PRACTICE OF RISK CONTROL AND UNDERWRITING

CIP-06

V2

Technical contributors

Since it was first published, a number of technical contributors have updated, reviewed and verified specific and specialised sections of this textbook. Their work has been invaluable in producing such a comprehensive textbook and is much appreciated.

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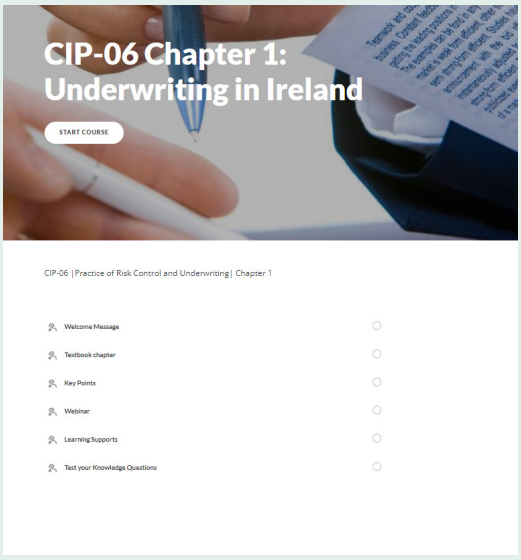
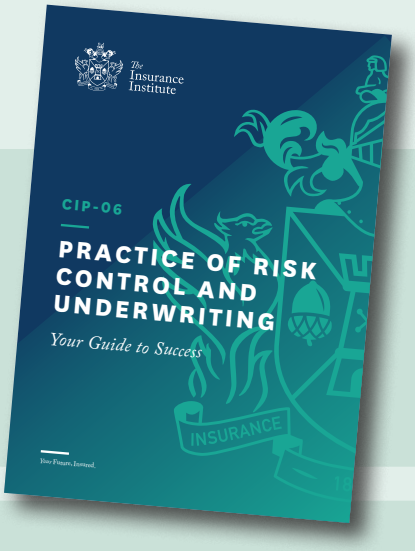


This section welcomes you to the module, identifies how you learn best, provides you with your guide to success and gives you invaluable study skills tips.



Your guide to success

Your guide to success is essential to getting you started on this module as it shows you how to plan your study and cover all the material ahead of your exam. It will help you find the best way to approach your study, give you advice on how to manage your time and ensure you give yourself the best chance of exam success.

Online study supports

We have a range of study supports that can help you as you work through this module. As well as your guide to success, these supports include:

- an e-book
- an exam countdown timer
- webinars
- chapter-by-chapter key points
- sample/past papers with guideline answers
- Online tutorials (please see your member area for dates)
- Microlearning resources to help with challenging topics.

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Textbook

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Examples: These indicate how theories operate in simple day-to-day situations.

Just thinks: These offer you an opportunity to interact with the material by applying your learning.

Key terms: These appear in the page margins and at the end of the textbook, and explain the meaning and context of insurance terms you may not have come across before.

Quick questions: These appear throughout the textbook and are designed to test your knowledge as you go. You can check your answers at the end of each chapter.

Reminder: These are reminders of or references to concepts, definitions or topics previously outlined or studied and outline how a topic works in practice.

End of chapter questions: These are a great opportunity to test your learning and understanding of the chapter's topics. The answers are also there for you to check.

Case law: These outline the details of a case relating to legal issue being discussed.

Sample exam questions: These can be found at the end of each chapter and are examples of the type of questions that may appear on the exam paper. You should familiarise yourself with the types of questions asked, the key terms used (e.g. 'state', 'explain'), the amount of marks and time to be allocated to each question, and the examiner's suggested answers. These questions and answers are provided to help you to focus your study and prepare for your exam.

Websites: Throughout the textbook we refer to websites that can be used to provide additional context to the material you are studying and keep you up to date with current trends and developments. It is important to note, however, that you will only be examined on the information contained within this textbook.

Index: At the end of the textbook, there is an index of websites, legal cases, legislation, acronyms, key terms and formulae that provide a quick and easy reference to the material featured in the textbook.

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Table of contents

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Chapter

1

Underwriting in Ireland

What to expect in this chapter

The insurance market in any country develops because of a range of social, economic, legal, regulatory and other factors specific to that country. These factors create challenges and opportunities for the underwriters operating in that market. In this chapter we introduce the main factors shaping and impacting on the insurance market in Ireland, and how they affect underwriting.

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Contents

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A What is underwriting?

So what is meant by 'underwriting'?

Underwriting is the process of assessing and pricing risks proposed for insurance.[1]

The process of assessing and pricing risks has many different components. It basically involves obtaining and examining information about a risk and deciding whether it is acceptable. For acceptable risks, the next steps involve deciding on the cover, the price (premium) and any special terms. We will examine these elements of the underwriting process, and the professionals involved, in later chapters.

Note that the term 'underwriting' can be used to describe the activities of either an insurer or an individual. Throughout this textbook, the word '**underwriter**' mostly refers to the activities of individuals.

To successfully underwrite insurance business in a particular market, underwriters and insurers must fully understand that market, including its legal and regulatory structures. This understanding helps the underwriter to determine whether a risk is acceptable, the level of cover to be provided and the correct premium to charge, which in turn ensures that the insurer remains solvent, i.e. is capable of meeting all valid claims. We will now look at the main features of the Irish insurance market and their relevance to the underwriting process.

underwriter

(1) a company liable for insured losses in return for a fee or premium

(2) a person who assesses a risk proposed for insurance, decides whether to accept it and, if so, sets the level of premium required and the terms and conditions applicable

[1] Bennett, C. *Dictionary of Insurance*, 2nd edn. Essex: Pearson Education; 2004.

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insurance undertaking

an undertaking that has received official authorisation from the Central Bank of Ireland to trade in Ireland under Article 6 of Directive 73/239/EEC, Article 6 of Directive 79/267/EEC or Article 3 of Directive 2005/68/EC

reinsurance

insurance of an insurance company, e.g. against large insurance losses

insurance intermediary

generic term for all types of firms that give advice on insurance products

passporting

EU system whereby an insurer established and authorised in one member state can sell to residents of another member state by either establishing a branch there or by way of cross-border services

captive insurer

an authorised insurance company formed as a subsidiary of a non-insurance parent company to insure risks arising out of the parent company's business activities

Insurance Ireland

an industry body that represents Irish life and non-life insurers

B Overview of the Irish insurance market

Insurance is a key industry in Ireland, both in terms of its size and the numbers of insurers. As you know from your previous studies, the Irish insurance market compromises of **insurance undertakings**, **reinsurance** undertakings and **insurance intermediaries** authorised by the Central Bank. The market also includes insurance undertakings authorised to operate on a '**passporting**' basis. It should be noted that many 'passport' undertakings operate purely as **captive insurers**, only insuring risks on behalf of their parent company.

Almost 20,000 people are employed in the Irish insurance industry.[2] Thousands more are employed in associated businesses, such as broking, loss adjusting, loss assessing, actuarial consultancy, risk management, captive management and outsourced services providers.

The insurance industry holds and invests significant assets in Ireland and contributes over €1.5 billion annually in taxes to the Irish exchequer.[3] This represents significant taxation revenue and investment and purchasing power, making the insurance industry an important contributor to the performance of the Irish economy.

Key facts and statistics relating to the insurance market can be found in the **Insurance Ireland** Factfile. This annual publication contains a detailed statistical analysis of the performance of the Irish insurance market including a breakdown of premiums, claims and member company market share, and the identification of trends and developments. To get a more detailed and up-to-date picture of the Irish insurance market, you should access and review the most recent Insurance Ireland Factfile on www.insuranceireland.eu

2 Insurance Ireland Factfile, www.insuranceireland.eu

3 Insurance Ireland Factfile, www.insuranceireland.eu

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B1 Distribution channels

Insurance products are sold through a variety of distribution channels in Ireland. The two traditional distribution channels are:

- Direct contact between insurers and their customers, e.g. face-to-face, by phone or via the internet
- Through intermediaries, which can include insurance brokers, **affinity groups** (such as retailers or trade unions), banks and building societies or travel agents.

affinity group

a group of people with a common interest or connection, who work together to achieve a common goal, e.g. to obtain discounted premium rates or exclusive insurance schemes

Consolidation of insurers through acquisitions has been significant. Many companies have been taken over by international brands, including subsidiaries of European and US multinationals. The purchase by AXA of XL Catlin locally is an example of such consolidation.

consolidation

also known as amalgamation and often referred to as the merger and/or acquisition of a smaller company or companies into a much larger company

The Irish insurance broker market has also undergone a period of unprecedented consolidation in the last decade. Private equity firms have had played a key part in this, looking for a return on their capital during a time of historically low interest rates. Access to cheap capital made the 'growth by acquisition' strategy relatively inexpensive. There are other benefits that come with scale such as increased commissions based on volume and product offering synergies. Prospective acquirers will look at factors such as quality and productivity of employees, business mix, nature of client relationships, and retention and growth rates. Some of the most active in the broker acquisition market have been Arachas and the Ardonagh Group, PIB, Innovu and Aston Lark.[4]

For a number of years now, the top five insurers have accounted for approximately 65% of the Irish general insurance market, and the top eight insurers for approximately 90%, highlighting the level of insurer consolidation in this country.[5] There are now only two domestically-owned insurers in the Irish market – FBD plc and IPB Insurance (mutual insurer for Irish local authorities).

Many insurers have adopted the direct model (i.e. no intermediary) to distribute their products. However, both insurers and intermediaries often operate a multi-channel and multi-method distribution strategy, selling products via traditional intermediaries, branded agents (such as Post Insurance), the internet or through their own call centres. Some operate networks of physical offices for direct sales, although advances in internet and call-centre technology have contributed to the decline of this option.

Distribution channel options are closely related to insurance product types. Approximately 50% of personal lines business, such as private motor and household, is transacted directly with insurers, and 90% of commercial insurance policies are still placed through intermediaries. Personal lines products are relatively simple due to them being fairly homogenous and there not being much differentiation (other than price). This relative simplicity facilitates the use of direct channels. In contrast, customers seeking the more complicated commercial products are more likely to require the advice and expertise of intermediaries.

4 Barry, K., '*Inside The Consolidation Of The Insurance Broker Market*', July 2022, www.businessplus.ie

5 Insurance Ireland Factfile, www.insuranceireland.eu

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The Irish insurance market, like all markets, is currently going through a period of rapid change. Advances in data analytics and the use of big data are allowing insurers to develop innovative products to keep up with ever changing customer preferences. The future of insurance purchasing will be faster with less active involvement on the part of both the insurers and customers. An example of this is the rise in pay-as you-go insurers such as Lemonade (USA) and Zego (UK).[6]

In Chapter 2 we will see how distribution channels influence underwriting decisions and practices for those products.

B2 Market performance

The Irish insurance market saw reduced premium levels from 2008 until 2015 due to decreased economic activity, low investment returns and coupled with a reduction or 'softening' of rates. This led to underwriting losses and a move by insurers to increase rates and look closely at existing business. However, following this period, premium income levels rose. This was most evident as personal lines products (e.g. motor and household) and commercial and combined products saw their pricing increase and policy terms tighten. This is an example of the market cycle (see Section D) in operation.

B2a Premium income

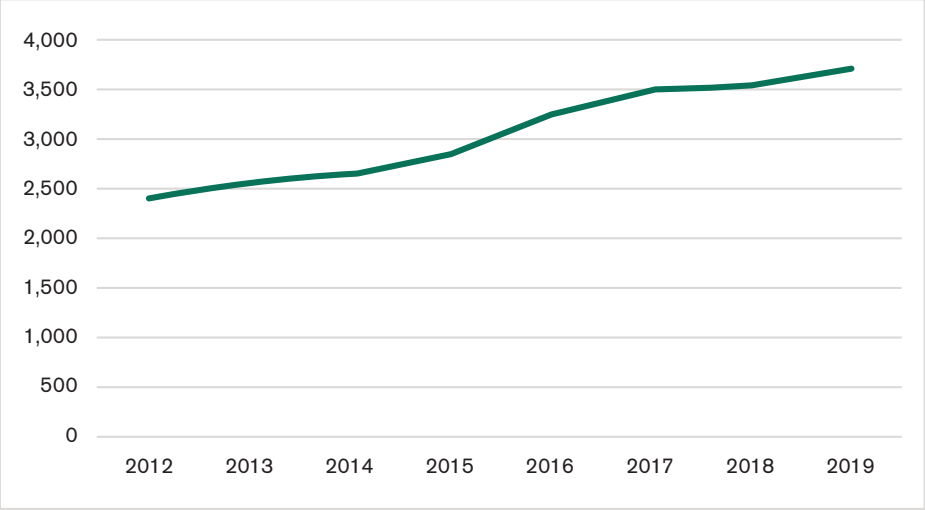
gross premium / gross written premium (GWP)

the premium charged by an insurer in return for providing financial protection under a policy of insurance, excluding any premium taxes, stamp duty or levies and before the deduction of any premium ceded to reinsurers

Premium income in this section focuses purely on the domestic Irish market and Irish-based risks.

Gross written premiums in the Irish non-life general insurance market had lessened but in recent years, as illustrated in Figure 1.1, these levels are rising.[7]

Figure 1.1 Insurance Ireland members' non-life gross written premiums from 2015-2019 (figures shown in € millions)



[6] More information is available at www.zego.com and www.lemonade.com

[7] Insurance Ireland Factfile, www.insuranceireland.eu

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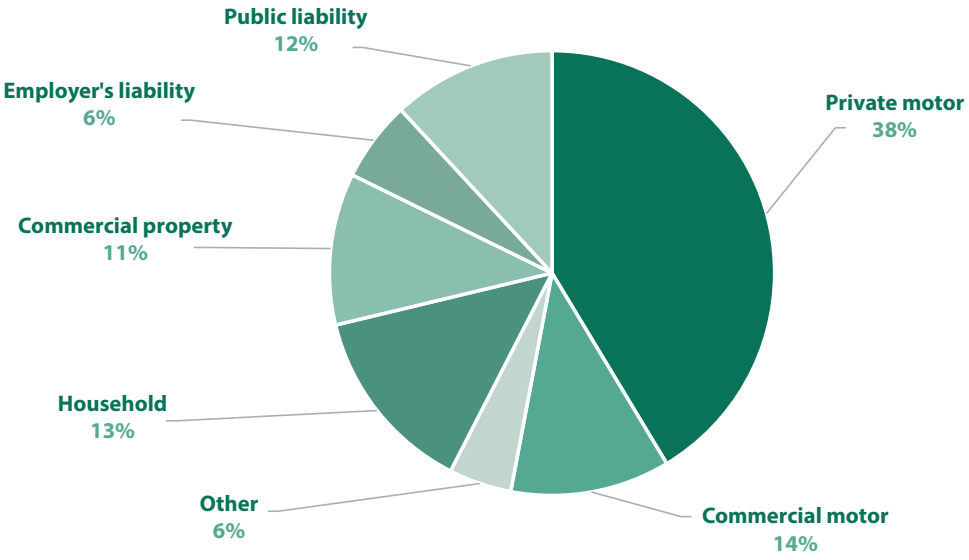
This growth is due to two main factors. Firstly, insurers applied premium increases to address their losses on motor and liability business. Secondly, the number of vehicles on Ireland's roads continues to increase. The typical pattern is that premium income levels reflect economic conditions. The premium growth seen from 2012 to 2019 would have been driven by harder market conditions, inflation and increased economic activity coming out of the global recession.

While Figure 1.2 shows data relating to 2019, the percentage breakdown of insurance business by class does not vary much from year to year. The 'other' category includes marine, travel, personal accident and other miscellaneous classes.

Figure 1.2 Irish non-life insurance business by class (written in Ireland) 2019



Just think

Access the most recent Insurance Ireland Factfile[8] and review the tables and graphs in relation to the performance of different non-life insurance classes. Identify the reasons for the performance of household insurance.

Good weather was a contributory factor to the performance of household insurance over the period 2015-2019.

B2b Underwriting results

A non-life insurer's **underwriting result** measures how well a business performs. It shows the amount of **profit** or loss generated after the cost of incurred claims, management expenses, commissions and other costs are deducted from its **earned premium** income.

Underwriting result = [earned premium] – [(incurred claims) + (management expenses) + (commissions) + (other costs)]

underwriting result

the extent of how well the non-life insurance business has performed, measuring the profit/loss after the cost of incurred claims, management expenses, commissions and other costs are deducted from its earned premium income

profit

the difference between the total income (revenue) of the business and the total running costs (operating expenses) associated with the continued operation of the business

earned premium

the proportion of an insurer's annual premium that has been earned as the risk period elapses and relates to the expired portion of an insurance policy

[8] Insurance Ireland Factfile, www.insuranceireland.eu

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Let's have a look at household insurance and the factors impact on its underwriting results. Between 2008 and 2010, household insurers experienced heavy underwriting losses. The most dramatic occurred in November 2009 when there was serious flooding in Ireland. This severe weather, and its physical and financial impact, had not been anticipated when these risks were underwritten and priced. Further weather-related losses were seen between 2014 and 2018 with Storms Darwin, Desmond, Frank, Ophelia and Emma causing hundreds of million euro in losses.[9] It is now apparent that increased frequency of catastrophic weather events is becoming commonplace. By 2050 it is predicted that flooding will increase six-fold across Europe with estimated losses of €1.5 billion per year.[10]

Losses from between 2012 and 2016 can be closely aligned to the economic downturn and recession experienced in Ireland. During recession, claims frequency increases as household incomes reduce and policyholders are more claims conscious. As the economy shrinks during a recession, the premium income available to pay claims can stagnate and reduce in certain classes (e.g. reduced workforce means reduced employers liability premiums). As the economy came out of recession, the opposite was seen and from 2016 to 2018, household insurance experienced an increase in premium income of 1% and profitability improved.[11]

Table 1.1 shows the net underwriting result for Irish risk business of the non-life insurance market from 2008 to 2019. The net underwriting loss of €273 million in 2015 reflected a significant deterioration in performance from 2011, when a net **underwriting profit** of €213 million was recorded. Most underwriting losses in 2015 came from the poor performance of motor insurance business, where insurers saw an increase in the cost of personal injury claims. The 2018 and 2019 market results show quite a return to net underwriting profit.

Table 1.1 Non-life insurance market results 2008–2019 (million)[12]

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Net underwriting result	122	–124	–102	213	–87	–222	–238	–273	–94	126	180	192

Insurers frequently use **investment income** to offset underwriting losses, but when investment returns continue to be low, this places more pressure on insurers to sustain underwriting results.

Note that trends in the insurance market do not follow the same patterns as other markets. For example, when prices were increasing for most products – from houses to alcohol – insurance premiums were falling as insurers fought for their percentage market share. Then the situation reversed and, while the Irish economy showed almost zero levels of general inflation from 2011 to 2016, motor premiums were rising steadily.[13] In the period since 2017 to mid-2020 motor premiums have reduced by 19.6% according to the Central Statistics Office.[14]

We will see more about these market trends in Section D.

underwriting profit

profit made by an insurer after claims and administration and acquisition costs, but before taking account of any investment income

investment income

income generated by insurers through investing their cash and capital funds, including share capital, unearned premium reserve and claims reserves (as distinct from premium income, which is generated by the trading activities of the insurer in underwriting risks)

Quick question 1

State a factor that could contribute to insurance premiums continuing to rise in the near future.

The answer is at the end of this chapter.

9 European Environmental Agency, '*Economic losses from weather and climate-related extremes in Europe reached around half a trillion euros over past 40 years*', February 2022, www.eea.europa.eu

10 Cavallito, Matteo. '*In Europe extreme weather events resulted in €500 billion losses since 1980.*' March, 2022. www.resoilfoundation.org

11 Information adapted from www.statista.com, '*Gross premium income of life and non-life insurance sectors in Ireland from 2010 to 2018*'. © Statista 2021.

12 Insurance Ireland Factfile, www.insuranceireland.eu

13 Consumer Price Index June 2016, Central Statistics Office, www.cso.ie

14 Consumer Price Index May 2019, Central Statistics Office, www.cso.ie

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B3 Today's Irish insurance market in an international context

In an international context, attitudes towards the use of insurance are determined not only by economic, but also by historical, social and cultural factors. Stable political, legal and judicial systems supporting general economic growth are important in this context, as economic growth creates increased demand for insurance. General instability, by contrast, will undermine economic growth but may also increase demand for insurance.

The Irish market shows all the key attributes necessary for the growth and development of an active and progressive insurance industry. Total gross premiums for general insurance as a proportion of **gross domestic product** (GDP) internationally varies considerably. For example, it is 3.2% in the EU, 8.7% in the United States, 0.8% in Africa, 2% in Asia-Pacific and 2.7% in Ireland. In less mature insurance markets, it is much lower.[15] These variations are influenced by a number of factors, including compulsory insurance requirements in each territory.

gross domestic product (GDP)

the value of all goods and services produced by a country in a particular period (usually a year or a quarter)

According to Swiss Re data, the Irish non-life market represented approximately 0.24% of non-life premiums written globally during 2021, putting this comparatively small market into context.[16] However, as noted in Section B, it still plays a significant economic role in terms of revenue, employment and protection for businesses and individuals.

The Covid-19 pandemic had a significant impact on global economies, with the effects felt across the insurance industry. Insurers responded to the crisis with pro-rata premium refunds (e.g. motor and health) and allowing corporate clients' to pay premiums by instalment as they work through economic difficulties. The insurance industry is generally well prepared for large loss events, including pandemics, but the financial impact will take time to assess and will be industry and insurer/reinsurer specific.

The Covid-19 pandemic also brought uncertainty around specific lines of insurance business, for example business interruption insurance. Cases came before the courts which involved claims for compensation under the plaintiff's respective insurance policies for losses incurred due to the closure of their premises as a result of government restrictions introduced in response to the pandemic. One such case against FBD was successful but another case against AXA was unsuccessful. Both centred on how the policy wordings were drafted. In the FBD case, the relevant clauses were drafted broadly and were interpreted as such. In the AXA case, the clauses were more narrowly and specifically drafted, and a more restrictive interpretation was adopted by the court.[17]

15 Insurance Ireland Factfile, www.insuranceireland.eu

16 Sigma No 4/2022, '*World insurance: Global insurance premium volumes to reach new high in 2022*'.

17 A&L Goodbody, 2021. '*Comparison between AXA and FBD Covid-19 cases*'. www.algoodbody.com

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The transition period which followed the UK's exit from the EU ended on 31 December 2020 and, as expected, the UK lost its EU 'passporting' capability.[18] In addition, Irish financial services firms can no longer avail of the EU passporting regime within the UK. The effects of this for the UK's and Irish financial services sector is yet to be seen. In preparation for this eventuality, some UK insurers had set up subsidiary firms in other EU member states to ensure they retained these passporting rights. To protect insureds during this time, the Central Bank of Ireland's Temporary Run-Off Regime allows existing insurance policies to be serviced for a time limit of 15 years but does not allow for any new business to be written or existing policies to be renewed.[19]

[18] Syal, Rajeev, 'No. 10 rules out customs union with EU amid confusion over government policy', *The Guardian*, 5 February 2018.

[19] Central Bank of Ireland, '*Insurance Temporary Run-off Regime*' www.centralbank.ie

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C The legal and regulatory environment for underwriters

You will recall from the Compliance and Advice module that insurers **underwriting** business in Ireland must operate within the constraints and ethos of the Irish regulatory environment. In this section we explore the main factors in the regulatory and legal environment impacting on the Irish insurance market.

C1 Regulatory environment

An insurer in Ireland must be authorised by the **Central Bank of Ireland** or another EU regulator. This authorisation permits the transaction of business in one or more prescribed classes of insurance. Table 1.2 lists the different classes of insurance. If an insurer wishes to expand its business into other classes of insurance, it must apply for regulatory authorisation to do so.

Table 1.2 Classes of insurance[20]

Class 1	Accident	**Class 10**	Motor vehicle liability
Class 2	Sickness	**Class 11**	Aircraft liability
Class 3	Land vehicles	**Class 12**	Liability for ships
Class 4	Railway rolling stock	**Class 13**	General liability
Class 5	Aircraft	**Class 14**	Credit
Class 6	Ships	**Class 15**	Suretyship
Class 7	Goods in transit	**Class 16**	Miscellaneous financial loss
Class 8	Fire and natural forces	**Class 17**	Legal expenses
Class 9	Other damage to property	**Class 18**	Touring assistance

C1a Financial safety and soundness of insurers

When applying for authorisation, an insurer must meet strict requirements relating to its financial soundness and must continue to meet these requirements at all times.

Insurers must maintain adequate **technical provisions (reserves)**. They must set aside sufficient funds to cover the cost of claims. The Central Bank closely monitors an insurer's technical provisions as part of the supervisory process. Given the unpredictable nature of claims reserving and the complicated calculation process, an insurer's technical reserves are prepared and certified by an **actuary**.

underwriting
the process of assessing and pricing risks for insurance

Central Bank of Ireland
the financial regulatory body in the Republic of Ireland, responsible for the authorisation and prudential supervision of financial service providers

technical provisions (reserves)
reserves held so that assets are matched with known and estimated future claims liabilities and associated expenses

actuary
a person qualified to calculate risks and probabilities regarding uncertain future events especially in an insurance context

[20] Regulation 6(2) of the **EC (Non-Life Insurance) Framework Regulations, 1994 (as amended)**.

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Reinsurance arrangements (see Chapter 7) may be taken into account when calculating technical reserves, provided that these are satisfactory to the regulatory authorities. An insurer must also monitor exposure to currency fluctuation risks. For example, after the June 2016 'Brexit' vote, Sterling lost as much as 15% of its value against the Euro. This meant that UK insurers paying claims in Eurozone countries paid more than they did previously, due to the Sterling's weakened position and foreign exchange fluctuations.[21]

C1a1 Capital and solvency requirements

Matching liabilities with assets is a complex process for insurers as their liabilities relate to the future possibility of accidents or other calamities, and are not predictable. The principal way financial soundness of authorised non-life insurance undertakings is controlled is the requirement to maintain an adequate level of assets to cover all its current and future liabilities. This is called the **solvency capital requirement** – an important provision to safeguard policyholders.

solvency capital requirement

the amount of funds (capital) that Solvency II regulation requires an insurer to hold, calculated using a standard formula taking into account all the relevant risks to the insurer's financial stability

Solvency II Directive

an EU Directive designed to produce a more consistent and harmonised solvency standard across Europe that will protect consumers and other beneficiaries, and transposed into Irish law by the **EU (Insurance and Reinsurance) Regulations 2015**

Own Risk and Solvency Assessment (ORSA)

the processes and procedures that insurers use to identify, manage and report their short and long-term risks, and to determine the funds needed to meet their solvency requirements

capital

financial wealth necessary to start or maintain a business, normally provided by investors who may be private individuals or corporate bodies

You will recall from the Compliance and Advice module that the **EU (Insurance and Reinsurance) Regulations 2015**, best known as the **Solvency II Directive**, created a risk-based approach to assessing an insurer's financial position, which became effective across all EU member states in 2016.

Solvency II requires insurers to undertake their **Own Risk and Solvency Assessment (ORSA)**. ORSA identifies, assesses, monitors, manages and reports the short and long-term risks that an insurer faces and determines the level of funds that are required to ensure that its overall solvency needs are met at all times. This helps insurers assess their own risks and makes sure that they have the resources to protect policyholders and pay claims.

Effective risk management is an integral part of the **Solvency II** requirements and is therefore an important aspect of the broader objective of protecting consumers by ensuring that the failure of insurers and reinsurers is a very rare occurrence. **Solvency II** built on previous legislation and now all EU insurers must be aware and fully understand the insurance risks they hold and put aside adequate **capital** to meet all future claims pertaining to these risks insured.

The consequences of insurers not maintaining adequate solvency levels was brought into focus by the 2014 collapse of Setanta, a Maltese company that sold motor insurance in Ireland. As a result of this case, the Supreme Court ruled that the **Insurance Compensation Fund** would pay 100% of affected policyholders' claims and recoup the balance (i.e. the amount over the 65%/€825,000) from the Motor Insurers' Bureau of Ireland (MIBI). The MIBI then collect the balance from motor insurers through the Motor Insurers' Insolvency Compensation Fund which it manages. The **Insurance (Amendment) Act 2018** updated the law relating to insolvent insurers and required that claimants affected by insolvent insurers receive 100% compensation, as opposed to previous 65%.[22]

[21] RTE, 'How Irish firms and State agencies are dealing with the first effects of Brexit', www.rte.ie, 28 February 2018.

[22] The Irish Statute Book, www.irishstatutebook.ie, **Insurance (Amendment) Act 2018**.

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C1a2Levies and taxes

Each territory has its own tax regime. Some taxes apply only to insurers, some only to reinsurers, and some only apply to **home country** insurers and not to those operating in the territory on a 'passporting' basis. Insurers must ascertain the tax(es) for which they are liable and ensure they are correctly funded to meet those liabilities.

Insurers writing domestic business in the Irish market must also be aware of the taxes and levies applying to insurance premiums. These must be included in the pricing process (see Chapter 3).

- **Motor Insurers' Bureau of Ireland (MIBI)** – The MIBI was established in 1955 by an agreement between the Government and the insurers underwriting motor insurance in Ireland. It compensates victims of road traffic accidents caused by uninsured and unidentified vehicles. All insurers providing compulsory motor insurance must pay an annual levy and membership fee to the MIBI.

  This levy is calculated based on the estimated cost of MIBI claims. It varies from year to year. Each insurer's contribution is determined by their market share of motor insurance business in Ireland.[23]

- **Insurance Compensation Fund (ICF)** – The ICF was set up by the **Insurance Act 1964**. The **Insurance (Amendment) Act 2018** transferred the administration of the fund to the Central Bank. This fund ensures that if an insurer becomes insolvent, consumers receive compensation. As a result of the failure of various insurers (e.g. PMPA in 1983, ICI in 1985 and Quinn Insurance in 2010), a levy of 2% applies to include all non-life policies written by Irish-authorised insurers.

- **Motor Insurance Levy** – an additional 2% levy applies to all motor insurance policies. This levy is to fund the retrospective 100% compensation of third-party claims in respect of Setanta and Enterprise. It was signed into law in the **Insurance (Amendment) Act 2018** and came into effect on 1 December 2018.

- **Non-life insurance levy on premiums** – Section 125 of the **Stamp Duties Consolidation Act 1999** imposes a government levy of 3% on gross premiums received by an insurer for most non-life insurance policies. The exceptions are reinsurance, private health insurance, marine, aviation and transit insurance, export credit insurance and certain dental insurance contracts. This levy is collected by the Revenue Commissioners in conjunction with the contribution to the ICF.

- **Stamp duty** – Stamp duty is charged at €1 per inception of a non-life insurance contract for new business, but not at renewal.

- **Financial Services and Pensions Ombudsman (FSPO) Levy** – Under the **Central Bank and Financial Services Authority of Ireland Act 2004**, the FSPO is funded by levies on financial service providers. The levy amounts are prescribed by the FSPO Council with the consent of the Minister for Finance.

- **Central Bank Industry Funding Levy** – T**he Central Bank Reform Act 2010** confers on the Central Bank the power, with the approval of the Minister for Finance, to make regulations prescribing an annual Industry Funding Levy to be paid by **regulated entities**/financial service providers to the Central Bank. This levy funds a portion of the annual cost of financial regulation. The balance is funded by the Central Bank.

Insurance Compensation Fund (ICF)

an insurance guarantee scheme in Ireland that protects policyholders of insurers that are unable to meet their liabilities; funded by contributions from insurers based on their gross premium income and capped at 2% per annum

Quick question 2

Explain what is meant by the term 'Own Risk and Solvency Assessment'.

home country (state)

the country responsible for the supervision on a consolidated basis (usually where the head office is located)

regulated entity

a financial service provider authorised, registered or licensed by the Central Bank or other EU or EEA member state that is providing regulated activities in the state

[23] For further information, go to the MIBI website, www.mibi.ie

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Example 1.1

A consumer buying a motor insurance policy with a premium of €400 will pay €29 in levies in total. It will be broken down as follows:

Non-life insurance levy: €400 * 3% = €12

Insurance Compensation Fund: €400 * 2% = €8

Motor Insurance Levy: €400 * 2% = €8

Stamp Duty on Policy: €1 flat charge

Total levies = €12 + €8 + €8 + €1 = €29

Total premium payable (premium + levies) = €429

C2 Legal environment

Along with the regulatory obligations that apply specifically to the insurance sector, insurers are also subject to a number of broader legal requirements.

We will now consider some of these requirements.

C2a Gender-based rating

Since December 2012, as a result of the European Court of Justice's ruling in the 'Test Achats' case, 'Taking the gender of the insured individual into account as a risk factor in insurance contracts constitutes discrimination'.[24] Therefore, the use of gender when pricing and providing insurance is not permitted. Prior to this ruling, the **Equal Status Act 2000** had allowed the use of gender in insurance rating if it was based on reliable actuarial or statistical data, or other relevant underwriting or commercial factors.

rating factors

features or circumstances used by underwriters to determine the extent of the risk and the premium to be charged

telematics (vehicles)

the use of vehicle and information technologies to collect and transmit data about a vehicle, its journeys and driving behaviour

Just think

Which classes of insurance are affected by the ruling on gender-based rating?

This ruling affects several classes of general insurance, including motor, travel and income protection along with many types of life assurance. The decision had major implications for underwriting strategy and for the setting of motor insurance premiums in particular, which had charged lower rates for females. Some insurers reviewed their overall **rating factors** for motor insurance. Many introduced new rating factors with a focus on issues such as the policyholder's occupation or the vehicle type. Others have explored new pricing tools such as **telematics** (see Chapter 3E3). These initiatives have helped insurers when gender could no longer be used as a rating factor.

[24] *Association Belge des Consommateurs Test-Achats ASBL and Others v Conseil des Ministres* (2011).

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C2b Data protection

The **General Data Protection Regulation 2016** (GDPR) is the legal framework for data protection. As an EU-wide Regulation, it did not require local transposition which, in theory, reduces the level of national variation between EU member states. However, Ireland and other EU member states introduced national implementing measures for GDPR. For example, the Irish **Data Protection Act 2018** gives effect to the GDPR.[25]

All activities undertaken by insurers must fully comply with the requirements of the **Data Protection Acts 1988-2018**.[26] It is important to note that the GDPR applies to non-EU organisations if they offer goods or services to EU residents or monitor the behaviour of EU residents. The full implications of the GDPR and Brexit on the sharing and transfers of data is not yet known. Data flows will need to be reviewed to ensure appropriate international data transfer mechanisms are in place. The GDPR introduced significant new requirements for **data controllers** and **data processors**, and new rights for **data subjects**. The full extent of these changes is beyond the scope of this textbook.

The GDPR and the prevalence of new technology has seen an increase in the demand for cyber insurance products. There are a number of insurers in Ireland offering cyber products, such as Chubb and AIG.[27] The cyber insurance market in Ireland continues to grow due to increased awareness of the impact of cyber security breaches (see Chapter 6H).

C2c Consumer Insurance Contracts Act 2019 (CICA)

The **Consumer Insurance Contracts Act 2019** has comprehensively reformed the law applicable to consumer insurance contracts. The Act's definition of 'consumer' includes unincorporated bodies (such as clubs and charities) and incorporated bodies with an annual turnover of less than €3 million.

The Act removed the pre-contractual principle of utmost good faith for consumers and aims to reduce the technical avoidance of claims by providing proportionate remedies for breach of the consumer's pre-contractual duty of disclosure.

The main changes introduced by the Act can be summarised as follows:

- The principle of insurable interest has been modified in that an insurer cannot refuse liability on the basis that the name of the person who may benefit is unspecified in the policy document
- The introduction of a 14-day cooling-off period
- The principle of 'utmost good faith' has been replaced by a statutory obligation on the consumer to answer all questions asked by the insurer 'honestly and with reasonable care.' Under this lower standard of duty, there is no obligation on the consumer to disclose any information not specifically requested by the insurer.
- Insurers must provide consumers with information, on paper or another durable medium before taking out or renewing an insurance policy
- At renewal, the insured is not under any obligation to provide the insurer with additional information, unless the insurer expressly requires them to do so by asking a specific question or requesting them to update information previously provided concerning a specific matter

data controller

a natural or legal person who controls, and is responsible for, the keeping and use of personal information on a computer or in structured manual files

data processor

a natural or legal person, public authority, agency or any other body that processes personal data on behalf of a data controller

data subject

an individual who is the subject of personal data

[25] More information can be found at: www.dataprotection.ie

[26] For more information on data protection requirements, go to www.dataprotection.ie

[27] More information is available at: www.aig.ie

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- The questions that insurers ask must be specific, in plain and intelligible language and assumptions are no longer allowed
- Insurers have limited remedies available to them in terms of cancelling an insurance policy for misrepresentation
- Insurers will have proportionate remedies available for misrepresentation by the consumer
- Increased claims handling duties for insurers
- Greater third-party rights to take claims against insurers
- Insurers will have additional duties at renewal and must provide consumers with a schedule of all premiums and claims paid for the preceding five years
- At renewal, unless the insurer asks for new information, it is taken that information provided still applies.

* It should be noted insurable interest and utmost good faith are long standing principles in Irish insurance law, which still apply to all **non-consumer** insurance contracts.

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D The cyclical nature of the insurance market

Most industries experience cycles where periods of expansion and growth are followed by times of lower premium revenues and contraction. These cycles are influenced by many factors, depending on the industry in question. In Section B2, we saw some of the recent trends in underwriting performance (profits/losses). We also saw that trends in the insurance market follow a different pattern to other markets. This is because the insurance market has its own particular cycle.

Microlearning resources

In the Member Area of www.iii.ie, via the Connect logo and in Your Learning Centre, select the microlearning section of this chapter to access a resource specifically developed to help you better understand this topic.

The insurance market moves between different phases of pricing, performance and profitability. At any particular time, practitioners view the market as either 'hard' or 'soft'.

Just think

Have you heard the terms **'hard market'** and '**soft market**' in your own work environment?

What do you think they mean, and why are they important?

Hard markets typically produce improving financial results for insurers, while the opposite is true for soft markets. The exact characteristics and duration of the insurance market cycle vary over time, across insurance classes and geographical markets. Periods of low profits, or sometimes even losses, alternate with periods of high profits and growth.

Here we will explore the characteristics of hard and soft markets and how they have affected the Irish insurance market. We will outline the factors that influence this cycle. But first, we will look at Figure 1.3, which illustrates the insurance market cycle.

hard market

a period when insurance premiums are high, underwriting terms may be inflexible and capacity (competition) for most types of insurance is reduced

soft market

a period where insurance premiums are reduced, underwriting terms are usually flexible and there is a high availability of insurance cover

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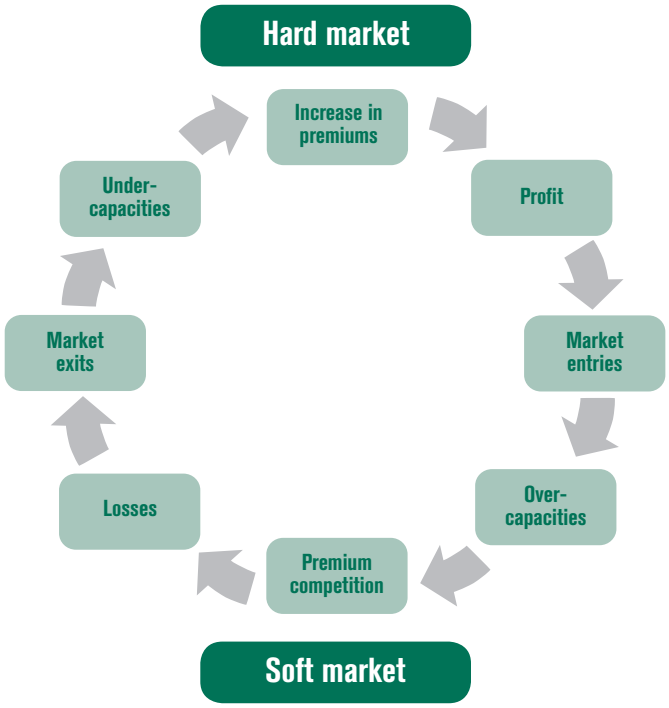
Figure 1.3 The insurance market cycle



D1 Operation of the cycle

Despite having experienced repeated cycles, insurers and underwriters are never sure where their business is in the cycle at any particular time. This only becomes apparent after the event, once the cycle has turned.

Cycle durations vary and can be lengthened or shortened by several factors affecting the cost of claims, operating costs and investment returns. The market has many competing insurers, each with their own strategies and investment plans. Some suffer short-term loss for anticipated long-term gain and this can destabilise premium levels and, ultimately, profitability. Note that different lines of business may also be at different stages in the cycle at any one point in time.

D1a Soft market

When insurers experience higher profits in a particular class of business, they are likely to dedicate greater capacity to that class to acquire more of it. With market capacity and competition increasing, premiums fall and what is known as a 'soft market' is created.

In such a market, insurers are also likely to relax their underwriting criteria and offer wider policy covers. This leads to reduced premium income, an increase in exposures, reduced profits and a corresponding drop in investment income.

A soft market is characterised by some or all of the following:

- Increased capacity and customer choice
- Flexibility on terms and wordings
- Lower prices (downward pressure on premiums)
- Greater competition between insurers
- Worsening insurer results
- Oversupply of capital.

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D1b Hard market

The worsening results in the later stages of a soft market will eventually mean that some insurers fail, or decide to exit particular types of business. This stage is typically characterised by reduced premium levels being combined with broader risk appetite and in some instances wider policy coverages. This typically leads to increased claims activity and costs which, against a backdrop of reducing premiums, inevitably lead to reduced underwriting profits, or in many cases underwriting losses. The inability to generate a profit in certain markets will lead to reduced capacity or in some cases a complete withdrawal from these markets. Premiums then rise as the supply of insurance reduces in relation to the demand for cover. Insurers will then also adopt a tougher attitude to risk acceptance, will harden and seek to impose stricter **policy conditions** and other terms that reduce their potential exposures.

policy condition

a provision in a policy that must be complied with

This is known as a 'hard market', which leads to higher profits for insurers and the cycle begins again. A hard market is characterised by some or all of the following:

- Lack of insurer capacity
- More stringent underwriting criteria resulting in inflexibility of insurers on terms or wordings
- High premiums (upward pressure on premiums)
- Less competition
- Improving insurer results.

Just think

Review the most recent Insurance Ireland Factfile. Is the Irish insurance market experiencing a soft or a hard market?

After many years of a soft market cycle, the Irish insurance market experienced rapid rate increases in personal lines products such as motor, which was the precursor to general increases across the entire market, including commercial lines, notably in liability. This hardening of the market was inevitable, as the insurance market works in a cycle and such underwriting results were unsustainable (i.e. prices had to increase to bring the industry back into profitability). The hardening in the market was more pronounced in long tail lines of business.

Example 1.2

Over a number of years, the professional indemnity market both in Ireland and globally had been underperforming and had been a loss-making sector for insurers. Lloyd's of London identified non-US professional indemnity as the 2nd worst performing class of business at Lloyds from 2013-2018. Sixty two percent of Lloyd's syndicates writing non-US professional indemnity made an aggregate loss over those six years. Losses for professional indemnity insurers arising out of the Grenfell Tower Fire in 2017 led to further acceleration of an already hardening in market. Lloyd's thematic review in 2018 instructed its syndicates to take the necessary remedial action on their professional indemnity portfolios. The message was clear: focus on profit rather than growth. This has always been a volatile class of business. The professional indemnity market is currently in a hard market phase of the underwriting cycle. This began in mid-2018 and

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Example 1.2 (contd)

was marked by many insurers exiting the market or reducing their participation. This has, in turn, resulted in a lack of capacity, narrowing coverage and premium increases in the range of 30-40% with more increases expected as the market continues to harden. The global nature of the insurance market and the number of UK underwriters that write professional indemnity insurance in Ireland means that the Irish insurance market continues to feel the impact of the hardening professional indemnity insurance market.[28] This can currently be seen in the Irish market where the fallout from Grenfell and some systemic issues locally have led to stricter terms in relation to fire safety and combustible cladding claims. These stricter terms include aggregate cover, sub-limits and cover being restricted to rectification costs only.

D1c The intermediary perspective

For intermediaries, hard markets create more difficulties placing risks with insurers, because of less flexibility on pricing and policy cover. Stricter risk acceptance terms may make some 'less desirable' risks very difficult to place in a hard market. The returns are good, as an intermediary's commission is normally directly linked to premium volumes (unless the intermediary is fee-based) but the intermediary must deal with customer frustration and dissatisfaction with the lack of options in the market.

Intermediaries need to present risks to a greater number of insurers in a soft market, as insurer responses are more unpredictable. This creates a need to continuously check on pricing, flexibility and identify innovative solutions.

D1d The insurance market cycle in Ireland

Historically, business in Ireland has demonstrated the classical insurance market cycle. Results were poor in the early years of the 1990s and struggled to improve towards the end of that decade. Prices and profitability then grew rapidly to a peak in the mid-2000s before falling again, leading to years of underwriting losses. As we saw in Section B2, there was a short-lived improvement in 2011 but the market returned to underwriting losses in 2012 and 2013.

Personal Injuries Guidelines

guideline principles governing the assessment and award of damages for personal injuries with a view to achieving greater consistency in awards

One of the factors contributing to increased claims costs for insurers was the introduction of the Recovery of Benefits and Assistance Scheme (RBA) in August 2014. This scheme recovers the value of certain illness-related social welfare payments from personal injury compensation awards from the compensator (i.e. the insurer, not the injured party).[29]

Conversely there have been factors which have reduced costs for insurers. For example, the introduction of the Court of Appeal for personal injury awards, where insurers can fast track appeals against excessive awards. One such case saw a claim for €10 million reduced to €250,000.[30] It is hoped that the **Judicial Council Act 2019** (including the **Personal Injuries Guidelines**) will also reduce claims costs.

[28] Adapted from LHK insurance: *Professional Indemnity Insurance – Hard Market Continues*, pdf, © LHK insurance, 2020, www.LHKinsurance.ie

[29] The Law Society of Ireland 'State recovery of benefits in PI claims', online article, www.lawsociety.ie, 16 July 2014.

[30] The Irish Times, 'Record €10 million libel award against Kenmare Resources cut to €250,000', *The Irish Times*, February 2019.

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The market then moved to the next phase of the insurance cycle. While it showed upward movement in prices for motor insurance and liability business, there was a broadening of acceptance criteria and insurers took on new business in many sectors. In time this should have provided a much-needed improvement in underwriting performance. For example, results in 2018 and 2019 saw a number of insurers return to profitability. Different products are at different stages in the cycle and the Irish market was thought to have been at the start of a softening market.

However, the impact of the Covid-19 pandemic is likely to have a varying effect on different lines of insurance business. For example, motor claims in 2020 were significantly reduced to the extent that some insurers offered pro-rata premium refunds to customers. Health insurance claims were also reduced as elective treatments and non-essential consultations were postponed during the pandemic. Conversely, as a result of the High Court ruling against FBD, business interruption claims are expected to increase in the short-term. There will be long-term ripple effects of the pandemic across many lines of insurance business which could fundamentally change the underlying dynamics of the insurance market.

Quick question 3

State the characteristics of a hard insurance market.

D2 Factors influencing the cycle

Many insurers compete in the insurance market. Collectively and individually, they participate in all aspects of the underwriting cycle, which then becomes the insurance market cycle as they react to its dynamics and changes. This cycle is influenced by both domestic and global factors.

