from February 2018, A Roadmap for Pensions Reform, states that a "strawman" automatic design will be published for public consultation in Q2 2018. It cites a possible upper limit on matching Employer contributions to Employee contributions of 6% with an additional State contribution of 2%, bringing the total contribution into the fund to 14% of salary. In this example, any contributions made by the state will replace, rather than augment existing tax reliefs. The latest anticipated time frame for introduction in Ireland is by 2022.

Master Trusts

Although not a new concept in Ireland, the latest Pension Authority figures and concerns regarding the number of DC pension schemes in the country have put master trusts back into the spotlight. A master trust is a vehicle that allows schemes to operate collectively under a single trust arrangement. It is seen by many as a key component in helping the Pensions Authority to meet its target of reducing the number of DC schemes from 60,000 to c.150 schemes. Currently, over 100,000 of the 280,000 DC members are in non-group or in small (less than 50 member) schemes. Master trusts will also help to reduce recent additional operational costs such as governance and administration costs and assists in pooling of risks. Another advantage is that they will help to reduce the number of hours in management time with a lower per member cost to companies.

The number of master trusts is currently small but more are expected to become available in the near future.

DC conclusions and future expectations

As more and more private sector DB schemes close to new entrants and future accrual, DC coverage and expected replacement ratios will become a greater focus for both the Pensions Authority and society in general. Steps are being taken to simplify the pension environment so that pensions become easier to understand, are more transparent and lead to better outcomes. With our ageing population, maintaining a sustainable and robust system so that everybody has an opportunity to receive a meaningful level of income in retirement is important to both our government and wider society.

4.5 Social Welfare, Pensions and Civil Registration Bill 2017

The outline of the Social Welfare, Pensions and Civil Registration Bill 2017 which was published last year included changes to pension legislation. This was announced by Taoiseach Leo Varadkar on 10 May 2017. Although the detailed Bill published in July 2017 did not contain provisions which had much impact on occupational pension schemes, the original outline did contain a large number of provisions which could make dramatic changes to the running of occupational pension schemes. This draft appeared to have strong cross-party support. The original outline is currently passing through Committee Stages in Oireachtas. There were rumours that this would be dropped, but in the Roadmap for Pensions Reform 2018-2023 published in February 2018 by the Government, it noted that these provisions will be advanced in Q2 2018.

The original outline, which has been proposed by the Department of Social Protection, would substantially alter the current legislative regime applicable to DB occupational pension schemes in Ireland and could shift the balance of power significantly to trustees by giving them specific new powers and imposing new obligations on employers.

The key provisions of the proposed legislation relate to

a) a termination/wind up scenario and
b) a scenario where the scheme is ongoing but either has or is required to have a funding proposal where it fails to meet the statutory funding standard and funding standard reserve.

There are some additional provisions relating to extension of spouses' pension rights to same-sex spouses and civil partners of members.

Key Provisions

Termination and Wind-Up of Defined Benefit Schemes

In relation to the termination and wind-up of DB schemes, the proposed legislation provided that:

- Before taking any action to wind up a DB scheme, an employer must give the trustees and the Pensions Authority 12 months' notice in writing of its intention or decision to terminate its liability to make contributions to the scheme and trigger a wind-up.

- A shorter period of notice can be agreed between the employer and the trustees, but this would require the trustees to be satisfied that a reduction would not be contrary to members' and beneficiaries' best interests and would also require consultation with members and beneficiaries.

- If, at the date the notice is issued, the scheme does not satisfy the statutory minimum funding standard the employer will be obliged to enter into discussions with the trustees to agree a new funding proposal before the expiry of the notice period.

- During the notice period, the employer would be required to pay at least the contributions ordinarily payable to the scheme or, where applicable, the contributions agreed under any funding proposal.

- The scheme cannot be wound up before the notice period has expired.

- These new statutory powers and obligations are without prejudice to any existing powers or obligations which the trustees may already have under the rules of the scheme.

Funding Proposals

In relation to funding proposals, the Bill provides that:

- The deadline for agreeing funding proposals will be reduced from nine months to six months from the date of the actuarial funding certificate.

- If either:
  - The scheme fails the funding standard or the funding standard reserve and the trustees have not submitted a funding proposal within the required timeframe and/or the employer has failed to enter into negotiations with the trustees to develop a funding proposal, or
  - The trustees notify the Pensions Authority that the employer has failed to make contributions pursuant to a funding proposal,

then the Pensions Authority must determine a schedule of contributions which will ensure that the scheme meets the funding standard and the funding standard reserve, specifying the contributions payable and the dates on which those contributions must be paid.

The amount determined by the Pensions Authority would constitute a debt on the employer which could be enforced through the Courts.

At present there is no indication as to how the Pensions Authority would assess the deficit and what assumptions would be used. The Authority has, we understand, not been involved in the drafting process and we would anticipate that these technical details will be considered further and emerge in due course.

Observations

Trustees of schemes with no notice period (where they control the contribution rule) would have additional powers. Much will still depend on how the contribution rule is drafted within the trust deed and rules.

If the contribution rule requires contributions to be agreed with the employer there is potentially a change if a schedule of contributions is issued by the Pensions Authority. This can be enforced by the trustees notwithstanding anything in the Rules, so when issued the employer no longer has a say whether the contribution rate is acceptable. It is still unclear what the employer's liability would be following a termination notice.

The introduction of a 12 month notice period could present administrative obstacle for employers looking to restructure quickly (a shorter period requires agreement with trustees and consultation with members).

Risks for members would include:

- Funding proposals
  - Any new funding proposal will have to be agreed within 6 months. This puts a much greater onus on the employer to engage.
- Corporate restructuring
  - The effects of proposed legislation will need to be taken into account
  - A corporate restructuring event could trigger the new legislation's requirement for the employer to give 12 months' notice ("any action" to wind up)
- Scheme amalgamations
  - There is now a notice period obstacle to overcome.
  - Will Scheme A have to be fully funded based on the regulatory measure before it can be amalgamated with Scheme B?

Conclusion

It is still unclear what will be enacted but these proposed changes would be a welcome development for pension schemes and for their members. The inclusion of this in the the Roadmap for Pensions Reform 2018-2023 reassures the Governments preference for change during 2018. Whatever is finalised, it will likely put a greater responsibility on employers and should help secure the future of DB pension schemes.

4.6 Wind-up Bases

In the 2016 Current Topics Paper the use of the funding standard for actuarial funding certificates and as a basis for calculating members' transfer values in wind-up was questioned. That paper outlined a number of potential bases and the likely impact using each basis would have on member transfer values.

The standard transfer value basis is used in the vast majority of cases. Under the funding standard, liabilities for current pensioners are measured according to the cost of securing an annuity with a life office while the transfer value for active and deferred members is typically calculated based on the prescribed basis under Section 34 of the Pensions Act. This basis provides a guarantee of benefit for pensioners, subject to the credit risk of the insurer. However active and deferred members are likely to see reductions in their pension benefits compared to the benefit promise under the DB scheme. This problem is particularly pronounced the further a member is from retirement.

The priority order set out under the Pensions Act means that pensioners will see their pensions bought out up to the limits set out in the legislation. Therefore, in the sections below we have concentrated on the basis for active and deferred members.

If a pension scheme were to wind up with the benefits paid out in line with the transfer values under the funding standard, then it is hard to argue that active and deferred members are getting a transfer value of equivalent value to their benefits under the original scheme. Therefore a basis providing transfer values in excess of the funding standard should be considered.

Power to set contributions and the balance of power between trustee and plan sponsor

The judgement in the Omega Pharma case found in favour of a trustee group seeking contributions from a sponsoring employer to allow the scheme to pay out transfer values to active and deferred members that were in excess of the funding standard transfer values. This judgement was based on the specific facts of that case but still provided some rare case law in Ireland in relation to the balance of power between trustees and sponsoring employers.

There are schemes where trustee(s) have very little power to set contributions. In these cases the trustee(s) may not be able to secure funding to allow transfer values on an "appropriate basis" to be paid if the employer is not willing to provide the funding. In such cases, the trustee(s) will be depending on the legislation in place in Ireland. To this end the details of the Social Welfare & Pensions Bill will be very important.

However, there are many schemes where trustees do have significant power when it comes to setting contribution rates to the scheme, and where a notice period is in place. In such situations, the trustees may have the power to demand contributions from a plan sponsor in

order to provide transfer values to members above what would be expected under the funding standard.

Regardless of the rules of the scheme, consideration should be given to other bases apart from the funding standard. However, the power to set contributions and whether there is a notice period will influence the strength of the trustees' position when demanding contributions to fund wind-up under the preferred wind-up basis. Even if the trustees have the power to demand contributions from the sponsoring employer, the employer may not be able to pay the contributions demanded.

What is an appropriate discontinuance basis?

Section 44 of the Pensions Act refers to the scheme's resources being *"sufficient, if the scheme had been wound up…to provide for the liabilities of the scheme".*

There is clear direction under the Act on the scheme's liabilities and the order in which the liabilities should be met. How should scheme assets be distributed in the event of a wind-up to reflect these liabilities and priority order?

There are a range of bases available. The range of bases stretches from the funding standard (at the lower end in terms of funding) to deferred annuities (at the higher end).

What is an appropriate wind-up basis?

The only way to guarantee a member's deferred pension is by way of a deferred annuity, ignoring the counterparty risk associated with the chosen insurer. Therefore it could be argued that deferred annuities should be a starting point for the wind-up basis.

The market for deferred annuities in Ireland is limited which means that deferred annuities can be prohibitively expensive. If the price of deferred annuities is inflated due to a lack of competition (and/or other factors) then it could be argued that it is not reasonable to settle pension benefits on such a basis. However the concept of choosing a basis that gives the member a reasonable chance of replicating their benefits after the wind-up is still reasonable even if it is decided that the cost of securing annuities is too high.

This would reasonably lead one to consider a "bond basis" to come up with a wind-up basis.

What is an appropriate basis? We have briefly considered a number of principles which could inform the choice of wind up basis:

i) Scheme rules

The rules will contain direction for trustees on what to do in the event of a wind-up. The wording of the rules may influence what basis is picked in order to distribute the assets of the scheme.

For example, reference in the rules to "securing" member benefits may imply that deferred annuities are required, or a basis that reflects security for members.

ii) Trustee powers

The transfer values that can be paid out will be limited by the money available to the trustee(s). The trustees' power to set contributions may limit their ability to demand contributions from the sponsoring employer, which may mean paying out transfer values on a less favourable basis than the trustees and actuary may consider ideal.

iii) Legislation – IORPS/SW&P Bill

It remains to be seen what impact new legislation will have.

iv) Trustees' need to act in the best interest of all members

This will inform at all times the decisions around choosing how to calculate transfer values on wind-up.

v) Member choices (annuity/cash/drawdown)

The benefits under a DB scheme will typically involve a deferred pension. Allowance could be made for members taking the option of drawdown at retirement.

vi) Allowance for discretionary benefits

vii) Allowance for yield reversion

viii) Allowance for expenses in the receiving vehicles

ix) Allowance for default strategy in the receiving vehicles

x) Availability of deferred annuities

xi) Sponsor and affordability

What consideration should be given to the viability of the sponsoring employer, particularly in cases where there are no active members remaining in a scheme?

Do trustees need to be seen to act reasonably? If the case ends up in court, there will likely be an expectation that the trustees should act reasonably.

Other bases for consideration

Funding standard with more prudent assumptions

The discount rates underlying this basis are too high (currently 6% pa and 4.25% pa). If these rates were lower, the basis would provide a greater chance for members to achieve similar benefits post wind-up.

The existence of two market value adjustments ("MVAs"), to reflect the expected reduction in investment return following de-risking close to retirement and to reflect current bond yields, could be argued to make such a basis appropriate. The allowance for expected de-risking of investment strategy would be deemed to be prudent policy when considering any default strategy chosen by the trustees when members transfer from the DB scheme.

The second MVA adjusts the transfer value to reflect current bond yields. However, it only impacts members within 10 years of retirement. In theory if the basis was set at a wind-up date by reference to bond yields at the wind-up date then the need for this second MVA would be reduced. A post-retirement MVA that impacts members of all ages could be considered.

Basis based on the Omega Pharma case

The discount rates underlying the Omega Pharma basis used bond yields current at the date of wind-up, allowing for an element of yield reversion on annuity prices over the next 10 years.

The judgement in the Omega Pharma case did not comment on the appropriateness of the basis used to set the contribution demand. The fact that this basis was used in this case does not mean it should become standard practice (that is not to say that we disagree with the basis).

Should a basis using Omega Pharma-like principles form the minimum basis when trustee(s) are demanding funding from sponsoring employers in a wind up situation?

Statement of reasonable projection (SORP) basis

A basis which reflects the expected de-risking that will take place in the years approaching normal retirement age would seem sensible. This basis is much more open-ended than the bases discussed above and perhaps that is welcome. Standard bases are perhaps not appropriate in a wind-up scenario.

A SORP basis is used when projecting benefits for DC benefit statements. It is not designed to calculate transfer values of DB benefits for scheme wind-up. Using a SORP basis to calculate transfer values would mean that members would see a certain level of consistency between their transfer value from the DB scheme (and any projections they would have received as part of the wind-up communication process) and the communication they will receive from the new (likely DC) scheme they have joined.

Within the SORP basis there should be an allowance for the expected de-risking that will take place in the years approaching normal retirement age, which would seem sensible. Perhaps a SORP basis should form the lower bound when considering a wind-up basis.

Deferred Annuities

Paying out transfer values based on deferred annuities would result in the greatest level of certainty for the pension scheme members. From that point of view it may be very attractive to members. However, the cost of paying out transfer values on such a basis is usually prohibitive.

If deferred annuities are bought out with a life company this would provide the greatest security to members but would reduce the level of flexibility for members at retirement. Alternatively if transfer values are paid out based on the estimated cost of securing a deferred annuity the transfer value is likely to be very high compared to other bases. This would provide members with a very high chance of recreating their benefits (though not guaranteed) while also giving them flexibility on the nature of their benefits at retirement.

Deferred annuities also implicitly assume that members will buy an annuity at retirement which may not be an appropriate assumption.

Using a deferred annuity basis could be considered excessive or unreasonable. How reasonable should trustees be?

Conclusion

This section creates more questions than it does answers. The considerations involved in setting a wind-up basis will of course be important. However, in practice, it may not be possible to pay out transfer values on the preferred wind-up basis due to a number of factors, e.g. the trustee's powers under the Deed, the funding position of the scheme at the date of wind-up and the ability of the sponsoring employer to pay additional contributions. The wind-up basis is still important to be considered even if it is not possible to pay out these transfer values. At the very least, it will clearly show, to trustees, employer and members, the extent that the wind-up will not provide replacement benefits.