D2a Domestic factors

A country's economic cycle affects its insurance cycle in a number of ways. Inflation tends to be a feature of a booming economy. Its effects can be seen in a number of different ways, including:

- Rising property values, meaning that sums insured may need to be increased
- Demand for more housing increases the need for buildings and contents insurance and the need for liability insurances for the building industry and its professional advisers
- Retail and service sector growth contribute to the emergence of new business and the expansion of existing businesses.

These economic and insurance trends were clearly seen in Ireland during the years of the so-called 'Celtic Tiger'.

On the other hand, recessionary conditions create a vicious cycle of companies going out of business and the contraction of surviving businesses.

Just as most countries were exiting the Covid-19 pandemic, the world economy was shaken by the war in Ukraine. We are now seeing levels of inflation we thought were consigned to history as well as an emerging energy crisis. The world economy looks like it may enter into a deep recession and the Irish economy is likely to contract in the short term.

Recession affects four key areas of an insurer's performance:

- Premium income
- Underwriting quality (of risks it insures)
- Claim levels
- Investment income.

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Rapidly rising inflation also has an impact in terms of increased claims costs, particularly in terms of increased buildings cost. It is also having an effect in terms of insureds having to review upwards their sums insured in respect of property insurance, which usually results in an increase in premium.

We will now briefly examine the impact of recession on each of these areas.

D2a1 Premium income

During a recession, an insurer's premium income can be affected in a number of ways. Examples include:

- Policies may be cancelled because a commercial policyholder has gone out of business
- A reduction in a policyholder's business activities may mean lower premiums for some policies (because of lower turnover and wages)
- Fewer cars and vans on the road, therefore fewer motor policies
- A reduction in new construction and infrastructure projects by governments and industry, with a corresponding reduction in insurance opportunities
- Pressurised individuals may not renew some types of insurance policies, such as private health, travel or legal expenses
- Businesses may seek reduced cover or other methods of reducing their premiums.

As the economy improves, insurance buyers are in a better position to afford premiums and seek improved cover. Premium income will increase as the economy improves.

D2a2 Underwriting quality

The quality of the insurance business underwritten may deteriorate during times of recession. For example:

- A property owner's policy consisting of private dwelling or commercial properties may become increasingly unbalanced with unoccupied properties. Combined with the loss of premium income, vacant properties are at greater risk of malicious damage and **arson**.
- A company with a tightening budget may postpone or cancel important repairs and maintenance to its premises, machinery or vehicle maintenance. An insurer may then find it difficult to get an insured to implement risk improvements because of the cost involved.
- Spending on employee training and health and safety may be reduced or eliminated.
- A manufacturer's quality control procedures may reduce or it may source cheaper but inferior raw materials. It may also outsource some of its production to territories where product quality may be uncertain.
- There may be a potential for increased **moral hazard**, for example, where the insured intentionally under-declares their property sums insured or motor fleet vehicle numbers.

As noted earlier, if Ireland and the world economy return to a recession, these issues will again become of concern to underwriters.

arson

the criminal act of deliberately setting fire to property

moral hazard

influencing factors concerned with the attitude and conduct of people (in insurance, usually the person insured)

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D2a3 Increased claim levels

During a recession, claim levels may increase for a number of reasons, including the following:

- Individuals and businesses may be more likely to claim for smaller losses that they might previously have funded themselves.
- As outlined in Section D2a2, the deteriorating quality of risks (such as an increase in vacant or poorly maintained properties) may lead to an increased frequency and severity of losses.
- Increased crime levels typically result in increased numbers of theft, arson, malicious damage and similar incidents.
- Levels of fraudulent or exaggerated claims (see Chapter 2G) tend to spike during a recession, with some individuals and businesses resorting to fraud to boost their income.

In times of recession, policyholders tend to be more aware of the covers they hold and, for this reason, claims frequencies can increase. Conversely, as the economy improves, the overall frequency of claims can decrease.

D2a4 Investment income

In Section B2b, we saw that insurers often use investment income to offset their underwriting losses. Healthy investment returns provide greater flexibility in planning future underwriting strategy, especially in the areas of competitive pricing and underwriting quality. However, during a recession an insurer is likely to see reducing premiums and increasing claims, leading to significantly lower profits or underwriting losses.

Investment income for insurers is cyclical and during recession times, the investment returns across bonds, property and stocks will generally underperform. The market has also seen a long period of historically low interest and bond rates after the global economy exited recession, which reduced insurers' returns on investment income. It is impossible for insurers to predict what future investment returns will be with any accuracy, so it requires constant monitoring.

With these investment returns being stagnant over such a long period, there has been some minor shift by insurers towards slightly riskier investments. Investments and assets need to be matched against claims reserves, so large amounts of investments have to be held in short term liquid investments (e.g. cash and short-term bonds), where returns are in some cases negative. This environment moves insurers' focus to producing an underwriting profit, as losses cannot be offset against healthy investment returns. We have seen this return to underwriting profitability in the Irish market in recent years. In addition, insurers are acutely aware of expectations from society and their shareholders in terms of investments and there has been a focus shift to Environmental Social Governance (ESG) investments.

D2b Global factors

Global factors can also affect the Irish insurance market. We will now briefly consider some issues that could increase the likely frequency and cost of claims, or influence the availability or terms of insurance cover. There are many others aside from those mentioned here. Other examples could include supply chain issues, inflation, the impact of trade sanctions, Brexit or many more.

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D2b1 Climate change

The increase in world temperatures and changes to weather patterns will potentially increase the cost and frequency of storms, flooding, hurricanes, drought and diseases. This will lead insurers to re-evaluate their exposures in some parts of the world possibly resulting in some areas being deemed uninsurable for certain perils.

D2b2 Natural disasters

Earthquakes and other natural disasters significantly affect their local insurance cycle. The global nature of insurance and reinsurance business means that such major natural disasters also affect the insurance cycle in other territories.

earthquake

the result of a sudden release of energy in the earth's crust that creates seismic waves, measured on the Richter scale from 1 to 10

An **earthquake** occurs when there is a sudden release of energy in the earth's crust, causing the shaking and sometimes fracturing of the ground surface. When the source of a large earthquake is offshore, a tidal wave (or tsunami) can occur, with catastrophic results. The Thoku earthquake in Japan in March 2011 was the largest ever recorded. Along with the initial onshore damage and casualties, it caused huge tsunami waves, which swept up to six miles (9.6 km) inland. Added to the loss of life and destruction of property, it interfered with nuclear reactors, causing the evacuation of many thousands of residents.

The effects from the interruption to Japanese industry were felt worldwide involving, for example, the temporary suspension of motor vehicle manufacture and non-availability of replacement parts, with an impact on insurance claims services.

The eruption of a volcano in Iceland in April 2010 caused unprecedented, prolonged disruption to international air travel because of a spreading of volcanic ash cloud over much of Europe, including Ireland. This disruption was due to the risk that the tiny particles of rock, glass and sand in the cloud could cause a seizure of aircraft engines. The closure of airspace incurred significant costs for both airlines and passengers. This led to claims by individual policyholders for travel delays, flight cancellations and ancillary costs. In the UK alone, travel insurers incurred estimated losses of around £70 million. The substantial increase in air travel in the last decade exacerbated the impact of this incident.

Following this, some insurers began offering cover for cancellation, delay and abandonment due to volcanic ash disruption. The spread of volcanic ash from this and other sources is a potentially recurring event, as shown by another Icelandic eruption in May 2011.

D2b3 Pandemics

A pandemic describes an illness, disease or medical problem spread over a very wide area, crossing international boundaries and affecting many people across the world. An avian flu virus first occurred in humans in 1997 and was spread by migrating birds, claiming at least 200 human lives worldwide to date. Avian flu caused a major health scare in Ireland in 2006 to 2007 as international cases spiralled.

A new influenza strain emerged in Mexico and the United States in April 2009 and by mid-year had spread to 74 countries. Since being declared the first flu pandemic in 41 years, the virus (H1N1) has now been reported in over 170 countries and territories worldwide. Businesses now have to consider pandemics within their wider continuity planning and insurers have to consider the implications for the underwriting of such risks. In general insurance there are issues for travel, business interruption and livestock insurers, as it is extremely difficult to quantify potential future losses.

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Another epidemic to capture global attention was the Zika virus outbreak, a mosquito-borne virus related to dengue that was detected in more than 50 countries in 2016. The Zika virus caused severe birth defects. Brazil was the country most affected and this captured global attention when it hosted the Olympic Games in 2016. Fears regarding the virus led to the withdrawal of some participants.

The Covid-19 pandemic has impacted on individuals, society, businesses and the wider global economy. With regards the insurance industry, issues across all classes of insurance have been seen. In particular in business interruption insurance where there has been a number of high-profile cases taken by insureds against insurers when claims were initially refused. These cases came down to the interpretation of policy wordings. Wordings will be reviewed, and cover will likely become more restrictive or unavailable in respect of future pandemics.[31] The pandemic and subsequent lockdowns caused a drastic reduction in the volume of traffic (traffic volume in 2020 was down 70% compared to 2019) and a subsequent reduction in the frequency of motor claims. This led to a number of insurers rebating a proportion of premiums to their customers.

The insurance industry responded quickly to the crisis, but the enormity and claims cost of the pandemic will have long lasting effects on the underwriting and risk management cycle.[32] In addition, reduced revenues, footfall and passenger numbers etc. made rating risks more difficult. This continues to be problematic as many operations return to pre-pandemic levels.

These examples again illustrate the importance for insurers of monitoring such emerging risks and reaching strategic decisions on the provision of cover.

D2b4 Global conflict

Global conflicts can have significant and far-reaching effects on the economy and on the insurance business. The conflicts in the Middle East over the years and more recently the war in the Ukraine have affected the price and availability of oil, causing a variable impact on industry. At the time of writing, the protracted conflict in Ukraine continues with inflation at levels not seen since the 1980s and an escalating energy crisis.

Rapidly increasing inflation is also having an impact on higher claim expenses, especially in terms of increased building costs. In addition, insureds are having to increase their sums insured in respect of property insurance.

D2b5 Terrorism

Securing cover for terrorism in Ireland not only depends on local experiences and issues, it is also driven by international events and by the reaction of insurers and reinsurers. The aftermath of the terrorist attack on the World Trade Center in New York in September 2001 (known as the 9/11 terrorist attacks) led to reinsurers making the cost of terrorism cover prohibitive and, in many cases, simply not available. However, reinsurers have recently released the first catastrophe bond to cover the cost of terrorist attacks (see Chapter 7G1). This shows that the insurance market cycle may be both local and international.

[31] A&L Goodbody, 2022. '*Irish Commercial Court makes further ruling on COVID-19 business interruption insurance claims*', www.algoodbody.com

[32] Brennan, J., 2021. '*RSA Ireland sees Covid business interruption claims running to €46m*', www.irishtimes.com

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E Summary

In this chapter, we saw that underwriters must understand the features of the market in which they operate. We identified the key features of the insurance market, including its cyclical nature and the main influencing factors.

We also looked at the legal and regulatory requirements affecting the underwriting function and the role of the Central Bank in regulation and supervision. Underwriters must monitor such developments to ensure that underwriting always complies with regulatory requirements.

E1 What's next?

In the next chapter we will focus on the main influences on underwriting strategy.

E2 Study tips

It's important to remember that this textbook is the primary information source for this module. All the questions in your exam will relate directly to information featured in this textbook. Use the 'End of chapter questions', 'Quick questions' and 'Sample exam questions' to quickly test what you've learned so far. Make a note of any topics/areas you need to improve in and keep it to hand so you can refer to it when you revise this chapter again before your exam.

In addition to the textbook, your Member Area has many online study supports that can help you as you study this module.

E3 Online learning supports

Your Member Area includes a learning plan, an automated study planner, an exam countdown timer and study tips guide. These study supports are invaluable in reinforcing what you have learned so far. The webinars, chapter-by-chapter key points and other supports will help you to break down the chapter's content when revising.

Remember: This module is examined by mixed assessment, which includes:

- An online mid-semester MCQ assessment (20 questions)
- An end-of-semester written exam paper (9 questions)

Given that your online mid-semester assessment is a multiple-choice question test, completing the online practice paper is the ideal preparation for this. You can prepare for the end of semester written exam and test your knowledge by completing sample and past written exam papers.

To access these online learning supports, just log into your Member Area on **www.iii.ie** and click on the **Connect** logo.

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End of chapter questions

Use these questions to test your understanding of what we've covered in Chapter 1. It should be noted that these end of chapter questions are revision questions to test your understanding of the material in the chapter just studied. They are not sample exam questions.

1. A feature of today's insurance market is that fewer insurers operate networks of physical offices. State a possible reason for the decline in this particular method of distribution.

2. Insurance products are sold through a number of different distribution channels. Briefly explain how the choice of distribution channel is often influenced by the type of product in question.

3. A non-life insurer's underwriting result is the principal measure of how well the business has performed. State how insurers calculate their underwriting results.

4. Insurers writing domestic business in the Irish market must also be aware of the taxes and levies that apply to insurance premiums. List the main levies and taxes that should be considered in the pricing process (you do not need to explain each one).

5. Briefly explain the purpose of the Insurance Compensation Fund (ICF) levy on insurance premiums and state the amount of this levy.

6. Briefly explain the significance of the European Court of Justice's ruling in the 'Test Achats' case.

7. Outline how the impact of the Covid-19 pandemic differs depending on the line of insurance business in question.

8. List the main characteristics of a 'soft' insurance market.

9. Outline why an intermediary might have more difficulty placing risks with insurers during a hard market.

10. State four key areas of an insurer's performance that are affected by a recession.

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Answers to end of chapter questions

Check your answers against those below and make a note of any points you left out. This will highlight the sections you may need to look at more closely during your revision.

1. Advances in internet and call-centre technology offer cost effective distribution solutions that have contributed to the decline of this method of distribution.

2. The choice of distribution channel is closely related to the insurance product, with about 50% of personal lines business transacted directly with insurers. On the other hand, about 90% of commercial insurance policies are still placed via an intermediary channel. Personal lines products are relatively simple due to them being fairly standardised and there not being much differentiation (other than price). This relative simplicity facilitates the use of direct channels. In contrast, customers seeking the more complicated commercial products are more likely to require the advice and expertise of intermediaries.

3. An insurer's underwriting result measures the amount of profit or loss generated by an insurer after the cost of incurred claims, management expenses, commissions and other costs are deducted from its earned premium income.

4. The main levies and taxes in the Irish insurance market are:
   - Motor Insurers' Bureau of Ireland (MIBI)
   - Insurance Compensation Fund (ICF)
   - Non-Life Insurance levy
   - Stamp duty
   - Financial Services and Pensions Ombudsman (FSPO) Levy
   - Motor Insurance levy
   - Central Bank Industry Funding.

5. The Insurance Compensation Fund ensures that if an insurer becomes insolvent, consumers receive compensation. As a result of the failure of various insurers (e.g. PMPA in 1983, ICI in 1985 and Quinn Insurance in 2010), a levy of 2% applies to include all non-life policies written by Irish-authorised insurers.

6. The European Court of Justice ruled that, 'taking the gender of the insured individual into account as a risk factor in insurance contracts constitutes discrimination'. The requirement for gender-neutral insurance premiums and benefits became effective from 21 December 2012.

7. The Covid-19 pandemic has had a varying effect on different lines of insurance business. For example, motor claims were significantly reduced with some insurers offering pro-rata premium refunds to customers. Health insurance claims were also reduced as elective treatments and non-essential consultations were postponed. Conversely, as a result of the High Court ruling against FBD, business interruption claims are expected to increase in the short-term.

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8. A soft market is characterised by:
   - Increased capacity and customer choice
   - Flexibility on terms and wordings
   - Lower prices
   - Greater competition between insurers
   - Worsening insurer results.

9. For intermediaries, hard markets create more difficulty in placing risks with insurers, as there is less flexibility on pricing and policy cover. Stricter risk acceptance criteria may make some 'less desirable' risks very difficult to place in a hard market.

10. Recession affects four key areas of an insurer's performance:
    - Premium income
    - Underwriting quality (of risks it insures)
    - Claim levels
    - Investment income.

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Answers to quick questions

1. A sharp decline in underwriting results and an increase in claims could be considered contributing factors.

2. ORSA identifies, assesses, monitors, manages and reports the short and long-term risks that an insurer faces and determines the level of funds that are required to ensure that its overall solvency needs are met at all times. This helps insurers assess their own risks and makes sure that they have the resources to protect policyholders and pay claims.

3. A hard market is characterised by some or all of the following:
   - Lack of insurer capacity
   - More stringent underwriting criteria resulting in inflexibility of insurers on terms or wordings
   - High premiums
   - Less competition
   - Improving insurer results.

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Sample exam questions

Question 1

Discuss how insurers' use of distribution channels has evolved and is influenced by the type of products being sold by the insurer.

Total: 10 Marks

Question 2

The insurance market is considered cyclical in nature. Explain the operation of the underwriting cycle.

Total: 10 Marks

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Your answers

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Sample answers

The answers set out below show the main points you must consider in answering the question. In some cases a well-reasoned alternative view could earn good marks.

Question 1

Insurance products are sold through a variety of distribution channels in Ireland. These include:

- direct contact between insurers and their customers, e.g. face-to-face, by phone or via the internet
- through intermediaries which can include insurance brokers, affinity groups (such as retailers or trade unions), banks and building societies or travel agents.

Many insurers have adopted the direct model (i.e. no intermediary) to distribute their products to potential customers. However, both insurers and intermediaries often operate a multi-channel and multi-method distribution strategy, selling their products via traditional intermediaries, through branded agents (such as An Post Insurance); via the internet or through their own call centres. Some insurers still operate networks of physical offices for direct sales, although advances in internet and call-centre technology offer cost effective distribution solutions that have contributed to the decline of this method of distribution.

Distribution channel options are closely related to insurance product types. Approximately 50% of personal lines business, such as private motor and household, is transacted directly with insurers, and 90% of commercial insurance policies are still placed through intermediaries. The relative simplicity of personal lines products facilitates the use of direct channels. In contrast, customers seeking the more complicated commercial products are more likely to require the advice and expertise of intermediaries.

Reference Chapter 1B1 **Total: 10 Marks**

Question 2

Operation of the cycle

Despite repeating cycles, insurers and underwriters are never sure where their business is in the cycle at any particular time. This only becomes apparent after the event, once the cycle has turned.

Cycle durations vary and can be lengthened or shortened by several factors affecting the cost of claims, operating costs and investment returns. The market has many competing insurers, each with their own strategies and investment plans. Some suffer short-term loss for anticipated long-term gain and this can destabilise premium levels and, ultimately, profitability. Note that different lines of business may also be at different stages in the cycle.

Soft market

When insurers experience higher profits in a market sector or class of business, they are likely to increase investment in that class to acquire more of the profitable business. New insurers will also want to enter the market. Market capacity and competition increases, causing premiums to fall and create what is known as a ‘soft market’.

In such a market, insurers are also likely to relax their underwriting criteria and offer wider policy covers. This leads to reduced premium income, an increase in exposures, reduced profits and a corresponding drop in investment income.

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A soft market is therefore characterised by some or all of the following:

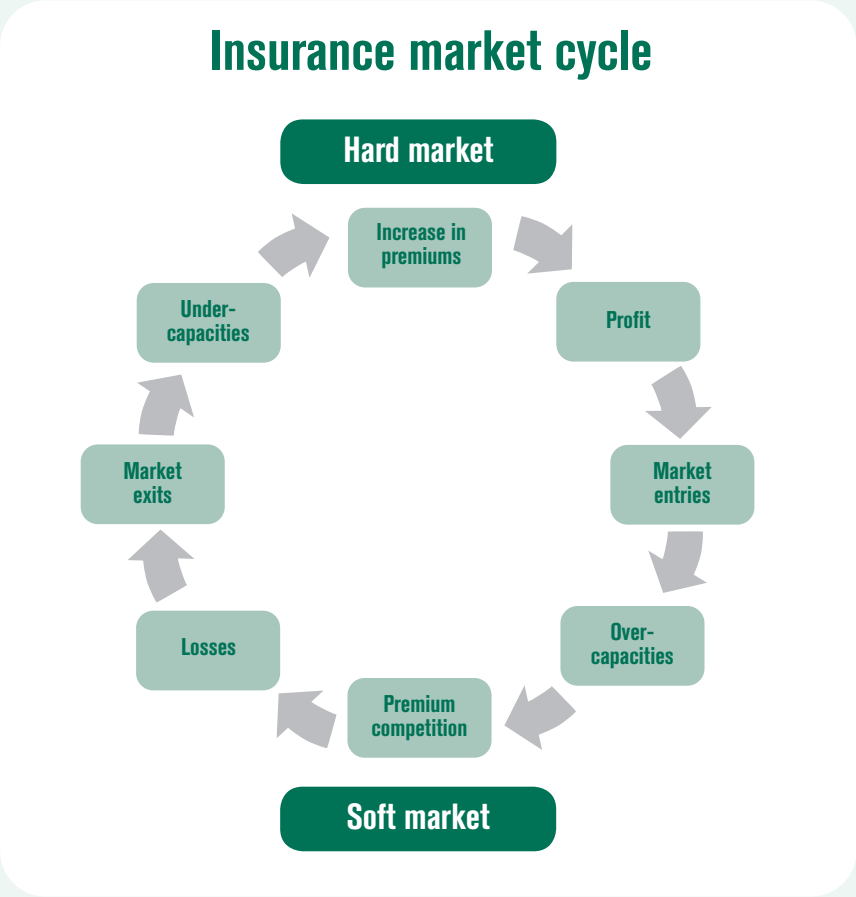
- Plenty of capacity and customer choice
- Flexibility on terms and wordings
- Lower prices
- Greater competition between insurers
- Worsening insurer results.

Hard market

The worsening results experienced in the later stages of a soft market will eventually mean that some insurers fail, or decide to exit particular markets. This causes premiums to rise as the supply of insurance reduces in relation to the demand for cover. Insurers will then adopt a tougher attitude to risk acceptance, will harden and seek to impose stricter policy conditions and other terms that reduce their potential exposures.

This is known as a 'hard market', which leads to higher profits for insurers and the cycle begins again. A hard market is characterised by some or all of the following:

- Lack of insurer capacity
- More stringent underwriting criteria resulting in inflexibility of insurers on terms or wordings
- High premiums
- Less competition
- Improving insurer results.



Reference Chapter 1D **Total: 10 Marks**

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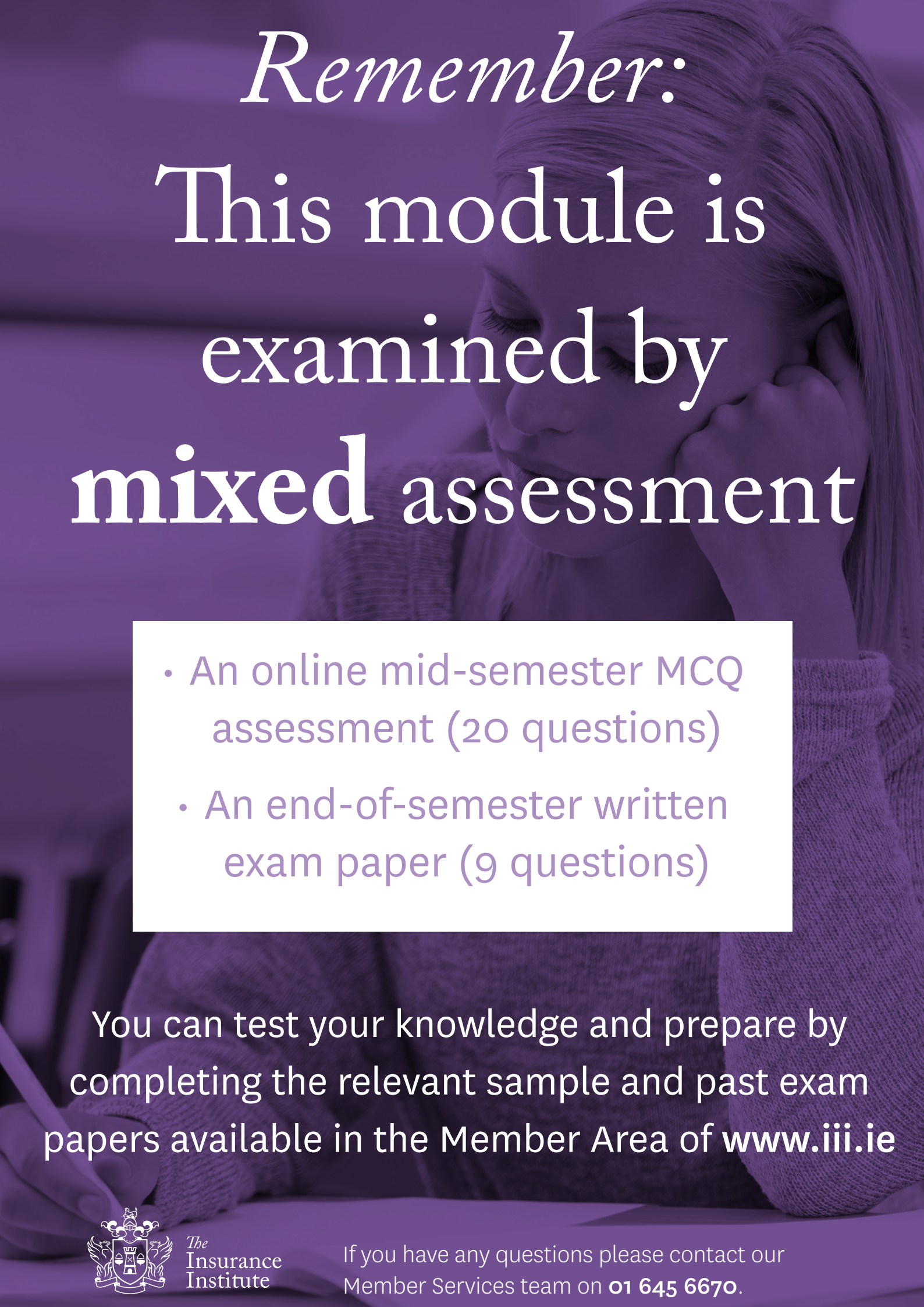

Remember:

This module is examined by **mixed** assessment

- An online mid-semester MCQ assessment (20 questions)
- An end-of-semester written exam paper (9 questions)

You can test your knowledge and prepare by completing the relevant sample and past exam papers available in the Member Area of **www.iii.ie**

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If you have any questions please contact our Member Services team on **01 645 6670**.

Chapter

2

From corporate strategy to underwriting strategy

What to expect in this chapter

In Chapter 1 we examined the Irish insurance market and the environment in which insurers and underwriters operate. This background influences the decisions that insurers make about the products they sell, how they deliver these products to customers and the level of profit they aim to achieve.

These decisions about an insurer's objectives and the strategies to achieve them are made at a very high level, typically by the board of directors. In this chapter, we will look at this process and at how the high-level decisions affect what happens at all other levels in an insurance company.

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Contents

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A Corporate strategy and underwriting strategy

This section demonstrates how an insurer's corporate and underwriting strategies are inextricably linked, focusing on the common objectives that are key to the success of a company.

Figure 2.1 Insurers' corporate and underwriting strategy

A1 Corporate strategy

All organisations will have a **corporate strategy**, outlining how the various business units and departments will work together to achieve specific goals. These goals are the organisation's **corporate objectives**. They are high-level statements of intent, expressed in very simple terms, such as 'to be the market leader in a particular sector within five years'. Another example might be 'to maximise sustainable profit, while retaining a good reputation and meeting the reasonable expectations of shareholders, policyholders and staff'.

Once the corporate objectives are agreed, the next step is to define what they mean. For example, a firm's objective to become a 'market leader' may be in terms of market share or profitability or a combination of both. A high-level corporate plan (strategy) is then developed, setting out the elements that will achieve this objective.

In all industries, a good corporate plan is based on knowing:

- Where an organisation is today
- Where an organisation wants to be
- How an organisation will get there

Like corporate objectives, corporate strategy tends towards high-level statements of intent rather than detailed information. It may include some specific objectives, such as the classes of business the company wishes to write, or its growth or distribution strategies.

corporate strategy

agreed direction that a company takes across its various business operations in order to achieve its overall business goals

corporate objectives

clearly defined and articulated statements of intent that serve to influence a company's internal strategic decisions

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A2 Underwriting strategy

An insurer's corporate objectives can only be achieved through successful underwriting. The high-level corporate objectives and strategy must be distilled into an underwriting strategy. The underwriting strategy states how the corporate objective will be achieved through underwriting.

When creating an underwriting strategy, an insurer identifies outcomes and actions needed to achieve corporate objectives.

For example:

- If the corporate objective is to become a market leader in a particular area, the underwriting strategy will focus on growing customer numbers and increasing market share (see Section C).
- If the corporate strategy is to reduce the insurer's **loss ratio** or improve its profitability (e.g. if the insurer pays €60 in claims for every €100 in collected premiums, then its loss ratio is 60%, and the remaining 40% is for paying overheads and making a profit), then the underwriting strategy is likely to include increasing premium levels or exiting from certain areas of the market with high claims levels.

Depending on the insurer's corporate objective and strategy, the underwriting strategy may include other elements, such as:

- Increasing **cross-selling** to existing customers.
- Imposing minimum premiums to improve **expense ratio**.
- Exiting or entering non-standard markets; for example, premiums for thatched buildings are far higher and offer greater returns if profitable, but higher risks could produce large underwriting losses.
- Developing or reducing the use of particular distribution channels (see Section E).

These are high-level decisions normally made by senior underwriting management, working alongside other senior officials. The resultant underwriting strategy may be a relatively brief, high level document. However, the underwriting strategy will be communicated to all underwriters through the more detailed underwriting policy (see Section A2a).

The strategy will project expected results over three, five or six years. Senior underwriting management will meet regularly to review corporate objectives. If necessary, they will amend the existing underwriting strategy to ensure it is capable of producing the required results.

loss ratio

indicator as to how the account was assessed and rated in the past and whether or not it is in profit, calculated by dividing the incurred claims by the earned premium and multiplying by 100 as it is usually expressed as a percentage

cross-selling

the process of selling an additional product or service to an existing customer

expense ratio

indicator as to the insurer's efficiency before factoring in claims on its policies and investment gains or losses. It is the amount of an insurer's expenses expressed as a percentage of their premium income, calculated by dividing the amount of expenditure by the amount of premiums

Quick question 1

Provide an example of a corporate objective for an insurance company.

The answer is at the end of this chapter.

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A2a Underwriting policy

We have seen that underwriting strategy flows from an insurer's corporate objectives and strategy. The underwriting strategy is a specific plan to achieve organisational goals and objectives, such as an increase in an insurer's market share or a reduction of its loss ratio through effective underwriting decisions and actions.

Having agreed the underwriting strategy, the insurer prepares a more detailed underwriting policy. This sets out specific rules and ways to implement the strategy. The underwriting policy is more widely circulated than the underwriting strategy, as all underwriting professionals need to fully understand and follow its requirements. So if an underwriting strategy states that premium income will rise in the coming year, the underwriting policy will likely contain specific details of, for example, revised minimum premium levels, minimum rates for particular types of property and the types of business the insurer considers most profitable. It may also state the types of business the insurer no longer wishes to write.

The underwriting policy is also likely to refer to the company's different levels of underwriting authority and the referral procedures when dealing with non-standard risks or requests. The underwriting policy is therefore the set of procedures that allow underwriters to make the rational decisions necessary to implement the underwriting strategy. Underwriting policy is subordinate to underwriting strategy and is more rigid.

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B Capital

All businesses need money to function and trade. For business, this money is referred to as '**capital**'. When a business is being established, capital may come from different sources, including the owner's own funds, loans from financial institutions or friends, or money raised by selling shares in the company. Some capital may be set aside and retained as a buffer against poor trading conditions and for regulatory solvency capital requirements. The remainder, referred to as working capital, will be used for running costs, such as purchasing equipment and raw materials or paying employees.

capital

financial wealth necessary to start or maintain a business, normally provided by investors who may be private individuals or corporate bodies

Microlearning resources

In the Member Area of www.iii.ie, via the Connect logo and in Your Learning Centre, select the microlearning section of this chapter to access a resource specifically developed to help you better understand this topic.

In an insurance context, an insurer starting out will require capital from investors in order to:

1. Fund its set-up costs before it starts to trade, including costs for premises, IT systems, and specialist staff
2. Cover the costs of trading for the first few years before a profit can be generated
3. Provide the level of capital required by the Central Bank to guarantee the insurer's solvency and ensure that it will have sufficient money to pay its policyholders' claims (see Chapter 1C1a1).

Investors will expect to see a minimum return on their capital investment, i.e. **return on capital employed (ROCE)**, and an insurer's underwriting objective and plans will provide for meeting that requirement.

return on capital employed (ROCE)

a profitability ratio that measures how efficiently a company can generate profits from its capital employed by comparing net operating profit to capital employed. It is expressed as a percentage

Just think

Among the main classes of personal lines insurance and commercial lines insurance, which lines of business do you think are likely to be the most capital intensive?

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B1 The relationship between capital and underwriting

The underwriter is principally concerned with the terms of acceptance and pricing of risks. The main aim is normally to ensure that the business will make a profit. This means that pricing decisions (see Chapter 3) must take into account the likely frequency and severity of claims and ensure that adequate capital resources are set aside, remembering the nature of the business. This is also a key requirement of the **Solvency II Directive**.

As we saw in Chapter 1C1a1, insurers must assess the capital requirements for the different classes of business underwritten. This is a regulatory requirement, and key to how the company conducts its business. In general terms, the riskier the business, the greater the need for capital. For example, an underwriter concerned with liability business that generally has a **long-tail** (see Chapter 3B4c), will know that individual claims have a less certain outcome both in value and time taken to settle, compared to property claims which are generally **short-tail** for example, where building repair costs are typically more predictable and straightforward. Additionally, a small but significant minority of liability claims can be particularly expensive compared to average. This is usually referred to as **volatility**. Therefore, allocation of capital depends on the policy type and projected losses.

B2 Managing capital

The way in which an insurer manages and protects its capital is vital to its long-term success and profitability. Each insurer must have capital resources appropriate to its size and classes of business.

An insurer must have a clear understanding of the following issues:

- How much capital it has at any point in time
- How much capital it needs to support its targeted volumes and types of business
- What return on capital is required by shareholders
- How much capital it needs to meet both current and future regulatory capital requirements
- What it will do in the event of having:
  - too much capital for its planned business volumes
  - too little capital for its plans.

An insurer may be viewed as having 'too little capital' if it is unable to take advantage of all its business opportunities. For example, it might not be able to write the volume of business that is available or it may have to buy more reinsurance to maintain its capacity to underwrite the level of risk that customers and intermediaries expect. This can cause difficulties in maintaining credibility with intermediaries and more seriously, problems in meeting the regulatory capital requirements.

An insurer might be viewed as having 'too much capital' if it has no clear plan to use it for development or growth. This may be because the opportunities for development or growth are limited, with existing markets already saturated because of excess capacity and further growth may simply bring business that carries too high a risk to sustain a viable return. An insurer with too much capital will also deliver lower than expected returns to shareholders because shareholders expect the capital they have provided through their share purchase will be maximised, but this will not happen if the insurer has excess capital that is not being used productively.

long-tail business

classes of insurance where claims are complex and have long settlement periods with specific losses not known for a long time

short-tail business

classes of insurance where losses are usually known and paid shortly after the loss actually occurs

volatility

a measure of the difference between an expected result (the average cost of claims) and its standard deviation (variations from the average)

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A firm with surplus capital has a number of options. It could:

- Purchase a new subsidiary company or embark on an expansion scheme through launching new products or entering alternative sectors of the insurance or other markets
- Invest in new technologies to increase efficiencies
- Expand the workforce or invest in staff training to drive business growth
- Invest in acquiring or building new premises, which would be a tangible asset
- Return the capital to shareholders in the form of dividend payments
- Do nothing with it.

All options are assessed and the expected ROCE projected from each. The potential gains and losses are finely balanced and, if borrowed capital is involved, the interest payable to the lender or the required ROCE to shareholders must be factored in.

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C The balance between growth and profit

A key objective of any firm is to deliver **profit** for the firm and its shareholders. Without the return on capital provided by profits, there would be significant reductions in capital investment and existing shareholders would withdraw their capital to seek better returns on their investments elsewhere. In the case of an insurer, a withdrawal of capital is likely to mean that it can no longer exist.

profit

the difference between the total income (revenue) of the business and the total running costs (operating expenses) associated with the continued operation of the business

There is no guarantee that an underwriting profit will be achieved in every trading year. The underwriting strategy (see Section A2) will dictate the extent to which an insurer is seeking an underwriting profit in a particular period. It may, for example, be aiming to increase its market share for a certain product, or simply retain its existing business during a soft market (see Chapter 1D1a). An insurer might even plan for an underwriting loss, especially in the early years of a newly-established firm, when expenses are high compared to premium income.

An insurer with an underwriting loss can still be profitable if the investment income or returns on the premium and claims reserves are greater than the loss on underwriting. If not, the balance must come from capital reserves. When interest rates are high, the investment by insurers of their technical reserves and capital can generate very significant revenue. Ireland's interest rates, set by the European Central Bank (ECB), had been at historically record low levels (0% since June 2014) and this had greatly reduced investment income and placed even more pressure on underwriters to achieve underwriting profits. Rampant inflation forced the ECB into a number of rate increases in the second half of 2022 with more increases being signalled. It remains to be seen when the current period of rising interest rates will filter through to insurers' investment returns.

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C1 Profitable growth

A trading profit is not the only measure of success. Profitable growth is also important to control costs and retain investor support. There are small or privately-owned companies where the shareholders, having established a profitable operating model and a market niche, are content to maintain that status. Some smaller players consistently outperform the market average in their sector.

An insurer's growth is influenced by many things, some of which are outside its immediate control. As we saw in Chapter 1D, the insurance market is cyclical in nature, with market conditions moving between 'hard' and 'soft' phases. A soft market follows favourable trading conditions, featuring lower prices and higher levels of competition. In this market the established insurer may find itself faced with a predicament. The injection of new capital into the market, often as a result of fresh competition, will push down existing premium rates. This may reduce rates to the point where an established insurer might decide to concede market share rather than face an underwriting loss. This will significantly affect its plans for profitable growth.

Although corporate and underwriting strategies firmly emphasise profitable growth, sometimes compromises are unavoidable. In the short term it might be necessary to accept business at lower premiums, even if the result is an underwriting loss. This may seem illogical, as the business exists and operates to generate profits and provide an acceptable investment return to shareholders. But insurance markets operate in a cycle and an important part of the underwriter's role is trying to anticipate and interpret these continuing market changes. We will see more about this in Section D.

Insurers also consider their shareholders' expectations and requirements when making decisions about profit and growth. Some shareholders may have a longer-term goal of growth and may be willing to accept some limited short-term underwriting losses if the company ultimately reaches its growth targets and becomes profitable at that point. Other shareholders may not tolerate such an approach and their strategy may be that each class of business must deliver acceptable underwriting results even if that compromises the insurer's ability to achieve growth targets.

Achieving profitable growth is a very difficult balance. Example 2.1 outlines a possible growth strategy.

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Example 2.1

Following years of unprofitability in the Irish motor market, premiums have risen to a level that has seen the market return to profitability.[33] One insurer's underwriting department believes that after years of consolidating their motor portfolio and outperforming the market due to investment in underwriting sophistication and underwriting discipline in the soft market, there is an opportunity to grow the motor portfolio profitability. It intends to grow its motor portfolio by 20% over the next 18 months, through a strategy of rate increases across existing business and a targeted focus on new business within strict acceptance and pricing criteria. The strategy is not without risk, so some caution is needed, but being in a position of relative strength makes this a possible profitable growth strategy, especially with the assistance of a high degree of price sophistication.

Quick question 2

Identify three possible options available to an insurer with surplus capital.

[33] Brennan, Joe, 'Irish motor insurance returned to profit in 2017 after €757 million of losses', *The Irish Times*, March 2019.

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D Impact of the insurance market cycle on underwriting strategy

In Chapter 1D we learned that the insurance market typically moves between 'hard' and 'soft' phases, bringing different sets of challenges for underwriters.

Just think

Do you see the market currently as being 'hard' or 'soft' across main classes of insurance?

Insurers continually strive to adopt and refine strategies to shield their businesses from the full impact of the cycle. But they cannot be sure at any given time exactly where they are in the overall insurance cycle. It needs to be noted that different classes of insurance may be in different stages of the cycle at the same point in time, so identifying the actions necessary to manage the cycle can be very difficult. Knowing when the mid-cycle point has been reached is based on experience and judgement, but a number of established insurers have shown, by the consistency of their results, their ability to successfully manage the cycle.

At the top of the cycle, the so-called 'hard market', prudent insurers will build up profit reserves, knowing that their markets will inevitably decline. Careful preparation will provide funds for losses at the bottom of the cycle, thereby ensuring survival. Actuarial techniques are used to calculate future liabilities, drawing on past experience, the effects of inflation and trends in liability settlements.

Insurers also strive to limit the effects of cyclical influences on profitability and their capital requirements. This can be achieved by selective underwriting or by placing limits on risks (for example, through the use of **deductibles**, which require the insured to bear a portion of the risk). In a competitive market, insurers cannot always act freely because of pressure to maintain market share. We can see how this will affect an insurer's corporate and underwriting strategies. Although an insurer may aspire to large profits in a certain year, market factors could suggest this to be an unwise or unrealistic objective. In a soft market, the most important thing might be to simply maintain market share. This may mean broadening risk appetite to accept risks that the insurer may not have accepted in a harder market.

In a soft market, insurers also face rising expense ratios as, while some costs are **variable** (such as the handling cost of fewer transactions from fewer policies), fixed costs for items such as premises remain, regardless of the volume of business.

deductible/excess

first part of each and every loss that is the responsibility of the insured; these terms are interchangeable in some sectors of the market

variable

a measure that can assume any value within a given range of possible values

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D1 New entrants to the market

A new insurer will normally wish to enter the market during a hard phase, even though it knows that its strategy, and that of others seeking market share, will soon have the opposite effect. Unless an existing block of business has been acquired from another insurer, the new entrant could be starting from a zero premium income level. These new entrants may be looking to write business using new technologies (see Chapter 1B1) and this will challenge existing market players.

Underwriting losses are expected in the initial years until the expense ratio falls to a level that can support a positive underwriting result. Here a strong nerve is required. Acquisition and retention of business will not always go to plan and a new player will not have the benefit of an established database from which to draw statistics for rating and pricing. So it will be growing its own data over time and, initially, will be dependent on market intelligence and the existing market knowledge of its underwriting management.

New entrants to the market therefore face a number of challenges, even if they enter the market during a hard phase. These challenges will be addressed in the underwriting strategy and by ensuring that there is adequate capital to ensure survival in those first years.

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E Distribution channels

An insurer's marketing process involves making decisions on product, price, promotion and place (the latter two involving marketing). These are sometimes referred to as the **marketing mix**. The marketing or distribution of insurance is very much subject to the marketing mix, in that it has to be actively marketed to the potential customer by some mechanism. Here we will see the ways in which general insurance is marketed, the influence this has on the way it is underwritten and how it affects the underwriting process.

marketing mix

the combination of product, price, promotion and place for a business

Insurers have traditionally sold their products through a variety of channels to reach the largest possible market. General insurance was once transacted almost exclusively through insurance intermediaries or directly with insurers through their local offices. As we saw in Chapter 1B1, insurance products are now sold through a wider range of distribution channels. Advances in information and communication technologies, and the customer's growing ability to use new technologies, are key factors in the increased number of options available to the insurer.

We now consider the primary choice an insurer must make about selling its products: whether to sell (distribute) them directly to potential customers, or through an intermediary channel. It is common now for the major insurance groups to transact their personal lines business through a number of channels.

E1 The direct channel

package policy

single policy containing different types of cover, underwritten and rated on an inclusive basis

commoditisation

the process by which products become less differentiated and buyers care less about which company they buy from; price is the main deciding factor

In the past, many Irish insurers sold directly to the public through a network of local branch offices. In more recent times direct sales were conducted through telephone call centres, so many of these branch offices were closed. Telephone sales volumes are now reducing because of the growth of the internet as a purchasing tool.

The direct channel is very suitable for commoditised personal lines business, such as household, private motor and travel insurance. There is now also a trend towards offering small commercial **package policies** via the internet due to increasing product **commoditisation** in this market segment.

Recent years have seen an increased focus on moving customer interactions and journeys to digital channels. This trend is expected to continue in the aftermath of the Covid-19 pandemic as more customers are accustomed to transacting online. Increased availability of online policies also means greater transparency and comparability between insurance products.

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E2 The intermediary channel

Despite the popularity of the direct channel, much personal insurance is also transacted through intermediaries, where customers still value the services that intermediaries provide. In general, personal lines are transacted cheaply and easily through computer quotation systems offering instant quotations and cover from various insurers. The expertise required from the intermediary is at a more basic level than for more complex commercial risks.

Because of the diverse needs of businesses and the relative complexity of their requirements, commercial general insurance is transacted mainly through intermediaries employing staff with very specific areas of expertise. Contact with the insured is normally more regular and in-depth than for personal insurances. Such intermediaries may also provide services like risk management to their customers.

You will recall from the Compliance and Advice module that different types of intermediary provide different levels of advice to their customers. Some give advice on the basis of a **fair and personal analysis of the market**. Others, while not actually tied to a particular insurer, will advise on the basis of a more **limited analysis of the market**. **Tied insurance intermediaries** offer the most limited type of advice in the Irish market.

It is also important to remember that not all intermediaries have agencies with all insurers and therefore some intermediaries cannot access certain insurance markets. For this reason 'wholesale brokers' that can gain access to all markets/insurers on behalf of other intermediaries are used. Quotations for client risks can be sought and the commission is divided between the intermediary and the wholesale broker.

In some cases, intermediaries may have delegated authority to grant cover and handle claims on the insurer's behalf. We will consider delegated authority arrangements in Section F.

As noted in Chapter 1B1, the Irish insurance broker market has also undergone a period of unprecedented consolidation in the last decade.

Managing General Agents (MGAs) are specialised insurance agents or brokers that have been granted underwriting authority (sometimes referred to as **binding authority**) by an insurer. An MGA's functions can include binding cover, underwriting and pricing, settling claims and appointing brokers. They have become more prevalent in the Irish private motor and liability markets; particularly in sectors where risks have been hard to place locally due to market hardening and restricted appetites from insurers (e.g. the hospitality sector). MGAs may act as a wholesale broker for a number of insurers(s) to a network of appointed brokers by acting as the intermediary between the insurer(s) and the brokers.

As mentioned in Chapter 1B1, the advances in data analytics and the emergence of innovative products look set to alter the landscape of insurance product distribution and will be a huge challenge facing both insurers and intermediaries over the next decade.

fair and personal analysis of the market

an analysis of a sufficiently large number of insurance contracts available on the market to enable the intermediary to make a recommendation, in accordance with professional criteria, as to which insurance contract adequately meets the customer's needs.
Insurance Distribution Regulations 2018

limited analysis of the market

providing services on the basis of a limited number of contracts and product producers available on the market, i.e. while not tied to one product producer, the services are not provided on the basis of a fair analysis of the market
Consumer Protection Code (Definitions)

tied insurance intermediary

any intermediary who:

a. undertakes insurance or reinsurance distribution for and on behalf of one or more insurer/ reinsurer(s) or other intermediaries in the case of insurance products that are not in competition;

b. acts under the responsibility of those insurers/ reinsurers or other intermediaries, and

c. is subject to oversight of compliance with conditions for registration by the insurer/ reinsurer or other intermediary on whose behalf it is acting.