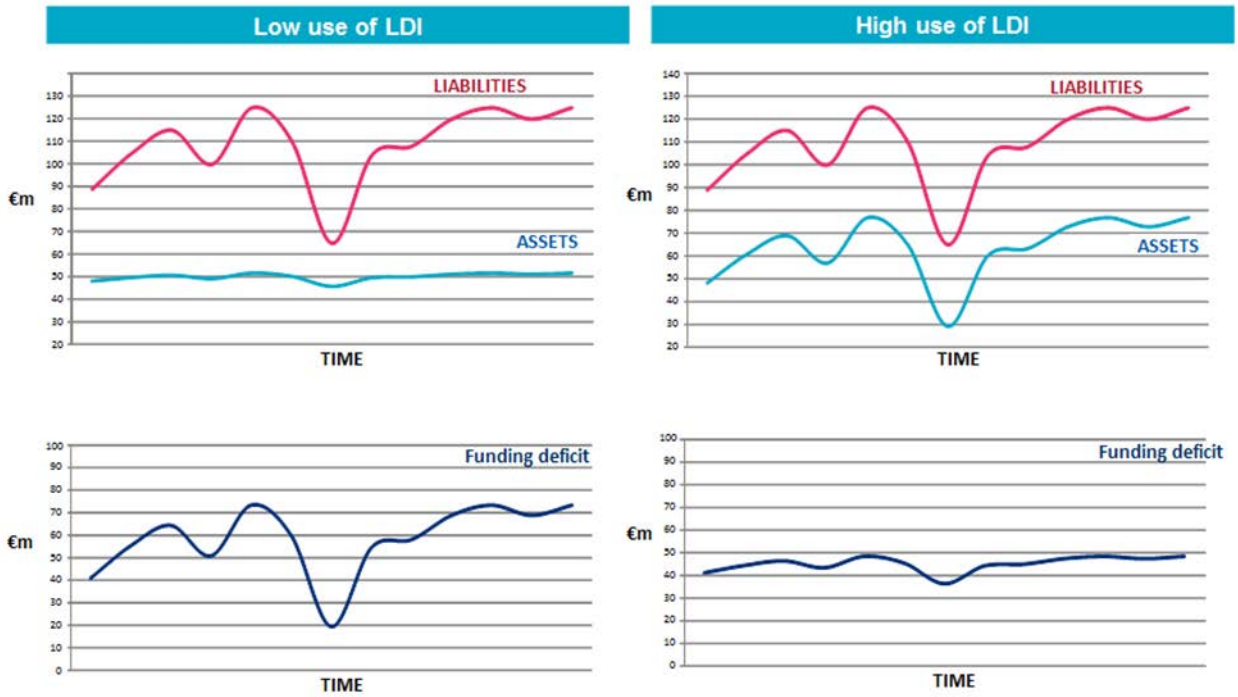
For schemes where wind-up is not currently being considered, trustees (and their actuaries) will still need to consider an appropriate discontinuance basis. Some ongoing understanding of the sponsoring employer's ability to pay contributions based on such a discontinuance basis is also likely to be useful. This could then inform the decision if wind-up ever did come up in the future.

4.7 Liability Driven Investment

Purpose of LDI

Interest rate and inflation risks are generally among the most significant for DB pension schemes. Liability Driven Investment (LDI) is a way of investing a subset of the pension scheme's assets in order to hedge a portion of the scheme's interest rate and inflation risks.

The net effect of LDI is that the assets behave more like the liabilities and the funding position of the scheme becomes less volatile, as illustrated below. Therefore the risk of unexpected pension scheme deficits arising is reduced.



How LDI works for DB pension schemes

A value for the pension scheme liabilities is calculated on an appropriate basis. The liability value is then recalculated based on changes to the interest rate and inflation assumptions in order to determine the sensitivity of the liability values to these factors. Once the interest rate and inflation sensitivities are determined, portfolios of assets are constructed to have a selected level of sensitivity to changes in interest rate and inflation. In constructing the pension scheme assets (or a subset of the assets) in this way, the pension scheme hedges a selected ratio of the interest rate and inflation risks to which it is exposed; this ratio is called the hedge ratio.

The simplest form of LDI is investing in a bond portfolio where the duration of the bonds broadly hedges a given proportion of the liabilities' interest rate sensitivity. More sophisticated approaches involve projecting the pension scheme cashflows each year into the

future and calculating the interest rate and inflation sensitivity of these liability cashflows at each year in the future. A tailor-made portfolio of swaps, bonds and cash can then be constructed in order to achieve the required level of hedging for each year in the future.

Benefits of LDI

The main benefit of LDI is a reduction in the risk that the pension scheme's funding position worsens due to changes in interest rates and inflation.

The other main benefit is the increased freedom LDI gives in setting asset allocation while still managing interest rate and inflation risk. This benefit comes with the use of swaps in an LDI portfolio. When using bonds alone for example, hedging €100m of pension scheme liabilities could require investment of €100m in bonds. And even then there may be significant under-hedging due to the limited availability of very long dated bonds. Swaps are leveraged instruments by nature and can be traded at longer maturities. Using swaps, €100m in liabilities could be hedged with a LDI portfolio worth considerably less than €100m (e.g. 30%-50% of this). This allows pension schemes with deficits to appropriately manage the interest rate and inflation risks, while also maintaining allocations to equities and other growth assets which makes pension scheme funding more feasible for the sponsoring employer.

Considerations

Pricing

By investing in bonds and swaps within an LDI portfolio, the pension scheme is essentially investing at prevailing interest rates and inflation expectations. The value of a scheme's liabilities, and hence its LDI portfolio, would generally be expected to fall if interest rates rise materially or inflation expectations fall. As such, if the trustees or sponsoring employer have a view that interest rates will rise more than is currently priced into markets, then it makes sense to increase LDI investment and hence liability hedging over time rather than immediately. Many pension schemes have taken this approach.

Appropriate Liability Measure

LDI solutions typically use more market-based measures of the liabilities and this ensures consistency between the valuation of scheme assets and the valuation of scheme liabilities. Market-based liability measures are also important in the context of corporate accounting and annuity purchases.

However, adopting an LDI approach to reduce overall scheme risk versus market-based liabilities can sometimes increase risk versus the regulatory measure of liabilities (the statutory funding standard). This is because the regulatory measure of the liabilities is only market-related for pensioners and members approaching retirement. Hence it is possible that falls in the value of the LDI portfolio are not matched by falls in the regulatory measure of the liabilities, thereby worsening a scheme's position on the regulatory measure.

Trustees and sponsoring employers need to be cognisant of this when adopting LDI approaches.

Market Developments

Pooled LDI

Where swap-based LDI approaches have previously only been available to the larger pension schemes in Ireland, swap-based pooled LDI funds have come to market allowing other schemes to undertake more sophisticated LDI programmes. While pooling reduces the ability to tailor solutions to an extent, it generally offers more accurate liability hedging than bond-only portfolios in an operationally feasible way.

Central clearing

With the interest rate swap market moving to central clearing (i.e. swaps will be settled through a central clearing house using a margining-type system akin to the approach used for futures markets currently), this will require that pension schemes post more collateral in the form of cash as opposed to bonds. Hence pension schemes will need to hold more cash than is generally held by schemes currently. This can be perceived as an opportunity cost versus holding other assets with a higher yield. The advantage of central clearing however is expected to be a safer financial system with lower counterparty credit risk.

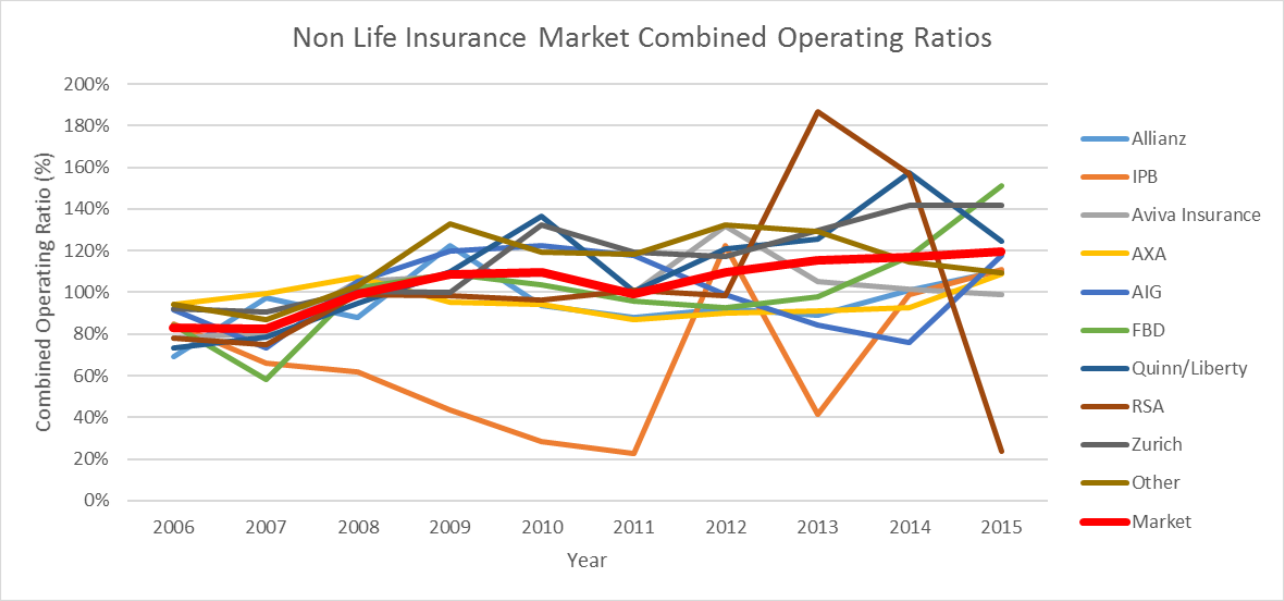
5. General Insurance

5.1 General Market Update

5.1.1 Market Performance Review

Analysis of Market Loss Ratios

In recent years, companies operating in the Irish Non-Life Domestic Insurance market ("the market") are contending with heightened competition, increased claims costs, low investment returns and increasingly complex regulation (both prudential and conduct focused). Insurance Ireland, whose members account for over 95% of the domestic market, reported in its fact files that its Non-Life members made underwriting losses of €339m and €241m in 2014 and 2015 respectively. This reflects a combined operating ratio ("COR") of 111% and 118% in 2014 and 2015 respectively e.g. in 2015 for every €100 of premium collected insurers paid out c€118.



Source: CBI Returns, where: COR = Total Expenditure/Net Earned Premium

The above graph shows the COR's of the major players in the market over the last 10 years. The market performed well from 2006 to 2008 with all insurers achieving COR's below 100%. However, the market COR steadily increases after this point, with the exception of 2011 which was a good year for the general insurance market and for IPB and Allianz in particular. In contrast, 2015 was the worst performing year in the last 10 years, with a COR of 120% across the market.

Notable trends in relation to a sample of the major players are as follows:

FBD

FBD's profitability has steadily decreased over the period 2012-2015. The worst weather conditions in FBD's existence eroded its profitability and led to an extremely difficult 2014 for the insurer. FBD fared particularly badly in the wake of Storm Darwin, experiencing losses of €44m over a six-week period. [15]

In 2015, the insurer recorded a first half loss of €96.4m, its worst result in 40 years, and announced a series of cost cutting measures. FBD's view was that the market had not increased rates sufficiently to compensate for the significant deterioration in the claims environment.[16] Following the huge losses in 2015, FBD bolstered its balance sheet by issuing a €70m bond to Canadian investor Fairfax Financial. However, given the recent recovery in the FBD share price, the €70m bond is now virtually certain to be converted into a near-20pc shareholding in September 2018. It is expected that 2017 pre-tax profits for FBD will be €15.9m, up from €11.4m in 2016. [17]

RSA

RSA has had a particularly turbulent time over the last few years, as can be seen by their volatile COR in the above graph. In 2013 RSA recorded a COR of 187% - the worst COR seen across the market in the last 10 years. This was due to the well-publicised accounting scandal, which saw the insurer forced to increase their claims reserves by over £200m[18].

Note that the distortion in the 2015 COR was due to the reinsurance structure RSA had in place with its UK parent. RSA had intended to convert to a branch of the UK but following the Brexit vote, they abandoned this plan and remained as a separately regulated subsidiary in Ireland[19].

Aviva

Aviva have performed well relative to the market over the last few years, with the exception of 2012 where Aviva incurred significantly higher than usual management expenses due to a restructuring of their Irish business, which saw them move from being a legal entity in Ireland to a branch of Aviva UK. Aviva also considerably shrunk their motor share at this point.

[15] http://www.irishexaminer.com/business/bad-weather-sees-fbd-profit-slump-euro45m-315622.html
[16] https://www.irishtimes.com/business/financial-services/insurance-market-to-be-loss-making-in-2015-2016-fbd-1.2431813
[17] https://www.independent.ie/business/irish/fbd-faces-battle-for-control-after-shares-soar-35687594.html
[18] http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/insurance/10560253/RSA-dismisses-two-Irish-executives-after-200m-loss.html
[19] https://www.irishtimes.com/business/financial-services/rsa-abandons-post-brexit-plan-to-change-its-status-1.2723820

This good performance continued into 2016. At year end 2016, Aviva reported a 19 per cent rise in net written premium to €461 million from €388 million, and its combined operating ratio was 91.1 per cent, 3½ percentage points better than the same period last year[20].

It is Aviva's current intention to re-establish a legal entity here in Ireland in the wake of Brexit.[21]

Quinn/Liberty

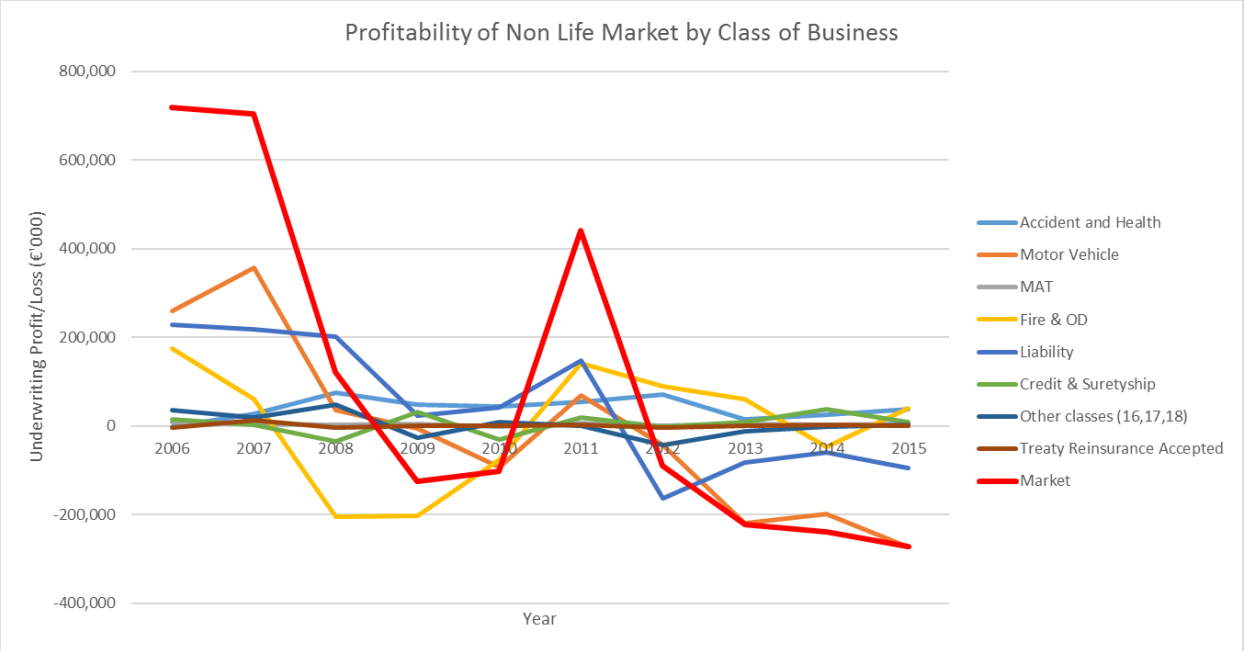
Quinn performed very poorly in 2009 and 2010, posting huge losses of €706m in 2009 and €160m in 2010, mainly due to operating losses in its UK market and writedowns in the value of some assets[22]. In November 2011, Quinn was acquired by Liberty Insurance, though the loss making British unit was not acquired. The additional income resulting from the acquisition led to a notable dip in the 2011 COR. Since then, the COR has increased steadily, with Liberty suffering its worst performance of the last 10 years in 2014, incurring a COR of 157%. According to the president of Liberty International, Louis Bonell[23], the poor experience was due to a combination of the acquisition of Quinn Insurance, which made losses of €22m in its first 4 years with Liberty, as well as an attempt to grow the business at a time when their capabilities were weak and the market was suffering poor profitability. Liberty also went on to suffer a loss during 2016, due in part to costs associated with 285 redundancies announced in June 2016.

[20] https://www.irishtimes.com/business/financial-services/operating-profits-at-aviva-ireland-rise-by-20-to-81-9m-1.3003817

[21] https://www.reuters.com/article/britain-eu-legal-general/update-2-legal-general-aviva-plan-ireland-moves-post-brexit-idUSL8N1IS2SQ

[22] http://www.finfacts.ie/irishfinancenews/article_1022178.shtml

[23] https://www.irishtimes.com/business/financial-services/liberty-insurance-predicts-return-to-good-profit-in-2017-1.2494320



The graph above shows the profitability of the Non-Life market over the last few years, split by class of business. As we can see, the market was profitable over the period 2006 to 2008; similarly, 2011 was a very strong year. Profitability has deteriorated in recent years, mainly due to very poor experience on the Motor Vehicle and Liability classes of business.

We note the following key features of the profitability of each of the classes over the last few years:

- Accident and Health: This class has largely remained profitable over the last 10 years.
- Motor Vehicle: Substantial profits were made by motor insurers over the period from 2006 to 2008, as well as in 2011. However, experience has significantly deteriorated over the last few years, which according to the Insurance Ireland 2015 Factfile was mainly due to volatility in the personal injury claims environment in the form of high court awards and legal fees.
- Fire & OD: This class suffered very poor losses of €204m and €201m during 2009 and 2010 respectively. This was due to the freezing weather in these years, which resulted in insurance claims of €244 million in November 2009, €224 million in December 2010 and €297 million in January 201024. The underwriting loss of €47 million in 2014 was mainly due to the claims costs arising from Storm Darwin. According to the Insurance Ireland 2015 Factfile, the storms and floods of December 2015 and early January 2016 resulted in approximately €70 million in claims, of which €29 million were household claims, though overall, the Fire & OD market still managed to make a profit during 2015.
- Liability: The Liability class was consistently profitable over the period 2006 to 2011, but has deteriorated in recent years. Liability is subject to the same challenges as

[24] https://www.irishtimes.com/news/environment/winter-storms-cost-insurers-156-million-in-claims-1.1842284

Motor Vehicle with underlying volatility and inconsistency in court awards contributing to higher claims costs.

Market Overview

There were a number of significant events influencing the general insurance market during 2017:

Setanta

In April 2015, Setanta Insurance, a Maltese regulated entity which sold motor insurance policies in Ireland only, became insolvent with an estimated €90 million shortfall. According to a High Court ruling on the 4th September 2015, the Motor Insurance Bureau of Ireland ("MIBI") was liable to cover the €90 million in liabilities from the collapse of Setanta Insurance. This decision indirectly made insurance companies (through the MIBI levy) liable for the claims costs of Setanta, essentially asking the industry to pick up the tab of a failed insurer. The uncertainty around the expected claims costs expected to be incurred from the Setanta failure, as well as the risk of being liable for the liabilities of subsequent insurer failures, resulted in insurers significantly increasing their claims provisions.

However in May 2017, following an appeal from the MIBI, the Supreme Court overturned the previous High Court ruling and instead decided that the State's Insurance Compensation Fund ("ICF") should be responsible for paying the claims. The ICF is a fund established in 1964 designed to facilitate payments to policyholders in the event of liquidation or administration of a non-life insurer here. The ICF also stepped in when the likes of PMPA and Quinn Insurance went into administration, but different rules applied in those cases as continuity of insurance cover was ensured and claims were paid in full.[25]

In contrast, the ICF is only obliged to pay 65% of the costs due to the policyholder or €825,000, whichever is less, versus 100% for the MIBI, which means there will clearly be a shortfall in claims. The liquidator for Setanta had previously indicated that he could pay up to 30%of the costs, however this may have changed due to accumulation of expenses over time.

The ruling has a positive impact for insurers as they can now release the provisions they had in place to cover the costs relating to Setanta.

In an effort to bring certainty to the compensation framework in Ireland, the Insurance (Amendment) Bill 2017 proposes a number of amendments to the existing framework:[26]

- Increasing the level of ICF coverage for all future third party motor claims from 65% to 100% for personal injuries and €1,225,000 per claim for property;

[25] https://www.irishtimes.com/business/financial-services/setanta-saga-winds-up-with-policyholders-footing-the-bill-1.3096734

[26] https://www.williamfry.com/newsandinsights/news-article/2017/07/31/the-end-of-the-road-for-setanta---supreme-court-finds-the-insurance-compensation-fund-liable

- Requirement that the increased coverage of the ICF be funded by a contribution from the motor insurance industry (to cover the 35% increase in ICF coverage);
- Providing a legal basis for Irish motor insurers to contribute an amount equivalent to 2% of gross written motor premiums to an ex-ante fund to enable the 35% commitment to be met; and
- Facilitate the transfer of ICF administration from the Accountant of the Courts of Justice to the Central Bank of Ireland.

These reforms will act to address the failures highlighted by the Setanta case and protect policyholder's interests going forward.

Personal Injuries Commission

As we will discuss further in Section 1(ii), significant public focus has been placed on the rising cost of motor insurance in the last number of years, a key contributor to this being increased claims costs for insurers. In particular, the Personal Injury Assessments Board ("PIAB") has estimated that approximately 80% of motor personal injury claims currently reported are "whiplash" related[27].

In January 2017, the Cost of Insurance Working ("CIW") Group published a report, which included observations around the cost of personal injury claims in Ireland. These observations were as follows:

- Awards for Personal Injury claims represent a significant component of an insurance company's pricing model;
- Soft-tissue claims represent a significant component of personal injury claims;
- Severity in soft-tissue claims can be difficult to diagnose; and
- Approaches that link diagnosis, treatment, prognosis and awards of damages should be examined.

The establishment of the Personal Injuries Commission was one of the key recommendations from the CIW Group Report on the Cost of Motor Insurance approved by the Irish Government and published in January 2017.

The Commission has done considerable work around the evaluation of claims settlement processes in other jurisdictions, which could enhance the claims process in Ireland. Preliminary findings[3] from the Commission suggest that the frequency of soft-tissue injury claims in Ireland would appear to be significantly higher than a lot of other European countries, and that less severe injuries in Ireland tend to attract higher levels of damages than in England or Wales.

The first report of the Commission recommends a standardised approach for the assessment and reporting of soft tissue injuries, the promotion of training and accreditation for medical professionals who complete personal injury medical reports, and the linking of future editions

[27] https://dbei.gov.ie/en/Publications/Publication-files/First-Report-of-the-Personal-Injuries-Commission.pdf

of the Book of Quantum to the new injury categories. In particular, it recommended that the Quebec Task Force Whiplash Associated Disorder grading scale should be implemented by medical professionals reporting on relevant injuries. In addition, it recommends that injury data held by insurance companies relating to the incidence of "whiplash" and other soft tissues injuries should be published.[28] This would form an integral part of the National Claims Information Database currently being developed by the Central Bank of Ireland ("CBI"). The CBI are currently consulting on the claims database and intend to collect data during 2018.

Subsequent reports from the Commission will be focused on looking at comparative systems and benchmarking compensation award levels internationally.

Regulatory Environment

Extensive regulation in Ireland is posing numerous challenges for insurers, leading to rising compliance demands, tying up resources and generally making reporting more difficult. In a recent PwC report[29] carried out in the summer of 2017, 73% of Irish insurance leaders said that Ireland is more demanding as an international insurance centre compared to other EU territories – up from 50% last year.

The three most notable regulatory challenges currently facing insurers are IFRS 17, Solvency II and GDPR, as discussed in Sections 2, 3 and 1(vi) respectively. GDPR is a particular cause for concern for insurers with 70% of insurance leaders saying this will be the greatest cause of disruption to their business in the next 5 years. Insurers face a significant fine of 4% of global revenues for non-compliance, so will need to ensure there are robust controls and processes in place to understand how all data collected by the firm is stored and processed, and to mitigate any risk to this data.

[28] http://www.thejournal.ie/insurance-companies-3737391-Dec2017/

[29] https://www.pwc.ie/publications/2017/insurance-ireland-pwc-ireland-survey.pdf

5.1.2 Update on the Irish Motor Market

The issue of the rising cost of motor insurance is one which has had significant media coverage over the last number of years, and has incited considerable anger amongst motor insurance customers. Media outlets have been flooded with stories of people in their early 20's being quoted annual premiums of anything between €6,000 and €14,000[30]. However, this is not an issue which solely affects younger drivers; more than a third of Irish drivers have seen their insurance rise by up to 50% during 2016[31]. Due to the mandatory nature of third party motor insurance under Part VI of the Road Traffic Act 1961, this is an issue which creates difficulties for a huge number of people as they struggle to afford to pay their annual premium.

Fianna Fail's John McGuiness recently dismissed insurers' claims that the sector has been losing money in recent years, and said that "car owners being hit with up to 300% insurance hikes have been thrown to the wolves by the insurance sector"[2].

Amid increased pressure from the public, the government decided to establish the CIW Group to investigate the factors influencing the increased cost of insurance. As part of their probe into spiralling premiums, the Oireachtas Finance Committee spoke with various stakeholders, including representatives from the Society of Actuaries in Ireland ("SAI") in September 2016. The SAI's Gary Dunne said that the recent spike in insurance premiums is due to the fall in insurance premiums over the last 15 years, coupled with a number of tough changes in the industry. *"From the CSO statistics, car insurance prices fell 27% between 2003 and the start of 2010. Since 2010 we've had Quinn going into administration, RSA incurring losses of €240 million in 2013, the Setanta collapse, changes to the court awards and the Russell Case in 2014, the Civil Liabilities Bill and the RSA loss of €96 million in 2015."*[32] As a result of these events, insurers required significant increases in reserves, which in turn required significant increases in insurance prices.

Following an extensive consultation process, which spanned July 2016 to January 2017, the working group published a report on the cost of motor insurance [33] on January 10th 2017, which covered 6 main themes as follows:

- Protecting the consumer
- Improving data availability
- Improving the personal injuries claim environment
- Reducing the costs in the claim process
- Reducing insurance fraud and uninsured driving
- Promoting road safety and reducing collisions

[30] http://www.thejournal.ie/insurance-premiums-ireland-2853949-Jul2016/
[31] http://www.thejournal.ie/motor-insurance-report-3098670-Nov2016/
[32] http://www.thejournal.ie/insurance-oireachtas-2979120-Sep2016/
[33] http://www.finance.gov.ie/wp-content/uploads/2017/07/170110-Report-on-the-Cost-of-Motor-Insurance-2017.pdf

In addressing these areas, the working group detailed their 33 recommendations and associated actions in an action plan, with agreed timelines for implementation and identified responsible bodies. A discussion of a selection of the key issues and recommendations relating to these themes will now follow.

Protecting the consumer

Premium Transparency

- Issue: A major source of discontentment among motor insurance customers is the lack of transparency around the reasons behind the increase in insurance premiums, as well as the level of detail given behind the breakdown of insurance premiums.
- Recommendation: There will be a requirement for insurance companies to explain large premium increases, in particular where a person's circumstances have not changed. Insurers will also be required to break down the premium cost, setting out the element of the cost related to the mandatory motor insurance (third party) in addition to the non-mandatory element (comprehensive).
- Impact on insurers: The above recommendations will essentially lead to increased initial costs for insurers, in particular around the changes required in policy documentation and renewal letters. There may also be issues associated with explaining complex pricing issues to the public, thereby requiring a balance between providing too much information and enough information to satisfy the new requirements. In order to avoid some of these issues, there is a risk that insurers will simply provide generic industry-wide information, which would not provide the desired transparency.

Returning Emigrants

- Issue: The major difficulty returning emigrants have faced is the refusal of some insurers to take into account previous driver history in other jurisdictions, in addition to their previous driver experience from Ireland, thus denying them the benefits of no claims bonus.
- Recommendation: Insurance Ireland puts standard information protocol in place to ensure customers have a greater understanding of the issue and what they need to do to obtain insurance. The Working Group also recommends that insurers implement policies that result in wider acceptance of driver history from other jurisdictions where the driver has previous driver experience in Ireland, in particular for those jurisdictions that drive on the same side of the road as Ireland.
- Impact on insurers: It is probably not possible through legislation to require insurers to provide quotations that take into account previous driver history in other jurisdictions because this is a commercial decision for the respective companies. However although this may not be a legal requirement, there may be social pressure on insurers to implement this within their underwriting policies. There is potential for this to lead to increased claims costs for insurers if these drivers are higher risk, which will not encourage insurers to reduce premiums.

Improving data availability

Motor insurance data availability

- Issue: As claims costs are a key driver of the cost of motor insurance premiums, it is essential that reliable information is readily available to policy-makers on the key factors influencing such costs. Although claims data related to motor insurance is available from a variety of sources, there are a number of data gaps in the market.
- Recommendation: It is recommended that a national claims information database is established by the Central Bank of Ireland to facilitate a more in depth annual claims trends analysis.
- Impact on insurers: It will fall under the mandate of the CBI to establish and maintain the database. The impact on insurers will depend on whether the information currently collected by the CBI from insurers will be sufficient to fulfil the needs of this database or whether additional information will be required. The provision of additional information, or indeed a change in the format by which the data is to be classified and defined, may lead to increased costs for insurers. Insurers may also be concerned at the risk of their competitors using the database to derive prices; this could lead to decreased competition and increased prices for insurance customers.

Improving the personal injuries claim environment

Personal Injury Resolution framework

- Issue: It has been suggested that the volume and value of PI claims has increased in recent years, playing a key role in the dramatic acceleration of the cost of insurance premiums. Approximately 1% of motor insurance policies will have a PI claim made against it annually, however the cost of the PI element of claims is estimated to make up about three quarters of the overall cost of claims.
- Recommendation: It is recommended that a Personal Injuries Commission is established to investigate some of the issues surrounding the personal injury resolution framework in Ireland.
- Impact on insurers: Depending on the success of the Personal Injuries Commission, their proposed solutions may reduce costs involved in settling PI claims, reducing costs for insurers who can then pass these savings on to customers through reduced premiums. However it is expected that this would take a number of years before having a noticeable impact on claims costs.

Reducing the costs in the claim process

Claims Costs

- Issue: The costs of the claims process has been identified as one of the key reasons for increasing motor insurance premiums, particularly in relation to PI compensation such as legal and non-legal costs, and changes in the PI legal environment, e.g. change in discount rate and PPO's.
- Recommendation: The recommendations in this area have focused on three key areas: maximising the PIAB process, improving the book of quantum and measures to address other issues, e.g. legal fees and discount rates.

- Impact on insurers: Increasing claims costs are a key area of concern for insurers at the moment. The successful implementation of the above recommendations would ensure greater consistency between awards and reduce the uncertainty around claims costs, thereby reducing insurer reserves and, in turn, insurance premiums.

Reducing insurance fraud and uninsured driving

Fraud

- Issue: The insurance industry estimates that it has spent between €14 and €17 million in each of the years since 2011 in tackling insurance fraud. Insurance fraud is estimated by the insurance industry to cost €200 million a year, which they claim adds an approximate €50 to each policy.
- Recommendation: The working group recommends the establishment of a fully functioning integrated insurance fraud database to detect patterns of fraud. This would be maintained by an independent not-for-profit body but would be funded by the industry. Furthermore, it is suggested that increased cooperation between the insurance industry and An Garda Síochána in relation to insurance fraud investigation should be considered.
- Impact on insurers: The obvious issue with establishing such a database is that the cost could potentially be absorbed into the cost of premiums for policyholders. This is particularly true given that many insurers already bear the costs associated with maintaining internal fraud teams or Special Investigation Units aimed at detecting and fighting fraud. As a result, this may not be a recommendation that gains much traction in the industry.

Tackling uninsured driving

- Issue: Figures provided by the MIBI show that the level of uninsured driving rose to approximately 7.4% in 2016, compared to 5% throughout the period 2011 to 2013. The cost of covering claims against uninsured drivers is passed onto drivers by means of a levy, thereby increasing insurance premiums.
- Recommendation: It is recommended that a fully functioning database to identify uninsured drivers be established, which will enable An Garda Síochána to check motor insurance compliance as part of its road traffic enforcement function. Insurers will also be required to provide the driver licence number to this database. Going forward, insurers will be required to check the driver licence number against the National Vehicle and Driver File (NVDF) in order to establish whether a driver has any disqualifications or penalty points.
- Impact on insurers: The recommendations outlined above imply a change in process for many insurers. Although this may initially have associated costs, the proposed industry wide approach has the potential to reduce the claims costs associated with uninsured drivers, and in turn may lead to a reduction in the Motor Insurance Bureau of Ireland ("MIBI") levy. A reduction in the levy would result in reduced motor insurance premiums for customers.