Insurance Distribution Regulations 2018

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E3 Choice of distribution channel

Choosing the right distribution channel(s) is an important strategic decision for an insurer. It is a key element in the business plan that sets out the underwriting strategy required to implement the insurer's corporate objectives (see Section A). For example, if an insurer wishes to increase its market share for commercial property insurance, it might decide that this is best achieved through alliances with brokers. Or, if it aims to grow its travel or small craft insurance business, it may feel that affinity groups offer the best way to grow.

managing general agents

an intermediary that has been given delegated underwriting authority by a risk carrier or insurer to accept risks on their behalf

binding authority

an agreement whereby an insurer delegates underwriting authority, within defined parameters, to another party known as the 'coverholder'

Regardless of business category, direct sales allow an insurer to be more discriminating in its risk selection and pricing. The insurer's quotation systems seek the information relevant to the product and identify unacceptable risks at any early stage. This is preferable to the more generic process for generating quotations through the broker software systems.

The channels used also affect the insurer's structure and organisation, because of the need to employ and ensure competence of its staff in its different divisions. Because of these differing demands, some insurers have created separate companies or operating divisions to cater for the individual characteristics of each sales channel. The training and competence needs for call-centre staff, who are given front-line responsibilities and deal directly with the customer are different from those handling complex commercial policies or dealing with submissions from brokers.

Distribution channels also affect pricing models (see Chapter 3). At first glance, transacting business directly with customers achieves an immediate saving in terms of commission or other intermediary **remuneration**. The direct insurer does, however, incur high business acquisition costs, through media advertising and the cost of handling customer enquiries that would otherwise be handled by an intermediary. Because of the need to minimise underwriter referral, the pricing model of the direct channel can be a more complex technical build. An effective system will also assist the direct insurer in fine-tuning the rating at very short notice to control volumes and guarantee the right risks are accepted.

remuneration

payments by insurers to insurance intermediaries for placing business, usually paid by way of commission

Pricing of risks underwritten through the intermediary channel must take account of commission and other remuneration payments. The intermediary's remuneration will vary according to the class of business and the extent of administration and delegated authority (see Section F). These costs are partly offset by reduced marketing and administration costs for the insurer. As we will see in Chapter 3, all of these potential expenses are considered when developing a basis for insurance premiums.

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F Delegated authority

Insurers may also decide in some circumstances to grant underwriting authority to intermediaries or MGAs. These arrangements, which vary in terms of scope and responsibility, are often referred to as **delegated authority** schemes.

delegated authority

authority granted to the agent of an insurer, usually in the context of a scheme arrangement, to issue policy documentation and possibly carry out limited underwriting and claims functions

A very basic example is where the insurer sets up a delegated authority with an intermediary. The intermediary is authorised to issue cover provided that new business or changes to existing policies fall within defined criteria. Some delegated authority schemes give a great deal of flexibility to the intermediary, within defined limits. This is most common where an insurer and intermediary agree a special scheme with policy wordings designed to fit a certain category of customer, e.g. haulage contractors, warehouse keepers and hoteliers. Other examples may be some larger personal lines intermediaries with the authority to bind motor and household business within pre-defined acceptance criteria and parameters for a number of insurers. Some of these may be MGAs (see Section E2).

The general trend is for more business to be placed through such schemes and some brokers have specialist divisions in place to manage such facilities. Intermediaries who specialise in serving the needs of certain customer groups will argue that not only is their selection and management of clients superior, but that their long experience enables them to underwrite these risks more effectively than the insurer. This is the basis for many delegated authority arrangements. An insurer wishing to target an unfamiliar group of customers, or a group to which it has difficulty gaining adequate access, may consider such an arrangement.

coverholder (agent)

brokers that act as agents for insurers, writing insurance contracts on their behalf and serving as their local representatives

Where an insurer or underwriter (the risk carrier) authorises another party to act on its behalf, the party to whom authority has been delegated is known as the '**coverholder**'. An agreement, called a 'binding authority', which sets out the scope and extent of the authority delegated to the coverholder, is set up between the parties. The level of authority is negotiated between the parties and varies from signing and issuing policy documentation, through to quoting and binding risks and sometimes it may even extend to handling and settling claims.

Transacting business in this manner can be beneficial to both parties. It enables the insurer or underwriter to:

- Gain access to business it might not usually handle
- Underwrite in a sector where it has little expertise of its own (by delegating authority to a specialist coverholder)
- Obtain business in parts of the world where it has no office
- Reap the benefit of local expertise and knowledge that it may not possess
- Expand its revenue stream without incurring the increased costs and risks of establishing branches or employing underwriters to obtain the business.

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Coverholders (e.g. intermediaries) benefit by:

- Incurring fewer costs in placing business
- Offering customers a quick turnaround on underwriting decisions and, in many cases, providing immediate cover
- Receiving enhanced levels of commission to reflect the additional work taken on
- Potentially participating in any profits from the risks written under the scheme.

F1 Operation of delegated authority

Insurers and underwriters ensure that the underwriting authority delegated is strictly delineated and properly enforced. The binding authority is carefully negotiated and specifically details:

- The period of the binding authority
- The risks that must be referred and risks that can and cannot be covered, e.g. classes of business, trades (or a list of excluded trades)
- Premium rates to be charged, including any minimum levels
- Limits, e.g. limits of indemnity and any minimum excesses to apply
- Cover that may be granted and the wording to be used
- The acceptable geographical limits.

An important aspect of the authority is the overall premium limit and the maximum limits of liability (in aggregate) that the coverholder can accept during any one year/month/quarter. This ensures that the ultimate capacity of the risk carrier is not breached.

Where claims settlement authority is delegated, clear parameters set out the extent of the authority to agree and settle claims. Terms within the binding authority also stipulate reporting requirements and how monies (i.e. premium and claims payments) flow between the parties.

Accurate and precise records must be kept to enable the delegating insurer/underwriter to monitor operation and performance. The relevant information is normally kept as a **bordereau**. While the detail of each bordereau depends on the terms of the delegated authority, it typically includes information on:

- The identity of the customer
- The risk location
- The sums insured and, in relation to a major portfolio, the potential maximum of any one loss
- A breakdown of income section by section, as well as details of individual premiums written
- Retention rates of the business transacted.

The risk carrier (insurer) will subject the coverholder to a high degree of scrutiny and will undertake regular audits of records and procedures. This ensures that the risks being written on its behalf fall within the agreed parameters of the authority and that the business is being well run and effectively managed.

bordereau

a report providing risk, premium or loss data, with respect to identified specific risks, which are normally underwritten under a delegated authority arrangement

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F1a Potential problems with delegated authorities

Transacting business in this manner has potential drawbacks for the insurer. These include:

- **Conflict of interest** – Where underwriting and acceptance authority has been granted to an intermediary, the scope of the authority provided must be clearly expressed to avoid any conflicts of interest. The insurer or underwriter must make sure that the intermediary has a clear separation of duties between business acquisition (where the intermediary is deemed to be acting as agent for the customer/insured) and the underwriting facility (where the intermediary is deemed to be the agent of the insurer).
- **Poor performance of the coverholder** – Where a coverholder is generating a poor level of cash flow or a high level of losses the insurer may either alter or withdraw the authority. This may take some time and cause the insurer's income, profitability and even reputation to be adversely affected in the short term.
- **Ambiguous terms** – Liability for risks written under delegated authority remains with the insurer or underwriter, as if they had written such risks themselves. If the terms of the authority are unclear, the coverholder could accept risks in breach of the terms of the authority. The coverholder could then incur liabilities by acting outside their delegated authority.
- **Risk selection** – While the insurer only wants to write profitable business, the intermediary is incentivised to write as much business as possible in order to maximise its commission. This can lead to the intermediary writing poor risks on behalf of the insurer, even if the risks are within the terms of the delegated authority.

Quick question 3

List three possible drawbacks for an insurer with a delegated authority arrangement.

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G Insurance fraud

Fraud is a serious, growing and expensive problem for the insurance industry worldwide. Insurers constantly take measures to prevent, detect and combat fraud, both for their own economic reasons and for the overall benefit of consumers. There is no comprehensive statutory definition of fraud in Irish law. Fraud is essentially an umbrella term for offences such as theft, deception, forgery and false accounting.

Just think

Consider the effects that fraud has on insurers' profits and how it affects the premiums of honest customers.

While most claims are genuine, a minority of people make fraudulent claims. Insurance Ireland estimates that insurance fraud costs Irish insurers €200 million annually.[34] Such fraud is paid for by honest policyholders through higher premiums because insurers have to include all claims costs when calculating premiums for a class of business (see Chapter 3). The cost of fraudulent claims is therefore built into all insurance premiums. So fraud is not (as some people might think) a victimless crime. As an industry, there has been a real push to highlight this issue and how it affects all policyholders. Insurance Confidential is a dedicated resource which makes it easy for the public to report their suspicions of fraud (see Section G3c).

Example 2.2[35]

The Alliance for Insurance Reform said the State is not taking insurance fraud seriously and reiterated its calls for the establishment of a Garda insurance fraud unit following reports that a court struck out a case against a father-of-two accused of fraud over a €60,000 road accident injury claim due to the book of evidence not being ready for court.

The accused had sued the Motor Insurer's Bureau of Ireland (MIBI) but his claim was withdrawn and he was subsequently charged by the Gardaí.

The charge followed a failed High Court claim he made over a 2016 accident in which he said an untraceable car knocked him off his bicycle. He had been facing trial, but the charge was struck out by Dublin District Court as the book of evidence was not ready.

'Yesterday we saw a rare prosecution collapse because the book of evidence was not ready,' Eoin McCambridge, managing director of McCambridge's of Galway and director of the Alliance said. 'Fraudulent and exaggerated insurance claims have a profound impact on the businesses and services targeted and yet there are virtually no prosecutions for this crime, with fraudsters regularly having their unsustainable claims dismissed but walking away scot-free to claim another day'

[34] Insurance Ireland, 2021, '*Insurance Fraud Survey shows 84% in Ireland believe insurance fraud is unethical*', www.insuranceireland.eu

[35] Glennon, Nicole, 'State not taking insurance fraud seriously' - €60k fraud case struck out over incomplete book of evidence', *The Irish Examiner*, 8 January 2021.

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Section 26 of the **Civil Liability and Courts Act 2004** sets out the definition of a fraudulent action: where a plaintiff in a personal injuries action gives or adduces, or dishonestly causes to be given or adduced, evidence that:

a. Is false or misleading, in any material respect

b. They know to be false or misleading.

Fraud against insurers may be perpetrated in many ways by opportunistic fraudsters or by professional criminals in a premeditated manner.

G1 Opportunistic fraud

Opportunistic fraud is often committed by otherwise law-abiding citizens who see it as a victimless crime with little chance of detection. In times of economic hardship, fraudulent behaviour increases as insureds use their policies as a way of generating extra income or replacing or upgrading their property.

Examples of opportunistic fraud at the underwriting stage are:

- 'Fronting' a private car policy, where a parent insures a vehicle under their name, but the car is used mostly by a son or daughter. This is a crime under the **Criminal Justice (Theft and Fraud Offences) Act 2001**.
- Omitting to disclose previous claims
- Using false or forged certificates of **no claims discount/bonus**
- Being 'creative' when providing details of occupations that may be deemed as high risk
- Providing lower than actual rebuilding costs or valuations for property and goods to reduce the premium
- Mis-declaring the number of vehicles to be insured on a fleet policy
- Misrepresenting a vehicle to be insured to reduce the premium. (This has become less of a problem as vehicle registration databases are now used to reveal the correct vehicle specifications).

Example 2.3 shows the consequences of such actions for the fraudster.

no claims discount (NCD)

a reduction of premium for successive claim-free years, which increases to a maximum over a period of (usually) 5 years, held in the consumer's own name, usually found in private motor policies

Example 2.3

Obtaining insurance by false declaration

John obtained motor insurance from an insurance company. On the **proposal form** he stated that he had no previous motor convictions. However, the insurance company received an anonymous 'tip-off' via the Insurance Confidential hotline that John had several motor convictions. The insurer's internal investigation team carried out investigations, finally resulting in the matter being passed to the Gardaí. The individual was subsequently convicted for obtaining insurance by making a false declaration and driving without insurance. He received a four-month suspended sentence.[36]

proposal form

type of questionnaire, asking questions about the subject matter of insurance

[36] For the full details of this and other case studies, see www.insuranceconfidential.ie

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G2 Premeditated fraud

Premeditative fraudsters are deliberate criminals. They take out insurance policies with the specific intention of committing fraud, or deliberately engineering events to enable fraudulent claims to be made against a third party's policy. Although they know insurance fraud is a crime, their only concerns are how lucrative the fraud might be and what the chances of detection are.

Money laundering is one example of premeditated fraud. Another example is 'staged motor accidents', where criminal gangs either induce innocent motorists to hit their vehicle or deliberately cause vehicles to crash. The perpetrators use these crashes as a means of generating fraudulent personal injury claims from allegedly injured passengers. Fraud in the claims process is examined in more detail in The Practice of Claims and Loss Adjusting module.

money laundering

process by which criminals and terrorists convert money that has been obtained illegally into apparently legitimate funds

The prevalence of ghost brokers has become more widespread and has drawn more attention from the public. According to the Central Bank, ghost brokers are professional fraudsters selling forged or invalid discounted insurance policies to unsuspecting consumers. They usually advertise their services online or within local communities, typically claiming to be able to secure cheap motor insurance policies.[37] Over several years, An Garda Síochána's special investigations unit estimated an Aviva fraud ghost broker had sold 9,000 policies.[38] 2020 saw Ireland's first conviction of a ghost broker for selling forged and invalid discounted insurance to unsuspecting customers via Facebook.[39]

Quick question 4

State two examples of premeditated insurance fraud.

G3 Fraud detection

While insurers cannot scrutinise every policy or claim, they employ many techniques to tackle fraud and are becoming more effective at detection. For example, many insurers have a specialist, in-house anti-fraud unit that acts if any aspect of a transaction appears suspicious. In some cases, insurers may employ the services of specialists to combat fraud, e.g. ex-Gardaí.

While all insurers are responsible for implementing their own systems for fraud prevention and detection, fraud also requires a broader industry response. The insurance industry recognises that to successfully identify and investigate fraud, insurers must work together and share information Insurers' Special Investigation Units (SIU) are increasingly using social media to tackle personal injury claim fraud. A number of cases have been thrown out of court after insurers submitted evidence from social media proving that a claimant may not be as incapacitated as they claimed. However, the collection of such information (including that from social media platforms) must comply with the GDPR.

An example of the implications of the GDPR was seen when an insurer was fined €50,000 for using a private detective to take photos of a customer believed to be committing fraud.[40]

[37] For more information to go: www.centralbank.ie>explainer> what are 'ghost brokers'?

[38] O'Halloran, B., 2021. 'Consumers warned over 'ghost brokers' selling fraudulent policies.' *The Irish Times*, August, www.irishtimes.com

[39] Reddan, Fiona, 'Beware of 'ghost brokers' offering cheap insurance, consumers warned', *The Irish Times*, 30 November 2020.

[40] Managh, Ray, 'Girl settles case for €50,000 after private eye took her photo'. *The Independent*, May 2018.

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G3a Insurance Ireland Fraud Committee

The Insurance Ireland Fraud Committee comprises insurers, investigators, loss adjusters and lawyers. It is dedicated to the prevention and detection of fraud. The committee's objective is to raise the profile of insurance fraud as a crime. It provides a forum to discuss anti-fraud initiatives and techniques and shares intelligence among members to highlight potential fraudulent activity.

G3b Insurance Confidential

Insurance Confidential is operated by Insurance Ireland on behalf of its members. This is a low-call hotline where members of the public can report or provide information to insurers about potential fraud on a confidential basis. Since its establishment in 2003, over 10,000 cases of suspected fraud were reported. The hotline is a key tool in insurers' overall counter-fraud activities.[41]

Insurance Ireland advertises across a range of media platforms to raise awareness of insurance fraud costs to policyholders and to encourage people to report suspicions or knowledge of fraud. These advertising campaigns are funded by insurers from the savings made in reduced fraudulent claims. You may wish to view the Insurance Ireland home and motor insurance fraud television advertisements on Vimeo or on the Insurance Confidential website.

Fraud occurs in all main classes of business underwritten. However, certain classes (e.g. motor and liability) can be particularly targeted due to large claims amounts possible in single incidents involving multiple claimants. For example, if two cars collide with five people in each car, there can be a large multiple loss for a single event. If both drivers and passengers were colluding to commit fraud, it can be quite simple to 'stage' a rear-ending on a roadway.

Operation NASCAR launched by Gardaí and in cooperation with Irish motor insurers is an intelligence-led operation targeting these types of staged/managed road traffic collisions and fraudulent insurance claims. Thanks to cooperation with insurers, Gardaí uncovered an organised group of people who staged road traffic accidents in order to receive compensation for personal injury claims. So far, 16 persons have been charged with the criminal offences, 14 of which under the **Criminal Justice (Theft and Fraud Offences) Act 2001**.

[41] For further information on Insurance Confidential, go to www.insuranceconfidential.ie

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G3c Counter-fraud databases

InsuranceLink

a database of past claimants, maintained by Insurance Ireland

In recent years, insurers set up pooled databases to share information in combatting fraud and crime. The Irish database, InsuranceLink, was established in 1992.

InsuranceLink is an industry initiative used to discover potential fraud by detecting repeat claimants. Over 95% of the general industry use it, along with State bodies and commercial organisations exposed to claims fraud. This innovative and highly-effective service is constantly updated to provide the best data validation, verification and matching technology. Going forward, databases such as InsuranceLink will have to ensure that the manner in which personal data is collected, handled and stored is in compliance with GDPR (see Chapter 1C2b).

Prevention of insurance fraud is a priority for insurers, as savings made directly affect their financial performance, ultimate profit and premiums charged to innocent customers. Insurers should take a sensitive approach to fraud investigation to protect their brand and avoid alienating honest customers.

G3d Insurance Fraud Coordination Office

Insurance Fraud Coordination Office

a dedicated unit of An Garda Síochána, established in 2021, to deal with insurance fraud

The **Insurance Fraud Coordination Office**, established in 2021, is a dedicated unit of An Garda Síochána that specifically deals with complaints of insurance fraud. The aim of IFCO is to secure more prosecutions against those who commit insurance fraud, which will in turn act as a deterrent. It is expected that the industry will see the benefit of this increased enforcement over the next few years.[42]

[42] O'Halloran, B., 2021. 'New Garda insurance fraud unit welcomed' *The Irish Times*, August, www.irishtimes.com

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H Summary

The topics discussed in this chapter are the insurer's main considerations in medium-term planning. We saw how corporate strategy directly influences the direction of underwriting strategy, which cascades down into the underwriting policy. This then influences decisions about risk pricing (see Chapter 3), underwriting policy (see Chapter 4) and the way that individual risks are underwritten (see Chapters 5 and 6).

We also saw that the insurance cycle is the most influential factor on an insurer's underwriting strategy and that decisions about distribution channels are an important part of this strategy. We concluded by examining the key area of insurance fraud and the measures that insurers take to combat it.

H1 What's next?

In the next chapter we will focus on the main principles and practices involved in risk pricing.

H2 Study tips

It's important to remember that this textbook is the primary information source for this module. All the questions in your exam will relate directly to information featured in this textbook. Use the 'End of chapter questions', 'Quick questions' and 'Sample exam questions' to quickly test what you've learned so far. Make a note of any topics/areas you need to improve in and keep it to hand so you can refer to it when you revise this chapter again before your exam.

In addition to the textbook, your Member Area has many online study supports that can help you as you study this module.

H3 Online learning supports

Your Member Area includes a learning plan, an automated study planner, an exam countdown timer and study tips guide. These study supports are invaluable in reinforcing what you have learned so far. The webinars, chapter-by-chapter key points and other supports will help you to break down the chapter's content when revising.

Remember: This module is examined by mixed assessment, which includes:

- An online mid-semester MCQ assessment (20 questions)
- An end-of-semester written exam paper (9 questions)

Given that your online mid-semester assessment is a multiple-choice question test, completing the online practice paper is the ideal preparation for this. You can prepare for the end of semester written exam and test your knowledge by completing sample and past written exam papers.

To access these online learning supports, just log into your Member Area on **www.iii.ie** and click on the **Connect** logo.

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End of chapter questions

Use these questions to test your understanding of what we've covered in Chapter 2. It should be noted that these end of chapter questions are revision questions to test your understanding of the material in the chapter just studied. They are not sample exam questions.

1. Outline the meaning of the term 'corporate objectives'.

2. Outline the purpose of an insurer's underwriting strategy.

3. State the reasons a new insurer needs capital from its investors.

4 State four options available to an insurer to deal with surplus capital.

5. Briefly explain why an insurer must take account of its shareholders' expectations when making decisions about profit and growth.

6. Outline the actions that a prudent insurer might take during a hard market in anticipation of a future decline in market conditions.

7. Outline when a new insurer will usually wish to enter the market.

8. Briefly explain how the choice of distribution channel affects an insurer's structure and organisation.

9. Delegated authority schemes bring benefits to both the insurer and the policyholder. State the main benefits of such schemes for insurers.

10. State four examples of opportunistic fraud at the underwriting stage of motor insurance.

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Answers to end of chapter questions

Check your answers against those below and make a note of any points you left out. This will highlight the sections you may need to look at more closely during your revision.

1. Corporate objectives are high-level statements of intent and are usually expressed in very broad, simple terms.

2. The underwriting strategy states how the corporate objective will be achieved through the underwriting process.

3. An insurer starting out needs capital from investors in order to:
   - Fund its set-up costs before it starts to trade, including costs for premises, IT systems, and specialist staff
   - Cover the costs of trading for the first few years before a profit can be generated
   - Provide the level of capital, specified by the financial regulator (Central Bank), required to guarantee the insurer's solvency and ensure that it will have sufficient money to pay its policyholders' claims

4. A firm with surplus capital has a number of options. It could:
   - Purchase a new subsidiary company or embark on an expansion scheme through launching new products or entering alternative sectors of the insurance or other markets
   - Invest in new technologies to increase efficiencies
   - Expand the workforce or invest in staff training to drive business growth
   - Invest in acquiring or building new premises, which would be a tangible asset
   - Return the capital to shareholders in the form of dividend payments
   - Do nothing with it.

5. Some shareholders may have a longer-term goal of growth and be willing to accept some limited short-term underwriting losses if the company ultimately reaches its growth targets and becomes profitable. Other shareholders may not tolerate such an approach and their strategy may be that each class of business must deliver acceptable underwriting results even if that compromises the insurer's ability to achieve growth targets.

6. At the top of the cycle, the so-called 'hard market', prudent insurers build up reserves from profit in the certain knowledge that their markets will decline at some point. Careful preparation ensures that funds are available for losses at the bottom of the cycle, thereby ensuring survival. Actuarial techniques are used to calculate future liabilities, recognising past experience, inflation and trends in liability settlements.

7. Typically, a new insurer will wish to enter the market during a hard phase, in the knowledge that its strategy, and that of competitors will soon have the opposite effect.

8. The channels used affect an insurer's structure and organisation because of the need to employ and ensure competence of its staff in its different divisions. Against these differing demands, some insurers have created separate companies or operating divisions to cater specifically for the individual characteristics of each channel. For example, the training and competence needs for call-centre staff, charged with front-line responsibilities and dealing directly with the customer are different from those handling complex commercial policies or dealing with submissions from brokers.

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9. Delegated authority schemes enable an insurer to:
   - Gain access to business it might not usually have the opportunity to acquire
   - Provide insurance in a sector where it has little expertise of its own (by delegating authority to a specialist coverholder)
   - Obtain business in parts of the world where it has no office
   - Reap the benefit of local expertise and knowledge that it may not possess
   - Expand its revenue stream without incurring the increased costs and risks of establishing branches or employing underwriters to obtain the business.

10. Examples of opportunistic fraud at the underwriting stage are:
   - 'Fronting' a private car policy, where a parent insures a vehicle under their name, but the car is used mostly by a son or daughter. This is a crime under the **Criminal Justice (Theft and Fraud Offences) Act 2001**.
   - Omitting to disclose previous claims
   - Using false or forged certificates of no claims discount/bonus
   - Being 'creative' when providing details of a vehicle to be insured.
   - Providing lower than actual rebuilding costs or valuations for property and goods to reduce the premium
   - Mis-declaring the number of vehicles to be insured on a fleet policy
   - Misrepresenting a vehicle to be insured to reduce the premium.

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Answers to quick questions

1. One example of a corporate objective might be: To be the market leader in a particular sector within five years.

2. Possible options available (any three) are as follows:
   - Purchase a new subsidiary company.
   - Embark on an expansion scheme through launching new products or entering new alternative sectors of insurance or other markets.
   - Invest in acquiring or building new premises or other tangible assets.
   - Return the capital to shareholders.

3. Possible drawbacks for an insurer in dealing with delegated authorities are:
   - Potential conflicts of interest
   - Poor performance of the coverholder
   - Ambiguous terms.

4. Examples of premeditated fraud: money laundering, 'staged' motor accidents.

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Sample exam questions

Question 1

a) In the context of establishing a new insurance company, outline three reasons that the insurer will require capital from investors.

(6 Marks)

b) Identify four issues that the management of an insurance company must have a clear understanding of in terms of managing its capital.

(4 Marks)

Total: 10 Marks

Question 2

Briefly explain 'delegated authority' in the context of insurance practice, and the advantages of such schemes for insurers.

Total: 10 Marks

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Your answers

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Sample answers

The answers set out below show the main points you must consider in answering the question. In some cases a well-reasoned alternative view could earn good marks.

Question 1

Part (a)

In an insurance context, an insurer starting out will require capital from investors for three key reasons:

- To fund its set-up costs before it starts to trade, including costs for premises, IT systems, and specialist staff
- To cover the costs of trading for the first few years before a profit can be generated
- To provide the level of capital required by the financial regulator (Central Bank) to guarantee the insurer's solvency and ensure that it will have sufficient money to pay its policyholders' claims.

(6 Marks)

Part (b)

An insurer must have a clear understanding of the following issues (any four):

- How much capital it has at any point in time
- How much capital it needs to support its targeted volumes and types of business
- What return on capital is required by shareholders
- How much capital it needs to meet both current and future regulatory capital requirements
- What it plans to do in the event of having:
  - too much capital for its planned business volumes
  - too little capital for its plans.

(4 Marks)

Reference Chapter 2B & B2 **Total: 10 Marks**

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Question 2

Delegated authority refers to schemes where insurers grant underwriting authority (which varies in terms of scope and responsibility) in some circumstances to other parties such as intermediaries, known as the 'coverholder'. An agreement, called a 'binding authority', which sets out the scope and extent of the authority delegated to the coverholder, is set up between the parties. The level of authority is negotiated between the parties and varies from signing and issuing policy documentation, through to quoting and binding risks and sometimes it may even extend to handling and settling claims.

Some brokers have specialist divisions in place to manage such facilities, therefore there is an advantage to delegated authority arrangements in the intermediaries' selection and management of customers and their long experience in a niche area.

Transacting business in this manner can be beneficial to insurers in that it enables the insurer/underwriter to:

- Gain access to business it might not usually handle, by targeting an – unfamiliar group of customers, or a group to which it has difficulty gaining adequate access.
- Underwrite in a sector where it has little expertise of its own (by delegating authority to a specialist coverholder)
- Obtain business in parts of the world where it has no office
- Reap the benefit of local expertise and knowledge that it may not possess
- Expand its revenue stream without incurring the increased costs and risks of establishing branches or employing underwriters to obtain the business.

Reference Chapter 2F **Total: 10 Marks**

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Chapter

3

Pricing the risk

What to expect in this chapter

This chapter looks at how underwriters and actuaries work out premiums for groups of risks and for individual risks. It also examines one of the most important data elements used by underwriters during the pricing process – claims data. We look at how this is interpreted and used for pricing and we consider its limitations.

Throughout this chapter, the term 'underwriter' describes a variety of individuals involved in the decision-making process, e.g. underwriting managers, product specialists, senior head office underwriters, statisticians and actuaries.

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Contents

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A The role of the actuary

In the past, actuaries were more involved in life insurance than in general insurance. However, actuarial principles and methods for assessing risk and uncertainty are as applicable to general insurance as they are to life insurance. It therefore isn't surprising that actuaries are now widely involved in the general insurance industry.

The introduction of the **Solvency II Directive** (see Chapter 1C1a1) has contributed to the role of the actuary becoming a more influential and vital position in a general insurance company. **Solvency II** requires insurers to have an actuarial function and the Central Bank requires insurers to have a Head of Actuarial Function (formerly known as the Chief Actuary). The Solvency II Directive also requires insurers to obtain an actuarial opinion on any Own Risk and Solvency Assessment process and on the adequacy of their technical provisions.

The responsibilities of the actuary in general insurance are much broader than the traditional tasks of reserving and capital modelling. The actuary now also needs to consider underwriting, reinsurance and risk.

General insurance actuaries' frequent responsibilities include pricing, modelling, opining on reinsurance arrangements, reserving, data analytics, reviewing/developing assumptions for pricing/modelling, interaction with regulators, and report writing (including risk reporting).

We will now look at the role of the pricing actuary.

A1 The role of the pricing actuary

Pricing actuaries have responsibility for assessing the frequency and average amount of claims in order to estimate premiums.

There are two main elements to risk pricing. The first element is the process of developing premiums and rates for a group of risks (such as a class or portfolio of business). As we will see in Section C, this involves interpreting claims data and making future predictions. Actuaries play an important role in this area.

The second element of pricing involves calculating premiums for individual risks. Underwriters do this using rates and pricing models developed by actuaries in the earlier stages of the pricing process. For some large or complex risks, special pricing tools (see Section E) will help in determining the correct premium. All pricing is based on the principle of accurately estimating the exposure each risk or bundle of risks brings to the common pool. Pricing models or techniques accurately estimate the future cost of claims for an individual risk or bundle of risks, both in terms of frequency and severity.

As we will see in Section B, risk pricing must ensure sufficient premium income to cover the cost of claims and expenses, and deliver a profit. Profit levels sought at any time are determined by the underwriting strategy (see Chapter 2A2). Remember, all underwriting decisions, including risk pricing, are linked to an underwriting strategy.

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rating factors

features or circumstances used by underwriters to determine the extent of the risk and the premium to be charged

Table 3.1 outlines the role of the actuary in risk pricing.

Table 3.1 The role of the actuary in risk pricing

Rating (portfolio analysis)	Premiums for high-volume, low-premium risks, such as household insurance or private car insurance are derived from predetermined pricing structures. Actuaries play a vital role in developing and maintaining these structures. They use statistical models that help explain the relationship between **rating factors** and the claims experience and ensure that appropriate pricing models accurately allow enough premium to be charged to cover future claims payments and other expenses (see Section B). Actuaries validate, create and update pricing models based on new events or data. For example, models will be reviewed after a serious weather event to determine if they are still valid and updated as necessary.
Individual risk analysis	The actuary provides pricing support on complex or large commercial risks e.g. a shopping centre with a large footfall with a high frequency of claims from trips, slips and falls. This type of risk would benefit from an actuarial approach which will usually involve making claims projections, using forecasting models and market data.
Claim reserving and IBNR and IBNER	Detailed claims projections including IBNR and IBNER exposures (see Sections B1b1 & B1b2) are vital in assessing profitability. This is an area where actuarial skills and expertise, along with sophisticated models, enable the sound assessment of the ultimate extent of current and future claims.
Return on capital employed (ROCE)	The amount of ROCE (see Chapter 2B) will vary, depending on various factors. The actuary assists the underwriter by assessing whether the potential profit of a class of business is at the right level to meet the return required for that class, or whether the prices need adjustment. Actuaries also carry out profitability reviews of individual classes of business to consider its current and future profitability. This assists underwriters when they are establishing or reviewing ongoing pricing strategies.

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B The main elements of the premium

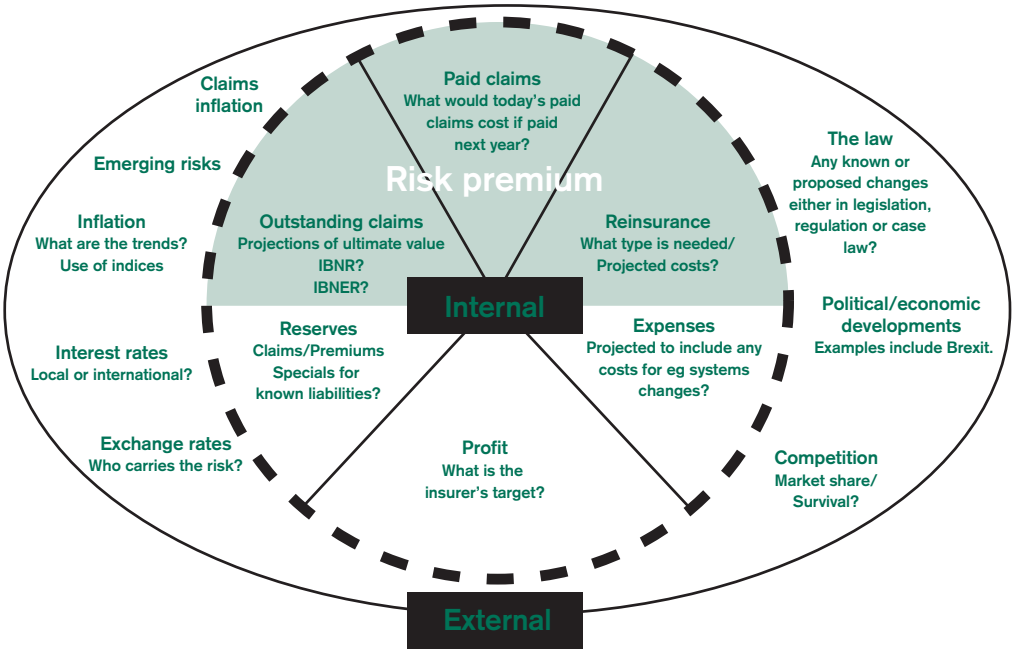
When setting premiums and rates for a class of business, underwriters aim to charge prices that

- Cover the likely cost of future claims
- Cover the cost of their other expenses
- Deliver a profit and return on capital employed (ROCE).

This requires careful analysis of a range of factors. Some are internal, i.e. based on information produced by the insurer (such as claims payments or claims reserves). Others are external, relating to the wider economic or legal environment.

Figure 3.1 shows the main internal and external factors that influence insurance premiums.

Figure 3.1 Summary of internal and external influences on premiums



We will first consider the internal factors and why they are part of the premium setting process. Here we look at the process of developing premiums and rates for a class of business (a group of risks), rather than an individual risk.

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The important internal components of insurance premiums are the projected costs of:

- Paid claims
- Outstanding claims
- Reinsurance
- Expenses
- The impact of reserves
- Profit
- Contingency loading.

The first three items relate to the **risk premium**. The risk premium is required to cover the cost of future claims. As we will see, other costs (including profit) must also be factored into the premium, to ensure that the total amount collected from policyholders covers all of the insurer's expenses.

risk premium

the amount of premium required by an underwriter to cover the anticipated cost of claims under an insurance policy

B1 Risk premium

The risk premium is based on the expected cost of future claims in the forthcoming period of insurance for the risk or class of business being accepted. The cost of claims is the main information used to calculate the risk premium. The underwriter, with the help of other specialists such as the actuary, begins by examining all available information to calculate the total claims costs for a previous period. It would be wrong to use historical data in its 'raw' form because many external factors could affect the historical figures today or in the future. When setting the risk premium, underwriters ask: 'What would these claims cost if they were to occur in the forthcoming period?' The answer to this will directly affect pricing. This is not done on a 'policy-by-policy' or 'risk-by-risk' basis but across a whole portfolio of business.

We will now examine the three main components of the risk premium.

B1a Paid claims

As stated, the underwriter considers the claims payments made in previous periods (e.g. in the previous year). For future pricing purposes, the question then is: 'what would these claims cost if they were to happen in the coming year?' This means projecting the ultimate cost of paid claims into the future period of insurance.

B1b Outstanding claims

Paid claims are only part of the picture. Many of the previous year's claims will still be outstanding and their likely ultimate cost must also be taken into account. Similar for paid claims, the total amount of the outstanding claims must be projected for the forthcoming period of insurance.

Projected claims figures will also include provision for unreported claims. These fall into two categories: **incurred but not reported claims (IBNR)** and **incurred but not enough reported claims (IBNER)**. The underwriter must adequately assess both IBNR and IBNER exposures to obtain an accurate view of the historical claims experience from which to forecast future losses.

incurred but not reported claims (IBNR)

claims an insurer has not yet been notified of, but where the incidents that will give rise to such claims have already occurred

incurred but not enough reported claims (IBNER)

claims that have been reported to the insurer and, although the insurer has opened a reserve within its books, the value of the reserve proves to be inadequate in relation to final settlement

B1b1 Incurred but not reported claims

These are claims or losses that have been incurred by the insured (i.e. insured events that have happened), but not yet reported to the insurer. A future claim may be made, but the insurer is unaware of it and cannot create a reserve. Examples 3.1 and 3.2 show how this might happen.

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Example 3.1

IBNR claim

A serious motor accident occurs two days before the end of the insurer's reporting period. Because the insured is injured, the claim is not notified immediately. However, a week later, when the insured is discharged from hospital, they contact their insurer to report the incident.

Example 3.2

IBNR claim

When the health risks associated with asbestos were first announced, risks that appeared to be claims-free for many years suddenly had the possibility of producing significant losses, with the potential for claims to be reported later. Insurers would have had to make allowances within their IBNR figures, depending on the classes of businesses they had underwritten over the preceding years.

When underwriters are reviewing the claims experience for an individual risk or a portfolio of risks, IBNR claims pose a significant problem.

Claims' reporting is rarely instantaneous. Late notifications occur for many reasons, for example:

- The incident was expected to fall within an excess and several months later it transpires that it is a lot more expensive, so a claim is submitted.
- An injury is not apparent at the time of an incident.
- The policyholder may be unaware of the incident causing the claim as, for example, with **products liability** claims.
- Parents not wishing to make a claim at the time of their child's accident, but the young person choosing to do so as an adult (they may issue legal proceedings within two years of their eighteenth birthday). Such claims are considered when calculating IBNR provision, but especially so for insurers providing liability cover for schools, youth organisations or childcare risks for example.
- For employers liability risks, claims may be reported several months, or even years, after the expiry of cover. Examples include long-term industrial diseases such as deafness or asbestosis, not diagnosed until years or even decades later.

products liability insurance

insurance for all providers of goods – whether manufacturers, intermediaries or retailers – against claims arising out of the use, handling or consumption of a product

B1b2 Incurred but not enough reported claims

There is always some uncertainty about predicting the cost of recently reported outstanding claims. This can result in incorrect estimates of the reserves that should be allowed to cover them. 'Incurred but not enough reported' (IBNER) describes such claims. Example 3.3 uses the example of a road traffic accident to illustrate this situation.

Example 3.3

A passenger in a vehicle is injured in an 'at fault' road traffic accident. This is reported to the insurer and details of the injuries sustained by the passenger are provided. Based on the limited information available, the insurer opens a provisional reserve of €17,500. Several months later, when medical reports are available and the injury level is known, the reserve is increased to €125,000. The claim is settled two years after for €110,000, making the initial reserve €92,500 lower than the cost of the claim.

B1c Reinsurance costs

Reinsurance is also considered in the risk premium. It is the price paid to deal with types or groups of claims or risks that insurers do not wish to carry themselves and which they 'cede' to reinsurers. The role of reinsurance is considered in Chapter 7.

At the end of this process, we will have a basis for the pure risk premium, i.e. a figure answering the question: 'What do we expect the total claims cost to be for this group of insurances for next year?' It does not tell us how each risk should be priced within this total. This is done at the next stage, when we consider individual risk features (called **discrimination factors**).

Insurers now need to consider other internal and external factors that must be included in future pricing. Insurers assess each of these, and the combined result is developed into a premium basis or rating structure.

discrimination factors

any aspect of a risk that will influence an insurer to amend the premium, terms or conditions that would apply as standard to that class of insurance

B2 Other internal factors

Other important components in developing a rating structure are as follows.

B2a Expenses

Once the risk premium is known, the next element of the price to be considered is expenses.

Operational and other business expenses incurred by the insurer must all be accommodated in the premium. Collectively, these are referred to as management expenses or administration costs but they cover many expense types.

B2a1 Fixed expenses

Fixed expenses (sometimes called standing charges) are costs that do not vary according to volumes of business written and must be paid, even if premium volumes are zero. They are not determined by the processing of a risk and are independent of the size, premium or complexity of any risk. They must be funded out of an insurer's premium income, so a contribution to the cost of these expenses is built into every premium. The amount may vary between risk type and class of business.

Examples of fixed expenses are operating costs relating to items like building occupation, most staff costs (although this can vary), rent, heat and IT costs. These have to be paid irrespective of policy volumes or the amount of an insurer's premium income.

Quick question 1

Explain what is meant by the term 'risk premium' and state the three elements of the risk premium.

The answer is at the end of this chapter.

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Note that staff costs relate to both the underwriting and the claims handling functions, and to other areas where the business is serviced (e.g. accounts, marketing or IT). They are regarded as fixed expenses because most insurers do not reduce their staffing levels as an immediate response to a drop in policy numbers or premium income. Changes in staff costs rarely happen in the same accounting period as a change in premium income, so insurers usually treat these costs as fixed expenses when developing premiums and rates for a class of business.

B2a2 Variable expenses

An insurer's variable expenses/charges are directly related to the number of risks written or processed. These expenses fluctuate based on premium income. An example in personal lines business is the transaction charges applied by computer software companies (such as Relay) transmitting private motor business between intermediaries and insurers using **electronic data interchange** (EDI). Such charges are either paid on a 'per transmission' basis or on a 'per premium value' basis. Intermediary commissions (see Section B4b) tend to make up the greatest variable cost in commercial insurances. In both instances the costs of the transaction charges and/or commission increase in direct proportion to the volume of business.

Calculating variable expenses for commercial lines business is more complicated, as it must also include additional processing and, for example, the costs of any ongoing servicing requirements, risk surveys and site visits. These additional costs must be factored into the underwriter's pricing process.

B2b The impact of reserves

Reserves are sums set aside and invested by insurers. Insurers have large sums invested at any one time. These reserves may produce a return (investment income for insurers) and include:

- **Claims reserves**
- **Special reserves**
- **Premium reserve**.

B2c Profit

The underwriting strategy (see Chapter 2A2) dictates whether an insurer has an underwriting policy designed to produce:

a. An underwriting profit, where claims plus expenses are less than the premium

b. A break-even situation where the claims plus expenses are equal to the premium

c. An underwriting loss where claims plus expenses are greater than the premium.

Most insurers opt for underwriting policies based on (a) or (b) because it is more prudent and allows a wider range of options. Competition or aggressive marketing may force an underwriter to adopt policy (c), even if only briefly, in order to maintain market share.

Profit is therefore dictated by the insurer's underwriting strategy.

B2d Contingency loading

None of the elements we have considered so far are fixed or predictable. With uncertainty about the adequacy of the premium calculations, insurers tend to add a contingency loading when developing premiums. This loading may allow claims and other costs to exceed the insurer's predictions.

electronic data interchange (EDI)

the computer-to-computer exchange of business data and documents in a standard and structured electronic format between business partners, which utilises automated processing

claims reserves

funds set aside by an insurer to meet the cost of present and future claim payments

special reserves

funds set aside by insurers to cater for new events or risks (e.g. industrial diseases)

premium reserve (unearned)

an amount that appears on an insurer's balance sheet as a liability; it relates to the total amount of premium written but not yet earned because each premium covers a 12 month period and has to be allocated to future months and accounting periods

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B3 External factors

We have seen that insurers determine premiums for a class of business by predicting claims and other costs, setting the profit target and allowing for the possibility that costs will exceed their predictions. Although these can be regarded as internal factors, insurers do not operate in a vacuum. When setting premiums, insurers must also take account of external factors.

External factors influencing future projections which must be considered when determining premiums for a class of business are:

- **inflation** – the effect of the changing value of money.
- **interest rates** – the likely impact of future interest rate changes (especially for reserves).
- **exchange rates** – where business is written in another jurisdiction or where non-euro claims or reinsurance payments are required.
- **claims inflation** – It is vital for insurers to have accurate data in terms of reserving and pricing. Examples include increases in legal costs, medical costs and increased compensation awards.
- **the law** – (domestic and EU) – future claim payments being made on a different basis from historical ones or future costs incurred in another legal environment (e.g. changes to safety, health and welfare legislation, or the amounts of compensation to be paid to accident victims). **Periodic payment orders (PPOs)** were introduced by the **Civil Liability (Amendment) Act 2017**. This Act empowered the courts to make PPOs to compensate injured parties in cases of **catastrophic injury** where long-term permanent care is required. Prior to this Act, the courts could only grant lump sum awards for damages in such cases. The **Personal Injuries Guidelines** were enacted by the **Judicial Council Act 2019** and came into effect in April 2021, replacing the Book of Quantum. These Guidelines apply to all personal injury and medical negligence claims post-April 2021. The fundamental difference between the Book of Quantum and the Guidelines is that the application of the Guidelines is mandatory. A trial judge must make their assessment having regard to the Guidelines and if departing from them must state the reason(s) why.
- **emerging risks** – examples include the effects of climate change, cyber security risks, geopolitical volatility, pandemics and natural resource management.[43] The impact of the Covid-19 pandemic illustrates the unprecedented losses that can occur from new and emerging risks.
- **competition** – particularly affecting profit levels that can reasonably be expected (see Section F).
- **political/economic developments** – developments such as the impact of Brexit on the Irish insurance industry. It has limited UK and Gibraltar insurers' ability to passport into the Irish market, reduced competition in the market and created a reduced downward pressure on premiums. However, it has also posed an opportunity for Ireland to become the EU base for some UK financial institutions, such as Barclays. The consequences of the war in Ukraine are evident - inflation, energy crises and threats to the global economy – and are already impacting on property demand as construction costs continue to rise.

claims inflation

changes (normally increases) in the cost of an insurance claim

periodic payment order (PPO)

court order that involves the payment of compensation to a catastrophically injured person by way of a series of staged payments, rather than a single lump sum award

catastrophic injury

very serious, life-changing injuries, e.g. paraplegia, quadriplegia and brain damage

Personal Injuries Guidelines

guideline principles governing the assessment and award of damages for personal injuries with a view to achieving greater consistency in awards

[43] AXA Insurance Group (2018),' Emerging risks survey 2018,' pdf, available on: www.group.axa.com

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B4 Other considerations

The list in Section B3 is not exhaustive and underwriters need to further consider the following components which have the potential to vary greatly, when setting the premium requirement across a portfolio. This further highlights the complexity and challenge of this work.

B4a Large claims and catastrophe claims

Large claims and **catastrophe claims** can be a difficult area of pricing. The unpredictable and infrequent nature of these losses means that statistical information is not always available or meaningful for making calculations. Underwriters should always build an amount into their pricing structure as a 'catastrophe fund'. Often a large claims loading is applied across the entire risk portfolio, with each risk being the subject of a pre-determined average, based on the amount calculated by actuaries as required in the 'catastrophe fund'. This is set aside as reserves to pay these types of losses.

Prudent purchase of catastrophe reinsurance protection is linked to the pricing of this type of loss, as all insurers know the significant loss potential posed by such events. We will consider the role of reinsurance in Chapter 7.

B4b Intermediary remuneration

Commissions payable to intermediaries for the introduction of a risk to an insurer must be explicitly built into a premium. The amount of commission paid will vary between products and is generally set between 5% and 25% of the total premium. The commission rate may also be negotiated on a case-by-case basis. There has been a move in recent times on large commercial risks for intermediaries not to receive commissions (reflected in lower premiums) from insurers. This is at the intermediary's request and they instead negotiate a fee for their services with the customer.