Promoting road safety and reducing collisions

Road Safety and Collisions

- Issue: An increase in the number of collisions leads to an increase in the number of claims received by motor insurance companies. The motor insurance industry has put the cost of motor personal injury claims at €392m in 2014 and €422m in 2015, and has indicated that these costs are rising year-on-year. Therefore the more that can be done to make the roads safer, the lower the frequency of claims, and consequently the lower the insurance premiums.
- Recommendation: It is recommended that a standard protocol be developed between the insurance industry and the NVDF to easily check for proof of NCT/CRW. The working group also suggests the use of telematics is further explored, particularly to make insurance more affordable for younger drivers.
- Impact on insurers: This recommendation is not expected to significantly impact insurers, particularly as the idea of telematics is being suggested rather than enforced.

Although it is believed that the reforms discussed above will comprehensively address the escalating motor insurance premiums, the Chair of the working group, Eoghan Murphy, warned "the industry would not return to the days of very, very cheap premiums, which is not affordable for the industry". [34] It is clear that some of the recommended reforms will take some time to implement and will require cooperation and commitment between the various stakeholders to ensure fair and transparent premiums for consumers.

5.1.3 Update on Ogden: 2017 rate change and future potential changes

On 27 February 2017 the Lord Chancellor announced a change in the Ogden discount rate from 2.5% to -0.75% with effect from 20 March 2017, setting a new rate applicable under the Damages Act 1996. The downward move in the rate means that insurers need to pay out more in cash to claimants now to ensure that returns over their lifetime meet the awarded compensation.

Both the timing and the materiality of this announcement caused major disruption for general insurers with UK motor business who were attempting to finalise their year-end accounts, including their reserve positions and had a significant impact on the 2016 year-end P&L and balance sheet for many insurers. Indeed, there is evidence, from reviewing a sample of SFCRs, that this rate change announcement was a source of significant uncertainty for UK motor insurers at year-end 2016. The estimated impact of this change on the UK motor insurance industry was £3.5bn[35].

[34] http://www.irishexaminer.com/ireland/oireachtas-group-targets-car-insurance-reform-431671.html

[35] https://uk.reuters.com/article/uk-britain-insurance-discount-rate/personal-injury-rate-change-to-cost-british-motor-insurers-3-5-billion-pounds-ey-idUKKBN19539V?il=0

Following the announcement in February, a consultation process began which was to consider the options for potential reform for both the setting and review of the Ogden rate. As a result of this process, on 7 September 2017, the UK Government published Command Paper 9500, "The Personal Injury Discount Rate: How it Should be Set in Future". In summary this draft legislation proposes that the discount rate applicable to lump sum damages invested by claimants should no longer be set with reference to returns from Index Linked Government Securities. Instead the discount rate should be set on the assumption that claimants will invest lump sums in "low risk" investments, and having regard to actual investments made by claimants.

It contains three main proposals for change to the current system for setting the discount rate, to be effected by legislation. Those proposals are that the discount rate would be:

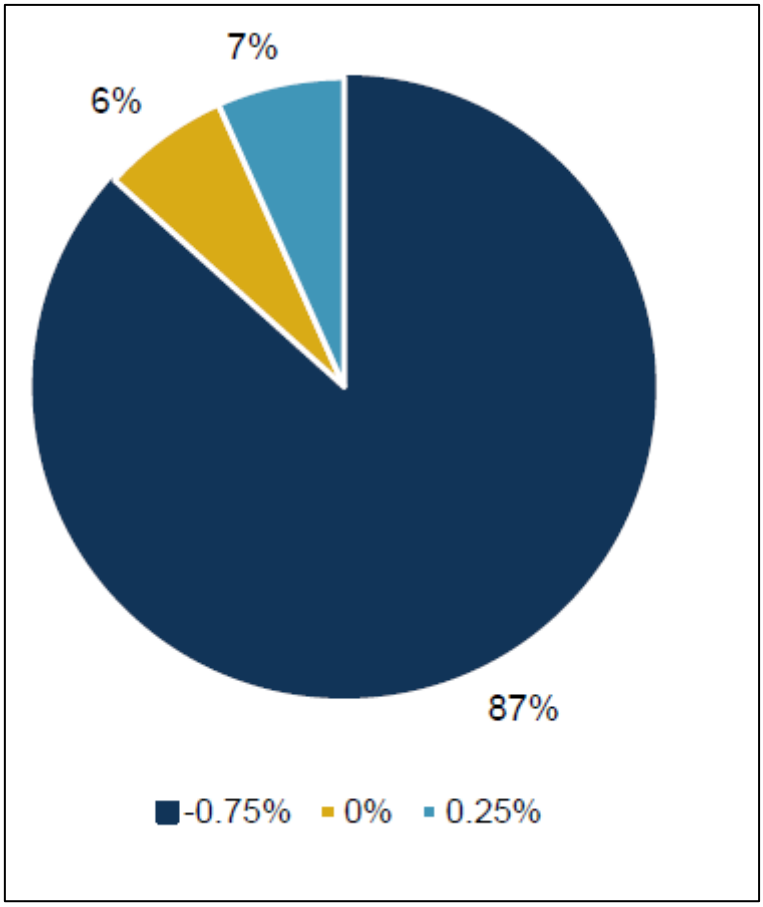
- set by reference to expected rates of return on a "low risk" diversified portfolio of investments (and having regard to actual investments made and returns available), rather than very low risk investments (with no regard to actual investment) as at present;
- reviewed within 90 days after the legislation comes into force and, thereafter, at least every three years; and
- set by the Lord Chancellor following consultation with an expert panel (other than on the initial review which would be by the Lord Chancellor with advice from the Government Actuary and HM Treasury)

When the announcement was made relating to this draft legislation, the Secretary of State also stated that "based upon the evidence currently available and using illustrative assumptions, if a single rate were set today under the proposals the real rate might fall in the range of 0% to 1%".

The Justice Reform Committee were asked to undertake pre-legislative scrutiny of the draft clause and to report by the end of November 2017. The Justice Reform Committee published its findings which increased uncertainty once more around both the timing and quantum of the next change to the Ogden rate. The general market expectation is that any change is now expected to be later in 2018 and the rate is likely to be closer to 0%.

It is understood that most insurers are continuing to use a rate of -0.75% in both their pricing and reserving. Certainly, the results of a survey by the UK IFoA PPO Working Party illustrate that all but two insurers now value their non-PPOs within their best estimate liabilities on a -0.75% discount rate basis.

Figure 1: IFoA PPO Working Party Results: Proportion of insurers using a discount rate of -0.75% for valuing best estimate liabilities[36]



In Ireland the discount rate is set by Court precedent rather than by legislation. Court rulings can have a major impact on the approach used in setting reserves, for example the Gill Russell case in December 2014 where the judge, Mr. Justice Kevin Cross, ruled that the assessment for the claim for a catastrophically injured boy should assume a real rate of return on investments of 1% for Cost of Care of the lump sum settlement. The rate used by the Irish Courts prior to this case was 3%.

[36] Update from the PPO Working Party Presentation at GIRO 2017: https://www.actuaries.org.uk/learn-and-develop/conference-paper-archive/2017

5.1.4 PPOs in the Irish Market

To date in Ireland, personal injury claims have been settled via a one-off "lump sum" payment which is intended to indemnify the claimant for the losses they suffer as a result of their injuries. This includes medical costs, loss of earning, care costs, support costs, pain and suffering, etc. The lump sum awarded is intended to be an appropriate amount to cover these costs for the remainder of the claimant's life. This can be a very difficult amount to quantify, particularly where the injuries are very complex and / or life altering and where the claimant is young and may live for many more years. The claimant is also (implicitly) assumed to have the required knowledge to appropriately invest the lump sum so as to receive a rate of return that will ensure sufficient income is available to them in the future.

Periodic payment orders ("PPOs") are used in other jurisdictions as an alternative to lump sum payments. For example periodic payments on a non-consensual basis have been allowed in the UK since the enactment of the Courts Act 2003. A PPO operates like a whole of life annuity - the fixed lump sum is replaced with a stream of future cashflows which are intended to more closely match the timing and amount of future costs as they arise over the claimant's lifetime. PPOs help transfer the longevity and investment risks back to the defendant (typically the State or an insurer in this context) and reduce the burden on the claimant. PPOs can also be of benefit to the defendant, given that the payments will cease on death of the claimant, whereas the cost is fixed at settlement for a lump sum payment.

A Draft Civil Liability Amendment Bill was presented to industry representatives in July 2015.

On 15 November 2017, the Minister for Justice & Equality announced that the Civil Liability (Amendment) Bill 2017 had passed all stage in the Oireachtas. On 22 November 2017, the Bill was signed into law by the President of Ireland Michael D. Higgins and now only requires a commencement order to be used in court awards. This will empower the Irish courts to make awards of damages in cases of catastrophic injury by way of PPOs.

Update from the UK PPO Working Party

The key trends from the Institute & Faculty of Actuaries PPO Working Party's most recent update (presented at the GIRO conference in October 2017) are as follows:

- The number of PPOs settling has reduced for the fourth year in succession
- In particular, the number of PPOs settling in 2016 reduced by 34% from 2015 (see Figure 2)
- A lower proportion of large claims (greater than £4m) were observed to settle in 2016 compared to other years – 10% vs. previous average of approximately 15% - 20%.
- The standardised PPO propensity for settlement year 2016 was 22%, compared to 25% in 2015 and compared to an average across all years of 30%
- The majority of insurers in the sample showed PPO propensity between 20% and 40%
- PPO propensity decreases as claimant age increases

- In the most recent data set, commercial claimants have a significantly higher chance of their claim settling as a PPO (see Figure 3)
- Interestingly, claimants with Comprehensive policies make a disproportionate number of the PPOs – these claimants relate to 6% of the premium / vehicle years but 20% of the PPOs.
- Delay to settlement in 2015 and 2016 seems to have reduced slightly when compared to previous years and large claims relating to younger claimants take appear to take far longer to settle.

Figure 2: IFoA PPO Working Party Results: Number of PPOs by Settlement Year[37]

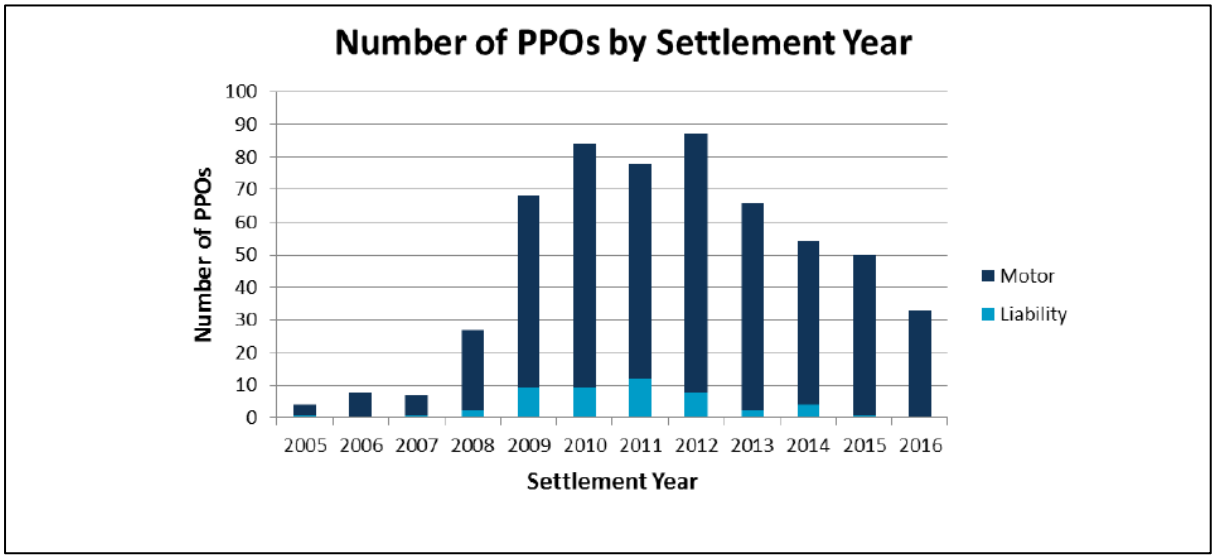
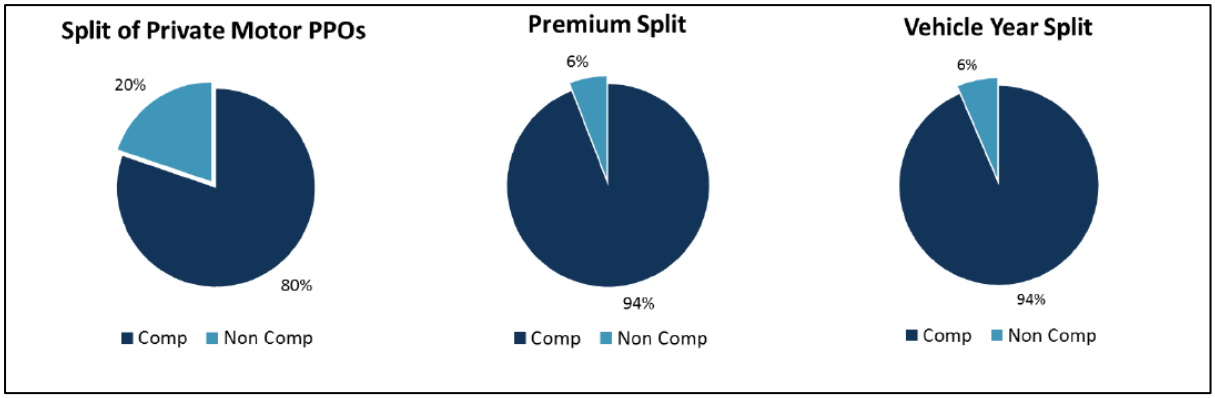


Figure 3: IFoA PPO Working Party Results: Split of PPOs, Premiums and Exposure by Comprehensive and Non-Comprehensive Policies [38]



[37] Update from the PPO Working Party Presentation at GIRO 2017: https://www.actuaries.org.uk/learn-and-develop/conference-paper-archive/2017

[38] Update from the PPO Working Party Presentation at GIRO 2017: https://www.actuaries.org.uk/learn-and-develop/conference-paper-archive/2017

5.1.5 Brexit Update

On June 23rd 2016, the UK held a referendum on membership of the European Union ('EU'). The result of this referendum was that 51.9% of voters elected for Britain to leave the EU[39], i.e. Brexit.

Article 50 of the Lisbon Treaty, the two year plan for any country that wishes to exit the EU, was triggered by the UK on March 29th 2017 and as a result, the UK is currently scheduled to exit the EU at 11pm on March 29th 2019. Discussions on how various aspects of Brexit will work are still underway and it is still unclear if there will be a transitional period after the cut-off date of Article 50.

There are currently two ways in which an insurance undertaking that is authorised in one EU/EEA state can conduct business in another EU/EEA state[40]:

- Freedom of Establishment basis: The undertaking establishes a branch operation in the EU/EEA state to conduct business
- Freedom of Services basis: The undertaking writes business from the home state into the host state

Unless continued access to freedom of establishment/services is negotiated, then the ability to passport between the UK and the EEA will be lost post-Brexit. This will impact both EEA insurers wishing to write business in the UK and UK insurers wishing to write business in the EEA. This is likely to be a particular issue for the many Irish insurers writing business in Northern Ireland.

As a result of the uncertainty surrounding how Brexit will work in practice 23% of insurers in the UK and Ireland see Brexit as a key risk for their companies[41].

It is not yet clear if there will be a transitional period post Brexit that will allow Irish insurers currently writing business in the UK to continue doing so under some form of phased implementation. As a result, many insurers are planning on the basis that there will be no transitional period.

The sections below focus on the options available to Irish insurers wishing to write business in the UK post-Brexit, however, a similar discussion would be relevant for UK based insurers wishing to write business in the EEA/EU post-Brexit.

[39] http://www.bbc.com/news/uk-politics- 32810887
[40] https://centralbank.ie/regulation/industry-market-sectors/insurance-reinsurance/solvency-ii/passporting
[41] Registration required to access source: http://www.lcpireland.com/news-and-publications/publications-and-research/2017/lcp-solvency-ii-reporting-across-the-uk-and-ireland/?alttemplate=downloadRegistration

Options Available to Irish Insurers Writing Business on a Freedom of Establishment Basis

The Solvency II framework includes provisions for EEA member states to authorise and supervise local insurance companies and branches of non-EEA insurance companies ('third country branches'), operating in their territory. The third country branches regime currently applies to non-EEA (re)insurers with branches in the UK.

The options available to Irish insurers writing business in the UK via a UK branch who wish to continue writing business in the UK are:

- Seek authorisation as a third country branch
- Convert the branch to an authorised UK subsidiary

Authorisation as a third country branch:

This option involves authorising an existing branch as a third country branch. Under this option, no change to the legal entity is required, resulting in a smoother transition for policyholders, staff, reinsurers and other stakeholders.

The process for authorising a third country branch in the UK is similar to what it would be for establishing a new company, however, in many areas the standard to be met is not as onerous as establishing a new company. Some branches may need increased number of employees and functions overall to meet the UK governance requirements at a branch level.

This option can also be useful for delaying the decision to convert to a full subsidiary until a later time, when conditions may be more favourable or when the regulator and the courts are less likely to be overburdened with authorisation applications.

In December 2017, the PRA published consultation paper CP30/17 on their approach to third country branch authorisation and supervision with the aim of providing clearer requirements to insurers wishing to establish a third country branch in the UK[42]. At the time of writing, the final version of the paper had not been released.

Authorisation as a UK subsidiary:

This option involves authorising a UK subsidiary, which would be supervised by the PRA. An alternative would be to purchase an existing UK authorised company and transfer the business from the existing branch to the purchased entity. The typical time period required to gain authorisation for a subsidiary in the UK is 12-18 months.

The authorised subsidiary would be a new legal entity; therefore the transition to a UK subsidiary may not be as seamless for policyholders, staff, reinsurers and other stakeholders as the transition to a third country branch. Existing contracts would need to be transferred or renegotiated and employees may need to be re-employed.

[42] https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/consultation-paper/2017/cp3017.pdf?la=en&hash=FA4613AF416B1E6EDB48329EC67FC61C2E13AF55

Options Available to Irish Insurers Writing Business on a Freedom of Services Basis

Post-Brexit, it seems that there will be little scope for Irish insurers without an existing UK branch or subsidiary to continue writing business in the UK without making significant changes to their operations. This may be a particular issue for Irish insurers writing business in Northern Ireland, who do not have a Northern Ireland/UK branch. Irish insurers currently writing business in the UK on a freedom of services basis have two main options to continue writing UK business[43]:

- Establish UK branch/subsidiary: The insurer could seek to preserve their current business by establishing a UK branch or subsidiary. This may not be a cost effective approach if the volume of UK business written by the company is relatively small.
- Transfer business written to another Group entity with a presence in the UK: Insurers that are part of a group with an existing establishment in the UK could seek to transfer the existing UK business and renewal rights to the UK company. This option may not be favourable as the Irish insurer would no longer play any significant role in the UK business

Other Options Available

For some companies, the options highlighted above may not be suitable and they may opt for a more extreme solution. Solutions of this nature include:

- Sell affected portfolios
- Cease writing UK business and do a Part VII transfer of the back book
- Takeover or merge with an existing UK entity

Conclusion

There are a number of factors, which are still uncertain, which will influence the decision each insurer will make, such as:

- Possibility of an Article 50 extension deadline
- Potential for transitional arrangements or whether there will be a “cliff edge” Brexit
- Size of insurers existing operations and resources in the UK
- Legal and regulatory burden of authorising a third country branch/subsidiary in the UK
- Financial factors such as set up costs, capital needed and cost benefit analysis

There are a number of post-Brexit options available to Irish insurers currently writing business in the UK. Many of these options require insurers to take action as soon as possible to allow themselves sufficient time to implement their preferred option ahead of the scheduled Brexit deadline.

[43] http://www.ey.com/Publication/vwLUAssets/EY-Brexit-for-insurance/$FILE/EY-Brexit-for-insurance.pdf

5.1.6 GDPR Update

The GDPR legislation applies from 25th May 2018 and replaces the existing Data Protection Acts. It applies to any company that handles data of a citizen of any Member State of the European Economic Area (EEA).

GDPR increases the obligations of insurers in relation to data protection and gives new rights to data subjects. The main changes to data protection rules for non-life insurers are given below:

- Consent for data to be held: There will be stricter requirements on the consent required for the insurers to hold data on subjects.
    - Impact on insurers: Policyholder documentation may need to be updated to ensure the required consent to hold data is given. For example, explicit consent will be required from named drivers on motor insurance policies for their data to be held.
- Data portability: Policyholders have greater ownership and control of their own personal data. They will have a right to receive the personal data concerning them in a structured, commonly used and machine readable format and to transmit such data to another controller without hindrance[44]. A working party has been established to consult on the data portability regulation, their guidance provides that data inferred or derived from further analysis of the personal data (e.g., a credit score) provided by the data subject will not be subject to the right of portability. Telematics data may pose an issue given that a data standard has not yet been developed[45] .
    - Impact on insurers: If a policyholder decides to switch insurer, then the previous insurer will be obligated to transfer the policyholders' data to the new insurer, if requested. Insurers will need to set up additional processes to handle these requests and transfer the data in the structured, commonly used and machine readable format that is required.
- Right to be forgotten: Policyholders will be able to request insurers to erase all personal data related to them, without undue delay, once certain conditions are satisfied, for example, once the personal data is no longer necessary for the purposes for which it was collected / processed or where the data was processed without consent of the policyholder.
    - Impact on insurers: Insurers will need to keep track of where all policyholder data is stored and ensure they are able to comply with any valid requests for data erasure. Insurers will also need clear and documented reasons why they are retaining personal data.
- Data breach notification requirements: Insurers will be required to report data breaches to the Data Protection Commissioner within 72 hours unless the breach is unlikely to pose a risk to data subjects. They will also be required to report breaches to the policyholders involved where there is a high risk to the policyholder.

[44] https://www.lexology.com/library/detail.aspx?g=f146248f-2747-4882-b783-7445825f028c

[45] http://www.lmalloyds.com/AsiCommon/Controls/BSA/Downloader.aspx?iDocumentStorageKey=5083c318-3479-4831-9711-b993e8b1f68e&iFileTypeCode=PDF&iFileName=The%20EU%20GDPR%20-%20guide%20for%20the%20insurance%20industry%20(DAC%20Beachcroft)

- Impact on insurers: To prevent reputational damage insurers may need to increase their IT security and improve internal process to reduce the possibility of a data breach. This may lead to more widespread purchase of cyber insurance. Similarly, providers of cyber insurance may need to review their terms/pricing to take data breaches under GDPR into account.

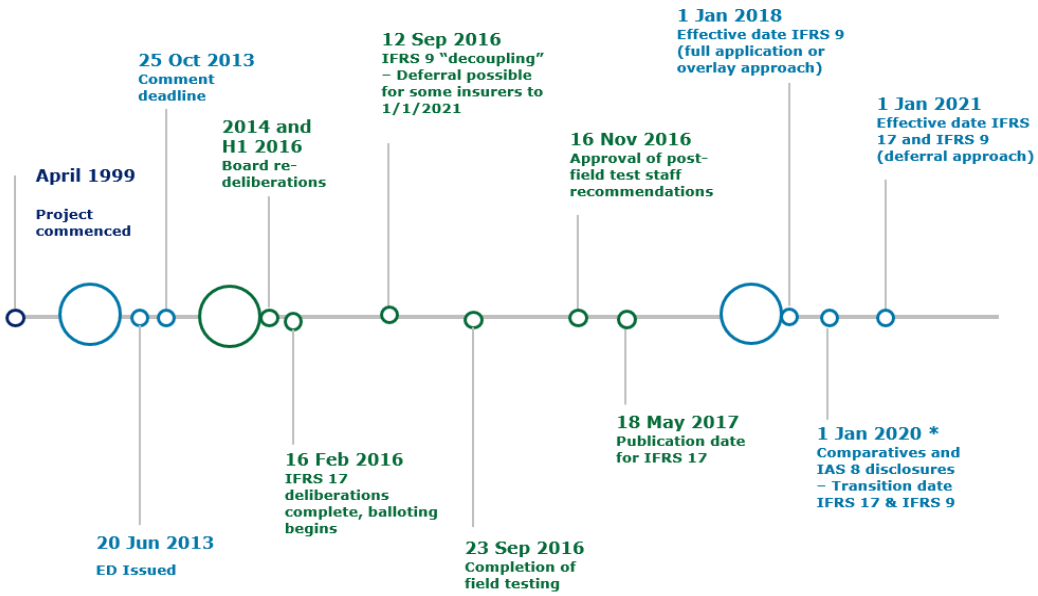
Failure to comply with GDPR could result in hefty fines for non-compliance. Breaches of the requirements may result in fines up to the higher of €20m and 4% of total annual worldwide turnover as well as possible reputational damage. Mandatory notification of data breaches and the possible regulatory fines are likely to increase the demand of insurers for cyber insurance products.

Insurers will need to act to set up/improve data processes to be fully compliant with the GDPR legislation and work to prevent data breaches and the possibility of any fines for non-compliance.

5.2 IFRS 17 for General Insurers

5.2.1 Introduction to IFRS 17

IFRS 17 has been a long time coming! The discussions around the new standard first began in 1999 and have continued right up to the publication date of May 2017. The timeline below gives an indication of the various steps in the process to final publication:



Source: Deloitte

There has been considerable discontentment with the standard, in particular around the timelines given to insurers to reach full compliance, i.e. 1 January 2021, with a full set of comparatives as at 31 December 2020 also required.

When we look at the effort involved in getting an entity to full compliance, we can understand why. IFRS 17 does not just impact the financials of an insurer; this new standard also has a significant impact on the data, systems and processes of an insurer, requiring greater levels of system complexity and a greater level of interaction between the actuarial function and others within an organisation.

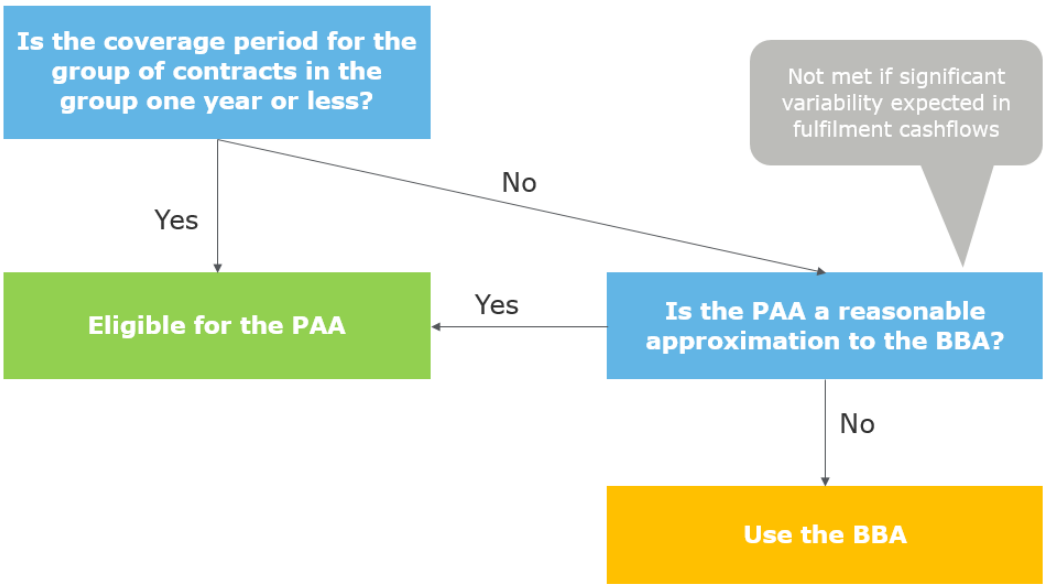
IFRS 17 is facing the most opposition from General Insurers, who feel the standard is not proportionate to the relatively simplistic nature of their business. In the summer of 2017[1], Aviva, Legal & General and Prudential wrote to the UK Chancellor to voice their concerns around the new standard, with Munich Re being the latest insurer to join the backlash against the new standard.[46] On the other hand, insurers such as Allianz have welcomed the new accounting standard, even producing a short video to break down IFRS 17 into simple terms.

[46] https://www.ft.com/content/e48a90c6-d81d-11e7-a039-c64b1c09b482

Luckily, IFRS 17 does include a simplified model for the measurement of liabilities, the Premium Allocation Approach ("PAA"), which is intended for use by general insurers with short-term contracts. In this section, we will break down this simplified model and understand how it differs to the main measurement model discussed in Section 3.2.3. We will also look at the key challenges for general insurers and the ways in which general insurers can leverage their Solvency II numbers to ease the pain of IFRS 17 implementation.

5.2.2 Introduction to the Premium Allocation Approach

So what is the Premium Allocation Approach? It is the third measurement model under IFRS 17 and provides a simplified approach to calculating the liability for remaining coverage, i.e. the claims liability relating to future coverage. It is intended to be simpler to apply than the Building Block Approach ("BBA") and can be applied once certain eligibility criteria have been met. These criteria are laid out in the diagram below:



Therefore, although the standard is intended for application to short term contracts, it is possible to use the approach for longer-term contracts if the premium and claims are expected to be stable over time. It may however be argued that an initial calculation using the BBA will be required to demonstrate eligibility, due to the unclear definition of "reasonable approximation" . General insurance contracts that may not satisfy eligibility criteria under the PAA include multi-year construction contracts, extended warranty, energy, engineering and credit.

A particular source of uncertainty for general insurers will be the treatment of Periodical Payment Orders (PPO's) under IFRS 17. As these are by their nature more long tailed than traditional general insurance business, PPO's will potentially need to be unbundled from the main insurance contract and measured under the Building Block Approach, even if the main

insurance contract fulfilled the criteria for measurement under the Premium Allocation Approach. This issue is one which the industry does not yet have a definitive answer to.

A key thing to remember in using this approach is that the liability for incurred claims still needs to be measured using the BBA. This may be a key consideration for insurers in deciding whether to use the simplified approach or just use the BBA for all of their liabilities. In making this decision, insurers should consider the complexity of the calculations and any operational efficiencies that can be taken advantage of.

However the key benefit of using the PAA is that insurers will not have to calculate and explicitly allow for the Contractual Service Margin ("CSM"), which is one of the key components of the BBA, as discussed in Section 3.2.3, and a completely new concept introduced by the new standard. Instead, insurers will have the option to leverage their existing systems and processes in place for calculating the unearned premium reserve, as discussed in the next section.

5.2.3 Measurement under the Premium Allocation Approach

As previously mentioned, the liability for incurred claims is measured in the same way as under the BBA, i.e.

Liability for incurred claims = Fulfilment Cashflows + Risk adjustment + Discounting

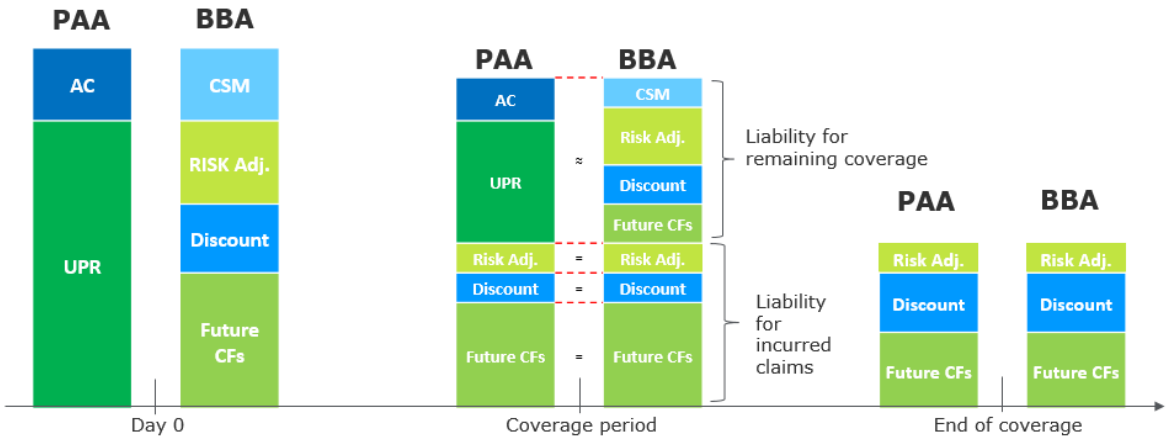
The difference in measurement arises when we look at the liability for remaining coverage. Under the BBA, the liability for remaining coverage is measured as:

Liability for remaining coverage = Fulfilment Cashflows + Risk adjustment + Discounting + CSM

In contrast, the liability for remaining coverage is measured as follows under the PAA:

Liability for remaining coverage = Unearned premium – Acquisition cashflows + Discounting

The following diagram compares the measurement of contract liabilities under the BBA to that under the PAA at each point in time during the coverage period.