B4c The future

Underwriters must always look to the future when setting prices. The external factors listed in Section B3 remind us of the unpredictable nature of these factors and of how economic or legal changes can affect future claims costs and expenses for example. This applies particularly to **long-tail business**, where claims may not be reported and/or settled until long after the expiry of the policy. The premium received at today's levels may then bear no relationship to the final settlement. Table 3.2 outlines the characteristics of long and **short-tail business** showing some relevant examples in personal and commercial lines.

catastrophe claims

claims arising from a single cause (e.g. a storm) but affecting many different businesses or insurance risks

Quick question 2

Distinguish between the terms 'fixed expenses' and 'variable expenses' in relation to the setting of premiums.

long-tail business

classes of insurance where claims are complex and have long settlement periods with specific losses not known for a long time

short-tail business

classes of insurance where losses are usually known and paid shortly after the loss actually occurs

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Table 3.2 Long-tail and short-tail business

Characteristics		Examples	
		Personal	**Commercial**
Short-tail	• Claims usually reported and settled within twelve months • Less complexity in managing claims • Less risk in predicting final settlement • Generally based around property	• Private motor (accidental damage, fire and theft covers) • Home, contents, personal effects • Boat • Caravan/trailer • Health • Travel • Pet	• Commercial motor (accidental damage, fire and theft covers) • Fire, explosion, theft, malicious damage • Money • Goods in transit • Business interruption • Credit
Long-tail	• Claims may not be reported within twelve months • Settlement can take three to four years, or longer • Greater complexity in managing claims • Higher risk in predicting final settlement • Generally based around medical and legal outcomes	• Private motor (third party personal injury covers) • Household liability covers	• Commercial motor (third party personal injury covers) • Employers liability • Public and products liability • Professional indemnity • Directors and officers liability • Medical malpractice liability.

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C The role of claims data in risk pricing

As we have seen, to produce adequate risk premium, actuaries and underwriters examine and analyse historical claims data to forecast future losses.

This section explains how numerical analysis of claims data fits into the broader process of setting premiums and considers other factors underwriters need to consider when interpreting this analysis. These factors apply equally when interpreting data for a class of business or for individual risks.

C1 Credibility of data

Before underwriters start to assess the claims experience they must consider its credibility, i.e. the degree of reliance placed on this data.

To have confidence in the quality and quantity of the data, underwriters must ensure that:

- The data is accurate and complete; inaccurate or incomplete data may be totally misleading.
- There is a large enough sample of homogeneous risks (risks that have common features and should therefore generate similar claim profiles) to ensure an objective analysis and statistical significance.
- The **classification** codings have been accurately and consistently allocated.
- The claim estimates have been regularly reviewed.
- A good historical picture of the risk is available; three to five years' claims experience is usually acceptable but for long-tail exposures, where it takes several years for the risk to 'run off' (i.e. for all claims to be reported and settled), seven or ten years' claims experiences are common.

Where underwriters use data from a source outside their company they need to ensure that the definitions reflect a market, or other agreed standard. Another challenge for insurers, particularly with new business submissions, is how to interpret data relating to competitors' reserves. All insurers have different reserving philosophies (from conservative to optimistic) and an insurer using such data needs to factor this in when making their own assumptions. Failure to do so will result in incorrectly pricing the risk.

classification

the systematic identification of common features in insurable risks (e.g. vehicles, drivers, trade activities or types of premises) relevant to specific classes of business (e.g. motor, property and liability)

C2 Segmenting data

Once underwriters are satisfied that their data is as accurate and reliable as possible, they can begin their analysis. They review the risk classification codings to sift through the data and extract homogeneous records relevant to the considered risk.

Just think

Think of ways an underwriter may segment data when considering a commercial motor fleet risk.

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Data may be segmented in a variety of ways, for example, by:

- Trade
- Area
- Type of vehicle
- Age of driver
- Cause of loss.

While there are numerous possibilities, the extent of segmentation is limited by the sophistication of the classification codings applied to the raw data. The codings must be carefully devised and regularly reviewed to ensure the best use of the data.

C3 Analysing data

Once data is segmented into appropriate underwriting groupings it is carefully analysed to assist in risk pricing. An underwriter will especially wish to quantify the following issues:

wageroll

employees' gross remuneration excluding employers' PRSI contributions

- **Frequency of loss** – Generally loss numbers must be measured over a year and reviewed against a measurement of exposure such as sums insured, **wageroll** or the number of vehicles in a fleet risk, to establish frequency.
- **Severity of loss** – The underwriter reviews the value or severity of losses to determine the likely value of future losses. This is difficult, as claim sizes vary, and for some classes of business the severity of a claim is largely independent of risk characteristics and subject to a degree of randomness.
- **Trends** – If the data has been prepared so that the results for different 'periods' are comparable, the underwriter will spot and analyse trends. For example:
  - Frequency – Is it increasing or decreasing? The incidence of claims is a better indicator of the underlying quality of a risk than the cost of claims. This is for two reasons. Firstly, the cost of claims can be distorted by one large loss. Secondly, as final claim numbers are often known before claims are either reliably reserved or settled, the underwriter can be confident about frequency and trends can be quickly determined.
  - Severity – Is the average claim cost increasing or decreasing? What catastrophe losses has the risk or line of business sustained?
  - Cause of loss – Are there any trends or patterns emerging? Once trends have been identified, the underwriter needs to know what effect they will have on claims in the future, or what actions, if any, should be taken to reduce or even eliminate some of these future claims.
- **Benchmarking against other risks** – Similar risks are compared to gauge the range of performance (good to poor). A system of grading can then be used so that each risk is benchmarked against the range (e.g. below average, average or above average).
- **Loss ratio** – The loss ratio gives the underwriter a useful indicator about how well the line of business/segment was assessed and rated in the past and if it is in profit. This ratio is calculated by dividing the 'incurred claims' by the 'earned premium' and multiplying by 100 (because it is usually expressed as a percentage).

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$$\frac{\text{Incurred claims}}{\text{Earned premium}} \times 100 = \%$$

For example, in a situation where incurred claims are €2,500,000 and earned premium is €4,000,000, the loss ratio is calculated as follows:

$$\frac{€2{,}500{,}000}{€4{,}000{,}000} \times 100 = 63\%$$

'Incurred' claims means the total of both the paid and outstanding claims.

'Earned' premium means the proportion of premium related to the period of insurance that has already run. For example, if only six months of an annual period of insurance has run when the calculation is made, then only 50% of the annual premium figure is used, representing the earned portion of the premium.

C4 Analysing claims data for large risks

So far we have looked at the importance of claims data when developing rates and premiums for a class or portfolio of business. Data analysis is equally important when determining a premium for an individual risk.

We will see more about the pricing of individual risks in Section D. However, it is useful now to consider a specific tool, known as triangulation, that insurers can also employ when analysing large amounts of claims data.

C4a Triangulation

'**Claims triangulation**' describes a claims experience compiled and presented to demonstrate the number of claims reported and the incurred loss (i.e. the total of paid and outstanding claims) at a specific time, year on year, for consecutive periods of insurance. It therefore reflects the development of the claims experience.

claims triangulation

a table that charts the movement of total incurred losses from the original policy period over several subsequent periods in order to analyse the development pattern of losses over time

Triangulation takes the claims experience, usually by underwriting year, and updates it at 12-month intervals (and sometimes more frequently). This creates a table showing the movement in claim numbers and claim amounts over several subsequent periods (see Table 3.3). It is used to:

- Analyse the development pattern of losses over time and assess the accuracy of initial estimates.
- Assists an insurer in forecasting the claims experience of a risk based on its past experience. An underwriter, often in conjunction with an actuary, will analyse trends in both claim reporting (i.e. when claims are reported) and movements in the incurred loss in the 'mature' periods of the triangulation (i.e. periods where all claims are settled or reliably reserved). These findings can then be utilised to develop the claims experience of underwriting periods that are not fully mature. Statistical computer models are often used for this task.
- Compare data at specific points in time to determine whether the claims experience is improving, deteriorating or remaining reasonably constant. By comparing the claims experience for different underwriting periods at the same stage in their development, the underwriter can establish how well a risk is running.
- Establish if there are any trends evident in the data such as the effectiveness of the procedures for claims notification (late notification of claims/IBNR trend).

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Triangulations are particularly useful for liability or motor (third-party injury) risks where the claims experience takes years to mature. This varies depending on the class of business and/or the nature of the risk. The value of property losses (short-tail class), for example, tends to be determined fairly quickly so the point of maturity will be reached sooner than for a long-tail class of business such as employers, public liability or motor third-party injury claims, where the outcome of a claim can be uncertain for several years. Another example is seen in occupational disease claims, such as asbestos or environmental claims that involve exposure to air pollution over many years, which can see new claims being filed a long time after the event causing the claim occurred.

Table 3.3 was prepared at the end of 2021 and shows an employers liability triangulation, tracking the development of the claims experience at twelve-monthly intervals.

Table 3.3 Example of employers liability claims triangulation

Period of insurance	Wageroll	Claims experience after inception							
		At 12 months		At 24 months		At 36 months		At 48 months	
		No.	Incurred loss	No.	Incurred loss	No.	Incurred loss	No.	Incurred loss
01/01/17 to 31/12/17	€12 million	14	€64,000	17	€156,000	18	€160,000	18	€168,000
01/01/18 to 31/12/18	€12.2 million	11	€82,000	19	€130,000	21	€155,000	20	€157,000
01/01/19 to 31/12/19	€16.8 million	18	€138,000	22	€199,000	24	€213,000	24	€207,000
01/01/20 to 31/12/20	€17 million	17	€130,000	20	€550,000	22	€583,000		
01/01/21 to 31/12/21	€17.4 million	14	€153,000	23	€227,500				

You will notice that there is less information for the 2020 and 2021 periods of insurance than for the previous years. The table was prepared at the end of 2022 which gives us 36 months of data (three policy years) for the 01/01/20 to 31/12/20 period and just 24 months of data (two policy years) for the 01/01/21 to 31/12/21 period.

An underwriter interpreting the data contained in Table 3.3 would make the following observations:

- The wageroll (the exposure measure) increased substantially in 2019. The number of claims also increased in that year, which is not unusual or unexpected given the increase in exposure.
- Most claims were notified during the year they occurred, suggesting there were good procedures for claim notification. However, for the 2018 and 2021 periods of insurance, eight and nine claims respectively were notified in the following year. There may of course have been valid reasons for this (e.g. accidents in December that were reported early in the new year).

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The 2020 claims are a cause for concern. In year two, three new claims were reported, bringing the total number of claims to 20, and the loss amount increased from €130,000 to €550,000. At the end of year three there were 22 claims (two further new claims reported), totalling €583,000. This might suggest an unexpected adverse development in a particular claim and/or that injuries were more serious than initially reported. The notification of new claims in subsequent years may also be an indicator that there are issues with claims notification procedures.

Apart from 2020, the development pattern was stable and suggests that, from year three onwards, the number and cost of claims had reached its peak and was unlikely to show significant increases. This helps underwriters and actuaries make predictions based on the claims data. Knowing that claim numbers and values typically 'settle' in year three also helps actuaries to calculate IBNR and IBNER provisions.

Just think

How did we work out that the triangulation in Table 3.3 was prepared at the end of 2022?

The most recent information in the triangulation is for the year 01/01/2021 to 31/12/2021. For this year, we can see the claims information at 12 months (at the end of the first policy year) and at 24 months.

This table was condensed for simplicity. A more complete table would show additional years of data for 2017 and 2018 (i.e. additional columns for 60 and 72 months).

Quick question 3

For which types of risk might triangulation be useful?

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D Pricing individual risks

So far, we have mainly considered how underwriters collect, analyse and use a range of data to create a premium structure for a portfolio (group) of similar risks. We saw how this involved predicting the total amount of premium needed to pay claims and expenses, as well as delivering the profit required by the underwriting strategy.

rate(s)

the pricing factor upon which a premium is based

subject matter (of insurance)

item or event in which the insured has an insurable interest, e.g. car, house, valuables, factory stock, or liability for acts of negligence

exposure measure

the basis to which rates are applied to determine premium

risk exposure

the quantified potential for loss that might occur as a result of some event or activity

This process (see Section B) normally leads to the creation of **rates** for different business classes. These rates are applied by underwriters when pricing risks and they also form the basis of automated pricing processes. Normally, there will be a range of rates for each business class.

Generally individual risk pricing begins with the underwriter considering the:

- **Subject matter**(s) of insurance (the object, property or potential liability described in the policy as being covered).
- The size of the risk and the loss exposure. As we will see in Chapters 5 and 6, different **exposure measures** are used in different types of insurance (e.g. wageroll and number of employees for employers liability, and turnover for products liability).
- The scope and extent of cover, including excess and deductible levels, policy limits, extensions/restrictions to cover.

D1 Rating factors

Once the underwriter has a full understanding of the proposed risk they can then begin the rating process. Insurers use rating factors to determine the extent of the **risk exposures** and to influence the price they will charge.

We mentioned in this section that insurers normally create a range of rates for underwriters to use in each type of business. The rate used in a certain case will depend on the positive and negative features of the risk. Discounts/adjustments are applied for positive features such as superior fire protection (e.g. installation of a sprinkler system), good quality construction or modern intruder alarm systems on property risks. Loadings are applied for adverse features like drivers with conviction records on motor risks, poor quality construction or poor quality waste management systems in property risks.

While different commercial lines products share some common features, unique rating factors are used for each product type. For personal lines products, the rating factors are normally fed into a rating matrix or framework, which forms the basis for an insurer's automated rating and quotation systems.

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Table 3.4 Examples of rating factors		
Property insurance	**Liability insurance**	**Private car insurance**
• Postcode/**Eircode**/ location • Type of construction • Occupation of premises • Quality of security protections e.g. intruder alarm, roller shutters etc • Fire prevention equipment, e.g. sprinkler systems.	• Occupation/business description • Health and safety procedures • Footfall through the premises • Hazardous processes, e.g. machinery, welding equipment, blow-lamps • Site work or working at heights.	• Make and model of vehicle • Age of vehicle • Age of driver • Occupation of driver • Garaging address • Driving experience • Type of driving licence held • Class of use • Penalty points held.

Eircode

seven-digit alpha-numeric postcode system introduced in 2015

Quick question 4

What rating factors might an insurer use when considering the building section of a household policy?

D2 Burning cost

burning cost

a method of pricing an individual risk on the basis of the claims actually generated by that risk

For risks generating a large number of claims, an alternative, claims-based approach to rating may be used. The calculation used is known as '**burning cost**'. For medium to large risks, underwriters sometimes use this method as a comparator with standard rating.

This method is best suited to risks with a high frequency of claims, but with no significant variance between the values of individual claims. The claims experience of employers liability risks and motor fleet risks usually display these characteristics. However, risks such as property, with a relatively low frequency but a large severity distribution of claims (i.e. the value of each claim varies significantly) are rarely rated this way.

At its simplest, the burning cost method attempts to calculate the claims cost per unit or period of exposure. This means translating the incurred losses into a rate that can be used against an exposure measure appropriate to the risk (e.g. the number of vehicles in a fleet policy, or the wageroll in an employers liability risk).

Table 3.5 shows an example of a calculation of a burning cost rate for a large employers liability risk, using wageroll as the basis for rating.

Table 3.5 Example of burning cost calculation for employers liability			
Column A	**Column B**	**Column C**	**Column D**
Underwriting year	**Wageroll (€)**	**Incurred claims**	**Burning cost rate (column C/ column B) × 100**
2018	20,000,000	197,000	0.985%
2019	20,700,000	140,000	0.676%
2020	21,500,000	210,000	0.977%
2021	22,400,000	175,000	0.781%
2022	23,100,000	120,000	0.519%
Total/average	107,700,000	842,000	0.782%

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Quick question 5

Using the burning cost rate of 0.782% in Table 3.5, calculate the premium required for employers liability if the projected wageroll for the 2023 renewal period is €24,000,000.

To calculate the burning cost, we divide the incurred claims by the wageroll and express the answer as a percentage to use it as a rate.

The average burning cost over the five-year period is calculated at a rate of 0.782%. In other words, to have sufficient funds to pay the incurred claims over the five-year period, a risk premium calculated at wageroll × 0.782% would be required. This would only cover the cost of claims, based on the past experience of the risk. The underwriter would then need to project these costs for the future period and make allowance for all the other expenses, including profit.

For medium to large risks, underwriters tend to use this method as a comparator with standard rates in arriving at a price. For the largest of risks, the burning cost method may be a valid method of premium calculation in itself.

Just think

The burning cost rating method has a number of drawbacks when setting future premiums. Can you think of what these might be?

D2a Drawbacks of the burning cost rating method

The major drawbacks of this rating method are:

- The figures used may not reflect the value of claims. The ultimate claim cost for a policy year may not be entirely accurate until all claims attaching to a policy year are notified and settled. A burning cost calculation made on an incomplete year could be inaccurate. A claims triangulation (see Section C4a) may be needed, but this detracts from the simplicity of the burning cost method.
- Full allowance is not made for either claims or general inflation.
- The potential for large claims is unrecognised and conversely, a risk may be unfairly penalised if it has sustained a large loss.
- There may have been an alteration in risk and/or cover that affects the overall experience.
- There is no allowance for any claims data trends (i.e. improving or deteriorating risks). For example:
  - Are the claims numbers (frequency) increasing year on year?
  - Are more claims of a certain type reported in the later years?
- All data used is historic and future claims may not provide a similar picture.
- The calculation does not allow for the different types of expenses incurred, as described in Section B2a.

D3 Prospective risk analysis

To address the shortcomings of the burning cost method, underwriters should use all data available to them to make a judgement on the future insurance period. This is known as prospective risk analysis.

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The underwriter will therefore need to carry out the following activities:

- Analyse the claims data and project the ultimate net loss for each underwriting year.
- Re-evaluate historic claims to current day values.
- Factor in the potential for large losses.
- Adjust the claims experience in line with the cover and risk now being presented.
- Analyse trends in the data and consider their effect when forecasting future losses.
- Make allowances for emerging risks (see Section B3).

D4 Finalising the premium

Once the previously described processes have been completed, the underwriter determines the premium they will charge for an individual risk. Premiums are normally arrived at by applying a premium rate to an exposure measure. This is the measure of exposure (see Chapters 5 and 6) relevant to the particular class of business. For example, for employers liability the measure of exposure is the wageroll (which may be a single rate applied to the total wageroll or separate rates applied to the wageroll for different employee categories, e.g. clerical vs. manual employees). For public liability/products liability, the measure of exposure is turnover, and for property insurance the measure of exposure is the buildings/contents/stock sums insured.

The rate will usually be a rate per cent (per €100 of exposure) or per mille (per €1,000 of exposure). The actual rate charged will reflect the special features and hazards of the risk (see Section D1).

Reminder

- The exposure measure expresses the size of the risk
- The rate reflects degree of hazard.

We will now briefly examine other considerations when finalising the risk premium.

D4a Minimum premiums

An insurer normally has a minimum premium for each class of business. This reflects the lowest economic level still cost effective enough to write the business. It incorporates allowances for large and catastrophe losses, as well as other claims and expenses.

D4b Adjustable premiums

Sometimes it may be impossible to accurately calculate the exposure measure at the start of the insurance period. The insured (or proposer) may only be able to make an estimate. For example, in **employers liability insurance**, an insured's estimated wageroll will change if they take on new employees or make redundancies. So too when arranging cover for loss or damage to **stock**. The value of the stock will vary greatly during the year, making it difficult to set an accurate sum insured.

In these situations, the premium is calculated using estimated values. These will be adjusted at renewal date when the insured is obliged to declare actual values, the premium is recalculated, and an additional premium or premium refund is generated.

employers liability insurance

insurance to cover the legal liability of the insured to any person who is under a contract of service or apprenticeship

stock

stock in trade and goods held in trust or on commission that the policyholder is responsible for, and includes raw materials, work in progress and finished goods

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E Developments in risk pricing

The traditional pricing methods that we have seen so far are derived mainly from large amounts of information about policies and claims. Insurers benefit greatly from the **law of large numbers** when predicting the likely frequency and severity of claims and calculating the premiums they need to collect to meet the cost of claims and other expenses. This is especially evident in high-volume personal lines insurance, which is characterised by large numbers of **homogeneous risks**.

law of large numbers
the larger the number of similar-type events that occur, the more likely the outcome will match the expected result

homogeneous risks
the existence of a number of risks with similar profiles or characteristics, e.g. in terms of frequency and severity patterns

Insurers can also benefit from other pricing methods and techniques widely used in areas outside insurance. We will now consider some of these recent developments and their use in pricing.

E1 Predictive modelling

In simple terms, predictive modelling uses statistics to predict outcome. This gives insurers a better understanding of customer buying behaviour. Computer software has now been developed using complex algorithms to predict a customer's probability of purchasing or renewing a policy at different price points. This enables predictive modelling using historic data to quantify patterns and trends in predicting future trends. In the Irish and UK markets, predictive models are used extensively in personal lines business, where the volume of data is substantial.

Some examples of how it is used in pricing:

- Household insurers may use predictive modelling to ensure that they receive a higher premium for a risk in an area that is prone to flooding.
- Motor insurers use it to predict average claims costs for specific age groups.
- Personal lines insurers use it to predict retention levels if optional extras are (or are not) offered and their pricing.

When insurers could no longer use gender as a rating factor (see Chapter 1C2a), many insurers used predictive modelling to try to assess the impact on their business. It was also used to gauge the business impact of using new rating factors, and in predicting how customers might respond to any changes.

Other features of predictive modelling enable the insurer to:

- Look at a number of pricing factors and identify the effect of adding or subtracting an individual factor when producing the final premium (age, location, marital status).
- Link it with advances in online quotation systems to offer customers the products that suit their needs.
- Support the chosen rating/pricing and underwriting strategy, e.g. it can assist the insurer in deciding whether to accept a reduction in renewal retention and so maintain its target **combined operating ratio (COR)**, or to allow some deterioration of its COR but maintain its customer retention levels by allowing discounts to existing customers.

combined operating ratio
a measure of profitability used by an insurance company to indicate how well it is performing, calculated by expressing an insurer's underwriting result as a percentage of its earned premium income

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The COR compares the total value of claims and management costs and expenses, to that of premiums. If the total value of these elements is higher than the premiums received (i.e. the ratio is more than 100%) then the underwriting result is unprofitable. The COR is calculated by taking the sum of the incurred losses and expenses and dividing by the earned premium. This is expressed as a percentage and is calculated as follows:

$$\text{Combined operating ratio} = \frac{\text{Incurred losses + Expenses}}{\text{Earned premium}} \times 100 = \%$$

For example, if the incurred losses relating to a line of business are €45 million, expenses are €10 million, and earned premium is €50 million, the COR is calculated as follows:

$$\frac{(€45 \text{ million} + €10 \text{ million})}{€50 \text{ million}} \times 100 = 110\%$$

This is an unprofitable underwriting result.

E2 Pricing optimisation

Pricing optimisation models are the next generation of predictive pricing tools. Insurers increasingly combine their own data with a range of customer and lifestyle information about their policyholders. This allows them to analyse a range of possible customer behaviours to determine the final premium. For example, if a simple predictive model using **variables** such as age, location and vehicle for a private motor policy produced a renewal premium of €700, the price optimisation model might show that, based on behavioural information, policyholders of a similar profile are willing to pay up to €750 for their motor policy.

The challenge for insurers is clearly defining their share of the customer market segment, both in terms of pricing and levels of commission. If the theory works perfectly and efficiently, it allows insurers to maximise the price that their product is sold at, hence maximising profits. However, in reality, it is extremely difficult as it is affected by a number of unstable variables over time (e.g. customer and policy characteristics, competitors' prices and macro-economic factors).

Quick question 6

Calculate the COR for the following, and state if the underwriting result is profitable or unprofitable:

Incurred losses: €40 million

Earned premium: €60 million

Expenses: €15 million

variable

a measure that can assume any value within a given range of possible values

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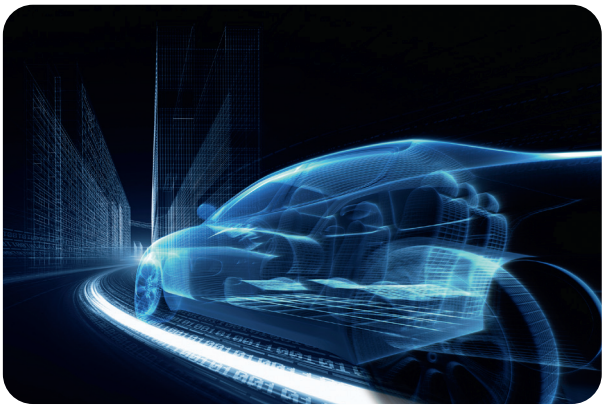
E3 Vehicle telematics



Telematics uses global positioning system (GPS) and other technology to send information about how a vehicle is being driven. This is collected in a small, electronic box fitted in the vehicle (with the driver's consent) and transmitted to the insurer. This allows an insurer to charge an individually tailored premium, based on a person's actual driving behaviour, instead of relying solely on actuarial profiles to which a customer may belong. As such devices become cheaper and equality legislation (e.g. the Test Achats case) forces companies to price based on actual experience rather than on driver profile (e.g. gender), this practice is likely to grow. The fairness of this approach makes it attractive.

Telematics offerings are typically targeted at younger driver profiles (such as ages 17-24) where they are seen as a positive influence on safer driving for 'higher risk' driver categories. The potential benefits of telematics includes improved road safety for motorists and potential insurance premium cost savings as a reward for safe driving.

In 2020, there were 13.1 million insurance policies based on telematics in force in Europe and this number is expected to reach 49 million by 2025.[44] The global vehicles telematics market size was valued at $64.93 billion(USD) in 2021 and is projected to grow from $72.78 billion in 2022 to $213.67 billion by 2029.[45]

However, one of the biggest challenges is processing the volume of data. Braking speed, acceleration, speed around corners, driving steadiness and speed relative to speed limit zones are all pricing considerations. For each kilometre driven, an enormous amount of driving behaviour is captured. Making sense of this data and using it effectively will be a major challenge for the industry. All such data must also be collected and processed in compliance with the **General Data Protection Regulation (GDPR)** (see Chapter 1C2b). Insurers must demonstrate the lawful basis for the collection and retention of such data. Insureds must be made aware of how their personal data will be used and what third parties may have access to it and in what circumstances.

E4 Advantages of using sophisticated pricing models

Pricing techniques will evolve and become more sophisticated as the industry embraces new technology and thinking. There is continuing pressure for insurers to adapt to change, to improve their underwriting performance and their **consumer** offerings. Insurers that adapt quickly and effectively are likely to gain a competitive market advantage.

consumer

According to the Central Bank Minimum Competency and Consumer Protection Codes, a consumer is:

a. a person or group of persons, but not an incorporated body with an annual turnover in excess of €3 million in the previous financial year (a group of persons includes partnerships and other unincorporated bodies such as clubs, charities and trusts), or

b. incorporated bodies having an annual turnover of €3 million or less in the previous financial year (provided they are not part of a group having a combined turnover of more than €3 million) and

includes a potential 'consumer'.

[44] Janson, Casper. '*Insurance Telematics in Europe and North America*' www.media.berginsight.com

[45] Fortune business insights, 'Vehicle telematics market size, share & COVID-19 impact analysis, by technology type (embedded, tethered and integrated) by sale type (OEM and Aftermarkets), by vehicle type (passenger cars and commercial vehicles) and regional forecasts, 2022-2029'.

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Specific advantages of using sophisticated pricing models are that insurers can:

- Improve profitability through pricing based on a thorough understanding of the risk
- Make better pricing and marketing decisions based on understanding the policyholder's purchasing and retention behaviours
- Identify data patterns that traditional pricing methods would not find
- Improve the quality, speed and efficiency of pricing analysis
- Improve pricing and competitiveness through geographical analysis
- Increase marketing effectiveness through better regional targeting.

Like all computer programs, the predictive ability of the pricing models is only as good as the data used to create them. If the initial data contains errors, the model may reduce rather than enhance profitability. The human element is critical to ensuring quality of data, accurate interpretation of output, monitoring performance and quickly identifying adverse results. The effective implementation and operation of these models demands a combination of human judgement, experience and expertise.

As the amount of data grows, insurers appreciate that whoever can best capture and analyse this information will have a competitive edge. A consulting industry has emerged around 'big data', as consulting firms seek to support insurers without the in-house capabilities, time or expertise to manage this data. The future of pricing will see a greater interdependency of insurers, consultants and third-party data providers. The presence of big data analytics companies in Ireland is growing with business intelligence consultants, such as Affirma and Kainos, harnessing data and using it to identify new opportunities.

E5 Technological advances that could impact risk pricing

Just think

In the next decade or so it is predicted that driverless cars will be much more common on our roads. Consider the potential impact of increased usage of such cars on road safety, and the knock-on effect to the motor insurance industry.

Driverless cars have the potential to reduce road traffic accidents and motor incidences caused by human error. The knock-on effect of fewer incidences will be fewer claims and, in turn, a potential reduction in the cost of premiums. It is possible that the motor insurance market will experience a significant shrinkage if driverless cars outnumber self-driving cars and eventually dominate the motor vehicle population.

As technology develops and driverless cars become fully autonomous, any fault leading to an accident will most likely lie with the car technology as opposed to the driver. This will have an obvious impact on motor insurance as the risk of a motor accident would transfer from the driver to the car manufacturer. It does not necessarily mean that there will be no need for motor insurance, but insurers will have to evolve and adapt their products and services. However, there are still fundamental regulatory and safety challenges to be overcome before the introduction of fully autonomous cars on our roads is widely approved.

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F Competitor analysis

The insurance market is very competitive and intense competition can often force prices to unsustainably low levels. This may mean that the 'ideal' risk premium, as calculated by the processes described in this chapter, may not be achievable. So it is vital that underwriters are aware of what their competitors or potential competitors are doing. This will allow them to make the right strategic pricing decisions for their business and react quickly to market changes.

F1 Why analyse the competition?

Looking at the underwriting cycle, we saw that insurers' pricing decisions must accommodate competitors' behaviour (see Chapter 2D). Insurers must understand the effect of competitors' products, services and prices on their retention and acquisition of business.

In a market of plentiful capacity (i.e. a soft market), insurers will compete aggressively. This results in depressed prices as insurers compete for market share and are consequently faced with difficult decisions. How an insurer reacts depends on its corporate objectives and underwriting strategy. Examples of necessary action it might take are:

- **Pull out of the market** - When prices fall below a level that the insurer considers to be prudent, it may opt to stop writing business (in that sector) altogether.
- **Reduce income** - The insurer may opt to reduce its market share while prices are low.
- **Focus on retaining business at a profitable level -** Rigorous risk selection may be implemented to retain and attract only those risks where an adequate premium is charged and profits can be made.
- **Lower prices to compete** - The insurer's decisions will be influenced by the nature of the competition as well as by its own current business performance and financial state.
- **Reduce levels of cover** – Reducing the exposure to claims by increasing excesses or reducing the scope of cover may allow the firm to lower the premium and retain market share without increasing its loss ratio.

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The purchase of insurance is not always totally price driven and insurers may charge differential prices by virtue of their:

- Brand
- Levels of cover
- **Financial rating** (This is particularly relevant following the collapse of insurers such as Quinn, Setanta, Qudos and Enterprise).
- Quality of service
- Risk appetite for a particular class of business
- Speed and flexibility when handling claims
- Value-added services such as helplines or risk management.

Insurers will compare their competitors' products with their own to decide how the differences in the product will affect the price it charges. While there is merit to these differentiators, many consumers still regard cost as the primary differentiator, particularly with personal lines products. This may be less so with complex commercial risk, especially where customers or their intermediary use a tender process to obtain quotations and cover terms from insurers.

Understanding data is key when it comes to the development of new insurance products. The more data an insurer has, the more precise their pricing and product design, the more targeted their portfolio, the better managed their claims and the more accurately fraud can be identified and avoided. Insurers are reluctant to share their data as they will not want competitors to gain insights into their portfolios and reveal any competitive advantage they may have.

To manage their pricing strategy effectively, insurers must monitor the market and try to ascertain the point at which the cycle is, at any given time. Part of this monitoring entails keeping abreast of competitors' actions and strategies, analysing new initiatives, and trying to anticipate their next move.

financial rating (of an insurer)

a rating by an independent company giving an opinion of an insurer's financial strength and ability to meet ongoing policyholder obligations

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G Summary

In this chapter we dealt with the main aspects of the premium and the considerations during the pricing process, focusing especially on the role of claims data and its interpretation. We also noted the important role that actuaries play in this process.

We examined some of the ways in which acceptable risks are priced and the different pricing methods, including burning cost and prospective risk analysis. We also looked at monitoring competitors' products and activities to inform underwriting pricing strategy and maintain competitiveness.

G1 What's next?

In the next chapter, we will continue our examination of how insurers implement their underwriting strategy. We will move from the specific area of pricing to explore the main features of modern underwriting policy and practice.

G2 Study tips

It's important to remember that this textbook is the primary information source for this module. All the questions in your exam will relate directly to information featured in this textbook. Use the 'End of chapter questions', 'Quick questions' and 'Sample exam questions' to quickly test what you've learned so far. Make a note of any topics/areas you need to improve in and keep it to hand so you can refer to it when you revise this chapter again before your exam.

In addition to the textbook, your Member Area has many online study supports that can help you as you study this module.

G3 Online learning supports

Your Member Area includes a guide to success, an automated study planner, an exam countdown timer and study tips guide. These study supports are invaluable in reinforcing what you have learned so far. The webinars, chapter-by-chapter key points and other supports will help you to break down the chapter's content when revising.

Remember: This module is examined by mixed assessment, which includes:

- An online mid-semester MCQ assessment (20 questions)
- An end-of-semester written exam paper (9 questions)

Given that your online mid-semester assessment is a multiple-choice question test, completing the online practice paper is the ideal preparation for this. You can prepare for the end of semester written exam and test your knowledge by completing sample and past written exam papers.

To access these online learning supports, just log into your Member Area on **www.iii.ie** and click on the **Connect** logo.

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End of chapter questions

Use these questions to test your understanding of what we've covered in Chapter 3. It should be noted that these end of chapter questions are revision questions to test your understanding of the material in the chapter just studied. They are not sample exam questions.

1. Briefly explain the role of a pricing actuary.

2. Briefly explain the terms 'incurred but not reported' and 'incurred but not enough reported' claims.

3. State the three components of the risk premium.

4. Explain why insurers include a contingency loading when developing premiums.

5. State four external factors that must be considered when setting premiums for a class of business.

6. When analysing claims data, an underwriter will look at any trends. Outline three examples of possible trends that might be seen in the claims data.

7. Briefly explain the burning cost method of calculation and give two examples of when this method might be used.

8. State the main advantages of sophisticated pricing models.

9. Briefly explain the term 'minimum premium' and why insurers apply minimum premiums to risks.

10. Briefly explain why insurers analyse their competition.

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Answers to end of chapter questions

Check your answers against those below and make a note of any points you left out. This will highlight the sections you may need to look at more closely during your revision.

1. When calculating premiums for individual risks, underwriters use rates and pricing models developed by actuaries in the earlier stages of the pricing process. Pricing models or techniques accurately estimate the future cost of claims for an individual risk or bundle of risks, both in terms of frequency and severity. Actuaries also undertake rating and portfolio analysis, individual risk analysis, claim reserving, and review the return on capital employed (ROCE).

2. Incurred but not reported (IBNR) claims are claims or losses that have been incurred by the insured, but not yet reported to the insurer. A claim may be made in the future, but as the insurer is unaware of it, they cannot create an accurate reserve.

   Incurred but not enough reported (IBNER) claims are claims or losses where there is a degree of uncertainty about predicting the cost of recently reported outstanding claims, leading to incorrect estimates of the reserves that should be put aside to cover them.

3. Paid claims, outstanding claims (including IBNR and IBNER) and reinsurance costs.

4. There is uncertainty about the adequacy of the premium calculations, so insurers often add a contingency loading when developing premiums. The loading allows for the possibility of claims and other costs exceeding the insurer's predictions.

5. The external factors are (any four):
   - Inflation
   - Interest rates
   - Exchange rates
   - Claims inflation
   - The law
   - Emerging risks
   - Competition
   - Political/economic development.

6. Examples of trends in claims data include:

   Frequency – Is it increasing or decreasing? The incidence of claims is a better indicator about the underlying quality of a risk than the cost of claims. This is for two reasons. Firstly, the cost of claims can be distorted by one large loss. Secondly, as final claim numbers are often known long before claims are either reliably reserved or settled, the underwriter can be confident about the frequency and trends can be quickly determined.

   Severity – Is the average claim cost increasing or decreasing? What catastrophe losses has the risk or line of business sustained?

   Cause of loss – Are there any trends or patterns emerging? Once the trends have been identified, the underwriter needs to know what effect they will have on claims in the future, or what actions, if any, should be taken to reduce or even eliminate some of these future claims.

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7. The term 'burning cost' refers to a method of rating. This calculation translates incurred losses into a rate against a measure of exposure appropriate to the risk. It is best suited to risks with a high frequency of claims, but with no significant variance between the values of individual claims. Examples: employers liability and motor fleet risks.

8. The advantages of using sophisticated pricing models are that insurers can:
   - Improve profitability through pricing based on a thorough understanding of the risk
   - Make better pricing and marketing decisions based on understanding the policyholder's purchasing and retention behaviours
   - Identify data patterns that traditional pricing methods would not find.

9. An insurer will have a minimum premium applicable to each class of business. This is calculated to reflect the lowest economic level at which it is cost effective to write the business. This minimum incorporates allowances for large and catastrophe losses as well as exposures.

10. Insurers analyse their competition because they need to understand what effect their competitors' products, services and prices will have on their retention and acquisition of business.

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Answers to quick questions

1. The risk premium is based on the expected cost of the likely claims in the forthcoming period for the risk or class of business being accepted. It is based on the projected costs of claims paid, outstanding claims and reinsurance.

2. Fixed expenses include:

   - Costs incurred in the processing of a risk that applies independently of its size, premium or complexity
   - Amounts built into premiums and used to pay operational costs such as building occupation costs, staff costs, and central (head office) costs.

   Variable expenses include:

   - Amounts varying in line with the individual risk
   - Amounts calculated to cover increased input by underwriting and processing staff, ongoing service requirements, surveys, site visits and so on.

3. Triangulations are especially useful for risks where the claims experience takes years to mature. This varies depending on the class of business and/or the nature of the risk. The value of property losses, for example, tends to be determined fairly quickly so maturity will be reached sooner than for a long-tail class of business such as employers or public liability, where outcomes can be uncertain for several years.

4. Rating factors that insurers use when rating the buildings under household policies are likely to include:

   - Location
   - Materials used in construction (e.g. brick, timber, thatch)
   - Occupation of the building (e.g. whether the property is rented out, or frequently unattended)
   - Level of security protection (e.g. window locks, alarms)
   - Fire prevention equipment.

5. The required employers liability premium for the 2023 period using the burning cost rate is calculated as follows:

   €24,000,000 (wageroll) x 0.782% (rate) = €187,680

6. Combined operating ratio (COR) is calculated as follows:

   $$\frac{(€40 \text{ million} + €15 \text{ million})}{€60 \text{ million}} \times 100 = 92\%$$

   This is a profitable underwriting result.

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Sample exam questions

Question 1

In 2022, a private motor insurer had an earned premium of €25,000,000 on its portfolio. It had incurred claims of €18,000,000.

Within those figures, the insurer had the following expenses during 2022:

Relay software transaction charges	€500,000
Office rent	€750,000
Broker commission	€2,500,000
IT department expense	€1,250,000
Staff salaries	€1,500,000

a) Identify the fixed expenses and variable expenses, presenting them in a table under those headings, and calculate the total value of each.

(6 Marks)

b) Using the figures provided, calculate the insurer's loss ratio for 2022.

(2 Marks)

c) Assuming the earned premium drops by 20% in 2023, and incurred claims activity remains at the same level, estimate the insurer's loss ratio for 2023.

(2 Marks)

Clearly show your workings and any relevant formula for each of these calculations above.

Total: 10 Marks

Question 2

a) Briefly explain the operation of burning cost as a rating method.

(5 Marks)

b) Using these figures, calculate the burning cost rate for each year and the total/average burning costs rate for the five-year period 2018-2022.

Underwriting year	Wageroll (€)	Incurred claims
2018	30,000,000	248,000
2019	30,700,000	210,000
2020	31,500,000	300,000
2021	32,400,000	320,000
2022	33,100,000	190,000
Total/average	**157,700,000**	**1,268,000**

(5 Marks)

Total: 10 Marks

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Your answers

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Sample answers

The answers set out below show the main points you must consider in answering the question. In some cases a well-reasoned alternative view could earn good marks.

Question 1

Part (a)

Fixed expenses		Variable expenses	
Office rent	€750,000	Relay software transaction charges	€500,000
IT department expense	€1,250,000	Broker commission	€2,500,000
Staff salaries	€1,500,000		
Fixed expenses	**€3,500,000**	**Variable expenses**	**€3,000,000**

(6 Marks)

Part (b)

2022 -

- Loss ratio = incurred claims ÷ earned premium x 100
- 18,000,000 ÷ 25,000,000 x 100 = 72%

(2 Marks)

Part (c)

2023 -

- Earned premium decreases by 20% (€25,000,000 x .8) = €20,000,000
- 18,000,000 ÷ 20,000,000 x 100 = 90% for 2018

(2 Marks)

Reference Chapter 3B2a & C3 **Total: 10 Marks**

Question 2

Part (a)

Burning cost is an alternative, claims-based approach to rating for risks that generate a significant number of claims. For medium to large risks, underwriters tend to use this method as a comparator with standard rating.

This method is best suited to risks with a high frequency of claims, but with no significant variance between the values of individual claims. The claims experience of employers liability risks and motor fleet risks usually display these characteristics. However, risks such as property, with a relatively low frequency but a large size distribution of claims (i.e. the value of each claim varies significantly) are rarely rated this way.

At its simplest, the burning cost method of rating attempts to calculate the claims cost per unit or period of exposure. This means translating the incurred losses into a rate which can be used against an exposure measure appropriate to the risk (e.g. the number of vehicles in a fleet policy, or the wageroll in an employers liability risk).

(5 Marks)

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Part (b)

Underwriting year	Wageroll (€)	Incurred claims	Burning cost rate x 100
2018	30,000,000	248,000	0.827%
2019	30,700,000	210,000	0.684%
2020	31,500,000	300,000	0.952%
2021	32,400,000	320,000	0.988%
2022	33,100,000	190,000	0.574%
Total/average	**157,700,000**	**1,268,000**	**0.804%**

(5 Marks)

Reference Chapter 3D2 **Total: 10 Marks**

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Chapter

4

Underwriting – policy and practice

What to expect in this chapter

This chapter examines risk evaluation and the determination of acceptability. One of the underwriter's tasks is to differentiate between good and bad risks, so that better quality risks can be taken on and poorer ones either improved or refused.

It outlines how insurers categorise risks and considers how policy wordings and restrictive policy conditions are used to limit the impact of risks seen as below average quality. Finally, it explores the continuing relationship between underwriting and claims.

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Contents

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A Underwriting

In Chapter 1A we saw that underwriting is: *the process of assessing and pricing risks proposed for insurance.*

We also identified that the term 'underwriting' can be used to describe the activities of either an insurer or an individual.

Underwriting by an insurer is the issuing of an insurance contract making the firm (risk carrier) liable to the policyholder for insured losses in exchange for a premium if certain defined events occur. The term 'underwriting' dates back to the origins of Lloyd's of London, where investors or merchants agreed to accept part of an insurance risk, writing their names under the name of the original investor who had set the terms of the contract.

When underwriting describes the activities of an individual it describes their actions on behalf of an insurer in assessing a risk and determining the appropriate cover and premium.

A1 The role of the underwriter

You will recall from The Nature of Insurance module that insurance operates as a **common pool**. The insurer collects contributions from those purchasing insurance and the contributions of the many pay for the losses of the few. Since not every risk brings equal exposure to the common pool, one of the underwriter's roles is to assess what exposure each risk presents.

common pool

the basic concept of insurance that insurers are the managers of a sum or pool of money and that they have an obligation to charge equitable premiums to fund it and pay valid claims from it

The idea of a common pool works because most policyholders do not claim in any one year. As we saw in Chapter 3, premiums collected annually must cover the cost of claims in that year. They must also cover the insurer's expenses in operating the pool and deliver a profit conforming to the underwriting strategy (see Chapter 2A). Underwriters must manage the common pool prudently and profitably. This involves:

- Assessing each risk offered to the pool or proposed changes to existing risks in terms of exposure
- Deciding whether or not to accept the risk, or how much of it to accept
- Determining the terms, conditions and scope of cover to be offered (if the risk is acceptable)
- Calculating a suitable premium for an individual risk.

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Underwriters must assess each risk presented against the insurer's underwriting criteria. These criteria implement the insurer's underwriting policy and specify the acceptable and unacceptable risk features. We will see more about underwriting criteria in Section D. When considering a new risk (or making changes to an existing one), the underwriter will ask questions such as:

- Does the proposer fit the customer profile assumed in the development of the rates?
- Is the proposal an acceptable risk to the firm and, if so, at what price?
- Does it match the industry profile and risk appetite set out at a strategic level by the firm?
- Should specific terms and conditions be applied to individual risks or groups of risks?

Underwriters and actuaries work together to develop premiums and rates. Later in this chapter we will see how underwriters also work alongside risk surveyors (see Section D) and claims colleagues (see Section F).

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B Risk classification and categorisation

Classification and categorisation are the methods that insurers use to identify and group risks based on the degree of risk they bring to the common pool. In this section we look at how such groups are established. Whilst they may sound similar, they are two distinct methods of grouping risk.

Classification: the systematic identification of common features in insurable risks (e.g. vehicles, drivers, trade activities or types of premises) relevant to specific classes of business. For example, different classifications are required for motor, property and liability.

Categorisation: the allocation of a category (such as below average or above average) to classified insurable risks according to their assumed degree of hazard.

As can be seen classification happens first by grouping together risks with similar features. This allows insurers to use these features for rating purposes. The process of categorisation then takes place whereby underwriters decide whether a particular risk in a common pool brings more or less than the average risk to the pool.

B1 Classification

Risks may be classified by account (product type) and by class of business. Table 4.1 shows examples of this type of classification.

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Table 4.1 Classification by type of insurance and class of business	
Type of insurance	**Class of business**
Personal insurances	• Private car • Household • Personal accident • Pet • Travel • Gadget • Farm
Commercial motor	• Light commercial vehicle • Motor fleet • Motor trade • Special types/forklifts
Commercial liability	• Employers liability • Public liability • Products liability • Professional indemnity • Directors and Officers (D&O) • Fidelity guarantee • Medical malpractice • Cyber • Business interruption

Within a class of business, individual covers/perils are classified separately, e.g. fire, explosion, **storm**, **flood** and escape of water under a **material damage** policy.

The next level of classification is the industry code relating to risk type, or an insurer's own method of coding. For example, in commercial insurance, this would usually be based on trade/occupation. The standardised coding system for industry type/activity in EU member states is NACE.[46] This is also used by the Health and Safety Authority (HSA) when recording and reporting on accidents, allowing underwriters to review accident statistics for different types of insurance business in Ireland over a number of years.

While helpful, the NACE coding may only be relevant to a small proportion of an insurer's business. Consequently, insurers devise their own classifications to highlight certain features or characteristics of risks. Table 4.2 shows some typical examples.