Source: Deloitte

We can see that although the composition of the liability for remaining coverage differs between the PAA and the BBA, the overall liability amount is the same. This implies that the PAA is essentially a proxy for the BBA i.e. that recognising the contract's premium over the coverage period provides similar information and profit patterns as recognising insurance contract revenue over the coverage period in the BBA.

There are, however, a number of key differences between the two measurement models which insurers using the PAA should be aware of:

Aggregation requirements

Under IFRS 17, specific aggregation requirements are defined, which may differ from the level of granularity of existing reporting bases – this therefore represents a significant area for change for general insurers, and one which may involve a significant amount of effort in order to meet the requirements.

Contracts are required to be aggregated into groups at initial inception. Similar to the BBA, contracts are required to be split into portfolios and further subdivided into groups according to the expected profitability of the contracts. However, under the PAA, an entity should assume that no contracts in a portfolio are onerous at initial inception unless facts and circumstances indicate otherwise, as discussed in the next section.

There are a number of key things that general insurers should take account of in aggregating their insurance contracts:

- Entities may need to consider separate reserving analyses of young vs old, new business vs renewal, different sales channels in order to align reserving groups with the IFRS 17 groups.
- If contracts within a portfolio fall into different groups only due to a specific constraint imposed by a law or a regulation, an entity may include these contracts in the same group

e.g. male and female drivers under the EU Gender Directive, or regulatory constraints around writing workers compensation insurance in the US.

- An entity may have contracts covering a number of different lines of business. In this case, an entity may need to consider the following:

1. The availability of data to split the cashflows between the various lines of business.
2. The relative size of the different lines of business within the portfolio.
3. The importance to management of having KPI's for each of the lines of business.

Onerous contract liability

A new concept introduced under IFRS 17 is one of onerous contracts. An onerous contract is one where at initial inception the expected cash outflows are greater than the expected cash inflows.

An entity will need to hold an initial liability for onerous contracts where the PAA is used over the coverage period and for signed but not yet incepted contracts. Although this is conceptually similar to the current approach to calculating the Additional Unexpired Risk Reserve ("AURR") test, it is likely that insurers will need to account for onerous business at a more granular level, as IFRS 17 limits the extent to which profitable contracts can offset loss making ones. This can bring challenges for insurers as there will be differences between the reserving exercise granularity and the IFRS groups of contracts.

If a group of contracts is deemed to be onerous, the group is measured using the BBA. If the liability under the BBA is greater than the liability under the PAA, the difference is immediately recognised as a loss in the P&L.

This represents a significant change from current practice of allowing for onerous contracts under the AURR test, where a loss ratio was simply applied to unearned premium. Now, general insurers will be required to estimate onerous contracts using a full cashflow approach, including estimates of best estimate cashflows, a risk adjustment and CSM.

Discounting

One of the simplifications introduced by the PAA is in respect of discounting. Under the PAA, an entity does not have to discount the liability for remaining coverage if the coverage period is less than one year. In addition, the liability for incurred claims is not required to be discounted if the time from settlement to the incurred claim date is less than a year. This simplification would likely be applicable to lines of business such as Motor Own Damage, Legal Expenses, Travel Insurance and Property Non CAT.

Acquisition expenses

The second simplification available to insurers using the PAA is related to the treatment of acquisition expenses. Instead of subtracting them from the liability for remaining coverage and amortising them over time, an entity can instead recognise acquisition costs as an expense when they are incurred.

5.2.4 Reinsurance

Under IFRS 17, reinsurance cashflows are required to be presented separately to gross cashflows, i.e. netting of cashflows is not permitted under the new standard. This will be a significant change for general insurers as previously reinsurance amounts were approximated through the use of ratios. Under IFRS 17, insurers will now have to calculate discounted cashflows (allowing for the risk of non-performance of the reinsurer), risk adjustment (reflecting the risk transferred from underlying insurance contracts rather than the variability of the reinsurance cashflows) and a CSM for their outwards reinsurance contracts.

There is a difference between the treatment of inwards and outwards reinsurance under IFRS 17. Inwards reinsurance, or insurance from the point of view of the company receiving the premium to assume the risk, is treated the same way as direct insurance contracts. However, there are a number of differences from the base requirements when measuring the contract liabilities for outwards reinsurance, i.e. insurance from the point of view of the company paying the premiums to cede the risk.

Recognition Criteria

The first difference is related to the point at which a contract is recognised. For proportional reinsurance, a contract is recognised at the later of:

1. Beginning of coverage period of group of reinsurance contracts
2. Initial recognition of underlying contracts

For all other types of reinsurance, e.g. excess of loss, stop loss, a contract is recognised at the beginning of the coverage period of the group of underlying contracts. The difference in recognition criteria between the outwards reinsurance contract and the underlying insurance contract may lead to asymmetry between the two in terms of how they are accounted for in the financial statements.

Measurement Model

A reinsurance contract issued or held cannot be a direct participating contract, therefore the Variable Fee Approach cannot be applied to reinsurance contracts.

It is however possible to use the PAA to measure the liabilities for reinsurance contracts. The assessment of eligibility for the PAA is carried out separately from the underlying insurance contract, in line with the overall requirements of accounting for the reinsurance contracts separately from the underlying insurance contracts. Eligibility for the PAA will depend on whether the contract is losses occurring or risks attaching. For single year losses occurring contracts, it is simple to prove that the coverage period is less than a year; the same cannot be said for risks attaching contracts. For risks attaching contracts, an entity will have to look through to the underlying contracts to determine whether there are any multi-year contracts present, in which case the contract would not be automatically eligible for the PAA.

An entity may therefore end up with a scenario where the PAA is being used for the underlying insurance contract but the reinsurance contract is required to be measured using the BBA, e.g. a short term insurance contract with a risks attaching reinsurance contract that covers multiple years.

Aggregation

The aggregation requirements for outwards reinsurance contracts are similar to the underlying insurance contract, however there is no concept of onerous contracts for reinsurance contracts. Instead, reinsurance contracts are grouped according to whether they produce a net cost or gain on initial recognition.

CSM Calculation

In contrast to the underlying insurance contracts (where the CSM must be positive), reinsurance CSM can either be negative or positive at initial inception, but is still equal and opposite to the sum of the best fulfilment cashflows plus risk adjustment.

Retrospective Reinsurance

Some reinsurers write reinsurance that covers events that have already occurred but for which the effect is still uncertain, e.g. adverse development cover for incurred claims. When recognising these contracts at initial inception, the cost relating to the retrospective component is immediately recognised as a loss in the profit and loss account.

Leverage of existing systems and processes

One of the key questions that all general insurers will ask is "How can I leverage my existing systems and processes in order to meet IFRS 17 requirements?", and, although IFRS 17 brings significant change, there are some areas where general insurers can achieve synergies with their existing processes:

- Fulfilment cashflows: use the Solvency II best estimate cashflows as a starting point. However consideration needs to be given to the mismatch between the definition of contract boundaries under Solvency II (i.e. the point at which an insurer is bound to the contract) and IFRS 17 (i.e. the point at which the entity has the "practical ability" to reassess the risks of the particular policyholder).
- Risk adjustment: There are a number of possible approaches general insurers can use to calculate the risk adjustment, but regardless of which approach is selected, the corresponding confidence level will need to be disclosed. In reality, it is likely that general insurers will leverage the existing approach for calculating the Solvency II risk margin. It is worth noting that for business that has been written but not yet earned, a risk adjustment is not explicitly calculated; it is assumed to be included within the market premium. Therefore the risk adjustment for general insurers will exclude the element of unearned business measured by the PAA.
- Discount rate selection: Under IFRS 17, the discount rate is not prescribed, rather a top down or bottom up approach can be applied, as referred to in Section 3.2.5. If an entity decides to use a bottom up approach, the starting point of a risk free rate will be the same as the discount rate under Solvency II.

- Liability for remaining coverage – as discussed previously, general insurers will be able to leverage their existing systems for calculating UPR, for those contracts for which the PAA is being applied.

General insurers will be able to leverage off existing practices much more than life insurers will, mainly due to the simplified measurement approach to the liability for remaining coverage. However in taking advantage of currently reported numbers, entities need to be fully aware of the subtle differences between the current reporting basis and IFRS 17 in order to ensure full compliance with the new standard.

5.2.5 Conclusion

Although IFRS 17 is not expected to have as great an impact on general insurers as on life insurers, it is clear that the type of business written by a general insurer will have a significant influence on the extent of the change required, and the extent of the financial and operational impact. This is particularly true when we look at the transitional arrangements for general insurers; for P&C business measured using the PAA, retrospective application should not be a problem. However, this may be an issue for longer tailed business such as construction liability, where a fair value approach may have to be applied.

General insurers should now be in the process of familiarising themselves with the new standard and implementing training and education sessions for key stakeholders across the business. Areas of key focus at this point should be PAA eligibility assessments and subsequent decision around utilisation of this option, as well as assessment of systems capabilities, aggregation requirements and new IFRS 17 Key Performance Indicator's ("KPI's"). Effective planning will give general insurers an early indication of the expected impacts of IFRS 17 implementation and will avoid late surprises down the track.

5.3 Solvency II: Review of 2016 Reporting & Upcoming Developments

Solvency II came into force on 1st January 2016. It introduced a new set of quantitative, qualitative and reporting requirements for EU insurers. There was some, limited reporting required on 20th May 2016 based on year end 2015 data, however, the first full suite of reporting was completed during 2017 based on year end 2016 data.

This section of the report looks at:

- The main issues experienced by insurers during the year end 2016 reporting cycle
- Any shortcomings or inconsistencies within the Solvency II framework that have been identified so far
- A review of the first Solvency and Financial Condition Reports ('SFCRs')
- Potential changes in the Solvency II process going forward

5.3.1 Main Issues Faced in Year End 2016 Reporting

The first full Solvency II reporting cycle was completed at year end 2016. Despite the majority of undertakings being successful in submitting the required reports on time, undertakings experienced a number of difficulties during the reporting cycle:

- Volume of reporting: Undertakings were required to submit of full suite of annual reports which were being completed for the first time. In addition to existing reporting requirements, this included:
    - Quantitative Reporting Templates ('QRTs')
    - Own Risk and Solvency Assessment ('ORSA')
    - SFCR
    - Regular Supervisory Report ('RSR')
    - Actuarial Opinion on Technical Provisions ('AOTPs'), which is an Ireland-specific requirement
    - Actuarial Report on Technical Provisions ('ARTPs') , which is an Ireland-specific requirement
    - Actuarial Function Report ('AFR')

  In a survey conducted by the Solvency II Practical Review working party in the UK, 86% of respondents agreed or strongly agreed that "financial reporting under Solvency II is unreasonably onerous and should be simplified"[47].

- Complexity and quantity or regulations: The Solvency II regulations are vast and split across a large number of documents. Many parts of the regulations are complex, such as the treatment of reinsurance recoveries in the catastrophe risk module of the Standard Formula, which is contained in a separate document to the Delegated Acts[48]. In addition, the regulations are sometimes ambiguous, potentially leading to a range of alternative interpretations - one such example is the treatment of letters of credit

[47] https://www.actuaries.org.uk/documents/b2-solvency-ii-practical-review-working-party
[48] https://eiopa.europa.eu/Publications/Guidelines/EN_ORI_EIOPA_GLs_Outwards_Re_noAnnex.pdf

in the counterparty risk module of the SCR. The combination of the above has led to numerous issues in the market interpreting, and arriving at, a common view of, the regulation.

- Strain on resources: The effort required to produce the Solvency II Solvency Capital Requirement ('SCR') and Technical Provisions ('TPs'), as well as the associated reports, was greater than was initially anticipated by much of the market, which led to a strain on existing resources, and in many cases additional resources were required, at significant extra cost.

- Proportionality: The Solvency II calculations and reporting requirements have proven to be onerous for many of the larger Irish undertakings. The requirements do not decrease proportionately with the size of the company and this has made compliance with the Solvency II requirements, and the cost of that compliance, a relatively greater burden on smaller companies and captives.

- Model validation: Due to the additional workload introduced by Solvency II, many undertakings were under pressure to get the work over the line. As a result, many TP and SCR calculations involved a number of ad-hoc or topside adjustments to meet deadlines, and therefore it was difficult to carry out a full and complete validation.

- Documentation: As per the previous point, due to time and resource constraints, the quantity and quality of documentation produced by undertakings was not always fully compliant with the Solvency II regulations.

5.3.2 Observed Shortcomings and Inconsistencies of Solvency II

As well as the general issues described above, a number of more serious and technical issues with the standard were identified across the market. Some of the main shortcomings and inconsistencies identified with the Standard Formula and the TPs are given below.

Standard Formula

Allowance for non-proportional reinsurance in non-life premium and reserve risk

The Standard Formula in its current form does not allow for certain non-proportional reinsurance arrangements to be taken into account in the volume measure for either non-life premium or reserve risk. Instead, if non-proportional reinsurance is in place it can only be allowed for via the use of an adjustment factor.

This adjustment factor reduces the risk capital by 20% and can only be applied to the Motor Vehicle Liability, Fire and Other Property Damage and Third Party Liability lines of business. The reduction is always 20% regardless of whether the non-proportional reinsurance in place is more or less effective. Non-proportional reinsurance on lines of business other than the three mentioned above cannot be taken into account in the calculation of non-life premium and reserve risk.[49]

[49] https://www.actuaries.org.uk/documents/b2-solvency-ii-practical-review-working-party

In particular, adverse development covers a company has in place effectively caps the premium and reserve risk an undertaking faces. Currently, this capping of premium and reserve risk cannot be reflected in the Standard Formula.

This topic has been discussed in EIOPA's first set of advice to the European Commission on specific items in the Solvency II Delegated Regulation, as discussed below.

Premiums as a risk measure for the non-life premium risk module
The volume measure currently required to be used for the non-life premium risk module is earned premium. More precisely, as described in Article 116 of the Delegated Acts, the volume measure is a function of:

- Premiums earned in the last 12 months;
- Premium expected to be earned in the next 12 months;
- Premiums expected to be earned after the next 12 months for existing contracts; and
- Premiums relating to contracts expected to be recognised within the next 12 months but excluding the premiums to be earned during the 12 months after the initial recognition date.

The earned premiums used in the volume measure are not adjusted for rate or exposure. Therefore, the risk capital can be impacted by the effect of rate changes, even if these rate changes do not reflect a change in the underlying risk.

Furthermore, the calculation of premium risk capital depends only on the earned premium and the standard deviation, i.e. it does not take into account policy limits. Therefore, the premium risk calculation may assume losses greater than are possible on a given policy.

Lapse risk
The calculation of the lapse risk capital for insurers may be problematic due to the requirement for the calculation to be performed on a per policy basis. As a result, insurers may be using simplifications to perform the calculation. The simplifications in use across the market are not consistent due to the lack of prescriptive guidance in this area.

For captive insurers, lapse risk may not be appropriate where the customer is the parent and the reason for the existence of the captive is to provide (re)insurance to the parent, particularly where there are only one or two underlying policies.

As discussed later in this paper, non-life lapse risk is one of the main areas of the Standard Formula that EIOPA are consulting on.

Natural catastrophe risk
In the Standard Formula, windstorm is the only natural catastrophe Ireland is susceptible to. However, in reality, Ireland is also susceptible to flood and freeze scenarios, which are not

taken into account in the Standard Formula. Therefore, the Standard Formula may not accurately portray the level of natural catastrophe risk Irish business is exposed to.

Technical Provisions

One of the aims of Solvency II is to harmonise standards for valuing liabilities and capital requirements for undertakings across the EU. In terms of Technical Provisions, there at least two main areas where there appears to be a lack of consistency across the market due to different interpretations of the relevant legislation:

- Events not in data; and
- Expenses.

Events not in data ('ENIDs')
Estimation of ENIDs relies heavily on the use of expert judgement, as by their nature, a direct, quantitative approach is not possible. As is to be expected, different actuaries have applied varying expert judgement in their approach to ENIDs. Some of the approaches seen in the market are given below, although other approaches are also possible:

- Expert judgement. For example, setting the ENID allowance as a certain percentage of the premiums and / or reserves. This may be informed by the claims history, e.g. by identifying the largest loss experienced as a guide.
- Determining potential ENID scenarios and estimating their expected frequency and severity
- Truncated distribution approach
- Combination of some / all of the above
- No ENID loading. Some companies may believe that ENIDs are already sufficiently allowed for their methods and assumptions.

Some further complications faced by undertakings in relation to the ENID allowance are:

- Validating that all possible outcomes have been considered
- Appropriate challenge of the results and assumptions relating to the events which have been allowed for, due to the high level of expert judgement required
- Ensuring a sufficient allowance for both positive and adverse ENID events

Expenses
The expense calculation for the Solvency II Technical Provisions is more complex than that in the previous regime or in IFRS/GAAP. There seems to have been an inconsistent interpretation across the market of how the expense calculation should be calculated under SII.

As per Article 31 of the Delegated Acts, the expenses required to be taken account of in the Technical Provisions for recognised (re)insurance obligations are:

- Administrative expenses
- Investment management expenses
- Claims management expenses
- Acquisition expenses

Some of the challenges faced by undertakings that may cause the inconsistencies in the expense calculations are:

- Different interpretation of exactly which expenses have been allowed for in the ALAE and ULAE as this will influence which expenses are intended to be allowed for in the Solvency II expenses adjustment.
- The calculation will usually require data on certain expense components to be provided by other parts of the business, such as finance or underwriting. These data providers may not always have a full understanding of the Solvency II requirements and as a result the expense data provided may not be appropriate for the Technical Provisions calculation.

5.3.3 First Public Disclosures of SFCR under Solvency II

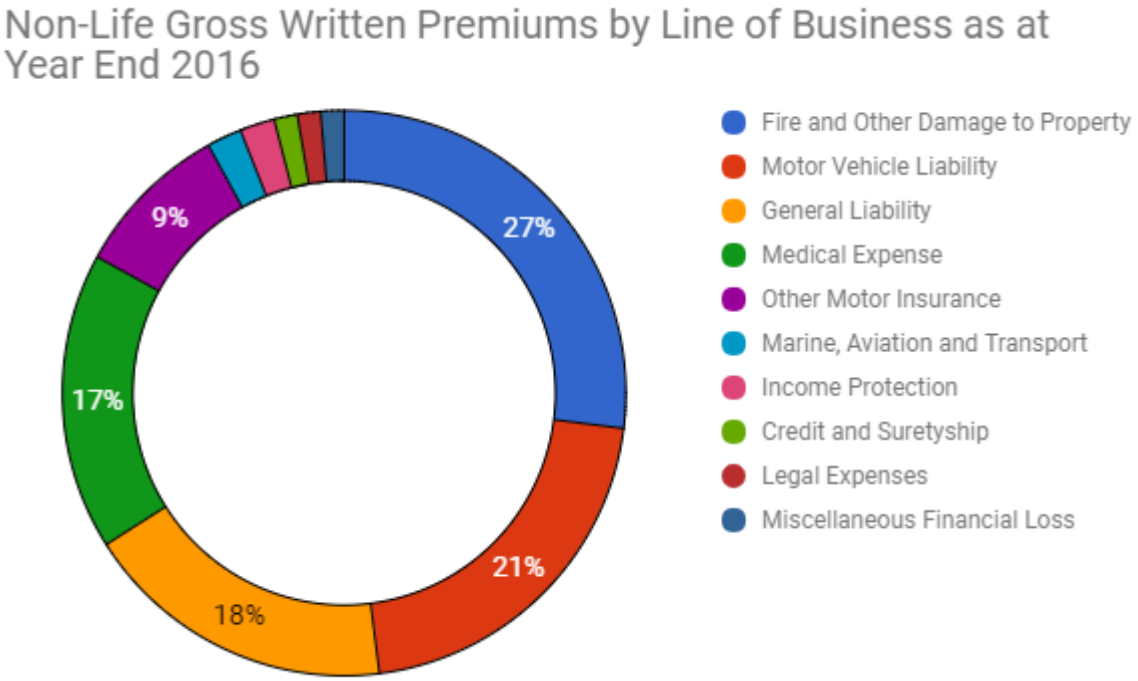
The first submission of undertakings Solvency and Financial Condition Reports was in May 2017 based on the year end 2016 data. SFCRs for Irish regulated entities were uploaded to the CBI's central repository at the end of 2017. These publications make company specific information, that was previously inaccessible, available to competitors, investors and the public. The newly available quantitative data is already being used by competitors for the purposes of benchmarking or other analysis. The qualitative data being provided in the SFCR is intended to give the reader a background to the company and an interpretation of the quantitative data being provided.

Review of Quantitative Data in the SFCR

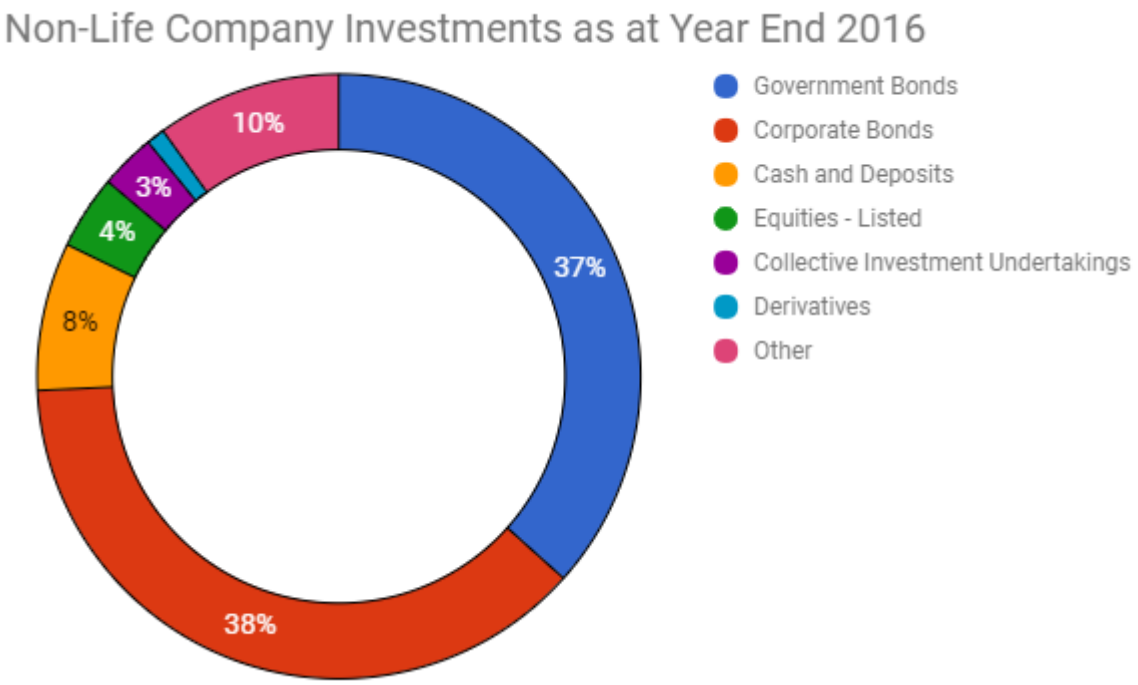
The purpose of this section is to give the reader an example of the information that is now publicly available via undertakings SFCRs and the types of analysis that could be performed. An analysis of SFCRs for Non-Life undertakings in the Irish market representing over 75% of the market premium income has been conducted by Milliman[50]. Some of the results of this analysis have been summarised below.

[50] http://ie.milliman.com/uploadedFiles/insight/2017/Industry-Update_SineadClarke.pdf

The chart below shows a breakdown of the gross written premium by Solvency II line of business. This information has been obtained from QRT S.05.01.02, which contains premium, claims and expense information by Solvency II line of business and is required to be disclosed in the SFCR. It can be seen that that motor and property business makes up in excess of 50% of the market.

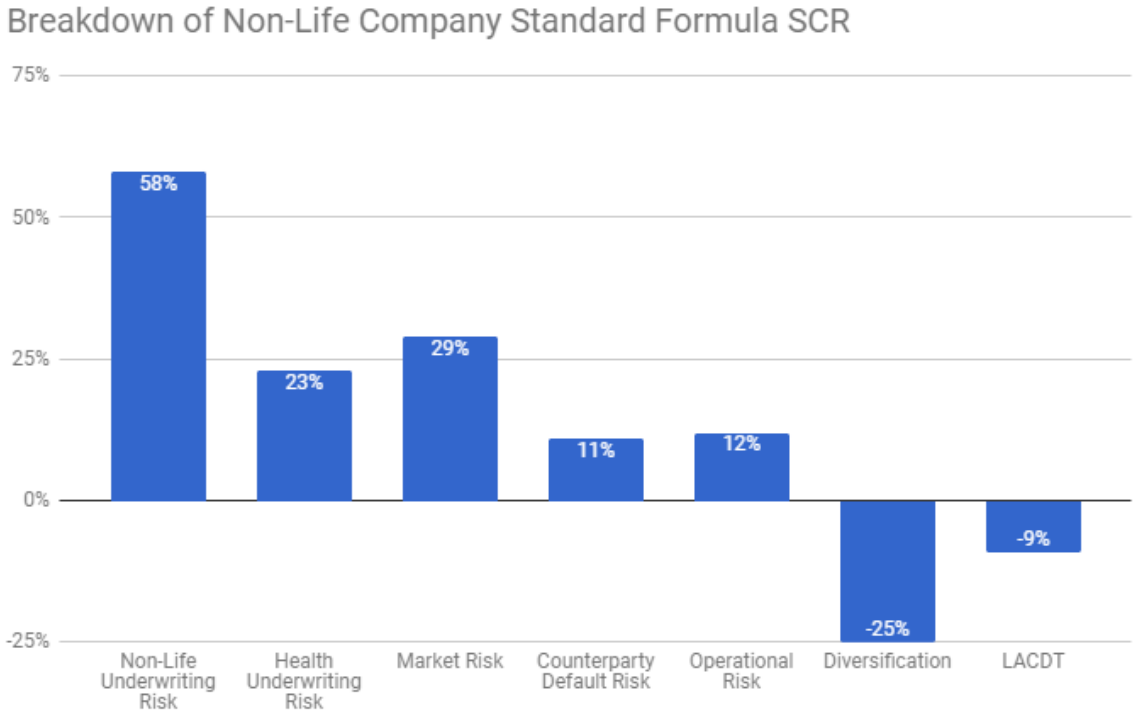


Information on undertakings' assets is available from the balance sheet, QRT S.02.01.02. The chart below shows the average breakdown of assets held by Non-Life undertakings in Ireland, based on the SFCRs included in the analysis. Bonds are the dominant investment, making up 75% of the asset portfolio, with a roughly even split between government and corporate bonds.



The Other category comprises a mix of property, participations, unlisted equities, structured notes, collateralised securities and other investments.

A breakdown of the SCR for the Non-Life insurers included in the analysis are is shown below. Unsurprisingly, the largest contributor to the standalone SCR is underwriting risk, which accounts for approximately 80% of the overall SCR.



Information is also publicly available on undertakings Own Funds. It can be seen that the average SCR coverage ratio at year end 2016 was 158%. The Own Funds backing this coverage ratio are typically comprised of 95% unrestricted Tier 1 capital.

Review of Qualitative Information in the SFCR

In terms of the narrative commentary in the SFCR, based on a comparison of the information provided by undertakings against the requirements in articles 290 - 298 of the Delegated Acts, a number of areas for improvement have been identified for future reporting cycles[51]:

- Greater focus on changes since the previous report and analyses of movements to aid interpretation of the report by investors and policyholders.
- The Business and Performance section of the report was generally based on quantitative information with a limited qualitative explanation. Companies did not use consistent metrics for reporting underwriting performance and therefore a meaningful comparison between companies was not possible in many cases.
- The Systems of Governance section was largely factual, with very few companies explaining why their systems of governance were appropriate for the nature, scale and complexity of the risks they were exposed to. In addition, the location of outsourced providers was not always provided.
- The Risk Profile section of the SFCR often did not provide sufficient detail on how the risks described related to the specific undertaking or how those risks were being managed. This section is supposed to provide the outcome of stress testing and sensitivity analysis for material risks and events but this information was minimal in many cases.
- The Valuation for Solvency Purposes section of the report lacked detail on the valuation methodology for technical provisions and in some cases the language used was quite technical, making it less accessible to the public.
- In the Capital Management section, most undertakings provided only the required SCR and MCR information. This is a section of the SFCR that may see increased efforts in future reporting cycles.
- Increasing the quality of QRTs published in the SFCR. Over 25% of the QRTs included in LCPs survey of UK and Irish SFCRs contained obvious errors[52].

As this was the first time a report like the SFCR has been publicly disclosed, it seems as though many undertakings were reluctant to disclose too much additional voluntary information as it may give away more information than required to competitors, who may in turn not disclose the same information. It is expected that there will be some stabilisation of the information that is and is not disclosed over the coming reporting cycles.

[51] https://web.actuaries.ie/sites/default/files/2017-06/170615%20A%20Review%20of%20the%20First%20SFCRs.pdf

[52] http://www.lcpireland.com/news-and-publications/publications-and-research/2017/lcp-solvency-ii-reporting-across-the-uk-and-ireland/DownloadFile

5.3.4 Feedback on Actuarial Opinions on Technical Provisions and Actuarial Reports on Technical Provisions

The Actuarial Opinion on Technical Provisions ('AOTPs') is required to be submitted by the Head of Actuarial Function ('HoAF') to the CBI on an annual basis, providing the HoAF's actuarial opinion on the TPs, as reported in the annual QRTs. The HoAF is also required to submit a report supporting the AOTPs to the Board on an annual basis. This supporting document is referred to as the Actuarial Report on Technical Provisions (ARTPs) and shall also be provided to the CBI on request.

In December 2017, the CBI issued a "Dear HoAF" letter outlining findings from their thematic review of the AOTPs and ARTPs. In general, the review found that the ARTPs were of a high standard and complied with the requirements set out in the Domestic Actuarial Regime but did outline some areas of non-compliance with the regulations, along with feedback to enhance the usefulness of the AOTPs and ARTPs. The main such areas identified were:

1. Consistency between the AOTPs and ARTPs:

    a) When reporting the reliances placed on others in calculating the TPs, there were some inconsistencies between the AOTPs and ARTPs. The CBI expects material reliances and limitations to be set out in the AOTPs, rather than solely in the ARTPs. Consistent reporting and discussion between the AOTPs and ARTPs is also expected.

    b) Where material concerns, limitations and recommended improvements were set out in the ARTPs, they were not always reflected in the AOTPs. The CBI expects material recommendations to be included in the AOTPs.

2. Inadequate documentation of the methods used by the HoAF to assess the completeness, accuracy and appropriateness of data used. The HoAF is not expected to duplicate the work of others but they are expected to make appropriate enquiries. The HoAF should provide detail on the extent of any reliance on others, and on the work they did themselves to get comfortable with the data. The Central Bank would expect the HoAF to comment on whether the checks conducted are accurate and appropriate, and to include observations around the breadth and robustness of tests carried out.

3. Material gaps in reporting of methodologies, assumptions and experience analysis, including a lack of detail around simplifications, expert judgement and materiality. Materiality thresholds should be discussed and set at a board level to ensure consistency from year to year, and the impact of any material simplifications or expert judgements should be detailed in the ARTPs.

It is expected that the issues highlighted in this Dear HoAF letter will be a particular area of focus and improvement for the year end 2017 AOTPs and ARTPs.