Table 4.2 Classifications for different classes of business		
Motor	**Commercial property**	**Liability**
• Type of vehicle • Use of vehicle • Age of driver	• Use and occupancy of the building • Methods of construction	• Occupation • Product • Footfall in premises

storm

a violent weather condition, with strong winds, usually with a sustained speed in excess of 89 kph (55 mph) and often accompanied by rain, snow and possibly thunder and lightning

flood

the escape of water outside its natural confines or a rising body of water that overflows onto normally dry land

material damage

A term used to describe physical loss or destruction to property or contents

[46] The Statistical Classification of Economic Activities in the European Community (French: Nomenclature statistique des Activités économiques dans la Communauté Européenne), commonly referred to as NACE.

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B2 Categorisation

Insurers then take these high level classifications and categorise risks into comparable groups for easy analysis and rating. The process then becomes more granular as risks are grouped together with similar features and characteristics, and with a similar degree of hazard and claim profiles. If we consider risks classified by class of business and take motor fleet as an example, the categories of risks with similar hazard and claim profiles would include own goods fleets, distribution, haulage fleets, couriers, taxis, and bus operators. Categorising in this way:

- allows a much more detailed view of the account or class of business
- permits analysis of the performance of various groupings/categories
- provides an informed view of performance and therefore pricing adequacy.

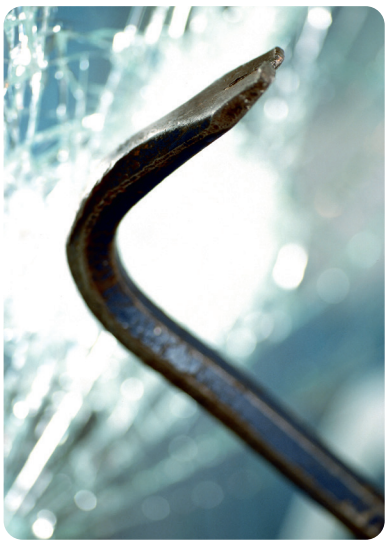
Two more examples of categorisation are private car rating groups and property theft rating areas.

B2a Car rating groups

Insurers band models of cars with similar characteristics together, as individual assessment would be unworkable. Factors taken into consideration include:

- Make and model
- Engine size and power (measured in horsepower)
- Damage and parts costs
- Repair times
- New car values
- Body shells
- Performance
- Car security.

B2b Property theft rating areas



Geocoding or other tools are used to categorise property theft risks, based on claims experience and crime statistics in certain areas. Urban areas are more susceptible to theft than rural areas and this will influence rates. Eircodes are widely used by insurers to identify exact locations and allow areas to be easily and accurately grouped together from a theft rating perspective. Eircodes are also used to tackle crime and prevent theft in rural areas. The government are encouraging farmers to mark farm equipment with Eircodes. The logic is that a stolen item, marked discreetly with an Eircode in a difficult to remove location, is less attractive to criminals and easier to return to its owners if recovered.[47]

How insurers choose to categorise their risk should be reviewed regularly to ensure accuracy and to facilitate the development of new coding factors.

geocoding

the process of converting an address to a specific numerical code

Quick question 1

List the factors considered when insurers band models of cars into comparable groups for ease of analysis and rating.

The answer is at the end of this chapter.

[47] Irish Government News Service, *'Government encourages use of Eircodes to combat rural crime,'* www.merrionstreet.ie, April 2019.

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C Physical and moral hazard

In Section B, we saw that insurers classify and categorise risks into groups of similar degrees of hazard. You will recall from The Nature of Insurance module that hazards are the features of a risk likely to influence the **frequency** and/or **severity** of a loss.

frequency

how often an event will (or is likely to) happen

severity

the seriousness (size) of an event (also referred to as 'impact')

When assessing new risks or changes to existing ones, underwriters need to establish the degree of hazard. This helps them to make decisions about cover and pricing, based on the insurer's underwriting criteria (see Section D).

Hazards fall into one of two categories – physical or moral. These terms can be used broadly to describe both the positive and negative features of a risk. In this chapter we use them to refer only to the areas of potential concern to underwriters, i.e. to poor physical and moral hazard.

C1 Physical hazard

physical hazard

those physical aspects of a risk that directly impact on its insurability or the terms, conditions and exceptions on which insurance may be accepted

An underwriter's accurate and balanced assessment of **physical hazard** is the very foundation of underwriting success. This hazard refers to the identifiable physical aspects of a risk which might increase the likelihood of a claim and in turn affects its acceptability and, if acceptable, the terms and conditions of cover. Physical hazards vary from risk to risk, although common features often exist among similar risks (e.g. building sites, shopping centres, schools). Examples of physical hazards are the location of a risk (e.g. being more susceptible to flood or theft) or the construction of buildings (e.g. mass concrete throughout being lower hazard than an older building with timber floors).

Risks that appear to be similar may present significantly different types and levels of physical hazards, which are discrimination factors. Underwriters must understand the different risk types encountered. They must also identify what physical hazards are present in any risk they are assessing for acceptance and pricing. The risk surveyor (see Section D3) plays a role in identifying physical hazard and advising the underwriter about any concerns.

Table 4.3 gives examples of physical hazards in different classes of insurance.

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Table 4.3 Physical hazards in various classes of insurance

Material damage	Business interruption
• Sub-standard or flimsy construction of premises, combustible elements of construction (such as polystyrene insulated panels in food industry risks) or conversely modern concrete construction throughout. • Combustible nature of contents or non-combustible with adequate fire breaks throughout. • Inadequate security of premises or monitored/occupied 24 hours • Use or occupancy of premises • Source of heat, especially if used in a production process (e.g. deep fat fryers) • Location of premises: – Proximity to the fire service and/or fire hydrants – Proximity to the sea or inland water – Flood zones	• Single production site where all revenue is generated in one location or multiple sites that insured can move production to • A dependency on a key supplier for key components or ingredients with no alternative supplier readily available or a number of available suppliers that can supply extra components/ingredients if required • Seasonality of production, creating an uneven pattern of revenue generation or steady revenue stream throughout the year • Specialist machinery with a long lead-in time to replace • Availability of machinery • Specialised premises – no easily available alternative premises or ability to source alternative premises quickly
Liability	**Motor**
• Lack of compliance with health and safety requirements and all other relevant legislation • Inadequate staff training or comprehensive staff training provided • Unsafe or poor condition of premises or good housekeeping and building maintenance standards observed • Inadequate or ineffective machine guarding or properly guarded machinery • Nature of activities carried out (e.g. demolition, work at height or depth)	• Older vehicles, poorly maintained or lacking in modern safety features or modern/newer vehicles with up-to-date safety features • Inadequate driver training/driver inexperience/history of motor claims/motor driving convictions/experienced drivers with long-held licences • Lack of compliance with driving hours' restrictions or fully compliant with all relevant regulations
Personal accident/travel	
• Age and health of persons insured • Activities undertaken while on holiday and/or occupation (e.g. snowboarding or skiing) • Places visited – areas of danger or where risk of personal attacks or terrorist attacks are higher or areas within EU • Frequency of travel for annual type contracts	

This list is not exhaustive, but it indicates some features an underwriter looks at when assessing physical hazard.

Quick question 2

a. Define 'physical hazard' in relation to insurance.

b. List three examples of physical hazard in respect of business interruption insurance.

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C2 Moral hazard

Moral hazard is more difficult to define and more difficult to assess, because it relates to the behaviour and attitude of the proposer/insured. In contrast to physical hazard, (which is often mitigated through risk improvement measures), it is very difficult to correct or lessen poor moral hazard. It is also extremely difficult to identify at the outset, without a pre-inception survey.

To illustrate the nature of moral hazard we will consider how it may manifest at three different stages of the insurance process:

- Pre-inception
- Post-inception
- Post-loss.

C2a Pre-inception

Pre-inception aspects of moral hazard include criminal convictions, unacceptable elements of the proposer's insurance history (e.g. a policy cancellation) or breaches of Health and Safety legislation.

Poor risk management may also indicate moral hazard. This may be demonstrated by:

- Poor maintenance of premises or vehicles
- Inadequate health and safety management
- Inadequate training
- Poor management of the site, staff or operations.

utmost good faith

the positive duty to voluntarily disclose, accurately and fully, all facts material to the risk being proposed, whether requested or not

In relation to providing information in the pre-inception period, the proposer must provide full and truthful answers to the questions on the proposal form or in other risk documentation. Traditionally insurance contracts were governed by a higher standard of '**utmost of good faith**' (*uberrima fides*) which puts the duty on both parties to ensure that the relevant information was available to both parties. This general principle of good faith is given legal recognition under Section 17 of the **Marine Insurance Act 1906**. Giving false or misleading information, e.g. about previous losses, may make the underwriter accept a risk that would otherwise have been declined or priced differently. It also indicates dishonesty and a disregard for the basic requirements of an insurance contract.

You will be aware from earlier modules that an insurer may avoid a contract from its inception (termed '*ab initio*') if evidence of deliberate non-disclosure or misrepresentation is discovered. The policy is treated as if it never existed.

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However, the **Consumer Insurance Contracts Act 2019** (see Chapter 1C) set aside the principle of 'utmost good faith' for personal lines/consumer insurance contracts. It replaced it with an onus on the insurer to ask all relevant questions which the consumer must answer 'honestly and with reasonable care'. There is a presumption that when answering the questions by an insurer, the consumer knows that the question is relevant to the risk or premium or both, with ambiguity to be resolved in favour of the consumer. Section 15 of this Act created post-contractual duties for the consumer and insurer.

It should be remembered that this Act only applies to consumer contracts. For **non-consumer** insurance contracts, the principle of utmost good faith remains unchanged.

C2b Post-inception

Moral hazard may be evident in the following:

- Showing negative attitude to recommendations for risk improvement
- Giving unhelpful responses to requests to visits by the insurer
- Showing negative attitude to compliance with health and safety standards
- Regularly delaying premium payments
- Delaying production of declarations required for premium adjustment purposes, e.g. stock
- Showing carelessness in looking after goods or property, thinking that as goods are insured, less care is needed by the owners.

When significant moral hazard is displayed post-inception, insurers may review the cover and terms and conditions and may exercise their right to cancel the policy and withdraw cover completely.

C2c Post-loss

Following a loss moral hazard may be shown in the following ways:

- Delaying notification of the loss with full details of the circumstances
- Not assisting insurers in quantifying the value of the loss
- Exaggerating the value of the loss
- Not providing accurate records to achieve speedy loss settlement
- Displaying an aggressive approach when settling a claim, e.g. demanding unreasonably high levels of payment.

Just think

What other steps can the insurer take to assess the moral hazard?

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Assessing moral hazard is difficult, as it is based on people's attitudes and behaviour. The key thing is to collect and analyse all information about a proposer and to check out every fact, especially unanswered or only partially answered questions. The underwriter must verify information from other sources where possible, being aware of, and alert to, the importance of inconsistencies. Similar to physical hazard, the risk surveyor can play a big role in identifying moral hazard. Table 4.4 illustrates some of the main indicators or moral hazard during a risk survey.

Table 4.4 Surveys and moral hazard

A surveyor's indicators of the existence of moral hazard
• Untidy, uncontrolled or over-congested premises
• Evidence of poor maintenance, especially the electrical system, generally a good guide to housekeeping
• Employee training and safety being disregarded
• A rapid staff turnover
• Unwillingness to fund improvements
• A negative or passive attitude to risk management of their business or premises
• A reluctance to implement suggested risk improvements
• A reluctance to insure in line with values at risk, resulting in under-insurance
• A lack of information, or inaccuracy of information
• Poor responses to questions about:
- Insurance and loss history
- Hazards and risk management
- Distribution of stock between locations
- Sources of raw materials or stock.

For many underwriters, certain aspects of moral hazard will render a risk uninsurable. This is because of the likely problems in improving a risk with an unacceptable level of moral hazard.

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D Underwriting and risk improvement criteria

In Section B we looked at how underwriters use risk classifications and categorisations to define the risk acceptance criteria for groups of similar risks, or for individual risks. Insurers determine the degree of hazard (i.e. the features or characteristics of a risk) they consider to be acceptable for all the groups used in their classifications.

D1 Underwriting criteria

Underwriting considerations unite different strands of physical hazard, classification and categorisation in agreeing acceptable risks and their acceptance conditions. These factors are derived directly from the underwriting strategy and assist in making sure the underwriting policy is implemented. They are devised to identify the risks that are part of the insurer's target market. They are practical tools used by underwriters to determine the acceptability of a risk.

Underwriting criteria are also a form of risk control. If a risk falls outside the defined underwriting acceptance criteria it will normally be seen as unacceptable business. By using underwriting criteria, the insurer controls its levels of risk exposure.

Table 4.5 Underwriting criteria for different classes of business

Material damage	Liability
• Accepting highly protected risks only, e.g. sprinklers or approved alarm systems • Restricting the trades written, e.g. avoiding waste recycling plants or risks involving the storage or use of explosive chemicals. • Restricting risks in certain geographical locations like high-risk flood zones (i.e. using geocoding of risk locations and predictive flood models and own claims experience to avoid flood risks).	• Excluding trades using asbestos • Excluding trades where employees are exposed to hazardous machinery (e.g. chainsaws) • Limiting the use of heating and welding equipment, where the underwriting criteria specify levels of acceptability. • Excluding high risk business, e.g. construction risks involving working at heights in excess of 7.5 metres (25 feet) above ground. • Excluding liability on products exported to North America. • Excluding certain products on account of their end use (e.g. medical devices or components used in the automotive/ aerospace industries)

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Table 4.5 Underwriting criteria for different classes of business (contd.)

Motor	Household
• Excluding cover for young (e.g. aged under 25) and/or inexperienced drivers based on high claims levels. • Refusing fleets of high-performance or high-value vehicles. • Avoiding/limiting exposure to certain higher-risk categories such as vehicles for hire and reward.	• Restricting acceptance of homes with contents valued over, e.g. €500,000, especially if items of fine art or jewellery form a large part of the total risk value. • Excluding risks in defined geographic areas based on previous claims history of certain perils (e.g. flood or storm). • Avoiding risks based on construction type (e.g. houses with thatched roofs).

While target criteria exist for risk acceptance, it is also possible to accept 'non-standard risks' subject to specific underwriting measures. An increased (loaded) premium may result, or changes may be made to the standard conditions of risk acceptance.

Just think

Who sets the underwriting criteria in your organisation and how is it communicated to the underwriters?

What control measures exist to avoid risks outside normal safe underwriting criteria from being unintentionally accepted?

D2 Risk improvement requirements

Occasionally a proposed risk may not meet all underwriting criteria. Underwriting conditions may be required, e.g. special locks on external doors, a specific grade of intruder alarm or 24-hour monitoring via CCTV. If an otherwise acceptable risk does not qualify, an underwriter may offer cover if improvements are made within an agreed timeframe. Here we can see that risk improvements flow directly from the underwriting criteria. The proposer or insured must meet these requirements for cover to begin or remain in force.

Risk improvement requirements apply mainly to commercial lines and high-risk personal lines insurance.

Their purpose is to:

- Make the risk acceptable (i.e. bring it to the standards of the insurer's underwriting criteria) and reduce the probability of a subsequent claim
- Counter the impact of specific types of claims (e.g. theft)
- To prevent or limit the severity of a potential claim.

As we will see in Section D3 and in Examples 4.1 and 4.2, an underwriter may also specify risk improvements following a surveyor's report.

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Example 4.1

Commercial liability insurance

Following a risk survey, an underwriter may instruct a policyholder to fit safety guards to all woodworking machinery and insist that the guards are in full and effective operation at all times. Cover will only be granted if these non-optional guards are fitted and used as specified. For cover to be granted, or to continue to operate, they must implement these requirements within an agreed timeline.

Example 4.2

Commercial property insurance

Following a risk survey at an electronics warehouse an underwriter may stipulate a monitored alarm and CCTV installation and palisade fencing. Theft cover will only apply if these non-optional requirements are implemented within 30 days. Failing compliance, the insured will remain on cover for the risk but theft cover will be excluded.

D2a Risk improvement recommendations

When risk improvement recommendations are made, there is no insistence on implementation. They are seen as valid forms of risk improvement to help reduce hazards. Their implementation would indicate a well-run and progressively managed business. So when an underwriter is assessing the physical hazards of certain risks, they will accommodate these positive considerations by providing a more favourable premium level.

Example 4.3

Commercial property insurance

An insurer may recommend the installation of additional fire extinguishers in a premises to enhance the levels of fire prevention equipment. But it is only a recommendation and cover is not conditional on their installation. If fitted, however, the insurer may provide a more favourable premium on the property cover.

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D3 The risk surveyor's role in risk control and underwriting

Although proposers typically provide full details of a risk, insurers often undertake surveys of larger commercial or high-value personal risks. The surveyor (or risk engineer) is seen as the 'eyes and ears of the underwriter'. This is because the surveyor, and not the underwriter, normally meets the insured on their premises.

A risk surveyor may be the only representative of the insurer that a policyholder meets face to face, in particular if the business is placed through an intermediary. The role of the surveyor is a very important one both in terms of identifying any concerning risk features for underwriters, and in terms of being the insurer's representative in the field.

Using surveyors can be an expensive and time-consuming activity for insurers, however, surveyors provide vital expertise in preventing losses and when used appropriately can be very cost effective, especially for significant exposures or specialist risks. The surveyor can play an important role in protecting the insured's business from interruption and prospective claims. Their use is based on agreed principles that decide what risks are surveyed and how frequently, in line with an underwriting strategy. Situations may include (for existing risks) a deterioration in the claims experience during a previous year or the period since a risk was last surveyed.

While surveyors are often associated with identifying poor risk features, and attempts to remove or reduce them through risk improvement measures, they are not confined to this work. They also play an important role in identifying superior risks so that an underwriter can allow for this when trying to secure renewal or acquisition of that risk.

The surveyor's main job is to examine a risk or premises in detail and to evaluate all of the features and hazards of the risk/premises. After this, they will advise on the nature and category of risk improvements needed (see Section D2). These improvements will have been discussed with the customer and considered reasonable to implement. The information is then presented to the underwriter in a survey report.

The risk surveyor's report gives the underwriter a clear picture of the risk so they can make informed decisions on risk acceptance, pricing and the application of any other underwriting terms. There is a clear distinction between the surveyor's role as adviser and the underwriter as decision-maker. Both activities are linked to the insurer's strategic objectives, and are influenced by the stage reached in the insurance cycle and underwriting profit target. The underwriter has ultimate responsibility for rate setting and determining risk acceptability.

The numerous issues with fire prevention and fire stopping in apartment blocks, schools and commercial buildings in recent years highlight the challenges faced by risk surveyors. It is impossible to observe and assess every potential hazard on any risk. In some instances, the risks remained hidden as surveyors cannot, for example, break through plasterboard walls. This highlights the importance of detailed inspections and sign offs at every stage of a building project.

D3a Common claim trends

A key feature for insurers is the speedy identification of new or emerging claim trends. As well as looking at entire portfolios, they may also look at some larger individual risks that, due to their size, are likely to cause higher volumes of claims.

Where an underwriter notices a common trend in claims in a specific risk or group of risks, they normally discuss the situation with the insurance surveyor/risk engineer and arrange for them to visit the insured to discuss ways of removing or reducing the cause of such claims. The objective is to work constructively with the policyholder to control their exposure as much as possible, while containing premium costs. Example 4.4 outlines a typical scenario.

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Example 4.4

An underwriter detects an increasing trend in claims for slips and falls in a large retail chain. Following a survey of some of the shops the risk surveyor discovers that, for cost-saving reasons, the policyholder has reduced the frequency of floor cleaning. As a result, the floors become hazardous for customers, causing the increasing claims trend.

The underwriter may decide to impose a risk improvement requirement that the floors are cleaned in all of the premises at defined intervals, and that all cleaning is fully documented and recorded. This will ensure that the floors are less hazardous and the detailed cleaning records will allow the insurer to defend any slip type claims it feels are false. This will improve the underwriting performance and ultimately result in lower premiums.

As the cost of risk improvement is paid by the policyholder, it is important that the surveyor or underwriter explains why the improvements have been imposed and how the policyholder will benefit. Risks with well-controlled physical hazards reduce accidents, damage and claims, resulting in more competitive premiums.

Risk requirements and outstanding actions from surveys should be followed up by underwriters or they can become meaningless. Insurers must have robust processes to ensure that requirements are implemented within agreed timeframes.

D3b Additional duties of an insurance surveyor

Insurance surveyors should have up-to-date knowledge of the latest developments in production processes and techniques across a range of industries. They should be familiar with new materials in the construction industry, developments in intruder alarm and fire protection systems, and safety practices and equipment. They should attend regular technical seminars and/or obtain detailed technical briefings from manufacturers on materials and machinery. Many belong to technical trade associations providing training and sharing of expertise, such as the Association of Irish Risk Management (AIRM), the Institution of Occupational Safety and Health (IOSH) or the Electrical Contractors Safety and Standards Association (ECSSA).

Underwriters too need to be aware of the latest developments to assess risks accurately for acceptance or pricing. Consequently, insurers often employ surveyors as technical trainers for underwriting staff and surveyor colleagues, to ensure they are kept informed and equipped to make properly informed decisions. This information is part of the key knowledge vital for surveyors and underwriters to operate effectively and successfully.

We will consider the role of the surveyor in certain classes of insurance in Chapters 5 and 6.

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E Policy cover

This section looks at the way policy cover is established and how insurers use policy wordings as a form of risk control.

E1 Policy wordings

The extent of any cover is derived from underwriting policy and must be reflected in policy wording. Insurers draft their own style of policy wording which aims to:

- State the extent of cover the insurer provides
- State in a legally binding manner the obligations of both the insured and insurer
- Meet policyholders' needs in a particular sector or niche market
- Compare favourably with competitors or achieve a competitive advantage
- Achieve a satisfactory balance between **risk exposure** and premium charged
- Satisfy all legal requirements, e.g. a motor policy must meet the requirements of **Road Traffic Acts** (RTA) and a private health insurance policy must state the minimum level of cover required by the **Health Insurance Acts**
- Provide clarity (to the claims department) in the event of a claim, to enable swift settlement without disagreement
- Provide clarity on policy conditions, exclusions and warranties.

risk exposure
the quantified potential for loss that might occur as a result of some event or activity

Insurance policy wordings are the contract documents reflecting terms and conditions under which insurers are committed to pay claims, should certain events/insured perils occur. It is essential that such wording is constructed accurately and in a clear and unambiguous way (using a plain English approach). As policy wordings are updated periodically, there must be a clear referencing on the policy **schedule** of which version is applicable during the policy year to allow contract certainty. You will recall from the Compliance and Advice module that this is also a requirement of the Central Bank **Consumer Protection Code (CPC)**.

Consumer Protection Code (CPC)
the code issued by the Central Bank of Ireland setting out requirements that regulated firms must comply with in order to ensure a level of protection for consumers

Example 4.5

The Covid-19 pandemic highlighted the importance of insurance policy wordings in clearly defining the terms and conditions of a policy. In the case of business interruption insurance, insurers were initially declining Covid-19 related claims on the basis that no liability existed under the insurance policy wording. However, the interpretation of these policy wordings was challenged by business interruption policyholders and taken to court. These court rulings set a benchmark for those seeking indemnity under business interruption policies as a result of the Covid-19 pandemic. As we saw in Chapter 1B3, how the policy wordings were drafted determined whether insureds were indemnified for their business interruption claims.

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Example 4.5 (contd)

Any unprecedented catastrophic loss event, similar to the Covid-19 pandemic, will determine how wordings and exclusions are reframed to remove ambiguity and manage the insurers' exposure as new and emerging risks arise. This is evident from the Covid-19 claims. Insurers have moved to tighten up their policy wordings to exclude cover, or in the best case for insureds, provide some cover with a sub-limit applying.

For high-volume, low-premium risks such as personal lines and small commercial risks, a pre-printed policy booklet is generally used. These are modified on a case-by-case basis where the underwriting policy dictates that acceptance is subject to a variance of the standard terms, such as a restriction or deletion of aspects of cover. The schedule (see Section E1d) shows any changes to the standard cover. This approach is consistent for small-to-medium commercial insurance risks such as retail outlets, pubs, restaurants, or office risks.

For larger commercial policies insurers sometimes use a modular policy form. Underwriters then use the modules relevant to a risk being quoted to construct the policy wording.

Only the largest risks require individually drafted bespoke policies, but even these use the modular policy forms as a base to ensure consistency with the insurer's underwriting strategy and policy.

Policy wordings comprise many parts, collectively expressing the full contract. We will now look at the following four key elements defining the scope of cover:

- Operative clause
- Exemptions or exclusions clause
- Conditions clause
- Schedule.

E1a Operative clause

The **operative clause** details the type of events (perils) insured against. For policies covering a combination of subject matters (e.g. motor policies covering accidental damage to the vehicle, the insured's liability for third party property damage or injury and personal accident cover for the driver), these cover types are usually split into different sections, each with its own operative clause.

The cover provided by the operative clause stems from the underwriting policy.

operative clause

clause(s) that describes the standard scope of cover of each section of an insurance policy

E1b Exemptions or exclusions clause

Most insurance policies contain two types of exclusions:

- General exclusions that apply to the whole policy
- Specific exclusions that apply to certain parts or sections of the policy.

Many exclusions reflect restrictions that every insurer has, such as war or existing damage, while other exclusions may be specific to individual insurers.

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Such exclusions are determined by:

- The underwriting policy, e.g. exclusion of heat or welding work away from the insured's premises
- The reinsurance protection available to the insurer, e.g. in respect of terrorism cover
- The cost of providing cover, e.g. whether the additional premium for such cover would price the product out of its target market.

E1c Conditions clause

Policy conditions must be complied with by one party or the other. Conditions may be either implied by law or be directly expressed (written) in the policy.

The conditions clause contains the contractual terms the policyholder agrees to comply with for the duration of the policy. The purpose of policy conditions is to:

- Ensure that the policyholder takes reasonable care and cooperates in lessening or avoiding a loss
- Ensure fairness, e.g. the policyholder must advise the insurer of any alteration in the risk as soon as possible and the insurer may amend terms as required
- Follow market practice, e.g. a cancellation condition allowing the policyholder to cancel the policy mid-term, and be allowed a possible **premium rebate**. The cancellation condition usually allows cancellation by the insurer.

premium rebate

a refund paid to the insured following cancellation, a material change or adjustment of an insurance policy

Insurance policies typically contain general policy conditions and conditions specific to the cover being provided. These conditions apply to all sections and include general provisions, rules of conduct, duties and obligations required for coverage. An example would be the onus on an insured to co-operate with an insurer and give all necessary information about a claim.

Conditions specific to a policy section or cover aim to control the risk and limit the exposure to the insurer. In private car insurance, such a condition may be that a vehicle is always locked when left unattended and that all windows and sunroofs are closed. In liability insurance it could be that the policyholder takes all reasonable care to observe and comply with statutory obligations and regulations imposed by any authority. Such conditions may be standard elements of an insurer's policy wording, or be added by endorsement to control a particular type of hazard.

All of this must be considered in conjunction with the **Consumer Insurance Contracts Act 2019** (see Chapter 1C) which leaves insurers with fewer remedies available to them in respect of policy cancellation in the case of consumers.

E1c1 Conditions precedent

Conditions precedent place more responsibility on the insured, as they must be complied with before an insurer is contractually obliged to indemnify the insured. For example, an alarm must be fully operational when the premises are not occupied.

There has been a move away from conditions precedent in the Irish market but a recent judgment in *Kelly Builders (Rosemount) Ltd v HCC Underwriting Agency Limited* (2016) ruled in favour of the insurers. The insurer declined on the basis that the insured had not complied with the requirement to have fully charged fire extinguishers ready for immediate use. When ruling in favour of the insurers, the court reached the conclusion that even if the fire extinguisher worked, it would have made no difference to the outcome, but the insurer was still entitled to rely on the condition precedent. The courts may well take a different view in a consumer contract.

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Similar to the section on conditions, the **Consumer Insurance Contracts Act 2019** (see Chapter 1C) will not allow an insurer to rely on a condition precedent, which is irrelevant to the claim, in an insurance contract relating to a consumer.

E1d The schedule

The **schedule** is specific to each policy. This is the part of the policy usually most referenced by policyholders, as it gives details of their insurance protection, e.g. their vehicle details under a motor policy.

The schedule contains personal details about the insured and the risk, as well as the policy sections in force. It also states any **endorsements** applying to the cover. Endorsements are generally used to show applicable warranties (see Section E2) or changes to the normal cover under a certain type of policy.

E2 Warranties

A **warranty** is an undertaking by the insured that something will or will not be done, or that a certain state of affairs does or does not exist. You will recall from The Nature of Insurance module that warranties must be strictly and literally adhered to by the insured, as failure to do so carries serious consequences. For this reason, the CPC requires insurers to inform a proposer of all relevant warranties at the quotation stage. There has been a move away from using warranties in consumer insurance contracts.[48]

Prior to the introduction of the **Consumer Insurance Contracts Act 2019**, if the insured failed to strictly adhere to any policy warranty, the insurer had the right to avoid the policy from the date of the breach, regardless of its relevance to the loss or damage. However, the **Consumer Insurance Contracts Act 2019** replaced this concept of insurance warranties. Since September 2020, any term within the contract that imposes a continuing restrictive condition on the consumer during the term of the contract is now treated as a 'suspensive condition'. This means that for the duration of a condition's breach, the insurer's liability will be suspended but if the breach is remedied at the time of the occurrence of a loss, then the insurer will be liable to pay the claim. Similar to conditions precedent (see Section E1c1), for an insurer to rely on the breach of a suspensive condition, in a consumer insurance contract, it must be relevant to the claim.

In most cases the wording and nature of a warranty may be specifically tailored to the circumstances of an individual policy, whereas broadly speaking, policy conditions are more generic in nature, content and application.

Warranties are applied to ensure that:

- The insured complies with a requirement to make the risk acceptable within the limitations of the underwriting policy, e.g. the removal of waste materials in respect of certain trades in fire insurance or the implementation of security devices in areas in theft insurance.
- Features of higher hazard are not introduced without the insurer's knowledge or some advantageous feature present when the risk was incepted and was recognised in the setting of terms remains in place; examples are: no storage of oils in a factory or the requirement to garage a vehicle overnight.

schedule

tailored section (of a policy) that provides the policy number and all variable information about the policyholder, period, premium and subject matter, and highlights any special terms, conditions or exclusions that apply

endorsement

a document or a wording that amends the policy in some way - it may add, remove or alter the scope of coverage under the policy

warranty

term (in an insurance contract) with which the insured must strictly and literally comply

[48] Law Reform, Consumer insurance contracts, pdf, 2015, www.lawreform.ie

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If the insured fails to strictly adhere to any policy warranty, the insurer has the right to avoid the policy from the date of a breach, regardless of its relevance to the loss or damage.

For personal consumers, this right is modified by the Insurance Ireland Non-Life General Insurance Code. The code states that insurers will not refuse a claim on grounds of a breach of warranty where the circumstances of the loss are unconnected to the breach (unless fraud is involved). For example, an insurer will pay a claim for fire or storm damage where a policyholder has been in breach of an unrelated warranty (e.g. a requirement to activate an intruder alarm when they leave the house).

E3 Excess

A policy excess is the portion of a loss that the insured must absorb or pay for. These can be either compulsory or voluntary. In practice, the terms 'excess' and 'deductible' (see Section E3a) are often interchangeable, and there is no definitive term for this.

Compulsory excesses are applied as an underwriting measure for:

- Reducing claims costs
- Eliminating small nuisance claims which are too costly to administer
- Excluding some or all claims of an unacceptably high frequency so premiums can be kept competitive; examples are: small vehicle damage claims such as scratches to paintwork or windscreen claims, or claims for vets' fees for minor ailments
- Making the insured more cautious about the prevention of a loss.

Voluntary excesses are applied at the request of the insured. An excess can eliminate small claims and reduce claims costs for the insurer, so a discount in premium is given to the insured.

When considering the application of voluntary excesses, underwriters use the following criteria:

- **Suitability** – The claim profile for a class of business must be such that an excess will deliver cost savings to the insurer. Risks suffering low frequency but high severity losses offer no advantages as the benefit to the insurer is negligible. Such excesses are suitable for high-frequency and low-severity losses.
- **Accurate costing** – An underwriter must know the effect an excess will have on claims frequency, claims payments and administrative costs to set the correct price. The insurer will assess the amount saved in claims payments (and administrative costs) relating to the premium foregone. This is achieved by analysing the claims experience and forecasting the likely savings if a voluntary excess is applied. A commensurate premium discount can then be calculated, which may benefit from actuarial input on larger cases.

Excesses are typically used in property covers such as motor and household policies. They are also used in liability insurance, but they can raise practical difficulties. For example, an insurer will normally fully settle a liability claim with a third party, and then recover the excess from the policyholder. This recovery process can be expensive and problematic to administer, thus eroding the value of the excess as a risk control or cost-reduction measure.

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E3a Deductibles/aggregate excess

A deductible is a commonly used term for a large excess. This is another way a policyholder self-insures the first part of a loss. Deductibles are common in commercial policies covering large industrial risks where an organisation or business requires an element of self-insurance.

Some larger risks, that suffer frequent and predictable claims, may be subject to an aggregate excess. In this instance the insurer only provides cover (or starts to pay claims) when the total claims during the policy term exceed a pre-determined amount. This amount is normally stated as a flat euro amount, but in some cases can be expressed as a percentage of standard premium, or as a specific loss ratio.

A risk with a large deductible/aggregate excess will normally be individually rated, using claims experience and actuarial input to establish a suitable level for the deductible and its impact on the premium.

E3b Franchises

A franchise is a variation of an excess. It applies to a policy in the same way and for the same reasons as an excess. A franchise differs from a standard excess as, once the claim exceeds the amount of the franchise, the full amount of the loss is paid.

In Ireland the use of franchises as a form of risk control is very limited, being rarely seen in practice on property insurance. They have traditionally been used in sickness insurance and in **business interruption (BI) policy** extensions. They are more frequently seen in policies covering cyber risks, where a time franchise applies to a telecommunications or system outage.

E4 Policy limits

The underwriting policy dictates the policy limits, the level of which is influenced by the insurer's appetite and reinsurance arrangements. Limits may vary depending on the nature of the risk. For example, an insurer providing **public liability insurance** may offer a **limit of indemnity** of €6.5 million as standard but may wish to reduce this limit to €1 million in respect of certain hazardous trades, such as welding at a third party's property.

The market norm for public liability is €6.5 million and €13 million for employers liability. However, there are many instances where higher limits are requested. One example is a school's public liability policy where the limits requested can be up to €30 million. In these instances one or a number of insurers will be required to provide excess layers above what the primary insurer is prepared to provide.

You will recall from The Nature of Insurance module and the product modules; Personal General Insurance and Commercial General Insurance, that policies may also have **inner limits** for some covers or types of property (e.g. cash or valuable items under a household policy).

For motor insurance, an underwriter is less able to control or reduce exposure by applying policy limits, as cover provided under motor policies in Ireland for injuries to third parties has to be unlimited under the **Road Traffic Acts**. Insurers underwriting business in this class could be exposed to exceptionally large claims. To deal with this, insurers use a different form of risk control through the purchase of reinsurance protection. This limits their liability to the level of exposure they choose and they reinsure all potential exposures in excess of that amount. We will deal with reinsurance as a form of exposure management in Chapter 7.

business interruption policy

a policy that covers a situation where business income is lost or additional costs incurred as a result of an insured event that interrupts the operations of the business, such as a fire or natural disaster

public liability insurance

insurance that covers injury or death to anyone on or around the policyholder's property

limit of indemnity

the maximum amount that an insurer will pay out for any one claim

inner limits

specific maximum amounts payable for defined items within an overall sum insured

Quick question 3

Explain the 'operative clause' in an insurance policy.

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F Liaison between underwriting and claims functions

Profitable underwriting is only achieved if conducted in an open and collaborative way in all business areas. It is essential that the underwriting and claims functions communicate and work together effectively. As well as formal liaison structures, there are also ad hoc circumstances where cooperation between the two functions benefits an organisation.

We will now consider some of the key areas where effective liaison between the two functions is especially important.

Just think

Consider how the claims and underwriting sections of your own company integrate, and how information coming from the claims function is communicated and used by the underwriting section.

F1 Policy wordings

The most obvious areas for liaison are policy wordings and scope of cover. Often those working in the claims function are the first to notice a trend e.g. an increase in the frequency of a particular type of claim, or claims emanating from exposures previously not considered. Liaising with underwriters can lead to pro-active engagement on any potential coverage gaps/issues. The underwriter will draft the policy wording to provide an agreed level of cover for a newly introduced product or for updating an existing one, while excluding or restricting those risks that the insurer either does not wish to cover or for which they wish to limit cover (see Section D). The underwriter then sets the premium, based on the cover the company believes they are providing. If the cover is too wide, the profitability of the account is threatened. The claims handlers then assess the wording with a fresh pair of eyes and decide if the underwriter has achieved the stated objective. It is clearly to the benefit of the company if this discussion takes place before a policy is sold.

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F2 Recording and analysis of claims data

Insurance pricing is undertaken on the basis of claims data, and the analysis of historic data is an integral part of the pricing process. This highlights the importance of accurate and well-coded information, combined with effective liaison between the underwriting, actuarial and claims areas.

The claims department allocates specific codings to each new claim, to enable the underwriter to extract records for analytical purposes. Codings typically relate to the cause of loss, the type of property/vehicle involved or the occupation of a person injured at work. It is vital that the correct coding is used when a claim is registered. For example, if a flood claim is logged as an escape of water loss, inaccuracy is immediately built into the system. If this happens on a wider scale, the underwriter will use this incorrect information to set the wrong rates for both flood and escape of water covers. To achieve the best use of claims data, claims handlers and underwriters must agree the way codings are allocated, ensuring continuing discussion between the two departments.

Recording accurate claims data is often quite challenging. As a claim progresses, the handlers obtain more precise information and data about the claim, which they use to progress it towards settlement. But recording this updated information on the claims database may not be a priority for claims handlers, having little impact on their day-to-day work and this task is sometimes overlooked. It is of critical importance to underwriters that such data is always current and accurate, as they use it for pricing and risk acceptance. Out-of-date information could have serious consequences for their underwriting decisions. Collaboration and cooperation between the underwriting and claims functions is therefore essential at a senior level to ensure that both functions share collective responsibility for data acquisition and accuracy.

Underwriters may also liaise with the claims department on an individual policy (e.g. a policy with multiple claims at renewal). This is particularly important where there are outstanding personal injury claims. It can be very beneficial for the underwriter to discuss with claim handlers whether there are any concerning features and to gauge the likely outcome and cost of the claim.

F3 Reserving philosophy

While the policy for estimating claims is the responsibility of the claims and actuarial functions, it has a significant impact on underwriting. While the policy is developed and implemented by claims specialists and the actuarial function, underwriters must understand the workings of the policy, and the potential impact on underwriting. Any changes to reserving will need collaboration between underwriters, claim handlers and possibly reinsurers.

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F4 Individual claims

If queries arise on policy wording, they will be directed to the underwriter, so that the original intent of the cover can be clarified.

Sometimes an underwriter will ask a claims handler for background information relating to open (unsettled) claims. While the underwriter cannot influence the claim estimate, a knowledge of how the figure is calculated helps to make better underwriting judgements.

Regarding a liability claim, for example, the underwriter may seek information about the following:

- Has a formal claim been received (i.e. solicitor correspondence for the injured party instructing a claim)?
- Is the estimate based on medical evidence and prognosis or is it the claims handler's 'best estimate'?
- What was their occupation or the nature of their work?
- How long was the employee out of work?
- What are the extent of the injuries?
- What is the current view on the legal liability (negligence) of the insured?
- Is there a pending receipt of medical evidence?
- Will the claim be defended, i.e. is there a possibility that the insured will not be liable?
- Can any claims outlay be recovered from another party or their insurer?

Review meetings between claims and underwriting specialists are important. They allow claims handlers to keep underwriters briefed about developments and outcomes on large and difficult claims. They also highlight updates on policy cover gaps, inflation, average cost per claim, and other important issues impacting on profitability. The timing of these meetings may be important, particularly if a risk is coming up for renewal, as the claims handler may have information about rapidly deteriorating or improving claims experiences on certain risks.

F5 Backlogs

Claims volumes vary throughout the year and may be affected by, for example, a spell of severe weather. So, processing backlogs may build up occasionally. Underwriters should be informed of backlogs occurring in the claims department, as loss ratio data for a particular period can be distorted either by a build-up of backlogs or a big clearance of claims. This can lead to underwriting decisions based on incorrect data, underlining the importance of cooperation between these two functions.

F6 Fraud

Fraudulent behaviour requires continuous dialogue between claims handlers and underwriters. Fraudsters may find a weakness in an insurer's controls and use it to their advantage for a long time. Early intervention provides quick and effective identification of weaknesses in sales and underwriting, preventing further abuse. We considered insurance fraud in Chapter 2G.

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F7 Emerging trends

Claims handlers must closely monitor the types and numbers of claims reported and advise underwriters of unusual patterns and trends. This helps underwriters decide whether to interpret any patterns in claims data on a portfolio or a case-by-case basis and enables them to take action. For example, an increase in employers liability claims may be either across an entire portfolio or may be because of a small number of policyholders experiencing a major upsurge in claims, so liaison on this will help underwriters decide how to respond.

Underwriters need information to forecast future claim costs. Here the claims handler has an advantage over the underwriter, as they have first-hand experience of the claims environment. The claims handler should be aware of the factors influencing the pricing process and should then liaise with the underwriter.

Likely examples include:

- Deteriorating claims experience on an individual risk (needing critical timing, especially if the risk is nearing renewal)
- Account trends, e.g. changes in fraudulent claims or specific claims such as **subsidence** in a certain area
- Unanticipated claims on a risk or account e.g. unforeseen claims arising from the Covid-19 pandemic
- Interpretation of policy wording
- Legal developments e.g. Personal Injuries Guidelines
- Feedback from professional sources, e.g. solicitors, loss adjusters and approved repairers
- Any emerging trends from new exposures, such as cyber threats.

A successful insurer has interaction between underwriters and claims staff, ensuring that knowledge is effectively passed between the claims department and underwriters.

subsidence

the movement of land on which the premises stands

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G Summary

This chapter looked at the decisions underwriters make when classifying and categorising risks, and when choosing favourable business. We examined the importance of physical and moral hazard and saw how insurers manage exposure through careful policy wordings. Finally, we saw that effective liaison between the underwriting and claims departments is critical in implementing a successful underwriting strategy.

G1 What's next?

In the next chapter, we will look at underwriting and risk control in property and related insurances.

G2 Study tips

It's important to remember that this textbook is the primary information source for this module. All the questions in your exam will relate directly to information featured in this textbook. Use the 'End of chapter questions', 'Quick questions' and 'Sample exam questions' to quickly test what you've learned so far. Make a note of any topics/areas you need to improve in and keep it to hand so you can refer to it when you revise this chapter again before your exam.

In addition to the textbook, your Member Area has many online study supports that can help you as you study this module.

G3 Online learning supports

Your Member Area includes a guide to success, an automated study planner, an exam countdown timer and study tips guide. These study supports are invaluable in reinforcing what you have learned so far. The webinars, chapter-by-chapter key points and other supports will help you to break down the chapter's content when revising.

Remember: This module is examined by mixed assessment, which includes:

- An online mid-semester MCQ assessment (20 questions)
- An end-of-semester written exam paper (9 questions).

Given that your online mid-semester assessment is a multiple-choice question test, completing the online practice paper is the ideal preparation for this. You can prepare for the end of semester written exam and test your knowledge by completing sample and past written exam papers.

To access these online learning supports, just log into your Member Area on **www.iii.ie** and click on the **Connect** logo.

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End of chapter questions

Use these questions to test your understanding of what we've covered in Chapter 4. It should be noted that these end of chapter questions are revision questions to test your understanding of the material in the chapter just studied. They are not sample exam questions.

1. State the role of the underwriter in managing the common pool.

2. Outline the purpose of risk classification and state three examples of classifications, including some from both personal lines and commercial lines.

3. Explain why insurers categorise private cars into 'rating groups'.

4. Define the term 'physical hazard' and state three examples of physical hazards in the context of material damage/commercial property underwriting.

5. Explain the term 'moral hazard' and why insurers try to avoid underwriting risks that exhibit the characteristics of poor moral hazard.

6. Briefly explain how underwriting criteria act as a form of risk control for an insurer.

7. List four aims of an insurer when drafting a policy wording.

8. State the two types of exclusions found in most insurance policies.

9. Briefly explain how the **Consumer Insurance Contracts Act 2019** affects both the insurer and the consumer in relation to warranties.

10. State three instances where liaison should take place between the claims and underwriting functions.

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Answers to end of chapter questions

Check your answers against those below and make a note of any points you left out. This will highlight the sections you may need to look at more closely during your revision.

1. The role of the underwriter is to manage the common pool as prudently and profitability as they can. This involves:
   - Assessing each risk offered to the pool, or proposed changes to existing risks
   - Deciding whether or not to accept the risk, or how much of it to accept
   - Determining the terms, conditions and scope of cover to be offered
   - Calculating a suitable premium for an individual risk.

2. Insurers devise methods of classifying and categorising risks into comparable groups, bringing similar features and degrees of hazard to the common pool to enable underwriting. Risks may be classified by type of insurance and by class of business. Examples include: type of vehicle, age of driver or type of licence (motor); type of construction or occupancy of the premises (commercial property); occupation of policyholder or type of work carried out by employees at a business (liability).

3. Insurers band models of cars into comparable groups for ease of analysis and rating, as it would be unworkable to assess each model or car individually. These groups are known as 'rating groups'.

4. Physical hazards can be defined as: 'those physical aspects of a risk that directly impact on its insurability or the terms, conditions and exceptions at which insurance may be accepted'.

   Examples in a material damage risk would include:
   - Construction of premises
   - Combustible nature of contents
   - Security of premises
   - Use or occupancy of premises
   - Source of heat within premises
   - Location of premises

5. Moral hazard arises from the attitude, behaviour and conduct of the proposer or insured, and poor moral hazard includes dishonesty or lack of cooperation with the insurer. As it is seldom possible to mitigate or control the risks associated with poor moral hazard (via policy cover terms, conditions and restrictions) insurers try to avoid accepting risks that display the characteristics of poor moral hazard.

6. If a risk falls outside the defined underwriting acceptance criteria it will, under normal circumstances, be deemed as unacceptable business. So, through underwriting criteria, the insurer controls its level of risk exposure.

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7. When drafting a policy an insurer will be aiming to (any four):
   - State contractually and in a legally binding manner the obligations of both the insured and insurer that both parties have committed to when the policy was incepted
   - Provide the insurance cover it is willing to give
   - Meet policyholder's needs
   - Compare favourably with competitors
   - Achieve a satisfactory balance between risk exposure and premium charged
   - Satisfy legal requirements
   - Provide clarity (to the claims department) in the event of a claim, to enable swift settlement without disagreement.

8. Most insurance policies contain two types of exclusions:
   - General exclusions that apply to the whole policy
   - Specific exclusions that apply to certain parts or sections of the policy.

9. Prior to the **Consumer Insurance Contracts Act 2019**, if the insured failed to strictly adhere to any policy warranty, the insurer had the right to avoid the policy from the date of the breach, regardless of its relevance to the loss or damage. However, under the **Consumer Insurance Contracts Act 2019**, any term within the contract that imposes a continuing restrictive condition on the consumer during the term of the contract is now treated as a 'suspensive condition'. This means that for the duration of a condition's breach, the insurer's liability will be suspended but if the breach is remedied at the time of the occurrence of a loss, then the insurer will be liable to pay the claim.

10. Instances where liaison should take place between the claims and underwriting functions of an organisation are (any three):
    - Policy wordings
    - Recording and analysis of claims data
    - Reserving philosophy
    - Individual claims
    - Backlogs and their potential impact on claims data
    - Fraud
    - Emerging trends in claims data.