5.3.5 Solvency II Going Forward

Now that Solvency II is business as usual, it is expected that focus will shift away from simply producing the required calculations and reports towards a range of other development activities, including:

- Improving existing processes and automating them where possible in order to meet the new reporting timelines
- Development of the existing framework
- Increased focus on capital optimisation

The Solvency II reporting deadlines for year end 2017 have been shortened compared to the year end 2016 deadlines. A summary of the changes is given below:

- Annual QRTs, annual NSTs, SFCR, RSR and AOTPs: Submission of the year end 2017 reports is required by 6th May 2018, 18 weeks after the year end. This is two weeks earlier than at year end 2016.

- Quarterly QRTs, quarterly NSTs: Submission of the Q1 2018 reports is required by 12th May, 6 weeks after the quarter end. This is one week earlier than at year end 2016.

Resource and time constraints meant that for many firms, a "get it over the line" approach was employed for the Solvency II calculations and reporting at year end 2016. As a result, the processes for many undertakings include manual processes and overrides, and lack sufficient controls.

As a result, undertakings may choose to invest in process improvement and automation in advance of the next annual reporting cycle so as to satisfy CBI and auditor demands, while also enabling them to meet the shrinking Solvency II deadlines and reduce the operational risk around the process.

Development of the existing framework

The European Commission expressed its intention to review methods, assumptions and parameters used when calculating the SCR with the Standard Formula. This review is to be performed by December 2018. During July and August 2017, EIOPA consulted on the first set of advice it is providing to the European Commission as part of this review. This consultation incorporated responses from various actuarial associations, companies and other stakeholders.

Based on the responses received as part of the first consultation, EIOPA submitted their first set of advice to the European Commission on 30th October 2017 on specific items in the Solvency II Delegated Regulation. Some of the more important elements of EIOPA's first set of advice to the European Commission for Non-Life Standard Formula companies are:

- Risk Mitigation: EIOPA consulted on the allowance of non-proportional reinsurance, and specifically adverse development covers, in the SCR calculation as part of the first consultation. However, they have stated that they will be performing more analysis in this area and will take a position on if, and how, these covers should be recognised in its final advice to the European Commission in February 2018.

- USPs: EIOPA advised that the existing standardised methods are appropriate, but advised the inclusion of a new standardised method for the calculation of the adjustment factor for non-proportional reinsurance. This new standardised method is to be applied in the case of stop-loss treaties.

- Simplification of Non-Life Lapse risk: EIOPA have advised a possible simplification whereby the calculation could be performed based on the homogeneous risk groups used in the best estimate calculations for the premium provision, rather than on a per policy basis. This simplification could only be applied where it can be demonstrated that the particular grouping used for calculating the best estimate does not allow for material compensations between policies in case of lapse events.

During November 2017 EIOPA issued a consultation on the second set of advice to be provided to the European Commission. The consultation closes in January 2018 and EIOPA are due to issue their final advice to the European commission by 28th February 2018 at the latest. The main Non-Life items being consulted on are:

- Recalibration of the parameters for premium and reserve risks;
- Volume measure for premium risk;
- Man-made catastrophe risk;
- Natural catastrophe risk; and
- Risk margin.

Increased focus on Capital Optimisation

Some undertakings have already taken actions to improve their capital positions. Some of the initial actions which have already been taken in the market or may be taken in the future are:

- Changing reinsurance structures: Under the Standard Formula, the amount of risk capital benefit that can be gained from non-proportional covers is limited. This may lead to undertakings changing their reinsurance covers more towards proportional covers.

- Changes to the investment portfolio: More focus on matching the amount, currency, term, etc. of the assets to the liabilities to reduce capital charges.

- Changes to the lines of business underwritten: The Solvency II regime has introduced additional data and reporting requirements for firms. The data and reporting requirements are more onerous where the undertaking underwrites a greater number of lines of business. As a result, some undertakings with relatively small lines of business have chosen to cease underwriting those lines in an effort to reduce the data and reporting requirements on the company. One such example of this is where some

undertakings have chosen to cease underwriting the fire and other property damage line of business to reduce the administrative burden of providing information at a CRESTA zone level of granularity. We may continue to see undertakings reducing the number of lines of business underwritten, for the reasons above, or increasing the number of lines of business underwritten to increase the diversification benefit achieved between lines of business.

- Greater focus on underwriting terms: rate changes and changes in sums insured will impact risk charges for many LoBs. The main risk types that will be affected by changes in the underwriting terms are the premium portion of premium and reserve risk, natural catastrophe and man-made catastrophe. For example, instead of offering a lower premium than the previous year on a large commercial policy underwriters may offer higher sums insured instead. If this policy is considered in the man-made fire catastrophe scenario it may have a significant effect on risk capital.

Risk Management Perspective on Capital Optimisation

As undertakings may make decisions on the basis that this leads to a decrease in their SCR, it should be noted that actions taken to reduce the risk the undertaking faces, as calculated by the SCR, do not necessarily reduce the true risk faced by the undertaking, nor do they necessarily imply good risk management techniques. Some of the more obvious examples of where this is the case are given below, but there are many more possible examples within the Solvency II framework:

- Currency risk: Currency risk capital within the SCR is calculated as 25% * (Assets - Liabilities), which discourages holding assets as a buffer above the estimated size of the liabilities

- Reinsurance structures: In its current form, the Standard Formula promotes the use of proportional reinsurance covers as these can provide a greater capital benefit. This could lead to unconventional risk management and reinsurance purchase for Standard Formula companies For example, a company purchasing quota share reinsurance for the purposes of reducing premium and reserve risk capital, rather than an excess of loss cover which would provide them with a greater level of protection from large loss volatility. As a result the company would be greater exposed to large loss volatility which would not necessarily be reflected in the premium and reserve risk capital

- Asset selection: Solvency II Standard Formula does not differentiate between corporate bonds based on sector, i.e. there is no SCR benefit to an undertaking from diversifying their bond portfolio across different sectors even though this may reduce the actual risk from bonds faced by the undertaking

6. Wider Fields

6.1 Banking & IFRS 9: An Introduction

6.1.1 General Introduction

In Ireland, the banking sector has not been an area in which actuaries have traditionally been involved. However, there are signs that this is slowly changing, and the skills used by actuaries are recognised as being transferable across many sectors. For example, data analytics is another sector where actuaries are being increasingly involved in non-traditional actuarial roles.

The Society of Actuaries in Ireland (SAI) has also recognised this trend. In addition to a recently established Data Analytics Committee, the SAI also hopes to soon establish a Banking Committee, to support those members whose day-to-day work is within the banking sector, and to provide information to those considering a move into banking or to those with an interest in learning more about the topic.

In this section, we aim to give a summary of the main papers and articles that have been published on the new IFRS 9 standard from a banking perspective. Whilst not intended to be a definite guide, it is hoped that this section may give an insight into the issues and challenges for banks posed by the new IFRS 9 standard. For full and complete information on this new standard, we encourage you to refer to the IASB website.

The papers and articles which have been used in preparing this section are credited in the references paragraph at the end of the section.

6.1.2 Introduction to IFRS 9

IFRS 9 replaces IAS 39, Financial Instruments – Recognition and Measurement. It brings fundamental change to financial instrument accounting. It came into force on 1 January 2018. Note that IFRS 9 is not only relevant for the banking industry, but also impacts other financial institutions, such as building societies and insurance companies. In 2016, the International Accounting Standards Board ("IASB") agreed to permit entities predominately involved in insurance an option to delay implementation until 2021 which means that the implementation date for IFRS 9 will coincide with that for IFRS 17.

The new standard is intended to respond to criticisms that IAS 39 is too complex, inconsistent with the way entities manage their businesses and risks, and defers the recognition of credit losses on loans and receivables until too late in the credit cycle. It was understood that replacing IAS 39 was a long term consideration for the IASB, but the emergence of the

financial crisis in 2009 / 2010 and the particular impact this crisis had on the banking industry ensured that this became a priority.

The main changes relate to (i) classification and measurement of financial assets, (ii) impairment and (ii) hedging with smaller changes for other areas such as scope, recognition and de-recognition.

This paper will focus primarily on the Impairment topic, given the similarities with the topic of reserving within insurance companies.

Impairment Requirements under IFRS 9

Similar to insurance companies, banks are required to set aside provisions (or reserves as they are known in the insurance industry) to cover future losses. The losses that a bank may expect to receive are not claims, as for an insurer, but are as a result of non-payment, payment delay or potentially default of the loans which the bank has sold to its customers.

The change introduced by IFRS 9 can be thought to be making loan loss provisioning more similar to non-life claims reserving, i.e. where an allowance is generally included for both reported (i.e. known claims) and IBNR (i.e. future potential) claims.

The fundamental difference between IFRS 9 and the previous standard is that banks are now required to set aside loss provisions for loans on an ultimate basis, whereas previously they were only required on an incurred basis. What this means, for a bank issuing personal loans for example, is that previously the bank needed to hold provisions for only those loans which had defaulted or showed sign of potential to default. Under IFRS 9 the banks would need to hold provisions for all loans, by considering the probability of default over the entire lifecycle of each loan. Given that every loan has some likelihood of defaulting in the future, as each insurance policy has some likelihood of claiming in the future, every loan has an expected credit loss from the time it originates or is acquired by the bank.

The assessment of expected credit loss also needs to take into account forward looking information such as economic factors which may impact the rate of default or the amount of default, e.g. house prices, unemployment rates, etc. This introduces another layer of complexity and judgement, as banks are faced with the challenge of selecting the factors that need to be considered and their expected impact. Banks will also need to consider what external data is available and what, if any, changes are needed to their own data sets in order to be able to apply and measure this forward looking information in a meaningful way. Changes in these factors may lead to significant changes in the provisions. For example, if historical house prices were included in the forward looking information component then one might reasonably expect that if house prices were to dramatically decrease (as was seen in Ireland in 2009 – 2013) then the likelihood of default would increase which would lead to a jump in the provisions.

This new "expected credit loss" (or ECL) model applies to debt instruments recorded at amortised cost or at fair value through other comprehensive income such as loans, debt securities and trade receivables, lease receivables and most loan commitments and financial guarantee contracts.

Impairment of financial assets is to be recognised in stages:

- Stage 1 — as soon as a financial instrument is originated or purchased, 12-month expected credit losses are recognised in profit or loss and a loss allowance is established. This serves as a proxy for the initial expectations of credit losses. For financial assets (e.g. such as loans or mortgages), interest revenue is calculated on the gross carrying amount (i.e. without deduction for expected credit losses).
- Stage 2 — if the credit risk increases significantly and is not considered low, full lifetime expected credit losses are recognised in profit or loss. The calculation of interest revenue is the same as for Stage 1.
- Stage 3 — if the credit risk of a financial asset increases to the point that it is considered credit-impaired, interest revenue is calculated based on the amortised cost (i.e. the gross carrying amount less the loss allowance). Financial assets in this stage will generally be assessed individually. Lifetime expected credit losses are recognised on these financial assets.

Therefore, an impairment provision is required to allow for the present value of projected losses over the next 12 month period, except where there is deemed to be a significant increase in credit risk. If there is a significant increase in credit risk, the loan moves to Stage 2 and then the impairment provision is required to allow for the present value of projected losses for the lifetime of the of the loan. If the loan is deemed to be credit impaired then it moves to Stage 3. If the credit risk reverts to its previous state / recovers, then the provision once more reverts to the 12 month projection (i.e. Stage 1).

The standard does not explicitly state the basis for determining that a significant increase in credit risk has occurred. An entity may use various approaches to assess whether the credit risk has increased significantly (provided that the approach is consistent with the standard). The guidance provides a list of factors that may be considered when making this determination. The requirements also contain a rebuttable presumption that the credit risk has increased significantly when contractual payments are more than 30 days past due, i.e. this is taken as assumed by the standard and would generally be expected to be adopted by the bank.

Credit Impaired at Acquisition

Loans that were deemed to be credit impaired when acquired are treated differently. For these loans, the provision is always based on the expected losses over the lifetime of the loan. Under IFRS 9 a loan is deemed credit impaired if at least one event has occurred which has a significant impact on the expected future cash-flows from that loan, such as the following (from Appendix A of the standard):

- significant financial difficulty of the issuer or borrower;
- a breach of contract, such as a default or past-due event;
- the lenders for economic or contractual reasons relating to the borrower's financial difficulty granted the borrower a concession that would not otherwise be considered;
- it becoming probable that the borrower will enter bankruptcy or other financial reorganisation;
- the disappearance of an active market for the financial asset because of financial difficulties; or
- the purchase or origination of a financial asset at a deep discount that reflects incurred credit losses.

What is this likely to mean for Banks?

- The main effect of replacing the IAS 39 incurred loss impairment model with the IFRS 9 expected credit loss model will be to increase loan loss provisions for banks and other similar financial institutions. The extent of the change will depend on the portfolio, but those with shorter term, higher quality, collateralised financial instruments are less likely to be affected. The provisions are also likely to be more volatile in the future, as updated forecasts of forward looking external information are made available.
- As a consequence, it is expected that the new standard will result in reduced equity and will have an impact on regulatory capital.
- Adapting the expected credit loss requirements has required many banks to make considerable changes to their modelling processes including requiring changes to data inputs, credit loss models, model validation, model governance, documentation, etc.
- The new credit loss requirements are more forward looking than previously, as they not only depend on historic experience but also on forward looking macro-economic information. However, the use of this information also requires judgement, which may make comparisons between different institutions difficult.

European Banking Authority Reports

The European Banking Authority ("EBA") published reports including quantitative and qualitative observations from its impact assessment of IFRS 9 in November 2016 (http://www.eba.europa.eu/-/eba-provides-its-views-on-the-implementation-of-ifrs-9-and-its-impact-on-banks-across-the-eu) and July 2017 (https://www.eba.europa.eu/-/eba-updates-on-the-impact-of-ifrs-9-on-banks-across-the-eu-and-highlights-current-implementation-issues). The sample of banks surveyed remained stable between both reports and included 54 institutions across 20 European Member States.

Both reports stated that the estimated impact of IFRS 9 would largely be driven by the impairment requirements. The report in July 2017 estimated the average impact to be a 13% increase on the IAS 39 provisions and for 75% of the sample, this impact would be an increase of up to 18%. This estimated increase in provisions derives mainly from loans to households

and non-financial corporations, to which it was estimated that an increase in provisions of 46% and 29% respectively could be assigned.

The July report also stated that it expected a 45 basis points decrease in Common Equity Tier 1 levels. In the sample analysed, smaller banks were estimating a larger impact on own funds than large banks.

What Next?

As the IFRS 9 standard came into force on 1 January 2018, focus will naturally be on the first set of detailed disclosures, which will be included in the first financial statements under IFRS 9. These will be for year-end 31 December 2018 for banks with a calendar year end, who did not adopt the standard early.

Key References & Further Reading

- https://www.pwc.com/gx/en/audit-services/ifrs/publications/ifrs-9/ifrs-9-disclosures-by-banks-in-2018.pdf
- http://www.ey.com/Publication/vwLUAssets/Applying_IFRS:_Impairment_of_financial_instruments_under_IFRS_9/$FILE/Apply-FI-Dec2014.pdf
- https://www.iasplus.com/en-us/standards/international/ifrs-en-us/ifrs9
- http://www.ifrs.org/issued-standards/list-of-standards/ifrs-9-financial-instruments/
- https://www.pwc.com/gx/en/audit-services/ifrs/publications/ifrs-9/ifrs-9-understanding-the-basics.pdf
- https://www.pwc.com/gx/en/services/audit-assurance/ifrs-reporting/financial-instruments-ifrs-9.html
- https://www2.deloitte.com/content/dam/Deloitte/ru/Documents/audit/ifrs-9-financial-instruments-en.pdf
- http://www.ey.com/Publication/vwLUAssets/EY-ifrs-9-financial-instruments/$FILE/EY-ifrs-9-financial-instruments.pdf
- https://home.kpmg.com/xx/en/home/insights/2016/11/ifrs-blog-banks-ifrs9-implementation-challenge-gppc-paper-20161110.html
- http://www.eba.europa.eu/-/eba-provides-its-views-on-the-implementation-of-ifrs-9-and-its-impact-on-banks-across-the-eu
- https://www.eba.europa.eu/-/eba-updates-on-the-impact-of-ifrs-9-on-banks-across-the-eu-and-highlights-current-implementation-issues