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Answers to quick questions

1. Factors taken into consideration include:
   - Make and model
   - Engine size
   - Damage and cost of parts
   - Repair times
   - New car values
   - Body shells
   - Performance
   - Car security.

2. a. Physical hazard relates to those physical aspects of a risk that directly affect its insurability, or the terms, conditions and exceptions at which insurance may be accepted.

   b. Examples are:
      - Single production site where all revenue is generated in one location
      - A dependency on a key supplier for key components or ingredients with no alternative supplier readily available
      - Seasonality of production, creating an uneven pattern of revenue generation
      - Specialist machinery with along lead-in time to replace
      - Availability of machinery
      - Specialised premises – no easily available alternative premises.

3. It details the subject matter of the insurance, i.e. the type of event insured against. The cover provided by the operative clause is derived from the underwriting policy. For policies covering a combination of subject matters (e.g. motor insurance, which provides accidental damage to the car and liability to third parties), usually different types of cover are split into sections, each with its own operative clause.

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Sample exam questions

Question 1

After assessing a risk, an underwriter may require the policyholder to carry out risk improvements.

Explain the two categories that risk improvements are divided into, providing a suitable example for each category.

Total: 10 Marks

Question 2

Differentiate between physical and moral hazard in the context of insurance, including in your answer three examples of each type of hazard.

Total: 10 Marks

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Your answers

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Sample answers

The answers set out below show the main points you must consider in answering the question. In some cases, a well-reasoned alternative view could earn good marks.

Question 1

Risk improvements can basically be divided into two categories – risk improvement requirements, and risk improvement recommendations – and the policyholder is usually provided with a timeline by which to comply.

Risk improvement requirements are put in place when a proposed risk may not meet all underwriting criteria. If an otherwise acceptable risk does not qualify, an underwriter may offer cover if improvements are made within an agreed timeframe, and the proposer or insured must meet these requirements for cover to begin or remain in force. Risk improvement requirements apply mainly to commercial lines and high-risk personal lines insurance.

Two examples are as follows (either one accepted):

1. Following a risk survey, an underwriter may instruct a commercial liability policyholder to fit safety guards to all woodworking machinery and insist that the guards are in full and effective operation at all times. Cover will only be granted if these non-optional guards are fitted and used as specified. For cover to be granted, or to continue to operate, they must implement these requirements within an agreed timeline.
2. Following a risk survey at an electronics warehouse an underwriter may stipulate a monitored alarm and CCTV installation and palisade fencing. Theft cover will only apply if these non-optional requirements are implemented within 30 days. Failing compliance, the insured will remain on cover for the risk but theft cover will be excluded.

When risk improvement recommendations are made, there is no insistence on implementation. They are seen as valid forms of risk improvement to help reduce hazards. Their implementation would indicate a well-run and progressively managed business. So, when an underwriter is assessing the physical hazards of certain risks, they will accommodate these positive considerations by providing a more favourable premium level.

For example:

An insurer may recommend the installation of additional fire extinguishers in a premises for commercial property insurance to enhance the levels of fire prevention equipment. But it is only a recommendation and cover is not conditional on their installation. If fitted, however, the insurer may provide a more favourable premium on the property cover.

Reference Chapter 4D2 **Total: 10 Marks**

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Question 2

Physical hazard refers to the identifiable physical aspects of a risk affecting its acceptability and, if acceptable, the terms and conditions of cover. Physical hazards vary from risk to risk, although common features often exist among similar risks (e.g. building sites, shopping centres, schools).

Moral hazard is more difficult to define and more difficult to assess, because it relates to the behaviour and attitude of the proposer/insured. In contrast to physical hazard, (which is often mitigated through risk improvement measures), it is very difficult to correct or lessen poor moral hazard.

Examples of moral hazard (any three):

- Attitude to housekeeping, e.g. poor maintenance, especially the electrical system, or untidy, or over-congested premises
- A rapid staff turnover
- Disregarding employee training and safety
- Negative or passive attitude to risk management of business or premises
- A reluctance to implement suggested risk improvements
- Unwillingness to fund improvements
- A reluctance to insure in line with values at risk, resulting in under-insurance
- A lack of information, or inaccuracy of information, including poor responses to questions about insurance history, risk management, distribution of stock between locations, sources of raw materials etc.

Examples of physical hazard (any three):

Material damage:

- Sub-standard or flimsy construction of premises, combustible elements of construction (e.g. polystyrene insulated panels in food industry risks)
- Combustible nature of contents
- Inadequate security of premises
- Use or occupancy of premises
- Source of heat, especially if used in a production process (e.g. deep fat fryers)
- Location of premises:
  - Proximity to the fire service
  - Proximity to the sea or inland water
  - Flood zones.

Business interruption:

- Single production site where all revenue is generated in one location
- A dependency on a key supplier for key components or ingredients with no alternative supplier readily available
- Seasonality of production, creating an uneven pattern of revenue generation
- Specialist machinery with a long lead-in time to replace
- Specialised premises – no easily available alternative premises
- Lack of compliance with health and safety requirements
- Unsafe or poor condition of premises
- Inadequate or ineffective machine guarding
- Nature of activities carried out (e.g. demolition, work at height or depth).

Reference Chapter 4C1 & C2 **Total: 10 Marks**

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Chapter

5

Underwriting and risk control: property and business interruption insurances

What to expect in this chapter

In Chapter 4A1 we saw that underwriters manage the common pool by accepting and pricing risks, and this involves:

- Assessing each risk offered to the pool, or proposed changes to existing risks
- Deciding whether or not to accept a risk, or how much of it to accept
- Determining the terms, conditions and scope of cover
- Calculating a suitable premium for a particular risk.

In this chapter we examine this role in relation to property and business interruption insurances. We illustrate how underwriting decisions are rooted in the insurer's underwriting policy (see Chapter 2A2a) and underwriting criteria (see Chapter 4D). We look at the considerations for each type of business and the range of options open to the underwriter. We also see that risk control is an integral element of the entire underwriting process and that the risk surveyor (see Chapter 4D3) plays an important role in this.

The scope of cover under property and business interruption policies was dealt with in the Personal General Insurance and Commercial General Insurance modules. Our focus is on the underwriting and risk control processes, rather than the detail of policy wording and cover.

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Contents

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A Property and business interruption insurances

You will recall from the Personal General Insurance and Commercial General Insurance modules that the subject matter of a property (or material damage) policy is the item insured, e.g. buildings, contents, stock. The sum insured acts as both an exposure measure (see Chapter 3D) and a policy limit, i.e. the maximum amount of a claim that an insurer will pay.

The subject matter of most business interruption insurance policies is the potential loss of **gross profit** following insured damage to a property. As in property insurance, the sum insured acts as both a rating factor and a measure of the insurer's maximum exposure.

Both property and business interruption insurances are short-tail classes of insurance (see Chapter 3B4c). This means that (in common with other short-tail classes):

- Claims are usually reported shortly after an event (and normally in the same period of insurance as the event)
- Most property claims are settled within twelve months. Business interruption claims are typically settled within the **maximum indemnity period** of the policy (typically 12, 18, 24 or 36 months), or shortly after the expiry of this period
- Except for the largest losses, there is less complexity in managing claims than in long-tail classes. There is also less risk in predicting the final settlement.

For both types of insurance, effective underwriting and risk control requires an understanding of:

- The information needed to assess the level of physical and moral hazard (see Chapter 4C) for proposed and existing risks
- How to skilfully and prudently apply underwriting policy (see Chapter 2A2a) and underwriting criteria (see Chapter 4D) when making decisions about risk acceptance, policy cover, pricing and risk improvement.

We will consider the underwriting process for the main types of property and business interruption insurance in Sections C-F. Before we do so, we will look at some of the ways insurers manage loss exposure in these insurances.

gross profit (in business interruption insurance)

the difference between (a) turnover plus closing stock and work in progress, and (b) opening stock and work in progress plus the uninsured working expenses (variable charges)

maximum indemnity period

a period of time chosen by the policyholder under a business interruption policy as the maximum time necessary for the business to recover to the future expected trading position

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B Risk acceptance criteria

We saw in Chapter 4B and 4D that insurers use underwriting criteria to initially classify and categorise proposers and then to accept the risks they wish to insure and define the conditions of acceptability. Insurers also manage exposure by setting limits on the maximum size of an acceptable risk. This limit is called the insurer's 'capacity'. The **maximum capacity** is stipulated in the underwriting criteria and varies according to the nature and quality of the risk. For example, an insurer is likely to offer a higher level of capacity on an office block with sprinklers than on a plastics factory. Underwriters cannot normally accept risks larger than these maximum amounts. As we will see in Chapter 7, an insurer may have other options if keen to accept a risk over its normal capacity limits.

maximum capacity

the maximum amount of exposure that an insurer is willing or able to accept, as documented in the insurer's underwriting policy

estimated maximum loss (EML)

the maximum loss reasonably sustainable as a result of a single incident considered to be within the realms of probability

Decisions about risk capacity are not just based on sums insured. They include consideration of the **estimated maximum loss** (EML) for each risk. The insurer may also need to assess other issues, such as whether it insures other nearby properties that could be damaged in a single event, e.g. a large fire. We will see more about this aspect of risk exposure in Chapter 7B.

B1 Estimated maximum loss

The estimated maximum loss (EML) expresses (usually as a percentage) the likely 'worst case scenario' for a property or business interruption risk. It is based on the probability that in the event of a fire or explosion for example, even the most vulnerable risk is unlikely to produce a 100% loss. For example, an insured risk may consist of several independent, detached buildings. The proximity of those buildings to each other will determine the likelihood of fire spread between those buildings. There will be exceptions to this, particularly in manufacturing risks, where damage to one plant or piece of machinery may halt all production, due to the interdependencies of the various stages of the production process or the components involved in the final products.

Example 5.1

EML calculation

Two adjoining buildings of block construction with slated roofs are separated by a 225mm party wall. Both are the same size and value, with wooden floors. The risk is in a suburban area, ten minutes from a 24-hour fire station. The proposer in this case owns both buildings.

Side A is the proposer's specialty food store, with a flat overhead. Side B consists of offices and the headquarters of a food and wine magazine.

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Example 5.1 (contd)

The proposer owns both premises and contents. Their broker presented this risk for consideration. Cover is requested on an 'all risks' basis including subsidence. The proposed sums insured are:

- Buildings sum insured (for the whole block): €10,000,000
- Contents of Side A: €3,500,000
- Contents of Side B: €2,000,000.

The underwriter needs to consider capacity on this risk, based on the total EML. The company's maximum acceptance for this class of risk on an EML basis is €12,000,000.

When calculating an EML, the governing peril is usually treated as fire or explosion, since these are the perils most likely to cause the total destruction of most risks. In this case, fire is the most likely cause of substantial loss.

A surveyor is likely to assess the EML as follows:

- **Buildings:** The 225 mm party wall provides good fire separation between the two buildings. However, if one side is gutted by fire, there will probably be peripheral damage to the other. On this basis, the surveyor calculates the total EML at 60% of the sum insured, i.e. €6,000,000.
- **Contents:** The wooden floors mean that if there is a fire, there will be very substantial damage to the contents. While a fire on one side may only cause peripheral damage on the other side, it could still cause serious damage to contents. The surveyor calculates the potential damage to be between 80% and 100% of the sum insured. It is therefore treated as 100% by the underwriter.

The calculation is therefore:

	Sum insured	**EML**	
Buildings	€10,000,000	€6,000,000	(60%)
Contents A	€3,500,000	€3,500,000	(100%)
Contents B	€2,000,000	€2,000,000	(100%)
Total	**€15,500,000**	**€11,500,000**	

The insurer can accept the risk as the maximum EML is €11,500,000.

Had the risk been assessed on a total sum insured basis, it would have been unacceptable.

As shown in Example 5.1, using EML rather than full-value sums insured to measure the maximum exposure means an underwriter may accept a risk that was otherwise above the insurer's maximum capacity. If the insurer's maximum acceptance was €7,500,000 (rather than €12,000,000) then this risk could not be accepted. If the insurer still wished to accept the risk, it would likely have to organise reinsurance or **co-insurance** to reduce its exposure.

co-insurance

an arrangement where an insurer shares a risk with other insurers in a fixed percentage through a collective policy, or with the insured through a deductible or other agreed mechanism

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The risk surveyor plays a crucial part in establishing the EML. This is a very important element of their job in property and business interruption. We will see more about this in Section C1a.

When calculating the EML (as in Example 5.1), a surveyor bases their assessment on the perils of fire and/or explosion, as other perils do not cause such widespread damage. They consider and assess the following aspects of a risk:

- If multiple premises are involved, the likelihood of fire spread between the buildings
- The construction materials of the premises
- Fire and sprinkler protection
- Stock and contents of the premises (nature, distribution and combustibility)
- Use of location (hazardous processes and substances)
- Nearest fire station and whether it has full time staff.

Inaccurate assessment of the EML can have serious consequences. If underestimated, an insurer might unwittingly accept a risk over the maximum capacity stated in the underwriting policy. This could result in payment of a loss above the claims provisions (reserves) which would ultimately affect profits. If it happened across the entire portfolio, it would indicate under-capitalisation and a breach of solvency requirements. It might also mean the loss of reinsurance protection. Once reinsurance protection is exhausted, an insurer is liable for all further losses.

An overestimated EML could result in a risk being refused, because it is over the insurer's maximum capacity, or the unnecessary purchase of reinsurance or other method of risk sharing (see Chapter 7G).

Quick question 1

Explain what is meant by an insurer's 'capacity'.

The answer is at the end of this chapter.

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C Underwriting fire and perils insurance

Here we examine how underwriters assess commercial property risks and make decisions about risk acceptance, policy cover and premiums.

Just think

Think about some commercial property risks and the factors you would expect an underwriter to take into consideration when assessing the risk.

C1 Risk assessment in fire and perils insurance

In this stage of the process, the underwriter gathers the important information (**material facts**) about the risk and about the perils to be insured. This information comes from a variety of sources, including proposal forms, supplementary questionnaires, intermediary submissions, risk surveys (see Section C1a), correspondence and discussions. It includes general information about the proposer, their business and its history, the insurance and loss history and the scope of cover being sought. Technology also gives underwriters access to a number of online resources (both free and paid services) that assist in underwriting property insurance, e.g. Google maps, predictive flood maps and credit scores.

A detailed understanding of the proposer's trade and work activities is key at the risk assessment stage. The underwriting policy and criteria may specify some trades as uninsurable and hence declined, and others as target business. In between these extremes are a myriad of trades considered, based on their unique features. This determines the risk acceptability, the scope of cover available and the rate that is applied (see Section C3).

When assessing a fire and perils risk, the underwriter considers the types of hazard that may affect the frequency and severity of losses. This is to begin the process of determining if the risk in question is average, above average (with good risk features) or below average (with poor risk features) compared to similar risks.

Regarding a fire risk, the underwriter needs to understand the **inception hazards** and **propagation hazards**. Beneficial features that help to reduce fire risk, such as fireproof doors fitted to wall openings, full fire separation between adjoining rooms or fire extinguishers, are considered by the underwriter in terms of pricing and acceptance. Negative

material fact

fact that would influence the decision of an insurer in deciding whether to accept an insurance risk and the terms at which it would accept the risk

inception hazard

factor(s) that could start a fire, e.g. processes or activities carried out at the risk location, risk of arson and so on

propagation hazard

factor that impacts on how quickly an insured peril will spread, e.g. in the case of fire or flooding

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features such as hot works taking place on the premises or a lack of proximity to the nearest fire brigade will also influence the underwriter. This may mean instructing a risk surveyor to visit the premises and prepare a detailed report on a larger risk. However, because of cost, this is unlikely to happen on smaller routine risks.

As fire and explosion represent the main potential for catastrophic losses, they are usually the focus for underwriters and surveyors when assessing a risk. Other perils such as storm and flood have also generated significant losses in recent years. The winter storms of December 2013-February 2014 resulted in just over 30,000 claims and cost the industry €157 million. This contextualises the effect such events can have on an insurer's results in a single year. Storm Darwin in 2014 is estimated to have caused €111 million of damage[49], while Storm Ophelia in October 2017 caused €70 million of damage[50]. In February/March of 2018, Storm Emma brought the most significant snowfall in Ireland since 1982 and resulted in losses of €39 million for Irish insurers.[51] The storms and adverse weather conditions in 2018 led to insurance pay-outs of €84 million. The insurance industry continues to brace itself for more extreme weather events.

On an individual risk basis, there is little that an underwriter can do to assess the potential frequency and severity of most weather events. Predictions of likely catastrophic weather events are made by actuaries, using previous data and sophisticated modelling tools, as well as tapping into the reinsurer's knowledge. These potential catastrophe weather events are then factored into the base rates that underwriters use on an individual basis. When assessing a potential flood risk, an underwriter also considers previous claims, proximity to rivers and the location of the property on the insurer's flood maps. These maps can include both flood risk outlined by predictive flood models and historic flood losses experienced on insurers' own books.

After the flooding in 2015, it once again became a political issue and the Oireachtas Joint Committee on the Environment called for a total ban on building on flood plains, and criticised the insurance industry for excluding communities from flood cover – even if their properties have never been flooded. The committee chairman Michael McCarthy said insurance companies had argued they did not insure a certainty – 'only a risk' and could not offer insurance to communities on land that was extremely prone to flooding. However, he said there was 'a role to be played by insurance companies' in arriving at a solution for the people involved.[52]

In June 2019 the Oireachtas Report on Scrutiny of the **Flood Insurance Bill 2016** was published. The Bill's objective is to ensure that both residential and commercial property owners can access insurance in locations where the Office of Public Works (OPW) has completed a flood relief scheme to the required EU standard or where the OPW has certified the flood risk to be low or medium (1 in 100 year risk, or better). The Bill recognises the monetary impact of flooding in Ireland, with flooding becoming Ireland's natural disaster of primary concern. This Bill lapsed, but at the time of writing, the **Flood Insurance Bill 2021** is before the Dáil. It is suggested that students monitor the outcome of this Bill.

The estimated cost of flooding in the period 2000-2015 was approximately €700 million. The probability of the occurrence of extreme weather events is predicted to increase in the future as a consequence of climate change.[53]

[49] Brennan, Joe, 'Storm Ophelia insurance costs unlikely to exceed €111m', *The Irish Times,* 20 October 2017.

[50] Towey, Niamh, 'Storm Ophelia caused almost €70m worth of damage', *The Irish Times*, 14 October 2018.

[51] Brennan, Joe, 'Storm Emma cost Irish insurers an estimated €39m', *The Irish Times*, 5 June 2018.

[52] Oireachtas, www.oireachtas.ie, Flooding and Property Insurance, 2016.

[53] Oireachtas, '*Report on Scrutiny of the Flood Insurance Bill 2016.'* www.oireachtas.ie

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C1a The role of the risk surveyor in risk assessment

We looked at the role of the risk surveyor in Chapter 4D3. A surveyor assessing a fire risk must have technical knowledge about issues such as:

- Common hazards, such as those arising from construction, lighting, heating and power
- Particular hazards, i.e. those arising within specific trades
- The storage or use of classes of goods
- The storage or use of flammable liquids
- Methods of fire protection and fire extinguishing equipment.

Table 5.1 shows the main areas a surveyor will examine and report on during a fire and perils survey. Some points are relevant to other classes of insurance, as overlaps occur in the relevant physical and moral hazards for different classes of business.

Table 5.1 Surveyor's duties in fire and perils risk assessment

- Provide a brief background to the company and its proprietors, e.g. experience and expertise.
- Provide a description of the trade and processes carried out at the premises.
- Give details of any hazardous processes, particularly those involving the application of heat, e.g. welding.
- Describe the construction of all elements, including the percentage of non-standard construction present (plans are helpful here). This includes specific references to all non-standard materials, particularly polystyrene insulated panels as they are normally regarded as propagation hazards (see Section C1).
- Identify and describe any hazardous or flammable substances used or stored at the premises.
- Describe the electrical systems and appliances (age, condition and frequency of inspection).
- Describe the heating and fuel storage systems, including all portable space-heating appliances.
- Detail the fire detection/extinguishing equipment/fire safety standards, security standards and intruder alarms and comment on their effectiveness.
- Comment on the standard of **housekeeping**, particularly relating to waste removal and storage.
- Comment on the risk location relating to the risks of arson, flood and other relevant perils.
- Comment on the adequacy of the proposed sums insured.
- Comment on the adherence to all the building regulations.
- Ensure that required sign-offs have been obtained for all stages of the building process.
- Identity any potential cyber/technological threats that may impact on potential business interruption claims if applicable.
- Estimate the maximum loss (EML) on buildings, contents and stock.
- Give an opinion of the risk, relating it to other similar trade risks.
- Indicate whether the risk meets the insurer's minimum acceptance criteria. If the risk is unacceptable, suggest declining the risk or, if appropriate, state the risk improvement requirements to bring the risk to an acceptable level.
- Where appropriate, make risk improvement recommendations.

housekeeping

an aspect of physical and moral hazard that relates to management standards, premises upkeep, tidiness, contingency planning and attitude to safety

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C2 Underwriting options

When the underwriter has fully assessed the risk, their first decision relates to acceptability, determining whether the proposed risk (or change to an existing risk) meets the insurer's risk acceptance criteria.

A risk may be unacceptable for a number of reasons, including:

- It exceeds the insurer's capacity, meaning that the sum insured and/or EML is too large and that the underwriter does not wish to explore other options, such as sharing the risk with others via co-insurance or the purchase of **facultative reinsurance** (see Chapter 7E and 7G).
- The trade is unacceptable. This will be stated in the underwriting policy and risk acceptance criteria.
- The risk presents an unacceptable level of physical hazard. Many physical hazards can be addressed through risk improvement and underwriting actions to manage the risk. Others, such as a location in an area prone to flooding, or the construction materials may not be capable of improvement. For example, some insurers may be unprepared to offer cover for properties with polystyrene insulated panels manufactured before 2004, particularly if the material used in the insulating core material is unknown. Similarly, insurers may not provide cover in areas or in housing developments impacted by the systemic Pyrite/MICA issues as seen in Mayo and Donegal in recent years. Another example is buildings with potentially combustible cladding (e.g. the Grenfell Tower disaster in London in 2017). It can be a very expensive and impractical task to remove the panels or cladding from a building, especially for large food processing factories where they are widespread. The alternative is onerous premiums, restrictive terms and conditions.
- There is evidence of moral hazard. Poor moral hazard is very difficult to correct or improve, and can be hard to detect at the proposal stage. If a risk is unacceptable, the underwriter will decline a quotation. If it meets the insurer's risk acceptance criteria, the underwriter's next tasks are to determine the cover (including terms and conditions) and the premium.

If a risk is considered average (in relation to other similar risks), the underwriter normally grants cover on the insurer's usual basis, i.e. without any special terms or conditions.

For larger or below average risks, an underwriter considers the use of special terms and conditions. In Chapter 4E1, we identified that insurers use policy wordings as a form of risk control. An underwriter may, for example:

- Exclude certain covers where the level of hazard is a concern (e.g. risks in flood areas, or areas prone to theft).
- Apply an excess (also known as a deductible) to limit the insurer's exposure to small claims and share part of the risk with the insured, which in turn focuses insureds' minds on loss mitigation.

The underwriter may also manage a risk through policy conditions or warranties.

facultative reinsurance

a type of reinsurance cover for individually large or unusual risks that are typically excluded from standard reinsurance treaties

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Microlearning resources

In the Member Area of www.iii.ie, via the Connect logo and in Your Learning Centre, select the microlearning section of this chapter to access a resource specifically developed to help you better understand this topic.

C3 Premium calculation

The premium for a fire and perils/material damage policy is calculated by multiplying the rate per cent by the sum insured. The exposure measure is usually a unit of €100 sum insured. This is generally applied to the subject matter of the insurance policy, being the sums insured on items such as buildings, machinery and stock. When rating larger risks, a different rate may be applied in respect of buildings and contents/stock. For example, buildings:

€10,000,000 (sum insured) x 0.10% (rate) = €10,000 (premium)[54]

As we saw in Chapter 3D1, the actual rate applied depends on the hazard levels present, reflecting poorer and better features in any one risk. Examples of poorer features include flimsy building construction, the storage of highly flammable substances or hazardous work process. Better features include superior concrete construction or the presence of an automatic sprinkler system.

If a risk has no notable positive or negative features, the underwriter charges the insurer's average rate for that class of business. A higher rate (loading) is applied to below average risks, while superior risks may benefit from a rate reduction. This is an important aspect of the underwriter's role in managing the exposure that each risk brings to the common pool and ensuring that policyholders pay an **equitable premium**, representing the level of risk presented to the pool.

equitable premium

a basic principle of insurance is that each person wishing to join an insurance pool must be prepared to make a fair contribution to the pool; the contribution per participant represents the degree of risk each participant brings to the pool

[54] You should note that in some cases an '@' symbol is used when calculations are shown. This means 'apply the rate to the sum insured'. This '@' symbol has the same meaning as 'X' (multiplication symbol).

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D Underwriting theft and money insurances

There is considerable overlap between underwriting in theft/money and in fire and perils insurance.

D1 Risk assessment in theft and money insurances

For material damage insurance the underwriter needs to identify the relevant physical and moral hazards to consider the likely frequency and severity of losses. In theft risks, the main underwriting considerations are:

- The attractiveness of the proposer's property to thieves. This is an important aspect of the information required by the underwriter, and they will be particularly interested in the amount of **target stock** on the premises.
- The risk location, particularly in areas of high population density or in locations subject to frequent thefts. Remote locations may also be concerning, as break-ins are less likely to be noticed, particularly at night.
- The security measures taken. Insurers' minimum requirements for security protection differ, but they always wish to see adequate physical security (e.g. five lever mortice deadlock, cross-braced window bars, close shackle padlocks), even when a sophisticated intruder alarm system is present. This is because prevention is more important than detection.

target stock

stock that is particularly attractive to thieves, usually due to its portability and high intrinsic value

D1a The role of the risk surveyor in risk assessment

In assessing theft and money risks, the surveyor's duty is to provide the underwriter with information about the physical and moral hazards presented by the risk and suggest improvements. The factual description of the risk will cover such items as:

- Nature and value of property
- Construction and occupation of building
- Location of building and character of neighbourhood
- Physical protection, e.g. type of doors or windows, trapdoors, skylights, vents and nature of fastening/access, description of safes, including manufacturer's name and model
- Amount of cash held on the premises, money held in an on-site ATM and location of any cash office and safes, with details of the access control systems
- Use of approved security firms for cash transit
- Effectiveness of the security practices
- Intruder detection, i.e. if there is an alarm linked to an approved alarm receiving centre/the Gardaí, and whether the specification is considered adequate for the risk
- Opinion of moral hazard generally.

Where there are security gaps that can be remedied, the surveyor draws up detailed plans for risk improvement.

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D2 Underwriting options

Similar underwriting options apply as for material damage insurance. An underwriter declines risks falling outside the insurer's risk acceptance criteria, or presenting an unacceptable level of physical and/or moral hazard.

For acceptable risks, the underwriter determines the appropriate level of cover and the terms and conditions to apply (see Section C2).

For money risks, daily and regular bank deposits are a cover requirement so that large amounts of cash do not accumulate on the premises.

Examples of measures that an underwriter may require are that:

- Money is to be held in a safe outside working hours
- The safe must have a suitable cash rating as per the manufacturers' recommendations
- Time-locked safes and deposit chutes at the nearest bank are used
- Times and routes of trips to the bank to lodge cash are varied
- A custodian clause is imposed for money while in transit between the insured's premises and a bank for lodgement. Example 5.2 shows a sample custodian warranty/clause
- Shops with ATMs are emptied every night and the cash is stored in a safe with an appropriate cash rating.

Example 5.2

Amounts of 'money' up to but not exceeding €4,000 – one custodian

Amounts exceeding €4,000 but not exceeding €10,000 – two custodians

Amounts exceeding €10,000 but not exceeding €16,000 – three custodians

Amounts exceeding €16,000 – approved security company

A custodian is a fully responsible adult of at least 18 years.

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D3 Premium calculation

The principles applied are very similar to those outlined for other property risks (see Section C3), with a rate per cent applied to the sums insured. The exposure measure for theft insurance is a unit of €100 sum insured. For example, stock:

€100,000 (sum insured) x 0.50% (rate) = €500 (premium)

Distinctions are made between different categories of stock, particularly 'target stock', e.g. electronic goods or tobacco stocks, where a higher rate would apply.

For money risks the exposure measure is a unit of €1,000 of cash at risk while the cash is either on the insured's premises or while in transit between their premises and the bank. The rate is applied to the estimated annual carryings (money in transit to/from the bank). For example:

€1,000,000 (estimated annual carryings) x 0.05% (rate) = €500 (premium)

In other cases, the insurer may charge a flat rate based on the limit requested. Note: all insurers will have a maximum limit they are prepared to cover. For example: a €5,000 limit could have a flat premium of €500 or a €10,000 limit could have a flat premium of €750.

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E Underwriting household insurance

You will recall from the Personal General Insurance module that household insurance policies are package policies offering a number of additional covers over and above the core elements of buildings and contents insurance. While the precise shape of a household policy may differ between insurers, the underwriting considerations are similar.

E1 Risk assessment in household insurance

Risk assessment is based largely on the distinction between a standard and non-standard risk. In simplest terms, a 'standard' household risk is where the property is of **standard construction** and occupied by the insured and members of their family/household, for domestic purposes only.

There are different ways of gathering information about household risks. The traditional **proposal form** has been replaced largely by other methods, such as a **statement of fact** or **factsheet**.

Whichever method is used, the underwriter's priority is to determine that the:

- Property is of standard construction
- Property is the proposer's main residence, permanently occupied by the proposer and members of their family/household
- Property is not left **unoccupied** for more than a set number of days per year, typically between 30 and 90 days, if the principal residence
- Property is not a holiday home, (although some insurers will cover such properties at increased rates and subject to special terms)
- Property is not used for business purposes or let to tenants, unless the policy is designed to cover this activity (e.g. a home office risk)
- Property is not in an area susceptible to subsidence or flooding
- Proposer or anyone living in the property has not had a previous policy cancelled, refused or subject to special terms
- Proposer or anyone living in the property has not suffered more than a stated number of losses
- Amount of valuables does not exceed the standard policy limits.

standard construction

varies from insurer to insurer, but typically refers to a property built of bricks, mortar or stone with a slate or tiled roof

proposal form

type of questionnaire, asking questions about the subject matter of insurance

statement of fact

document generated by an insurer, recording the answers given by a proposer to a telesales operator or insurance intermediary or on a website in response to specific questions asked after the proposer has requested a quotation (reference also 'factsheet')

factsheet

electronic form used in a quotation process, asking if the statements given onscreen are correct – to which the proposer clicks 'yes' or 'no'

unoccupied (property)

a property that is unused, vacant or empty, i.e. that is not occupied on a permanent full-time basis by the owner, a member of their household or any other person authorised by them

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For most household risks, there is no survey. The high volume, low premium nature of the business would make this uneconomical. The type of risks where a survey might be necessary include:

- Large country properties
- Properties that are particularly exposed to flood damage
- Properties with unusually high sums insured for contents or valuables
- Properties with a poor loss history
- Properties of non-standard construction, e.g. of timber or with a thatched roof.

E2 Underwriting options

Generally, the underwriting and risk control options are similar to those for material damage insurance (see Section C2). The underwriter may, for example:

- Exclude some covers where the level of hazard is a concern (e.g. for flood or subsidence risks).
- Apply an excess for some perils (e.g. where there have been previous claims for burst pipes).

A risk may be managed through policy conditions or warranties. Warranties are not often used in household insurance, but may be in some circumstances, e.g. to ensure that an approved intruder alarm is activated at night, or when the property is unoccupied. As outlined in Chapter 4E2, the right to decline a claim for breach of warranty is modified by the Insurance Ireland Non-Life General Insurance Code for consumers if circumstances of the loss are not connected to the breach (unless fraud is involved).

As household insurance is a commoditised product, there is less need for bespoke underwriting. The increased use of telephone and internet sales means that to a large extent, non-standard risks are identified at the early stages of risk assessment and may be ineligible for cover.

An insurer's underwriting policy and criteria clearly state the distinction between acceptable and unacceptable risks. It also specifies the extent to which the insurer may offer cover for non-standard risks. For example, some insurers permit the following without any special underwriting measures or cover restrictions:

- Working from home (normally sole traders, with no hazardous activities or materials)
- A limited number of paying guests or tenants
- A defined percentage of non-standard construction (e.g. 30-50% of a roof).

Quick question 2

List examples of a household underwriter's options to manage a risk from an underwriting and risk control perspective.

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E3 Premium calculation

The typical basis of premium calculation is like other types of property insurance, i.e. it is calculated by applying a rate to an exposure measure. The main exposure measure for household insurance is the sum insured for buildings and/or contents. For example, contents:

€50,000 (sum insured) x 0.40% (rate) = €200 (premium).

Household insurance is rated through elaborate models that take account of a variety of factors, including:

- The risk location (Eircode)
- The occupation of the proposer
- The property type, age, construction and use
- The number of bedrooms
- Any non-standard features
- The cover level and additional benefits
- The relatively new addition of no claims discounts to attract claims-free risks.

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F Underwriting business interruption insurance

You will recall from the Commercial General Insurance module that most business interruption policies cover the insured's potential loss of gross profit following insured damage to their premises. There are other extensions and variations to cover, but the main underwriting considerations relate to this core cover.

Business interruption came under the spotlight during the Covid-19 pandemic. A lot of media coverage was given to a number of high-profile cases involving insurers and their handling of business interruption claims in the hospitality sectors (see Chapter 1B3). This brought into focus how business interruption may be written into the future but more time will be needed before there is clarity on this.[55] As noted in Example 4.5 and seen in 'the FBD case', it brings into focus the importance of how insurance policy wordings are drafted and how these will be interpreted in the event of disputes.[56] The Covid-19 experience will undoubtedly fundamentally alter the way business interruption insurance is underwritten and will impact on the reinsurance cover available going forward. There are indications that some insurers are no longer providing business interruption cover for pandemics, or that they are restricting cover via tighter policy wordings and a sub-limit on the cover provided.

F1 Risk assessment in business interruption insurance

material damage warranty/material damage proviso

requirement for the admission of liability under a material damage policy before any claim is payable under a business interruption policy

Business interruption policies are subject to a **material damage warranty** (or proviso), so a business interruption claim is always triggered by a valid claim under a property insurance policy. Business interruption claims normally follow serious damage to an insured property, typically caused by fire, explosion or a natural peril such as storm or flood. The first aspect of risk assessment therefore involves assessing the fire and perils risk, as outlined in Sections C1 and C1a. Note that there is not always a direct correlation between the size of the loss on the property policy and the corresponding loss under such a policy. Example 5.3 highlights some of these unique underwriting considerations.

[55] Whiteymoore law, 'The FBD Insurance Case - what does it mean for COVID-19 business interruption insurance claims?, www.whitneymoore.ie

[56] A&L Goodbody, *Irish Commercial Court rules on COVID-19 business interruption insurance*, pdf, © A&L Goodbody 2021, www.algoodbody.com

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Example 5.3

Underwriting considerations for business interruption

A small fire at a highly-automated electronics manufacturer damages a machine worth €500,000. The annual turnover of the firm is €10 million and this machine is critical to their production capacity. The insured arranges a replacement but there is a waiting time of six months, with a further month's installation time.

Although the fire damage can be repaired quickly, the time replacing and installing the machine will significantly increase the business interruption. So the cost of the business interruption (BI) claim will be considerably greater than the fire damage claim.

The second aspect of risk assessment considers the likely interruption to a business following such damage. The time the business is likely to be affected is key. This is when a policyholder's gross income/turnover should be protected by the policy following an insured event and is termed the maximum indemnity period. Generally, the more complex a business is regarding the process or specialisation of activity, the longer the **indemnity period**.

indemnity period

the period starting with the insured incident and ending no later than the maximum indemnity period chosen until the business returns to its pre-loss level of trading

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Table 5.2 lists the factors affecting the length of the indemnity period. They are the factors that a risk surveyor will consider when carrying out a survey and preparing a report for the underwriter.

Table 5.2 Factors impacting on the maximum indemnity period

Insured's business	Analysis of all insured's premises	Raw materials
• Competition – who, how many • Vulnerability to interruption/loss of trade • Image recovery issues • Formal business recovery plan/business continuity plan (BCP) • Position in market • Brand loyalty	• Percentage of earnings from each premises • Dependency between any or all premises • Trade in each building • Any specialities in each building • Alternative premises locally	• Sources of raw materials • Ease of availability • Quantity of raw materials held by insured • Dependency on any key components • Operation of a 'just in time' policy of production
Buildings	**Power, water, air conditioning, humidifying**	**Other material or components**
• Rebuilding time • Special construction features	• Main sources of power • Alternative supply arrangement – generators • Vulnerability to failure of supply	• Importance to production • Alternatives readily available
Plant, equipment	**Finished products**	
• Standard or bespoke • Second-hand market, spare parts held • Location of manufacturer • Susceptibility to damage from different causes – fire, water, breakdown • Key items	• Main marketing outlets • Warehouse use • Buffer stocks • Possibility of outside commissioning • Possibility of buying finished goods from competitors • Capacity of competitors/secrecy of product	

Generally, an above average risk (where there is less of a probability of a loss in terms of frequency and severity due to the presence of good quality features) will have a business continuity plan in place. Having a BCP in place shows active management of its dependencies and vulnerabilities, such as ensuring non-reliance on any one supplier or one machine. A poor risk/below average risk is not likely to have such a plan and may have difficulties in resuming trading and recovering market share following serious property damage.

Quick question 3

List five factors that impact on determining the length of an indemnity period under a business interruption policy.

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F2 Premium calculation

The premium for a business interruption policy is calculated by multiplying the rate per cent by the sum insured on the units of exposure. For this type of insurance cover the units of exposure are one or more of these items:

- Gross profit or gross revenue/fees (being the financial income of the insured)
- Gross rentals/rent receivable (applicable for example, if the insured is a property owner either as their main activity or as part of their business activities)
- Increased cost of working only (used where an insured may not wish to insure their full gross profit following a fire or other insured event but wishes to purchase protection for costs incurred after a fire, such as renting alternative premises or replacement machinery). This cover is only appropriate if an insured can easily relocate to another premises with minimum interruption. For example, an insurance broker who could be operating within a few days if they can locate another premises.

The exposure measure is usually a unit of €100 sum insured. For example, gross profit sum insured:

€1,000,000 (sum insured) x 0.50% (rate) = €5,000 (premium).

The rate itself is made up of a combination of the:

- Average fire contents rate
- Length of the indemnity period
- Interruption features (which may be positive, e.g. production spread across several locations, or negative, e.g. dependency on a single supplier for critical parts or components).

Many considerations and requirements are identical to those of the physical risk. Others such as dependencies and workflow/production bottlenecks are unique to business interruption.

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G Summary

In this chapter we looked at some of the unique characteristics of both property and business interruption insurance. We identified ways in which risk acceptance is used to manage an insurer's exposure. We also considered the area of estimated maximum loss (EML) and how many insurers use this to manage their capacity on property insurance. Lastly, we looked at the main considerations for risk assessment and underwriting in fire and perils, theft, money, household and business interruption insurance.

G1 What's next?

In the next chapter, we will examine the underwriting considerations for liability and motor insurances.

G2 Study tips

It's important to remember that this textbook is the primary information source for this module. All the questions in your exam will relate directly to information featured in this textbook. Use the 'End of chapter questions', 'Quick questions' and 'Sample exam questions' to quickly test what you've learned so far. Make a note of any topics/areas you need to improve in and keep it to hand so you can refer to it when you revise this chapter again before your exam.

In addition to the textbook, your Member Area has many online study supports that can help you as you study this module.

G3 Online learning supports

Your Member Area includes a guide to success, an automated study planner, an exam countdown timer and study tips guide. These study supports are invaluable in reinforcing what you have learned so far. The webinars, chapter-by-chapter key points and other supports will help you to break down the chapter's content when revising.

Remember: This module is examined by mixed assessment, which includes:

- An online mid-semester MCQ assessment (20 questions)
- An end-of-semester written exam paper (9 questions)

Given that your online mid-semester assessment is a multiple-choice question test, completing the online practice paper is the ideal preparation for this. You can prepare for the end of semester written exam and test your knowledge by completing sample and past written exam papers.

To access these online learning supports, just log into your Member Area on **www.iii.ie** and click on the **Connect** logo.

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End of chapter questions

Use these questions to test your understanding of what we've covered in Chapter 5. It should be noted that these end of chapter questions are revision questions to test your understanding of the material in the chapter just studied. They are not sample exam questions.

1. State the characteristics that make property and business interruption policies short-tail classes of insurance.

2. State the perils used when calculating the estimated maximum loss (EML) for property and business interruption risks.

3. Outline the terms 'inception hazard' and 'propagation hazard' in relation to fire risks.

4. When assessing a fire risk, a surveyor needs a considerable amount of technical knowledge. List the main issues on which this technical knowledge is required.

5. Outline how a premium is typically calculated on a fire and perils/material damage policy.

6. List five items of information normally included in a risk surveyor's report on a theft risk.

7. State four measures an underwriter may impose on a money risk.

8. List the main rating factors used in household insurance.

9. Outline what is meant by a material damage warranty/proviso on a business interruption policy.

10. State the typical measures of exposure used to calculate the premium on a business interruption policy.

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Answers to end of chapter questions

Check your answers against those below and make a note of any points you left out. This will highlight some sections you may need to look at more closely during your revision.

1. Characteristics of property and business interruption insurance as short-tail classes:
   - Claims are usually reported shortly after an event occurs (and normally in the same period of insurance as the event).
   - Most property claims can be settled within twelve months. Business interruption claims are typically settled within the maximum indemnity period of the policy, or shortly after the expiry of this period.
   - For all but the largest losses, there is less complexity in managing claims than in long-tail classes. There is also less risk in predicting the final settlement amount.
2. Fire and explosion.
3. Inception hazards are factors (e.g. processes or activities) that could start a fire at the insured premises. Propagation hazards are factors that impact on how quickly a fire could spread.
4. A surveyor needs technical knowledge of:
   - Common hazards, such as those arising from construction, lighting, heating and power
   - Particular hazards, i.e. those arising from the processes involved in specific trades
   - The storage or use of classes of goods
   - The storage or use of flammable liquids
   - Methods of fire protection and fire extinguishing equipment.
5. The premium policy on a fire and perils policy is developed by multiplying the rate per cent by the sum insured. The exposure measure is usually a unit of €100 sum insured.
6. Any five of the following:
   - Nature and value of the property
   - Construction and occupation of the building
   - Location of building and character of the neighbourhood
   - Physical protection, e.g. type of doors or windows, trapdoors, skylights, vents and nature of fastening/access, description of safes including manufacturer's name and model
   - Amount of cash held on the premises, in ATMs on site, and location of any cash office and safes, and details of the access control systems
   - Use of approved security firms for cash transit
   - Effectiveness of the security practices
   - Intruder detection, i.e. if there is an alarm linked to an approved alarm receiving centre, the Gardaí, and whether the specification is considered adequate for the risk presented
   - Opinion of moral hazard generally.

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7. Examples of underwriting measures:
   - That money is to be held in a safe outside working hours
   - The safe must have a suitable cash rating as per the manufacturers' recommendations
   - The use of time-locked safes and deposit chutes at the nearest bank
   - That a custodian clause be imposed for money while in transit between the insured's premises and a bank for lodgement.

8. The rating factors that are used in household insurance are:
   - The risk location
   - The occupation of the proposer
   - The property type, age, construction and use
   - The number of bedrooms
   - Any non-standard features of the risk
   - The level of cover and additional benefits.

9. A material damage warranty means that for there to be a valid business interruption claim, it has to be triggered by a valid claim under the property insurance policy.

10. Measures of exposure are:
    - Gross profit or gross revenue/fees (being the financial income of the insured)
    - Gross rentals/rent receivable (applicable for example, if the insured is a property owner either as their main activity or as part of their overall business activities)
    - Increased cost of working only (used where an insured may not wish to insure their full gross profit following a fire or other insured event but wishes to purchase protection for extra costs incurred after a fire, such as renting alternative premises or replacement machinery). This would usually be the case if an insured can easily relocate to another premises, with minimum interruption. For example, an insurance broker who could be operating within a few days if they can locate another premises.

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Answers to quick questions

1. This maximum capacity is stipulated in the underwriting criteria and varies according to the nature and quality of the risk. In property and business interruption insurance, insurers manage the maximum size of a risk that they accept. This is usually done on an EML basis.

2. The options open to the underwriter include:
   - Exclude some covers where the level of hazard is a concern e.g. for flood or subsidence risks
   - Apply an excess for some perils (e.g. where there have been previous claims for burst pipes)
   - Manage a risk through policy conditions or warranties. Warranties are not commonly used in household insurance, but may be appropriate in some circumstances (e.g. to ensure that an approved intruder alarm is activated at night, or when the property is not occupied).

3. Factors that impact on determining the length of the indemnity period (any five):
   - Insured's business
   - Analysis of insured's premises
   - Raw materials
   - Buildings
   - Power, water, air-conditioning, humidifying
   - Other materials or components
   - Plant and equipment
   - Finished products.

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Sample exam questions

Question 1

a) Briefly explain, with a suitable example in each case, how theft and money risks are rated.

(6 Marks)

b) Outline two of the main underwriting considerations for theft insurance.

(4 Marks)

Total: 10 Marks

Question 2

a) Briefly explain the terms 'inception hazard' and 'propagation hazard' in relation to a fire risk.

(4 Marks)

b) Briefly describe the positive and negative risk features an underwriter will consider when accepting or pricing a fire and perils risk for property insurance.

(6 Marks)

Total: 10 Marks

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Your answers

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Sample answers

The answers set out below show the main points you must consider in answering the question. In some cases, a well-reasoned alternative view could earn good marks.

Question 1

Part (a)

The exposure measure for theft insurance is typically a unit of €100 sum insured,

For example – stock:

€100,000 (sum insured) x 0.50% (rate) = €500 (premium)

Distinctions are made between different categories of stock, particularly 'target stock' such as electronic goods or tobacco stocks where a higher rate would apply.

For money risks the exposure measure is typically a unit of €1,000 of cash at risk while the cash is either on the insured's premises or while in transit between their premises and the bank. The rate is applied to the insured's estimated annual carryings (money in transit to/from the bank).

For example:

€1,000,000 (estimated annual carryings) x 0.05% (rate) = €500 (premium)

However, in some instances, the insurer may charge a flat rate based on the limit requested.
Note: all insurers will have a maximum limit they are prepared to cover. For example: a €5,000 limit could have a flat premium of €500 or a €10,000 limit could have a flat premium of €750.

(6 Marks)

Part (b)

In theft risks, the main underwriting considerations are (any two):

- The attractiveness of the proposer's property to thieves and the amount of target stock on the premises.
- The risk location, particularly in areas of high population density or in locations subject to frequent thefts. Remote locations may also be concerning, as break-ins are less likely to be noticed, particularly at night.
- The security measures taken, in particular adequate physical security (e.g. five lever mortice deadlock, cross-braced window bars, close shackle padlocks), even when a sophisticated intruder alarm system is present. This is because prevention can be considered more important than detection.

(4 Marks)

Reference Chapter 5D1 & D3 **Total: 10 Marks**

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Question 2

Part (a)

Inception hazard: Factor(s) that could start a fire, e.g. processes or activities carried out at the risk location, risk of arson and so on.

Propagation hazard: Factor(s) that impact(s) on how quickly a fire will spread.

(4 Marks)

Part (b)

When assessing a fire and perils risk, the underwriter considers the types of hazard that may affect the frequency and severity of losses to determine if the risk is average, above average or below average, compared to similar risks.

Fire and explosion –

Beneficial features helping to reduce fire risk:

- Fireproof doors fitted to wall openings
- Full fire separation between adjoining rooms
- Fire extinguishers.

Negative features:

- Hot works taking place on the premises
- Lack of proximity to the nearest fire brigade.

When assessing a potential flood risk, an underwriter considers both positive and negative features in relation to:

- Previous claims
- Proximity to rivers
- Location of the property on the insurer's flood maps. These maps can include both flood risk outlined by predictive flood models and historic flood losses experienced on an insurers' own books.

(6 Marks)

Reference Chapter 5C1 **Total: 10 Marks**

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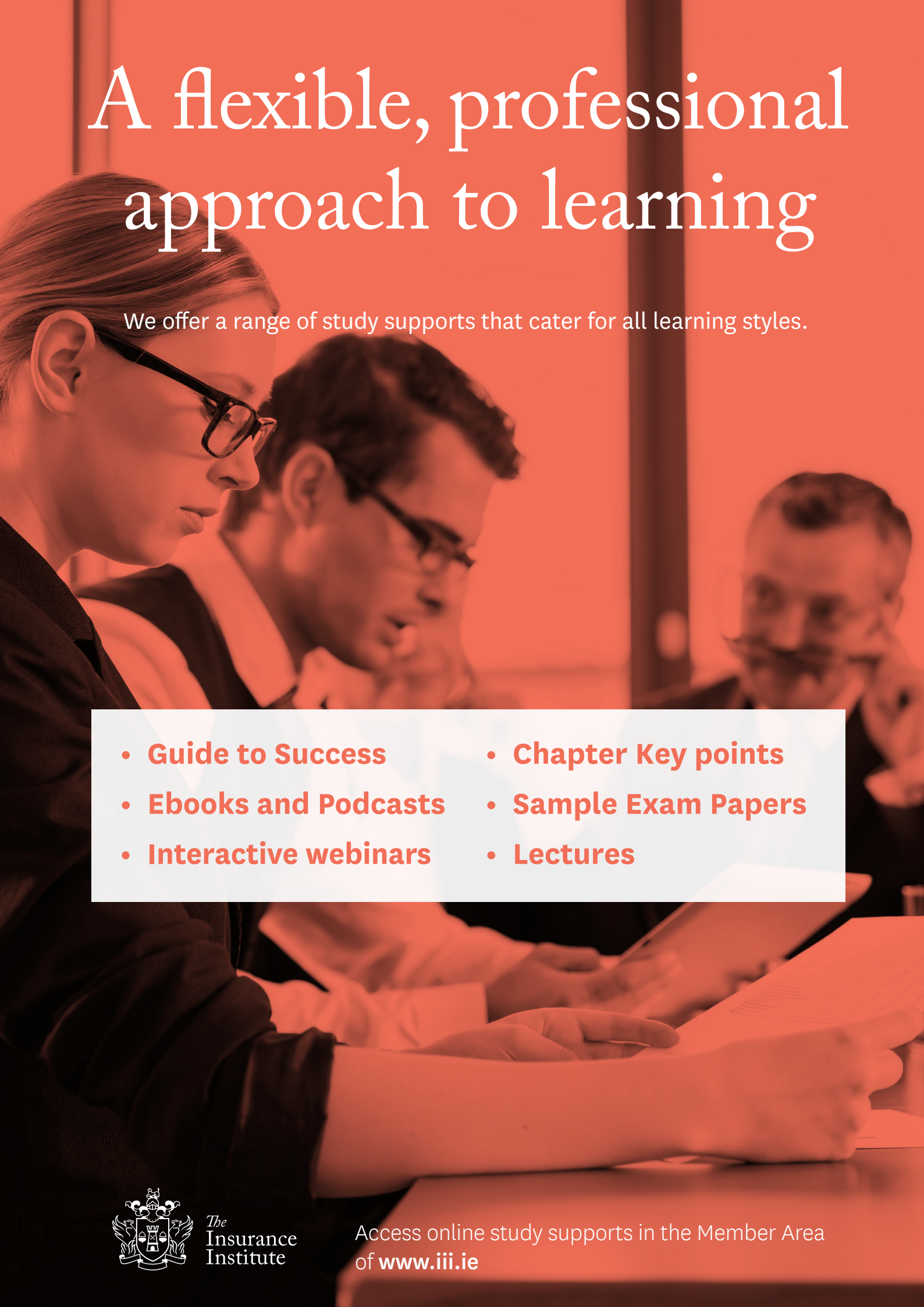

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Chapter

6

Underwriting and risk control: motor and liability insurances

What to expect in this chapter

This chapter continues to examine how underwriters handle particular risks. As in Chapter 5, we will see how underwriters assess the level of physical and moral hazard to make decisions about risk acceptance, policy cover and pricing. In this chapter, we will do so in the context of motor and liability insurances.

The precise cover under motor and liability policies is dealt with in the Personal General Insurance and Commercial General Insurance modules and will not be repeated here.

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Contents

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A Motor and liability insurances

Although separate classes of insurance, motor and liability policies share common elements, as both policy types provide indemnity to the insured for their legal liability towards other persons. Although different policies work in different ways, all are structured to cover the financial compensation (**damages** and legal costs) the insured is legally liable to pay a third party, along with the other costs and expenses associated with the claim.

damages

a sum of money paid or awarded as compensation for injury, loss or damage

Liability insurances, and the third-party element of motor insurance, are long-tail classes of insurance (see Chapter 3B4c). Therefore, they have the following characteristics in common with other similar classes:

- Claims may not be reported until long after the event. Sometimes, such as industrial disease claims including respiratory and lung disease, skin disease, vibration injuries and occupational cancer. The notification may take place years after the alleged cause.
- Settlement can take three to four years, or longer, as it is based on often complex legal or medical outcomes.
- Claims management may be complex.
- There is more uncertainty in predicting the final settlement amount.

As for other types of insurance, effective underwriting and risk control require an understanding of:

- The information needed to assess the level of physical and moral hazard (see Chapter 4C) for proposed and existing risks.
- Skilfully and prudently applying the insurer's underwriting policy (see Chapter 2A2a) and underwriting criteria (see Chapter 4D) when deciding risk acceptance, policy cover, pricing and risk improvement.

A1 Risk acceptance criteria

As in property insurance, insurers also manage their exposure by limiting their maximum risk capacity. In third party motor and liability insurance, this involves the highest limit of indemnity permitted by the underwriting criteria.

Motor insurance has legal restrictions regarding the limits of indemnity. You will be aware from previous studies that third party liability is a compulsory class of insurance for users of motor vehicles, as stated in the **Road Traffic Acts**. Policies must provide unlimited indemnity for third party death and bodily injury. Under the **European Union (Motor Insurance) (Limitation of Insurance in relation to Injury to Property) Regulations 2016**, a minimum limit of €1.22 million for damage to third party property applies. In practice insurers provide higher limits on motor policies.

Underwriters cannot normally accept risks where the limit of indemnity exceeds the insurer's maximum capacity. As we will see in Chapter 7, other options may allow an insurer to accept a risk falling outside normal acceptance or capacity limits. This is generally more applicable to property insurance, although it can sometimes apply to motor and liability insurance.

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B Underwriting motor insurance

In Chapter 1B2a, we saw that motor insurance is the largest class of non-life insurance in Ireland. Motor insurance includes a number of different types of policy, including:

- Private motor
- Commercial vehicle
- Motor fleet.

A typical motor policy has two main areas of cover: the (compulsory) third party element and cover for the insured vehicle. Therefore, motor policies combine both property and liability covers. As stated in Section A, the third-party aspect has limited indemnity for damage to third party property, but not in respect of third-party personal injury. Motor insurance in Ireland is compulsory under the **Road Traffic (Compulsory Insurance) Regulations 1962**. Under the **EU Sixth Motor Insurance Directive 2009**, anyone who holds a compulsory motor insurance policy in an EU country is covered to drive throughout the entire EU. There were concerns that post Brexit that drivers from the Republic of Ireland would be required to carry **Green Cards** to drive in the UK and Northern Ireland. However, this situation was avoided when the UK Department of Transport agreed to accept valid Irish motor insurance discs as proof of insurance as these are complaint with UK legislation.

It should be noted that vehicles which are 'laid up and out of use' are subject to compulsory insurance. Previously some Irish insurers would have offered a premium rebate if a policyholder advised them that the vehicle was laid up and out of use.[57]

Cover for the insured vehicle is generally based on its market value at the time of the loss. In commercial vehicle insurance, the vehicle value may act as both an exposure measure and a maximum amount payable. This is not always the case in private motor insurance, where premium calculation is normally an automated process, based on a complex range of factors.

green cards

are internationally recognised insurance documents which provide proof of insurance cover to law enforcement agencies. It satisfies the police in the country visited that the motorist has the minimum compulsory insurance cover required.

[57] Dowling, Dorethea, 'Why laid up and out of use option may have becomes a thing of the past', *The Independent,* October 2018.

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B1 Risk assessment in motor insurance

As in other insurance types, risk assessment involves gathering important information (material facts) about a risk. This underwriter can then assess the relevant risk factors, so that appropriate underwriting actions can be decided.

The typical information gathered at the risk assessment stage includes:

- Full details of the vehicle(s) to be insured (make, model, engine size, age, value, any modifications or non-standard features).
- Information about the proposer/insured: age, occupation, driving experience, type of licence held, relevant medical conditions that impair driving ability, insurance history, **no claims discount** (NCD) level, previous convictions, previous accidents or claims.
- Information about other drivers (similar to the details for the insured).
- The use of the vehicle. This important rating factor impacts on the annual mileage and the 'urgency' of the journeys (e.g. for commercial travellers).
- The area where the vehicle is kept or used.

For motor fleet insurance, many risks, especially large fleets, are priced on the basis of claims experience. Risk assessment here involves a detailed analysis of claims experience. As claims are normally considerably higher than for private cars, the underwriter also considers any risk management measures (e.g. driver training) in place.

no claims discount (NCD)

a reduction of premium for successive claim-free years, which increases to a maximum over a period of (usually) 5 years, held in the consumer's own name, usually found in private motor policies

B2 Underwriting options

Generally, the underwriting options in motor insurance are similar to those discussed in Chapter 5. If a risk is outside the insurer's underwriting criteria, it will be refused. Here the underwriter will decline to quote, but must state reasons for this in writing and inform the proposer of their right to apply for a quotation under the **Declined Cases Agreement**.

Where risk improvement measures are needed, they will probably relate to GPS or to keeping the vehicle in a locked garage overnight. These elements are noted on the policy schedule as conditions or warranties (see Chapter 4E2).

Other underwriting actions in motor insurance include:

- Restrictions in driving: to named individuals or to categories of drivers. Sometimes insurers may exclude, for example, some or all covers to drivers under 25 years holding a full driving licence for less than 12 months.
- Excesses: underwriters may apply an additional compulsory excess to own damage claims for young or inexperienced drivers.
- Premium loading: an additional premium may apply to a higher degree of hazard.
- Reduction in policy cover: e.g. excluding own damage cover for drivers under 25 years and those holding a full driving licence for less than 12 months.

Declined Cases Agreement

agreement operated by Insurance Ireland, to provide a quotation for third party motor insurance in circumstances where at least three insurers have declined to offer cover to a proposer

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B3 Premium calculation

Motor insurance premiums are based on rating factors relating to the proposer, drivers, vehicle, use and area where the vehicle is kept at night. For private motor insurance and some types of commercial vehicle insurance, this is generally an automated process, combining many considerations to create an equitable premium for each risk. As we saw in Chapter 3E, this may also involve the use of predictive modelling and vehicle telematics.

As stated in Section B1, many motor fleets are rated primarily on their claims experience. For the largest fleets, this may involve the burning cost method (see Chapter 3D2) of premium calculation.

For some commercial vehicle policies, particularly those involving agricultural vehicles or special types, a flat premium may be used, with adjustments (loadings or discounts) based on the driver(s), vehicle, use, location and scope of cover.

Quick question 1

What are the two main areas of cover under a motor policy?

The answer is at the end of this chapter.

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C Underwriting employers liability insurance

You will recall from the Commercial General Insurance module that although **employers liability insurance** is not compulsory in Ireland, it is essential for most businesses. Policies cover the insured's legal liability for bodily injury, death, or disease caused to the insured's employees. Given the wide range of employment environments and work-related incidents, there are many situations that could give rise to an employers liability claim.

employers liability insurance

insurance to cover the legal liability of the insured to any person who is under a contract of service or apprenticeship

Potential examples include:

- An employee hurting their back when lifting a heavy item
- A worker on a building site falling from scaffolding and suffering serious injury
- A factory worker losing a finger in a machine accident
- A digger driver suffering fatal injuries when their machine comes in contact with electricity cables
- A cook developing asthma symptoms from working with flour
- Workers in a noisy environment suffering noise-induced hearing loss
- Office workers having slips, trips and falls.

Employers liability claims are normally based on allegations of negligence or a breach of statutory duty. In Irish law, the main statutes imposing duties on an employer include the:

- **Factories Act 1955**
- **Safety, Health and Welfare at Work Acts 2005 and 2010**
- **Safety, Health and Welfare at Work (General Applications) Regulations 2007–2010**
- **Safety, Health and Welfare at Work (Construction) Regulations 2006–2016.**

These statutes impose demanding duties on employers and it can be very difficult to successfully defend claims concerning accidents at work. This was a factor in the rising claims costs and the profitability challenges for insurers over the years. However, the Personal Injuries Assessment Board (PIAB) *Award Values Report* (April 2022) highlights that since the introduction of the Personal Injuries Guidelines (see Section D3), the 2021 awards were 42% lower than the average award in the same period in 2020.[58] It is expected that the reduction in claims costs experienced by insurers will be passed on in the form of reduced premiums.

In the Irish insurance market, the standard employers liability limit is €13 million. There may occasionally be requests for higher limits (see Chapter 4E4).

[58] Personal Injuries Assessment Board (2022). '*Personal injuries award values report*', 11 April, pdf, www.piab.ie

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business description

full, accurate and comprehensive description of the activities involved in the insured's business or occupation and the first element the underwriter will consider when reviewing a proposal for commercial property insurance

C1 Risk assessment in employers liability insurance

When gathering information and assessing an employers liability risk, underwriters focus on the size of the risk and the degree of physical and moral hazard. The normal exposure measure for employers liability risks is the total wageroll. This does not just include the wages and salaries paid to direct employees; it may also include payments to other persons who carry out work for the proposer or insured, e.g. labour-only sub-contractors on a building site. The overall wageroll figure must then be broken into the different categories as the insurer rates different categories separately. For example, in a large construction firm, a lower rate will apply to clerical staff than to construction workers.

To assess the level of hazard, the underwriter first looks at the detailed **business description**. This states all business activities carried out. Based on this the underwriter then focuses on the known hazards for the trade in question and attempts to ascertain if the risk is average, below average or above average in relation to other similar risks. They may ask a risk surveyor to meet with the proposer and assess the risk in more detail.

Just think

Imagine you are carrying out a survey of a manufacturing risk. Make a checklist of the main areas you will examine when you visit the premises to assess the employers liability hazards.

Compare your checklist to the points in Table 6.1.

An area that evolved at a rapid pace because of the Covid-19 pandemic was the introduction of remote working and the changed obligations that employers have to their employees in this regard. While there are currently no specific regulations governing working from home, in terms of employment law, the same statutes and principles apply. Employers have the same obligations and duty of care to employees working from home as they do to office-based employees. This applies to working hours, rest breaks, health and safety, data protection, confidentiality, annual leave entitlements and fair procedures in disciplinary processes.[59] The Government's **Right to Request Remote Working Bill 2022** provides the legal framework for employees to make a request for remote work and for employers to approve or refuse them. It is a major change to work practices that could potentially lead to an increase in certain types of employers liability claims. This is something that insurers will monitor and likely incorporate into their underwriting processes and policy wordings as the claims data becomes available. Irrespective of whether an employee works on the employer's premises or remotely, the requirement is that an employer provides a safe place of work for their employees. This is the critical issue when it comes to defending a claim arising from a workplace accident.[60]

[59] Ahern, Ciaran (A&L Goodbody), *Remote Working*, www.legal-island.ie

[60] Pinsent Masons, '*Ireland to introduce the right to request remote working.*' January 2022 www.pinsentmasons.com

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C1a The role of the risk surveyor

Risk surveyors play an important role in assessing an employers liability risk. Table 6.1 shows their main duties. These are also the areas an underwriter considers during risk assessment.

Table 6.1 Surveyor's duties in employers liability insurance

- Evaluate the Safety Statement, risk assessments, method statements (if required) and their implementation.
- Evaluate the level of compliance with safety legislation and ascertain whether there have been any previous Health and Safety Authority prosecutions or notices.
- Check that the business description adequately describes all the proposer's work activities.
- Examine and report on all work process, equipment and controls.
- Identify substances used and storage arrangements for dangerous/hazardous materials.
- Ascertain noise and dust levels, and other relevant exposures, e.g. exposure to fumes. Check ongoing monitoring arrangements.
- Inspect machinery and evaluate guarding and other safety mechanisms.
- Check work levels carried out away from the premises and whether any work takes place outside the State.
- Ensure correct signage and warning notices.
- Check that appropriate personal protective equipment is provided and used where risks cannot be otherwise eliminated or controlled.
- Evaluate management and housekeeping standards generally.
- Evaluate suitability or workstations and office equipment.

The complexity and detail of the survey depends on the nature of the work, the hazards, and the employer's attitude towards health and safety legislation, staff training, employee personal protective equipment (PPE) and general processes to make the workplace as risk free as possible.

When thinking about dangerous work conditions and risk management, it is likely that the first areas that come to mind are construction sites, hotel and leisure risks, manufacturing plants or working at a height. However, the majority of the workforce are in sedentary jobs (e.g. office work) and potential hazards and exposures in these environments (e.g. screen and laptop/computer use) are sometimes overlooked.

Every employer is required to manage safety and health in the workplace in order to prevent accidents and ill-health. The **Safety, Health and Welfare at Work Act 2005** requires employers to:

- identify the hazards
- carry out a risk assessment
- prepare a written safety statement.

As mentioned, the employer must fulfil these obligations whether the employee works at the employer's premises or off site (e.g. remote working).

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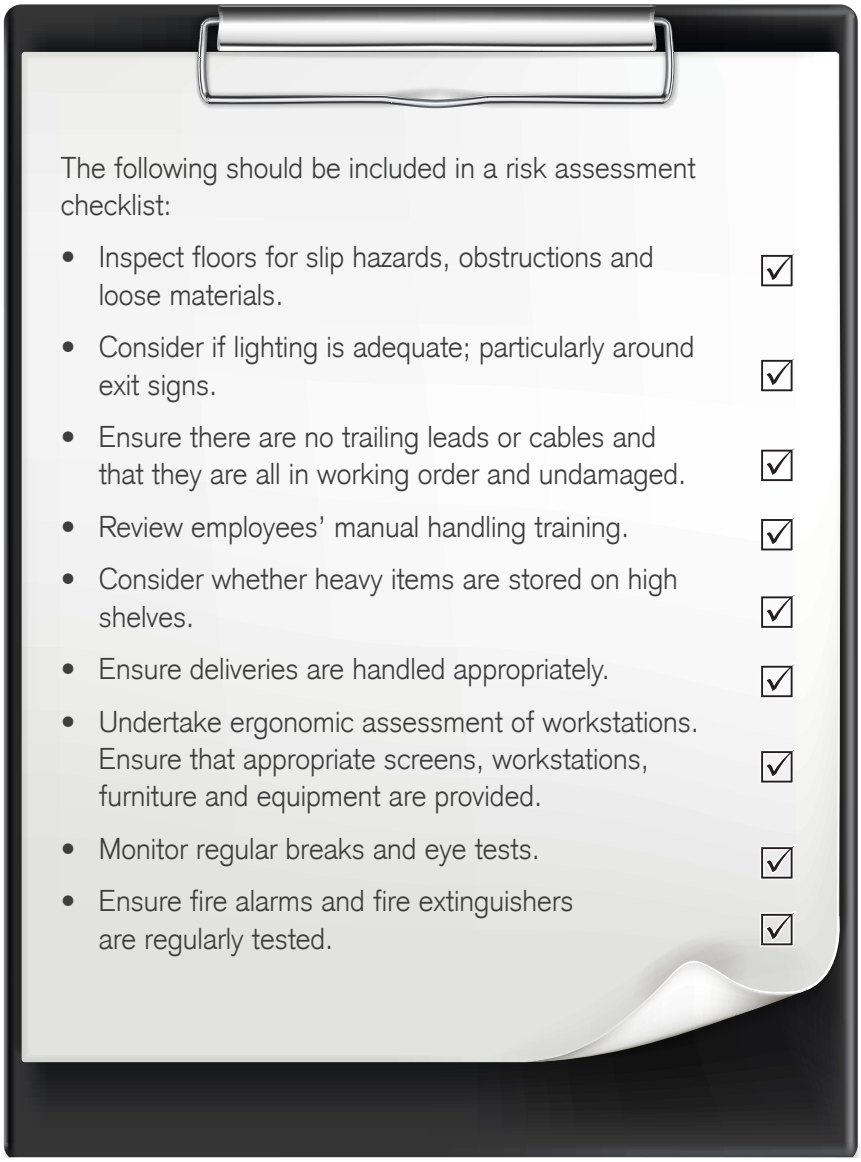

C2 Underwriting options

The underwriter is guided by the surveyor when deciding whether a risk is within underwriting criteria. If the surveyor has serious concerns about legal compliance or moral hazard, the underwriter is likely to refuse cover.

Employers liability policies are relatively simple documents, with few variations in cover. Underwriting options are therefore quite limited. An insurer may consider:

- Restricting cover through **trade endorsements** excluding particular activities, e.g. tree-felling or work above a particular height.
- Imposing specific risk improvement requirements (see Chapter 4D2).

Underwriting is therefore principally concerned with ensuring that risks meet minimum acceptable safety standards, rather than imposing excesses or other penalties. Employers liability is an area where significant underwriting benefits can be gained through risk improvement measures, such as the fitting of safety guards to hazardous machinery.

trade endorsement

endorsements attaching to liability policies relating to the business description and associated risks – typically used to exclude or restrict cover for liability arising from hazardous activities

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C3 Premium calculation

The exposure measure used for employers liability is a unit of €100 wages. For example, clerical wages:

€1,000,000 (wageroll) x 0.10% (rate) = €1,000 (premium)

A separate rate is usually applied to each category of work, reflecting the varying degrees of physical hazard that each category involves. For example, clerical staff, delivery staff or production staff.

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D Underwriting public liability insurance

Public liability insurance covers the insured's legal liability for claims by third parties (persons other than the insured's employees) for accidental injuries or damage to property. Examples of typical incidents giving rise to public liability claims include:

- A customer slips on a wet floor in a café and injures their knee.
- A visitor to a warehouse suffers injury when a box falls off a shelf and hits their shoulder.
- A house is damaged in a fire caused by a builder carrying out repairs.

public liability insurance

insurance that covers injury or death to anyone on or around the policyholder's property

There are two main areas of risk exposure in public liability insurance: incidents arising from the proposer's work activities and incidents arising from the premises. Under the **Occupiers' Liability Act 1995**, a person has a duty of care to those entering their premises, even if they are uninvited. The Act defines three main entrants or users of land as visitors, recreational users or trespassers. Public liability insurance indemnifies policyholders for sums for which they become legally liable following an award of damages. Many claims are based on an alleged breach of the Act.

In the Irish market, the standard limit is €6.5 million, but there are instances where higher limits are requested (see Section 4E4).

D1 Risk assessment in public liability insurance

To assess the risk factors and hazards, the underwriter first considers the proposer's occupation and detailed business description. All aspects of business activities must be declared. As in employers liability insurance, the underwriter then begins to assess the hazard level in comparison with other similar risks.

Underwriters will want full details of an insured's record keeping, claims logs, weekly inspections, maintenance of equipment, and incident report logs. All of these will point towards the insured's commitment to risk management and can be very beneficial in defending spurious claims. If the insured is unable to produce the relevant documentation, it can prove very difficult to refute allegations of negligence. This is why insurers will want to ascertain whether there are robust record-keeping systems in place.

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The underwriter also considers the work carried out away from the premises. The lack of control over the activities of employees here may be problematic. For some occupations (such as builders or plumbers), there is also a risk of causing damage to customers' premises, especially when performing 'hot work', i.e. work involving the application of heat, e.g. using welding or blow-torches.

When examining the premises risk, the underwriter focuses on:

- The nature and condition of the premises/land and the potential risks to visitors or passers-by
- The activities and work carried out on the premises
- The extent of public access to the premises
- Typical numbers of customers or other visitors.

D1a The role of the risk surveyor

The underwriter may ask a risk surveyor to assess larger risks in more detail. There is much overlap between the surveyor's role in employers liability insurance (see Section C1a) and in public liability insurance. Along with the priorities for employers liability risks, the surveyor will also investigate and report on the premises risk, including the potential for injury to persons other than lawful visitors.

The scope of the survey depends on the work, particular hazards, and the extent to which the public can access the premises. A single survey visit and report will often cover both employers and public liability risks. As previously mentioned in Chapter 4D3, the insurer must have a robust policy about following up on surveyors' recommendations for risk improvements.

Table 6.2 shows the risk surveyor's priorities during an inspection.

Table 6.2 Surveyor's priorities in public liability risks

- Work carried out away from the premises and the nature of the work (including any 'hot work')
- Public access to premises and the appropriateness of security measures
- For risks involving large numbers of visitors to the premises, e.g. retail shops, the type and condition of floor surface and standard of housekeeping
- Traffic management plans for risks where own vehicles and/or third party vehicles have access to premises
- For risks such as entertainment venues, the fire escapes, exits and evacuation procedures
- Holding third party goods or equipment
- Possibility of hazards to surrounding property, e.g. fire spread risk
- Assessing the insured's record keeping and incident report logs
- Getting a sense of insured's housekeeping and general health and safety culture.

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D2 Underwriting options

The underwriter has a number of options around the scope and terms of cover. These include:

- Applying exclusions for hazardous or unacceptable activities
- Applying an excess limiting exposure to small losses, such as third-party property damage claims
- Using conditions or warranties to highlight actions required of the insured. For example, if work from the premises involves the application of heat, a special warranty can be added to the policy which states the conditions for carrying out these operations, numbers of employees to be present, site protection and inspections after operations have ceased.

D3 Premium calculation

The main exposure measure for public liability insurance is annual turnover. This is because total payments from customers is a good indication of levels of activity and the size of exposure. The rate applied to the turnover figure depends on the underwriter's assessment of the hazard level.

Other exposure measures include acreage for farmers, number of seats for cinemas, or estimated footfall in a shopping centre.

€6,000,000 (turnover) x 0.06% (rate) = €3,600 (premium)

The impact of the Personal Injuries Guidelines on claims costs will need to be factor into employers and public liability pricing which should lead to a reduction in premiums.[61] From March 2021, these guidelines replaced the **Book of Quantum** used by PIAB. The Guidelines set out twelve headline categories of injuries, including several not previously included in the Book of Quantum, most notably the category of 'psychiatric damage'. It will take time to assess the impact of the Guidelines as they only apply to new cases coming before PIAB. It is expected that the Guidelines will impact primarily on High Court personal injuries litigation, where awards and legal costs are highest. The fact that the Guidelines set clear award ranges for specific injuries should lead to more out of court settlements and less litigation in the courts.[62] As noted in Section C, the PIAB *Award Values Report* (April 2022) shows that since the introduction of the Guidelines, the 2021 awards were 42% lower than the average award in the same period in 2020 and that acceptance rates for PIAB awards have fallen to 37%.[63]

Book of Quantum

a general guide to the amounts that may be awarded to a claimant; legislation requires PIAB and judges to have regard to the Book of Quantum when assessing claim values

Quick question 2

Outline the main exposure measures used in public liability insurance.

Chapter 6

[61] Beale and Co. (Solicitors), *Judicial Council adopts Personal Injuries Guidelines*, pdf. © Beale and Co. 2021, www.beale-law.com

[62] Carolan, Mary, New guidelines for personal injuries awards 'might be just about right', The Irish Times, 7 March 2021, www.irishtimes.com

[63] Personal Injuries Assessment Board (2022). '*Personal injuries award values report*', 11 April, pdf, www.piab.ie

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E Underwriting products liability insurance

Products liability insurance covers the insured's legal liability for injuries arising from goods sold, supplied or worked on or damage to property. This could arise with defective toys that cause injury to a child or faulty electrical goods causing a fire.

Note that products liability policies do not cover the replacement of defective goods or the cost of recalling defective products. Cover is confined to the damage or injury defective goods may cause to third parties. The standard limit of indemnity in the Irish market is €6.5 million and the cover is written on an aggregate limit of indemnity basis. This differs from third-party motor liability, employers liability and public liability, all of which are written on an indemnity limit for each and every claim.

The main exposure the policyholder faces relates to obligations under the **Liability for Defective Products Act 1991** and the **Sale of Goods and Supply of Services Act 1980**. The former Act gives legal responsibility to the 'producer' of goods for injury or damage caused. Importers can also be responsible for the supply of goods imported from outside the EU. A key feature of the Act is a claimant does not need to prove negligence, only that an injury was caused by the product.

The **Liability for Defective Products Act 1991** applies to makers and suppliers of finished products, component parts, raw materials, intermediate processes, brand/trademark owners and importers of goods from outside the EU. If the manufacturer is unidentified, the supplier is liable.

A product may be considered to be manufactured to higher standards if it carries a Conformité Européenne (CE) marking. This certifies that it has met EU health, safety, and environmental requirements. But an underwriter cannot assume the existence of a CE marking makes a product safe, as the CE system is a self-certification system.

Quick question 3

Explain the significance of a Conformité Européenne (CE) marking on a product.

E1 Risk assessment in products liability insurance

Key to assessing products liability risk are the type of product, its history (usage and application) and loss potential. An underwriter will consider whether products are exported to the United States (US), where court awards are much higher and may also involve awarding **punitive damages** against manufacturers of defective products.

punitive damages

damages awarded by a court designed to punish the defendant rather than compensate for loss suffered by the plaintiff

Risk improvements are sometimes identified through discussions between the underwriter and the policyholder, rather than through a risk surveyor. Technical leaflets and product specifications also assist this process. Table 6.3 shows some of the areas explored by underwriters investigating risk improvement.

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Table 6.3 Risk improvement for products liability risks
• Storage arrangements consistent with product shelf-life • Product labelling for clarity • Packaging (which may include features like 'safety caps' for dangerous liquids) • Warning notices • The nature of guarantees or warranties • Manufacturing quality control methods.

'claims occurrence' basis

liability policy cover that is triggered by a loss that occurred during the period of insurance, although the claim may be brought at a future date even after the expiry of the policy

'claims made' basis

liability policy cover that is triggered by a claim made against the insured and notified to insurers during the policy period, irrespective of the actual date of the negligence giving rise to the claim

aggregate limit of indemnity

the maximum amount that an insurer will pay out on any series of claims in a given time period (usually a year)

E2 Underwriting options

Public and products liability are normally written on a **'claims occurrence' basis**. For higher hazard products (such as medical), an insurer may provide cover on a **'claims made' basis**. Insurers may also limit exposure of product liability claims through an **aggregate limit of indemnity**, and the limit per claim. The main benefit for insurers of providing cover on a 'claims made' basis is that they are better able to react to changes in the claims environment, can more accurately predict loss expectancy and can close finalised years more quickly.

Underwriters normally exclude cover for exports to the United States and Canada, although cover for these regions can be extended (or 'bought back') by request. Liability for punitive damages and gradual pollution is normally excluded.

Underwriters may also apply excesses reducing exposure to high volumes of small-value claims, which are sometimes a feature of product liability insurance, e.g. involving food and drink.

Where appropriate, underwriters may impose risk improvement measures through policy conditions or warranties.

E3 Premium calculation

Products liability cover is usually provided in conjunction with, and as an extension of, a public liability policy. It is rated and assessed separately due to the different features of underwriting this business. The exposure measure is normally a unit of €1,000 turnover.

€10,000,000 (turnover) x 0.01% (rate) = €1,000 (premium)

Rates vary, depending on the nature of the goods and their potential to cause injury or damage. Healthcare and food products carry a far higher level of risk than, for example, office equipment or stationery products. Underwriters need to assess the amount of goods imported from outside the EU. Rates reflect the hazard level inherent in the goods supplied or manufactured. For goods imported from some regions outside of the EU, insurers often apply higher rates, because the chance of succeeding in subrogation claims against manufacturers in these countries is considered low.

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F

Underwriting professional indemnity insurance

Professional indemnity insurance covers legal liability incurred in the conduct of professional business by the policyholder or their predecessors. Protection is provided for a professional person or business practice against the financial consequences of claims caused by a breach of their professional duty by way of neglect, error and/or omission.

For some professions (e.g. solicitors, architects, surveyors, accountants or insurance intermediaries), this cover is legally required by their professional licensing or regulatory body. In some cases, there is an agreed wording that an insurer must sign up to, in order to write the business (e.g. solicitors). Some professional bodies also have a minimum level of indemnity required by its members (e.g. insurance intermediaries). Unlike employers liability and public liability, there is no standard limit of indemnity in the market.

Most claims are for financial loss by a third party arising from the insured's negligent advice, design, specification or omission.

professional indemnity insurance

liability insurance that covers policyholders for claims arising from their professional activities (including negligent or inadequate advice given)

Cover is often provided under schemes such as those for accountants or solicitors, and can be offered with membership of the relevant professional body. It is also provided on a stand-alone basis. Cover is normally underwritten on a 'claims made' basis, covering claims made, or notified to the insurer, while the policy is in force.

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retroactive date

a date shown on a 'claims made' policy (not an occurrence policy). There is no cover for claims produced by wrongful acts that took place prior to this date, even if the claim is first made during the policy period. This date will often be prior to policy inception and in many cases will correlate with the period of time the insured has held uninterrupted cover.

Medmal Insurance

a policy written on a 'claims made' basis, which covers legal liability for acts, errors and omissions for those providing medical care

As in other types of liability insurance, insurers manage their loss exposures through limits of indemnity. As well as the limit of indemnity per claim, aggregate limits of indemnity are commonly used to cap the insurer's exposure in each period of insurance. Policies normally also have a **retroactive date**, which is shown on the schedule.

The main exposure for professional indemnity insurance for the medical profession is from third party bodily injury, arising out of negligence by a consultant, doctor or nurse. This insurance against medical malpractice is called **Medmal Insurance** and is very specialist, with limited markets.

See Example 1.2 for an indication of the professional indemnity market's position in relation to the underwriting cycle.

F1 Risk assessment in professional indemnity insurance

In assessing a professional indemnity risk, underwriters make detailed enquiries about the proposer. This includes their experience, qualifications and supervision, the date the business was established, staff and contractors, the nature of professional services provided, the geographical reach of services, financial history, insurance history and previous claims. The underwriter also requires details of pending claims or disputes.

Risk surveyors are not usually involved in this business. Underwriters can normally fully assess the risk from detailed proposal form and supporting documentation. Proposal forms are still required at inception. A renewal declaration form, similar to a proposal form, is required at renewal stage of the policy.

F2 Underwriting options and rating

As in other business classes, insurers use underwriting criteria and policy wordings as a form of risk control. Policies are typically subject to a large excess and exclude cover for anything that should have been reported under a prior policy.

Full disclosure is required at each renewal and insurers normally agree a new annual contract each year. Prior to the renewal date, the insured must provide full details of all revenues and fees, split into the various categories of professional services provided, and declare everything that might give rise to a claim.

Rating of such risks varies, depending on the profession involved and its potential for claims. Clearly any of the medical professions carry a higher level of risk than, for example, an accountant dealing solely with payroll, who will pay less than an accountant giving taxation advice. Risks are sometimes flat-rated for sole practitioners in each profession. Alternatively, premiums are based on fee income for the previous declared year, in the various categories of professional services provided. Unlike other liability policies, premiums are not adjustable at renewal.

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G Underwriting Directors and Officers (D&O) insurance

A Directors and Officers (D&O) policy indemnifies directors and officers of a company against claims made against them in a personal capacity, arising from wrongful acts, incorrect decision making or actions within the scope of their regular work duties.

A typical policy will cover the reimbursement of the company, where it has to pay out a third party claim on behalf of a director or officer. In the case of companies listed on a stock exchange cover can be bought for securities claims i.e. claims taken by shareholders alleging that the actions of the company's directors and officers resulted in a loss in the market value of the company's shares.

The **Companies Act 2014** places additional responsibilities on company directors, modernises governance responsibilities and prescribes a list of principal fiduciary duties. Despite the unchanged limited liability of a company to indemnify its directors and officers, the Act includes a specific statement allowing companies to purchase D&O insurance to cover against alleged negligence, default, breach of duty, or breach of trust.

The D&O market has begun to soften after a number of years of large premium increases, capacity reductions and increased deductibles. The hard market had been driven by large losses in the sector but increasing rates have led to greater market capacity which has softened the market. There has been a large increase in the number of claims taken against directors but these are now priced into premiums.

G1 Underwriting and rating

Some of the underwriting and rating factors are as follows:

- Financial condition
- Business activities
- Quality of management
- Diversity of business activities
- Length of time in business
- Mergers and acquisitions
- Organisation structure
- International operating exposures
- Claims history.

There is no standard limit of indemnity in D&O insurance in Ireland. Customers select their limits based on size of firm, whether the company is listed and the perceived risk.

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H Underwriting cyber insurance

Despite having been written for over 25 years, cyber insurance is still considered to be a new cover. This cover is evolving at a pace not seen in other traditional insurance lines. As noted in Chapter 1, the introduction of stricter data protection requirements (see Example 6.1), the prevalence of new technologies and an increased awareness of the impact of cyber security breaches (see Example 6.2) have resulted in an increase in the demand for cyber insurance products.

Example 6.1

In January 2019, the French data protection supervisor (Commission Nationale de l'Informatique et des Libertés) fined Google €50 million for GDPR breaches relating to a failure to provide sufficient information to individuals on how Google was collecting and using their information.[64]

In July 2019, the UK Information Commissioner's Office proposed fines for British Airways and Marriott International of €204.6 million and €110.4 million respectively for having insufficient technical and organisational measures to ensure information security.[65]

In July 2019, the Luxembourg National Commission for Data Protection fined Amazon.com €746 million for GDPR breaches in relation to the processing of personal data. Amazon reportedly intends to appeal the decision.[66]

In 2020, the Irish Data Protection Commission (DPC) issued its first fines under the GDPR to Tusla Child and Family Agency (€105,000) for breaches of the GDPR[67] and to Twitter (€450,000) as a result of its failure to notify data breaches to the DPC on time or to adequately and appropriately document the breach.[68]

In 2021, the European Data Protection Board directed the Irish DPC to increase its proposed fine on WhatsApp for breaches of its GDPR obligations relating to the provision of information and the transparency of that information to both users and non-users of WhatsApp's service. The Irish DPC fined WhatsApp a record €225 million and ordered it to bring its processing into compliance by taking a range of specified remedial actions.[69]

64 'Google hit with €50 million fine for data privacy breach', *The Irish Times*, 21 January 2019, www.irishtimes.com

65 'Europe's huge privacy fines against Marriott and British Airways are a warning for Google and Facebook', *CNBC*, 10 July 2019, www.cnbc.com

66 'Amazon fined €746 million by EU for data breaches', *The Irish Times*, 31 July 2021, www.irishtimes.com

67 Data Protection Commission, 2020. 'Data Protection Commission Fine on Tusla Child and Family Agency Confirmed in Court', 04 November 2020, www.dataprotection.ie

68 Data Protection Commission, 2020. 'Data Protection Commission announces decision in Twitter inquiry', 15 December 2020, www.dataprotection.ie

69 Arthur Beesley, 'Record €225m fine imposed on WhatsApp by Irish regulator for 'severe' breaches of privacy law', *The Irish Times*, 02 Sept 2021, www.irishtimes.com

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Example 6.2

Incidences of cyber hacking, ransomware attacks and social engineering fraud have dramatically increased in recent years. Social engineering, which is at the root of most ransomware attacks, involves manipulation to access corporate systems and private information. With the increasing focus on moving customer interactions to digital channels and 'big data' technologies, the opportunities for and effectiveness of such attacks are greatly increased. The rapid pace at which cyber trends are evolving increases the challenge that insurers are facing; making this area of risk a significant unknown into the future.

Example 6.3

In May 2021 the Irish Health Service Executive suffered a major ransomware attack, causing its IT systems nationwide to shut down. The group responsible was identified as a criminal gang known as Wizard Spider, believed to be operating from Russia.

As a result of the attack, all national and local systems were affected. The HSE had to take down its entire IT system to avoid further attacks.

The incident had a significant impact on hospital appointments across the country, with many appointments cancelled including all outpatient and radiology services. The direct financial cost has not been finalised but (as of August 2022), it had cost approximately €70.4 million with an estimate of €657 million required in spending over the next seven years to implement cyber security improvements.[70]

A general cyber insurance policy provides cover in four main areas, some with their own inner limits. These areas are:

- third party liability e.g. privacy and confidentiality breach, network security and consumer redress fund cover including defence costs
- first-party loss e.g. hacker theft cover and cyber extortion cover (including ransomware)
- business interruption
- crisis management e.g. forensic investigation, reputation advice, loss adjuster and data breach response costs.

Cover is normally underwritten on a 'claims made' basis, covering claims made or notified to the insurer while the policy is in force. The policy can vary in complexity from a package offering to a bespoke policy. Cyber insurance policies offer access to expert technical support, incident response and crisis management capabilities.

[70] O'Donovan, B., 2022. '*Cost of HSE Cyberattack reaches €70m*', 13 October, www.rte.ie

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H1 Risk assessment in cyber insurance

Proposal forms are used to gather initial information. Depending on the complexity of the policy required, this may be followed by meetings with the proposer's security team and an analysis of the risk being undertaken by a specialist cyber risk surveyor. Most insurers use outsourced service providers to identify and measure the cyber risks, exposures and vulnerabilities associated with a proposer's business. These reports are integrated with the insurer's underwriting process and provide an additional level of information that would not be available through the standard proposal form or risk questionnaire. An organisation's weakest link in terms of cyber-attacks is usually their employees. Most hackers gain access when an employee opens a malicious link. The practice of penetration testing and internal phishing email test campaigns are a good risk management practice for larger organisations as it helps to increase awareness amongst employees who are usually the first line of defence against hackers.

While proposal forms vary, the standard information required to assess a cyber risk includes details of:

- the business (e.g. subsidiaries, revenues, number of employees, training, system administration rights)
- any previous claims or data breaches
- the type of information stored
- the business network (e.g. physical security, system security, data segregation and encryption, remote access, management of portable data)
- risk management procedures
- whether there is a dedicated data protection officer
- vendors that provide critical IT services
- legal and regulatory requirements (e.g. the privacy policy).

This is not an exhaustive list and more in-depth information may be required if an insurer identifies higher exposures such as cover for business interruption, online trading with credit card data held by a proposer or a proposer holding healthcare or medical data.

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H2 Underwriting options and rating

As additional claims data becomes available, as external cyber risk assessment models become more advanced and as new threats and exposures are identified, the underwriting and rating of cyber insurance will become more sophisticated and complex.

The rating factors are related to the covers being purchased. For smaller businesses, there may be a rating matrix and once the insured falls within the pre-defined criteria, there is an agreed price based on the limit of indemnity sought (currently there is no standard limit of indemnity in cyber insurance) and turnover bands (possibly up to €10 million). Beyond this there is no standard rating and each insurer has their own rating structures based on the perceived exposure and limits sought.

In terms of underwriting options, once an insurer accepts a risk, the options available relate to:

- limiting certain exposures
- increasing the waiting period in respect of the operation of first-party loss cover (which operates in hours) or
- (in the case of ransomware claims) require the insured to co-insure the risk with the insurer only paying a fixed percentage of the claim.

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I Summary

This chapter examined the underwriting of motor and liability insurance and how insurers use risk acceptance criteria to manage their exposure. We also looked at how underwriters assess these risks and make decisions about cover and pricing in each class. The chapter also covered the options underwriters have to manage exposures across each of the classes.

I1 What's next?

Chapter 7 looks at how insurers manage their risk exposure on a larger scale and how they share risks through reinsurance, co-insurance and other methods.

I2 Study tips

It's important to remember that this textbook is the primary information source for this module. All the questions in your exam will relate directly to information featured in this textbook. Use the 'End of chapter questions', 'Quick questions' and 'Sample exam questions' to quickly test what you've learned so far. Make a note of any topics/areas you need to improve in and keep it to hand so you can refer to it when you revise this chapter again before your exam.

In addition to the textbook, your Member Area has many online study supports that can help you as you study this module.

I3 Online learning supports

Your Member Area includes a guide to success, an automated study planner, an exam countdown timer, study tips guide and discussion forums. These study supports are invaluable in reinforcing what you have learned so far. The webinars, chapter-by-chapter key points and other supports will help you to break down the chapter's content when revising.

Remember: This module is examined by mixed assessment, which includes:

- An online mid-semester MCQ assessment (20 questions)
- An end-of-semester written exam paper (9 questions)

Given that your online mid-semester assessment is a multiple-choice question test, completing the online practice paper is the ideal preparation for this. You can prepare for the end of semester written exam and test your knowledge by completing sample and past written exam papers.

To access these online learning supports, just log into your Member Area on **www.iii.ie** and click on the **Connect** logo.

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End of chapter questions

Use these questions to test your understanding of what we've covered in Chapter 6. It should be noted that these end of chapter questions are revision questions to test your understanding of the material in the chapter just studied. They are not sample exam questions.

1. State the characteristics that make motor and liability insurances long-tail classes of insurance.

2. Outline the underwriter's considerations in motor and liability insurance in order to employ effective underwriting and risk control.

3. State the compulsory covers required by Irish motor insurance legislation.

4. State the cover provided by an employers liability policy.

5. State the first item an underwriter will consider when assessing the level of hazard on an employers liability policy?

6. State the cover provided by a public liability insurance policy.

7. List the underwriter's considerations when examining the premises risk under a public liability policy.

8. State the areas that an underwriter explores when investigating risk improvements on a products liability policy.

9. Outline the underwriting options available to an underwriter on a products liability policy.

10. Briefly explain the term retroactive date in the context of liability insurance.

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Answers to end of chapter questions

Check your answers against those below and make a note of any points left out. This will highlight the sections you may need to look at more closely during your revision.

1. Characteristics of motor and liability insurance as long-tail classes of insurance are:
   - Claims may not be reported for some time after the event. In some cases, (such as industrial disease claims), the notification may take place years after the alleged cause.
   - Settlement can take three to four years, occasionally longer, as it is based on often complex legal or medical outcomes.
   - There can be greater complexity in managing claims.
   - There is more uncertainty in predicting the final settlement amount.
2. Effective underwriting and risk control requires an understanding of:
   - The information needed to assess the level of physical and moral hazard for proposed and existing risks.
   - How to skilfully and prudently apply underwriting policy and underwriting criteria when making decisions about risk acceptance, policy cover, pricing and risk improvement.
3. Under the **Road Traffic Acts**, motor insurance policies must provide unlimited indemnity for third party death and bodily injury. The minimum limit for damage to third party property under the **EU (Motor Insurance) (Limitation of Insurance in relation to Injury to Property) Regulations 2016** is €1.22 million per claim.
4. An employers liability policy covers the insured's legal liability for bodily injury, death or disease caused to the insured's employees.
5. When assessing the level of hazard, the underwriter first looks at the detailed business description.
6. Public liability insurance covers legal liability for claims by third parties, i.e. members of the public, for accidental injuries or damage to property.
7. When examining the premises risk, the underwriter focuses on:
   - The nature and condition of the premises/land and the potential risks to visitors or passers-by
   - The activities and work processes carried out on the premises
   - Typical numbers of customers or other visitors.
8. Main areas:
   - Storage arrangements consistent with the shelf-life of products
   - Product labelling for clarity
   - Packaging (which may include things like 'safety caps' for dangerous liquids)
   - Warning notices
   - The nature of any guarantees or warranties
   - Manufacturing quality control methods.
9. The underwriting options include:
   - Excluding cover for exports to the United States and Canada.
   - Applying excesses to reduce exposure to high volumes of small value claims.
10. This is a date shown on a 'claims made' policy (not an occurrence policy). There is no cover for claims produced by wrongful acts that took place prior to this date, even if the claim is first made during the policy period. This date will often be prior to policy inception and in many cases will correlate with the period of time the insured has held uninterrupted cover.

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Answers to quick questions

1. Typically, a motor policy has two main areas of cover: the compulsory third party element and cover for the insured's vehicle. This means that motor policies combine both property and liability covers.

2. The main exposure measure for public liability insurance is annual turnover. This is because the total payments from customers are a good indication of the level of activity and the size of the exposure to loss.

   Other exposure measures include acreage for farmers, number of seats for cinemas, or estimated footfall in a shopping centre.

3. A product may be considered to be manufactured to higher standards if it carries a Conformité Européenne (CE) marking. This certifies that a product has met EU health, safety, and environmental requirements. However, it is a self-certification system.

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Sample exam questions

Question 1

a) You are an underwriter for ABC Insurance. XYZ Plastics has contacted your firm to seek a quote for two of your liability products. XYZ has provided you with the following figures to enable you to produce an accurate quote:

- Ten employees
- Sum insured of €2 million
- Gross profit of €500,000
- Wageroll of €300,000
- Turnover of €1 million.

Using these figures, calculate an accurate premium for:

i. Employers liability cover, where the rate is 2.5%

(2 Marks)

ii. Public/products liability cover, where the rate is 0.35%

(2 Marks)

Clearly show your workings for each of these calculations.

b) List six main duties of a risk surveyor when assessing an employers liability risk.

(6 Marks)

Total: 10 Marks

Question 2

a) Briefly explain the cover provided by a professional indemnity insurance policy, and the type of businesses most likely to effect these policies.

(6 Marks)

b) Briefly explain how insurers manage their loss exposures for professional indemnity insurance.

(4 Marks)

Total: 10 Marks

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Your answers

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Sample answers

The answers set out below show the main points you must consider in answering the question. In some cases, a well-reasoned alternative view could earn good marks.

Question 1

Part (a)

i) €300,000 (wageroll) x 2.5% (rate) = €7,500

(2 Marks)

ii) €1,000,000 (turnover) x 0.35% (rate) = €3,500

(2 Marks)

Part (b)

The main duties of a risk surveyor when assessing an employers liability risk (any six):

- Evaluate the Safety Statement, risk assessments, method statements (if required) and their implementation.
- Evaluate the level of compliance with safety legislation and ascertain whether there have been any previous Health and Safety Authority prosecutions or notices.
- Check that the business description adequately describes all the proposer's work activities.
- Examine and report on all work process, equipment and controls.
- Identify substances used and storage arrangements for dangerous/hazardous materials.
- Ascertain noise and dust levels, and other relevant exposures, e.g. exposure to fumes. Check ongoing monitoring arrangements.
- Inspect machinery and evaluate guarding and other safety mechanisms.
- Check work levels carried out away from the premises and whether any work takes place outside the State.
- Ensure correct signage and warning notices.
- Check that appropriate personal protective equipment is provided and used where risks cannot be otherwise eliminated or controlled.
- Evaluate management and housekeeping standards generally.

(6 Marks)

Reference Chapter 6C1a, C3 & D3 **Total: 10 Marks**

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Question 2

Part (a)

Professional indemnity insurance covers legal liability incurred in the conduct of professional business by the policyholder or their predecessors. Protection is provided for a professional person or business practice against the financial consequences of claims caused by a breach of their professional duty by way of neglect, error and/or omission. For some professions, e.g. solicitors, architects, surveyors, accountants or insurance intermediaries, this cover is legally required by their professional licensing or regulatory body. Most claims are for financial loss by a third party, arising from the insured's negligent advice, design, specification or omission.

In assessing a professional indemnity risk, underwriters make detailed enquiries about the proposer. This includes: their experience and qualifications, the date the business was established, staff and contractors, nature of professional services provided, the geographical reach of services, financial history, insurance history and previous claims. The underwriter also requires details of pending claims or disputes.

(6 Marks)

Part (b)

Insurers manage their loss exposures for professional indemnity insurance through limits of indemnity. As well as the limit of indemnity per claim, aggregate limits of indemnity are commonly used to cap the insurer's exposure in each period of insurance. Policies normally also have a retroactive date, which is shown on the schedule. There is no cover for claims arising from acts, omissions or events that happened before that date. The 'claims made' trigger means that only incidents that the insured first becomes aware of during the policy period are covered under the policy. It is the case that many of these events took place prior to the policy period but have taken a long time to come to fruition.

(4 Marks)

Reference Chapter 6F **Total: 10 Marks**

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Chapter

7

Risk exposure and control

What to expect in this chapter

In Chapter 1 we saw that insurers need to analyse their risk exposure to ensure they have sufficient assets to pay claimants and comply with regulatory requirements on solvency and capital. In Chapter 3, we saw how insurers develop pricing structures ensuring that premiums cover the likely cost of claims and other expenses, and deliver a profit. In Chapters 4, 5 and 6, we looked at how insurers manage risk through careful selection and underwriting.

In this chapter, we consider some of the other ways insurers identify and control their potential exposures to risk. This is a complex area requiring a range of measures, including suitable reinsurance programmes.

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Contents

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A The insurer's risk exposure

As we saw in earlier chapters, the underwriter employs careful risk selection in accordance with the insurer's underwriting policy and criteria. When an insurer accepts a risk, the underwriter ensures that the risk is prudently priced and underwritten. The underwriter also decides on suitable policy cover and terms and sets a premium that adequately covers the likely cost of the risk.

Careful underwriting of individual risks is a key element in how insurers assess, manage and control their potential losses. Other factors, however, can make this process more complicated, and can expose the insurer to higher-than-expected losses.

Accumulation and **aggregation** are terms that apply in situations where loss exposure may be significantly higher than expected. Accumulation refers specifically to the total combined risks that could be involved in one single event. This is where multiple insureds all suffer a loss arising from the same singular event e.g. a weather event or a major fire that damages more than one insured property. Aggregation refers to a number of unrelated claims negatively impacting the insurer's account from a series of claims, e.g. a number of large fire claims on a property account in one year.

We will now look at how insurers determine their potential loss exposures and the steps taken to control these exposures.

accumulation

the total number of risks that could be involved in a single loss event involving one or more insured perils

aggregation

an accumulation of insured risk to a single insurer, which exposes that insurer to a significant flow of claims arising from a single cause of loss

Just think

What events have taken place in Ireland in recent years that could be classified as catastrophic events?

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A1 Single risks

In formulating an overall underwriting strategy, senior management assess and establish the maximum capacity for a single risk. Underwriters work on assessing the quantitative and qualitative aspects of the risk and are responsible for ensuring that the maximum exposure to a risk is acceptable within the limits set out in the underwriting policy.

A2 Single events

Along with considering the possible loss from a single risk or policy, insurers should also evaluate the impact a single event might have on their account. The following examples show that many individual losses can result from one catastrophic event affecting many policies:

- Kobe earthquake in Japan, January 1995
- Terrorist attack on the World Trade Center in New York, September 2001
- Tsunami in South-east Asia, December 2004
- Explosion and fire at the Hemel Hempstead fuel depot in the United Kingdom, December 2005
- Big freeze in Ireland December 2010
- Flooding across parts of Ireland in winter 2015
- Storm Ophelia in Ireland in 2017
- Storm Emma in Ireland in 2018
- Covid-19 global pandemic in 2020-2022

The recent Covid-19 pandemic with losses of $44billion represents the third largest cost to insurers and reinsurers of any catastrophe, behind Hurricane Katrina and the 9/11 attacks.[71]

How insurers approach and manage this exposure is a key element of underwriting strategy and is reflected in the insurer's risk acceptance criteria.

It is not easy to anticipate how a flow of claims may arise from a single event, and it is more difficult for some classes than others. Table 7.1 provides a summary of potential accumulation of risk for major classes of business.

[71] Cohn, Carolyn, 2022. '*COVID-19 loss of $44 billion is 3rd largest catastrophe cost to insurers*'. January www.reuters.com

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Table 7.1 Potential accumulation of risk

Class of business	What is insured	Nature of potential accumulation of risk
Motor	Vehicles against loss or damage; liability to third parties, property and injury	Multi-vehicle accidents and severe injuries to people, e.g. a motorway pile-up
Household	Home and contents against loss or damage; liability to third parties	The weather, e.g. multiple domestic dwellings damaged as a result of a widespread storm
Commercial property	All risks of loss or damage to property and loss caused by business interruption	Multiple insureds affected by catastrophe loss, e.g. a fire in an industrial estate or an explosion that damages several properties in a neighbourhood
Public/ products liability	Legal liability for third-party losses	Two or more policies covering the same loss exposure, e.g. food poisoning from contaminated ingredients in a food product, or the defective construction of a dam, leading to collapse
Employers liability	Legal liability to employees	Two or more policies covering the same loss exposure, e.g. multiple insureds working at the same location like an oil rig
Personal accident	Death or injury to a person	Aviation disaster or natural disaster
Travel	People and their belongings; liability to third parties	Natural disasters at a holiday resort, e.g. earthquake, tsunami

While considering exposure to single risks and events, insurers should also consider the aggregate effect of losses over an entire account to achieve long-term success and profitability. The key priority is to be constantly mindful of these risks and to actively see that they are not overly exposed in a particular place (such as an area prone to flooding) or in market segments (such as architects' professional indemnity insurance).

Quantifying single risks and events can prove difficult. For example, with the recent Covid-19 pandemic leading to large losses for reinsurers, some leading reinsurers are warning that whilst the immediate losses caused by the global pandemic may have been largely reserved for, there is still a lot of uncertainty as to the potential for further losses on the longer tailed lines of business.[72]

[72] Evan, Steve, *Swiss Re & Hannover Re warn of COVID-19's claim tail & litigation risk*, https://www.reinsurancene.ws/

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B Identifying and controlling exposure

We will now look at how insurers identify and control exposures in property and liability insurances.

B1 Property insurance

This section looks at how insurers identify and manage exposures on their property accounts.

B1a Single risks

The identification and monitoring of accumulations on a single policy at a single location is usually straightforward. However, identifying and monitoring individual risks accumulating at a single location is also important. This is done by risk logging. By recording each risk location (usually by geocoding and risk mapping) and the maximum exposure at that location (based on either total sums insured or EMLs) insurers can quantify and control capacity. If there is already a sizeable exposure in a location, it may be impossible to accept any further risks at that place to avoid becoming over-exposed or committed. Example 7.1 illustrates this point.

Example 7.1

A warehouse building is insured under a landlord's policy. The insurer that underwrote the policy is then approached by the tenant to also insure the contents. Reviewing the accumulation log, the insurer immediately sees the capacity committed to this location. It can therefore ensure that the aggregation of the maximum exposure for each risk does not exceed its maximum capacity.

The introduction of Eircodes in July 2015 created an additional way of mapping locations for insurers. To give the most accurate picture, insurers also continue to use IT systems using GPS coordinates and geo-mapping to identify and manage accumulations. The OPW provides location specific access to flood risk and flood management systems, which can be accessed via its dedicated website (www.floodinfo.ie). These tools provide insurers with a multi-faceted approach to identifying accumulations and managing exposures.

Insurers know that risk accumulations can occur without their knowledge, so robust systems should be employed to monitor the business mix and track sums insured on a per location basis. For example, an underwriter may be involved with a large business operating at multiple locations in Ireland where the insured's goods are constantly moving location. A similar problem may arise with policyholders keeping stock at multi-tenanted warehouses, often for short periods of time while en route to final destinations or customers. The constantly changing values at each location create the potential for unknown accumulation exposures. This can be solved by establishing a maximum stock sum insured at the key location, i.e. the location with the highest combined property and business interruption exposure, and applying a maximum sum insured for stock to that location.

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B1b Single events

The recent increase in natural disasters has focused insurers' attention on how to manage the financial impact of these events. Just as the underwriting policy dictates the maximum capacity for a single risk, it also specifies the amount of capacity for specific geographical areas to control its exposure to natural perils.

In Ireland, household insurers use geocoding, predictive and historic flood maps (see Chapter 5C1) and sums insured to assess and control exposure in areas considered to be prone to the risk of flood. Rating area data is evolving through the increased use of technology and being transformed by exposure monitoring based on latitude/longitude or GPS risk coordinates. This has transformed the active management of property exposures, avoiding risk accumulations and lessening exposure to flood losses for both household and commercial property business.

The problem of flooding is still a challenge and source of losses for the industry, with wider implications for government and local communities. The Government has committed almost €1 billion to flood relief measures as part of the National Development Plan 2018-2027 which is overseen by the OPW.[73]

In areas of the world exposed to other natural perils, such as Caribbean storm, Japanese earthquake, Californian earthquake or European flood, insurers identify and monitor exposure aggregation using sophisticated computer programs. 'Risk zoning' and the CRESTA (Catastrophe Risk Evaluation and Standardizing Target Accumulations) system are key control tools. CRESTA divides countries into zones and sub-zones (based on the degree of hazard) and these zones are recognised and used by the insurance industry worldwide. The tool was developed jointly by Munich Re and Swiss Re (two of the world's leading reinsurers) to help insurers solve this problem. The system allocates insurers' risks into these zones, enabling them to identify their aggregation and maximum exposure in specific geographical areas.[74]

By checking the level of capacity already committed to an area, and assessing the level of spare capacity, underwriters ensure they do not overexpose their account by accepting risks that take them over the 'maximum capacity' dictated by the underwriting policy.

B1c Controlling exposure

Where the aggregation of maximum exposures to either a single risk or single event exceeds the insurer's maximum capacity, but the insurer does not wish to decline a risk for commercial reasons, a number of options can be considered. For example, the insurer may:

- Purchase facultative reinsurance for the portion of risk that exceeds the insurer's maximum capacity (see Section E1)
- Share the risk with other insurers under a **co-insurance** arrangement (see Section G2). This allows the insurer to control the capacity provided by ensuring that the proportion of each risk it retains does not exceed its maximum capacity.

co-insurance

an arrangement where an insurer shares a risk with other insurers in a fixed percentage through a collective policy, or with the insured through a deductible or other agreed mechanism

[73] Government of Ireland: Office of Public Works, *Implementing the National Flood Risk Policy*, pdf, May 2018, www.gov.ie

[74] For further information go to www.cresta.org

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B2 Liability insurance

In liability insurance, multiple policies can be triggered by one event when a number of policyholders are held liable for the same incident. Insurers should take steps to identify and control potential aggregation. This is more difficult to achieve for liability risks as, unlike property risks, aggregations tend not to be as specific to a fixed location and are much harder to identify.

Examples of ways in which aggregations can be identified and controlled are by examining:

- Exposure to similar trades, e.g. motor-part manufacturers and companies involved in final vehicle assembly, computer component manufacturers and food ingredients manufacturers
- Proximity of insureds, e.g. different contractors working on the same site, for example on an oil rig or a major construction project.

The best and most common way of preventing a single event from affecting a liability account is through careful scrutiny and application of underwriting criteria, and by applying limits of indemnity per insured. It is also usual for insurers to buy 'clash' reinsurance cover, which protects the insurer if two or more insureds are involved in one event. Such reinsurance only applies to unknown or inadvertent accumulation; it will not operate in situations where the insurer knew that it had an aggregation.

Quick question 1

Outline how risk aggregation could arise in motor insurance.

The answer is at the end of this chapter.

B3 Catastrophe modelling

Catastrophe modelling (or cat modelling) uses sophisticated mathematical predictions to calculate the potential cost of major events, such as hurricanes or earthquakes. For example, an insurer may assess for a peril such as an earthquake or a hurricane in a particular region, for a line of business, and for its estimated loss to that peril at particular times. It will then understand its potential exposure and set limits for those losses.

Catastrophe modelling can be used to assist insurers and reinsurers making decisions in other areas. Examples include:

- Pricing catastrophe or event **excess of loss** reinsurance (see Section F2a)
- Planning and forecasting
- Reserving, through assessing the impact of major catastrophe events
- Capital assessment and allocation, both for internal use, e.g. in setting profit targets, and externally to satisfy regulators
- Designing and arranging reinsurance protection; the ability to assess how much exposure an insurer has to catastrophes helps it decide how much protection to purchase in reinsurance.

catastrophe modelling

a mathematical prediction model designed and used primarily by actuaries to assess catastrophe exposure and the potential impact of any associated losses

excess of loss

a form of reinsurance that indemnifies the ceding company for the portion of a loss that exceeds its own retention, i.e. the ceding company (reinsured) agrees to pay the first amount (€X) of losses arising and the reinsurer agrees pay an amount €Y in excess of amount €X up to another agreed limit

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B3a Features of catastrophe models

Although catastrophe modelling may start with historical events like other loss analysis techniques, a key feature is that the period of analysis may be over a much longer timescale, sometimes hundreds of years. This information can predict other possible future events, including ones that never happened before.

In addition, catastrophe modelling enables allowance to be made for:

- Changing frequencies of events over time
- Changing severity of impact of events
- Changes in portfolio.

These allowances can be based on the latest research in areas such as:

- Seismology – the science of earthquakes
- Meteorology – the science of weather
- Hydrodynamics – the science of the motions of systems wholly or partly fluid
- Structural and geo-technical engineering.

No matter how sophisticated the model and its features, insurers must understand and appreciate the many assumptions made in the model and the associated level of uncertainty about possible outcomes. Recent events demonstrated that the pattern and effect of losses are impossible to forecast. We are living in an era of unprecedented change in weather patterns and this is a constant challenge for reinsurers and insurers alike in terms of catastrophe modelling. As an illustration, Example 7.2 outlines some statistics from AON's *Weather, Climate and Catastrophe Insight 2021*.

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Example 7.2[75]

In 2021 there were 401 natural disasters worldwide with flooding accounting for 223 of these occurrences, and storms accounting for 121.

World Natural Disaster Events Ranked by Number Of Peris and Insured Losses, 2021 (1)

Rank	Peril	Number of events	Rank	Peril	Insured loss (US$ billions)
1	Severe weather (2)	135	1	Tropical cyclone	$39
2	Flooding	133	2	Severe weather (2)	37
3	Tropical cyclone	37	3	Flooding	22
4	Winter weather	25	4	Winter weather	17
6	Earthquake	24	5	Drought	6
6	Widfire	19	6	Widfire	5
7	European windstorm	11	7	Earthquake	3
8	Drought	10	8	European windstorm	2
9	Other	7	9	Other	0
	Total	**401**		**Total**	**$131**

Insured losses from natural catastrophes totalled $119 billion in 2021, up from $99 billion in 2020 The 10-year average is €87 billion.[76] The main loss in 2021 was Hurricane Ida in the US, which resulted in heavy flooding in the New York and surrounding areas, with estimated losses of $30-$32 billion.[77]

Just think

Try to find out where in your organisation catastrophe reinsurance cover is arranged; what form of catastrophe modelling takes place and how often?

[75] Insurance Information Institute, *Spotlight on: Catastrophes - Insurance issues*, 28 April 2020, www.iii.org
Footnotes for Example 7.2: (1) Natural disasters that cause at least US$25 million in insured losses; or 10 deaths; or 50 people injured; or 2,000 filed claims or homes and structures damaged. (2) Includes severe convective storms such as thunderstorms, tornadoes and hailstorms, straight-line winds and flooding that could occur with these storms.

[76] Swiss Re, 2022. '*Natural catastrophes in 2021: the floodgates are open*', January, www.swissre.com

[77] Insurance Journal. '*Extreme weather in 2021 brings above-average claims to global Insurer: Swiss Re.*' www.insurancejournal.com December, 2021.

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C The role of reinsurance in controlling exposure

Reinsurance is another form of risk control that insurers use to limit or reduce the impact of large financial losses.

When an insurer agrees to underwrite a risk, it faces similar uncertainties to those faced by the original insured. By buying insurance, the insured transfers the risk and its associated uncertainties to the insurer. The insurer accepts these risks on the basis that the common pooling of risks gives protection against their inherent uncertainties, and the premiums of the many will pay for the losses of the few. However, this does not protect the insurer against more losses arising than anticipated, or the occurrence of a larger than expected loss.

Faced with this uncertainty, it is not surprising that insurers seek protection through reinsurance. The provider of this protection is called the reinsurer and the recipient (insurer) is called the reinsured or the cedant. The most important benefit of reinsurance is that an insurer can transfer (cede) part or all of a risk to a reinsurer, reducing their exposure to large or unexpected losses arising from either single or multiple claims.

As well as providing protection against unexpected losses, reinsurance has several other benefits:

- **Protecting an insurer's capital** – Reinsurance not only reduces an insurer's exposure to large or unexpected losses; it also protects against erosion of the insurer's capital at a time of possible vulnerability. This is very true for smaller or newly-formed insurers whose capital base may be relatively small, and who may not have the financial strength to withstand the impact of any large or unanticipated losses. Without reinsurance, capital requirements would make it almost impossible to start up new companies.
- **Maintaining financial stability** – By purchasing reinsurance, an insurer can avoid fluctuations in claim costs (and therefore underwriting results) between one period and the next. Large variations in underwriting results can damage a company's reputation and cause concern to shareholders and regulators. Reinsurance can smooth results by capping any large losses within a particular account, a particular year, or from a particular event. This brings greater certainty to an insurer's underwriting results.

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- **Providing capacity** – An insurer will have a financial limit up to which it can accept risks from potential insureds. Beyond this limit, the insurer may have to decline proposed risks. Through the purchase of reinsurance, an insurer can increase its business and accept larger or more unusual risks.
- **Providing confidence/expertise** – Reinsurance gives confidence to an insurer and encourages business expansion. If an insurer wishes to offer insurance in a new area, its limited experience may lead to hesitation. Reinsurance and the technical support provided by reinsurers gives an insurer greater confidence in terms of pricing the risk and availing of the reinsurer's information and products in that area.

Reinsurance, in its many forms, provides confidence to a range of stakeholders: staff and clients, the board, investors, financial analysts and the Central Bank.

Without reinsurance, insurers would be unable to transact business without cumbersome administration through co-insurance (see Section G2) and the requirement for far greater amounts of capital (see Chapter 2B).

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D Arranging reinsurance

This section looks at the insurer's choices when deciding its retention level and choosing a reinsurer.

D1 The insurer's retention

Common to all types of reinsurance is the insurer's **net retention**. Each insurer must establish its maximum retention in the event of a total loss under a policy in a certain class. In other words, it must make decisions about the size of losses it will bear from its own funds, and the ones where it needs reinsurance protection.

Having decided this, it may also need to make decisions about potential accumulations of each of its risk retentions in the event of a major catastrophe. For example, an insurer may know that it is retaining €2 million on a risk and that it has 20 similar risks in the same flood area. Its possible accumulation is therefore €40 million in one event. This may be too much for it to absorb.

net retention

the amount that an insurer retains on its own books on individual risks, or across the entire portfolio

D1a Factors influencing the retention

There are many factors influencing an insurer's **retention** levels. These include:

- Overall financial position, including size and strength of capital and claims reserves
- Corporate strategy and long-term aims, whereby senior management is likely to fix retentions for each class and per catastrophe
- Premium income level, size and balance of portfolio, and historic profitability level
- The cost of purchasing reinsurance protection as well as the capacity available.

retention (reinsurance)

the amount of risk that a reinsured (insurer) is responsible for

The decision on retention level may be made on a class-by-class basis, as insurers normally seek to have each class of business perform on its own merits without any cross-class subsidisation. The net retention on a per risk basis is a more prevalent feature in a property account that has a greater chance of suffering a large loss on an individual risk.

Some classes, such as motor and employers liability, produce greater variations in claims costs than others. Insurers may therefore purchase more reinsurance for one class than another because of uncertainty levels in a particular class.

Although claims costs in commercial property are more predictable, there can also be imbalances within an insurer's risk portfolio. Some insurers specialise in small-or-medium-sized enterprises, where the size and value of insured risks will be within a relatively narrow range. They are also likely to have some larger commercial risks on their books, perhaps including some with extremely high values at risk. It is this potential mixture of risk sizes that can give rise to an imbalance in an underwriter's property portfolio. Here a small number of large property risks with poor claims experiences may affect an insurer's financial stability.

Accumulation of losses may also occur in times of severe weather. The pattern of losses varies according to external factors influencing claims costs. These also affect decisions on retention levels.

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D2 Criteria used in selecting reinsurers

The primary insurer is contractually responsible for paying a policyholder's claim, even where a reinsurer has become insolvent. The quality of the reinsurer chosen is therefore vital to its financial stability, especially for 'long-tail' business, where a claim may be settled many years after an event has happened.

When evaluating a reinsurer, the insurer focuses on:

- **The size of a reinsurer** – Insolvencies occur mainly with smaller reinsurers rather than larger reinsurers that have more diversified classes of business and global reach.
- **The rating of a reinsurer by a recognised rating agency** – There may be a time lag between the onset of financial difficulty of a reinsurer and the subsequent report from the rating agency (i.e. Standard & Poors, Fitch, A.M Best). A significant deterioration in the financial position or rating of a reinsurer could lead an insurer to consider the mid-term cancellation of contracts. The insurer must also heed Central Bank requirements in this regard.
- **The nature of the contract with reinsurers** – Some reinsurance contracts are long-tail and many insurers will demand stronger security for such contracts compared with, for example, property catastrophe. Consider, for example, the case of industrial disease claims arising from asbestos, which came to light up to forty or fifty years later.
- **Continuity** – The past relationship with a reinsurer and the level of service provided will always be important. When considering stability, if the reinsurer provided the necessary contracts during times of reinsurance contraction, it gives confidence that this will be repeated in similar future situations.

D3 Information required by the reinsurer

Reinsurers need quality information from insurers to adequately assess underlying risks. Based on this information, the reinsurer decides whether the risk proposed meets with its acceptance policy and, if it does, the appropriate cost, terms and conditions of cover. The collection of quality information also helps the insurer and reinsurer to agree which type of reinsurance best suits both their needs.

The traditional principle of utmost good faith is as important between insurer and reinsurer as it is between a non-consumer policyholder and insurer. The primary insurer is required to disclose all material facts about the risk that is being reinsured to the reinsurer. The virtue of providing quality information is that both parties can openly and honestly discuss (and agree) the placement of a suitable and affordable reinsurance arrangement. Insurers and reinsurers want long-term and mutually beneficial relationships, as the amount of information required makes it unfeasible for insurers to change reinsurers regularly. The outcome of this discussion will be the common ground of shared quality information so arrangements can meet the needs of both parties.

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Table 7.2 lists the type of information a reinsurer would request from an insurer.

Table 7.2 Type of information requested by a reinsurer

- Underwriting strategy and risk appetite
- **Portfolio analysis**
- Geographical scope of business
- Basis of acceptance (underwriting criteria)
- Claims experience
- Pricing methodology
- Claims estimating policy
- Details of underwriting controls
- Details of risk control strategy and processes.

portfolio analysis

details of the underlying portfolio underwritten by the insurer, e.g. frequency and severity of risks, in terms of premium income and sums insured

This information is usually requested for each class of business.

There is always a cost associated with providing quality information. Assessing the cost-benefit aspect of information given to reinsurers is not always a simple task. A broader view including other less tangible, but no less important, aspects of the relationship is needed. The following points illustrate some of these considerations:

- Reinsurance can be costly and insurers can achieve competitive advantage by demonstrating above average underwriting performance.
- Providing quality information builds trust and respect between insurer and reinsurer, where the relationship, as in direct insurance, is based on utmost good faith.

D4 Reinsurance brokers

As an insured may choose an insurance broker to advise on their needs and recommend a suitable insurer or risk management portfolio, an insurer may decide to use a reinsurance broker to offer similar advice.

The role of the reinsurance broker falls into three main areas.

- **Procuring business from insurers:** this is normally through a direct approach from an insurer that chooses a broker to arrange some or all of its reinsurance. Note that while a lot of companies use their own centralised teams to place reinsurance at group level, they will use reinsurance brokers to benchmark rates in the open market and pay a fee for this.
- **Placing business with reinsurers:** typically, this may be in the London or Lloyd's market, or in the growing Irish reinsurance market.
- **Servicing of business:** An **insurance intermediary** has ongoing contact with a large customer and this is also the case for the reinsurance broker, who may assist in areas such as claims, passing information to reinsurers and ensuring that premiums are paid.

In the current climate, the role often encompasses varying degrees of consultancy in areas such as analysing catastrophe risk and increasingly, solvency and regulatory issues.

insurance intermediary

generic term for all types of firms that give advice on insurance products

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D5 The reinsurance market cycle

In Chapter 1D, we considered the cyclical nature of the insurance market and how this affects pricing and the availability of cover. The reinsurance market is also subject to cycles and moves between hard and soft markets, but with different patterns and effects.

Reinsurance products are particularly susceptible to market cycles. This is because underwriting terms and conditions (including the price, limitations of cover, and so on) are agreed in advance of the actual treaty or contract period and cannot be amended mid-term in response to a large market loss. The renewals of many large treaties are clustered around certain dates, e.g. 1 January. This contrasts with insurance products, where renewals of many policies are spread more evenly throughout the year and insurers can apply any changes in price and terms with almost immediate effect.

Although market cycles work differently for insurers and reinsurers, there is some commonality. Consider, for example, the very severe floods in Ireland in recent years. This brought tightening of underwriting acceptances for flood cover by primary insurers, the application of excesses, cover withdrawal, and pricing increases in some areas and for some product types. Reinsurers also suffered losses because of the same floods and reacted by increasing treaty prices, applying more stringent terms and seeking more detailed information from insurers. Both primary insurers and reinsurers were affected by the same events and this impacted on both market cycles.

D5a Hard and soft reinsurance markets

Essentially the concept is the same as for insurance cycles. The supply for both insurance and reinsurance products is plentiful in profitable times but scarce when an abnormally large loss and, more particularly, a series of large losses affects the worldwide insurance and reinsurance markets.

D5a1 Considerations in a hard reinsurance market

In a hard market, a reinsurance underwriter holds the advantage when negotiating the pricing policy with the insurer. This includes negotiating the price, the extent of coverage, exclusions and any other terms and conditions. Here the insurer may be forced to accept terms that are not conducive to profitability.

Hard reinsurance markets tend to follow very large losses, particularly those resulting from a natural peril. For example, the high number of hurricanes and tropical storms recorded in the entire Atlantic region (including parts of the European continent) during 2005 caused a hard reinsurance market. This is not surprising, given that the 2005 storms included Hurricane Katrina, the largest insured loss ever at $82 billion US dollars with the total insurance pay-outs across the 2005 storm season still recognised as the costliest reinsurance event from a single natural peril. The next mostly costly are the 9/11 terrorist attacks (see below) at $50 billion, the Covid-19 pandemic at €44 billion and the 2011 Tohoku Earthquake and Tsunami off the coast of Japan in 2011 at $38 billion.

It is rare for one single loss to cause a hard market, as single risks tend to be restricted to a relatively narrow range of individual reinsurers. There are exceptions to this, the obvious one being the 9/11 terrorist attacks in New York. This event caused a dramatic hardening of the global reinsurance (and insurance) market. Following this, terrorism also became an absolute exclusion from almost all classes of insurance.

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Reinsurance for terrorism is still extremely limited and some countries including France, Germany, the US & UK have set up their own programmes based upon a public-private partnership with government support. With regards to the Covid-19 pandemic, it is still unknown as to what its impact has been on the market in terms of hardening and also what, if any, availability there will be for reinsurance cover for pandemics and epidemics into the future.

Following significant market losses, some reinsurance underwriters withdraw from the market altogether. Some change their underwriting criteria, while some decide to underwrite within different geographical areas. As in the insurance market, this leaves a select number of underwriters in the now limited market who can negotiate favourable renewal terms and conditions. The cyclical nature of the market continues as new entrants are also attracted to the reinsurance market because of these enhanced terms and conditions.

D5a2 Considerations in a soft reinsurance market

A soft reinsurance market tends to arise following an absence of significant market losses and/or the onset of or anticipation of a competitive market.

As happens in a soft market in insurance, the negotiating power shifts from reinsurers to insurers, and insurers typically obtain more favourable terms from reinsurers.

In a soft market, there will always be new entrants to the reinsurance market that agree to accept lower than average terms, or existing reinsurers softening their underwriting strategies to maintain premium income levels.

In a hard market, reinsurance underwriters often force insurers to keep higher retentions, but in soft markets, insurers sometimes seize the opportunity to purchase reinsurance below the generally accepted retention level.

Quick question 2

Describe how the reinsurance pricing cycle differs from the general insurance underwriting cycle.

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E Types of reinsurance

The two basic types of reinsurance are facultative and treaty. This section discusses the uses of each type and considers their respective advantages and disadvantages.

E1 Facultative reinsurance

treaty reinsurance

a pre-negotiated agreement between the primary insurer and the reinsurer, whereby the primary insurer agrees to cede all risks within a defined class or classes to the reinsurer; and in return, the reinsurer agrees to provide reinsurance on all risks ceded without individual underwriting

Facultative reinsurance is the oldest type of reinsurance and, although less popular than **treaty reinsurance**, is still very useful. It is most commonly used in commercial property accounts, where current reinsurance treaties may not cater for sums insured on a single risk.

Facultative means 'optional', in that both parties have a choice about entering into the contract or not. The reinsured (or cedant) is not obliged to offer the risk, and the reinsurer is not obliged to accept.

Facultative reinsurance could be used in the following circumstances:

- The reinsured requires capacity for a single risk beyond that offered under treaty reinsurance. A company would not want to refuse a good risk because it was too large, so it may seek facultative reinsurance.
- The risk is excluded from the scope of the reinsured's treaty arrangements, which generally have a list of excluded risks. These may include hazardous risks, particular areas of business or geographical locations. Companies may wish to find cover for these otherwise unprotected risks through facultative reinsurance.
- The reinsured does not want to reinsure (or cede) the risk to its treaty reinsurers in case it adversely affects the treaty renewal premium or its relationship. The relationship between a reinsured and its treaty reinsurer is very important and can last for many years.
- The original risk is unusual, hazardous or particularly complex, and the reinsured has limited experience. Here facultative reinsurers can offer a high level of specialist knowledge and experience, which might help in the original acceptance and rating of the risk.
- The risk may involve overseas locations or a line of business with which the cedant is unfamiliar, but in which the facultative reinsurer already has established business, along with knowledge and expertise in that market.
- There are unique commercial, financial or strategic reasons. These considerations vary between insurers and geographical locations. There might be pressure on insurers to accept business for commercial or political reasons that it might not otherwise consider, due to its nature or size, as in Example 7.3.

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Example 7.3

All major insurers in a market might support a large or complicated risk of national interest, e.g. the building of a complex dam. But they might not want to put this through their treaty reinsurance because if a loss did occur, it would affect the rates for the country's entire insurance industry, thus affecting their market development. They would, perhaps, want this risk to be reinsured facultatively.

E1a Advantages of facultative reinsurance

The advantages of facultative reinsurance are as follows:

- Individual risks are considered on their own merit; therefore a suitable premium can be negotiated rather than having to consider it as part of an overall portfolio.
- There is freedom (on the part of the reinsured/ceding insurer) to cede any risk that may be accepted or declined (by the reinsurer). So the reinsurer may select a portfolio of risks corresponding to its underwriting policy.
- Facultative reinsurance can increase the reinsured's competitive edge within its chosen market, depending on the pricing terms and conditions.
- Treaty reinsurance could be protected by the facultative reinsurance of particular risks to ensure a better overall result and lower reinsurance premiums in the long term.
- The insurer's net retention after application of the reinsurance treaty could be reinsured by facultative reinsurance thereby reducing further the insurer's net retention.
- A reinsured might benefit from the expertise and experience of the facultative reinsurer.
- There is an opportunity for both parties to develop a successful and professional relationship. The reinsurer can gain an appreciation of the original underwriting methods, and the reinsured can consider areas of possible future development with the aid of reinsurance.
- The reinsured receives a **ceding commission** from the reinsurer.

E1b Disadvantages of facultative reinsurance

The disadvantages of facultative reinsurance are as follows:

- As risks are considered individually, the reinsured cannot be certain of the placement of facultative reinsurance and this could affect its ability to underwrite the underlying risk.
- The administration involved in facultative reinsurance is labour and cost-intensive, especially if the facultative business is placed directly by the cedant without the use of a specialist broker. Either way delays in issuing a policy can create problems with both intermediaries and customers. For example, if facultative reinsurance is extensively used and the reinsurer insists on a survey before it provides cover, these high administrative costs can undermine potential profit in an account.

ceding commission

a contribution received by the reinsured towards brokerage and expense costs under certain types of treaties. This tends to be higher in treaty reinsurance than in facultative reinsurance.

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- The reinsured has to disclose full information regarding the original underwriting terms and conditions of the risk. This could be problematic if the reinsurer is also a market competitor.
- There is the possibility of the reinsurer exercising influence over the reinsured's underwriting by asking it to improve the risk offered or unduly influencing its assessment of the premium on the original risk.
- The reinsured may lose control over the handling of the risk. For example, it may not be allowed to agree policy amendments without the agreement of the reinsurer.
- The insurer (or reinsurance broker) needs to check the terms and conditions of each facultative contract to ensure that there is no gaps in cover between the insurance contract and the reinsurance contract (known as 'back to back coverage'). Where the facultative contract omits coverage provided under the insurance contract, the insurer needs to be aware of this so that it can reflect this in its potential claims projections.

E2 Treaty reinsurance

The second type of reinsurance is the more popular treaty reinsurance. This involves an obligatory contract (treaty) protecting a portfolio of risks, which the reinsured must cede to the reinsurer in contrast to facultative reinsurance which protects only a single risk. Example 7.4 illustrates this distinction.

Example 7.4

An insurer insures 250,000 individual properties. If it were to reinsure these on a facultative basis, it would have to prepare 250,000 separate reinsurance contracts and agree each of them with the reinsurer. In contrast, under treaty reinsurance, just one contract is organised.

Under this reinsurance arrangement, the insurer is bound to offer (or cede) a fixed amount of business, which the reinsurer is obliged to accept. The treaty is the underlying contract agreement, specifically outlining the business that can be ceded, the terms and conditions under which this transfer might take place, and the share of risk that can be ceded.

The treaty may be arranged with a single reinsurer or it may involve several, each accepting a share of the treaty. This depends on both the attractiveness of the business being ceded, as well as the acceptance capacity of the reinsurers.

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E2a Advantages of treaties

The advantages of treaty reinsurance are as follows:

- The reinsured has automatic reinsurance cover and does not need to arrange individual contracts.
- The reinsured has binding authority on behalf of the reinsurer and therefore avoids the administrative overheads involved in facultative reinsurance.
- The reinsured receives a contribution towards brokerage and expense costs under certain types of treaties. This is called a 'ceding commission' and will tend to be higher than that granted on facultative.
- Under certain treaties, the reinsured receives an additional contribution if the business is profitable, called a 'profit commission'.
- The administration of treaty reinsurance is quicker and easier than facultative reinsurance.
- Accounting procedures can be simplified by the use of quarterly accounting.
- As reinsurance treaties generally deal with a large number of homogeneous risks, computer technology can be used for data storage and analysis of profitability.

E2b Disadvantages of treaties

The disadvantages of treaty reinsurance are as follows:

- There is no freedom, as both parties are tied into the contract, which cannot be cancelled before the end of the agreed period. Therefore, the reinsurer has to place good faith – based on discussions, questions, information gathering and negotiation – in the underwriting ability of the reinsured (primary insurer).
- Too much premium can be 'lost' by the reinsured to reinsurers on small, good risks, which it would otherwise retain entirely for its own account. This can sometimes be overcome by arranging specific types of treaty reinsurance.

Quick question 3

State four main advantages of treaty reinsurance.

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F Reinsurance programmes

An insurer's reinsurance programme generally involves a variety of different treaties and some facultative facilities. A different blend of arrangements is usually required to provide protection and capacity for each line of business.

Both types of reinsurance (facultative and treaty) can be written on either a proportional or non-proportional basis. We will now look at these ways of arranging reinsurance protection.

F1 Proportional reinsurance

proportional reinsurance

an arrangement whereby the reinsured party decides how much of the original risk they wish to retain, expressed as a percentage, and agrees (or cedes) the remaining portion to the reinsurer

Under the **proportional reinsurance** method, the reinsured (primary insurer) decides what proportion (percentage) of a risk it wishes to retain and cedes the balance to the reinsurer. This type of reinsurance obligates the reinsured to give the agreed percentage share of its premiums to the reinsurer. In return the reinsurer is obligated to pay the agreed percentage of any claims. It can sometimes be referred to as an obligatory reinsurance contract. Premiums and losses/claims are then shared in these proportions, as shown in Example 7.5. This is referred to as an 80% quota share treaty, as the reinsured is ceding 80% of all premiums, in return for the reinsurer paying 80% of all losses.

Example 7.5

Proportional reinsurance

Sum insured (total exposure)	€10,000,000
Reinsured's (primary insurer) retention	€2,000,000
Amount of reinsurance	€8,000,000

The reinsured's retention of €2,000,000 equates to 20% of the total risk. They have decided to reinsure the balance of the total risk (80%). The reinsurer accepts 80% of the total risk (€8,000,000).

Premium

The premium paid by the reinsured is calculated according to these percentages.

Claims

All claims are calculated according to these percentages.

- A claim for €1,000,000 would be shared €200,000 (20%) for the reinsured and €800,000 (80%) for the reinsurer.
- A claim for €3,000,000 would be shared €600,000 (20%) for the reinsured and €2,400,000 (80%) for the reinsurer.

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Proportional reinsurance is therefore concerned with the proportions of values at risk, generally measured by the sum insured values or indemnity limits.

There are two main types of proportional reinsurance – quota share and surplus reinsurance.

F1a Quota share treaty reinsurance

Under **quota share reinsurance**, a fixed proportion of every risk within the treaty is reinsured in the agreed proportions (such as in Example 7.5). This applies regardless of the size of each risk; even the smallest risks and claims are shared in exactly the same proportions.

F1b Surplus treaty reinsurance

The alternative to ceding a fixed proportion of every risk is for the reinsured (primary insurer) to decide how much of each risk it wants to retain. This is the reinsured's retention (see Section D1) and is calculated taking a number of factors into account (see Section D1a). **Surplus reinsurance** arrangements involve the reinsurer accepting the amount that exceeds the reinsured's retention (i.e. the 'surplus').

Surplus treaty reinsurance is mostly used in the protection of property accounts, although its popularity has decreased in recent years. The level of retention under a surplus treaty is determined individually for each risk on an insurer's portfolio. Typically, insurers choose a higher retention level for the more 'favourable' risks and lower levels for those presenting higher levels of hazard. For example, in the case of a large property risk with a favourable business type, the insurer might retain 50% but in the case of a large property risk with a high-risk business type, the insurer might only retain 20%.

F2 Non-proportional reinsurance

The proportional treaty arrangements in the previous sections concerned sharing the values at risk between the reinsured (primary insurer) and reinsurer. **Non-proportional reinsurance** takes a different approach, through treaties based on the size of the losses rather than on the values or sums insured at risk. The reinsurer agrees to pay an amount over and above the amount that the reinsured chooses to retain.

There is no pre-determined way of sharing losses. Claim recoveries under the treaty only apply after the reinsured's own net retention has been fully exhausted. The reinsurer only pays out if claims in a given period exceed a stated amount, which is the reinsured's net retention.

There are two main types of non-proportional reinsurance: excess of loss and stop-loss. The operation of these reinsurances is briefly described in the following sections.

F2a Excess of loss reinsurance (or XL reinsurance)

Under an excess of loss reinsurance arrangement, the reinsured (primary insurer) agrees to pay the first amount (€X) of losses arising and the reinsurer agrees to pay an amount €Y in excess of amount €X (up to another agreed limit). An excess of loss treaty provides the reinsured with the capacity to write larger risks.

For example, a reinsured may wish to retain the first €300,000 of each and every loss from a particular event and has purchased an excess of loss treaty to cover €700,000 in excess of €300,000.

quota share reinsurance

an arrangement whereby premium and losses on all risks covered in the contract are shared at a fixed proportion (or quota)

surplus reinsurance

type of reinsurance in which the reinsured or ceding company decides how much of each risk it wants to retain based on the expected financial loss (often based on the sum insured and sometimes the estimated maximum loss), whereby the reinsurer is then obliged to accept the amount that exceeds the insurer's retention, i.e. the surplus

non-proportional reinsurance

an agreement whereby the ceding insurer agrees to accept all losses up to a predetermined level, and the reinsurer agrees to reimburse the ceding insurer for losses above the predetermined level and up to the reimbursement limit provided for in the contract

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Just think

Consider the above example of a reinsured retaining the first €300,000 of each and every loss and purchasing an excess of loss treaty to cover €700,000 in excess of €300,000. How do you think the following losses will be shared between the reinsured and the reinsurer?

1. A claim costing €280,000
2. A claim costing €550,000
3. A claim costing €1,500,000

The answers to this question are a good way of illustrating how excess of loss reinsurance works. We will look at each of them in turn:

1. The €280,000 claim is lower than the retention of €300,000. The reinsured is therefore fully liable for this loss and the reinsurer doesn't contribute anything.
2. For the €550,000 claim, the reinsured is liable for the retention of €300,000. The remaining €250,000 is paid by the reinsurer.
3. The calculations are a little more complicated for the claim costing €1,500,000. Firstly, we know that the reinsured is liable for its retention of €300,000. The reinsurer then pays its maximum limit of €700,000. This leaves €500,000, which exceeds the maximum reinsurance protection and must therefore be paid by the reinsured. In summary, the reinsured pays a total of €800,000 and the reinsurer pays €700,000.

In practice, claims are initially paid by the reinsured who can then seek reimbursement from the reinsurer.

The majority of Irish insurers' treaty programmes are on an excess of loss basis, although some may still use surplus treaties to protect their property portfolios.

stop-loss reinsurance

type of reinsurance that provides protection for a whole portfolio of business, rather than just an individual risk, whereby the reinsurer agrees to pay the annual losses that exceed an agreed retention, usually expressed as a percentage of the annual premium income

F2b Stop-loss reinsurance

Stop-loss reinsurance provides protection for a whole portfolio of business, rather than for individual losses. While it typically protects against an accumulation of relatively small losses, it can also provide protection from larger losses impacting profitability. The reinsurer will make a payment under the treaty when the reinsured's (primary insurer) loss ratio exceeds an agreed percentage or the losses exceed an agreed amount. This type of reinsurance cover is designed to protect an insurer's overall underwriting results after application of any other type of reinsurances that the insurer holds.

The reinsurer is unlikely to carry the full amount of losses in excess of the loss ratio, feeling that this gives no incentive to the reinsured to be prudent in underwriting and claims handling. The treaty will therefore specify a limit, e.g. 75%, on the amount payable.

This type of reinsurance is distinct in that it applies **after** the benefit of all other reinsurances.

Just think

Having now studied the different types of reinsurance, what do you think are the best types of reinsurance to protect property and liability portfolios?

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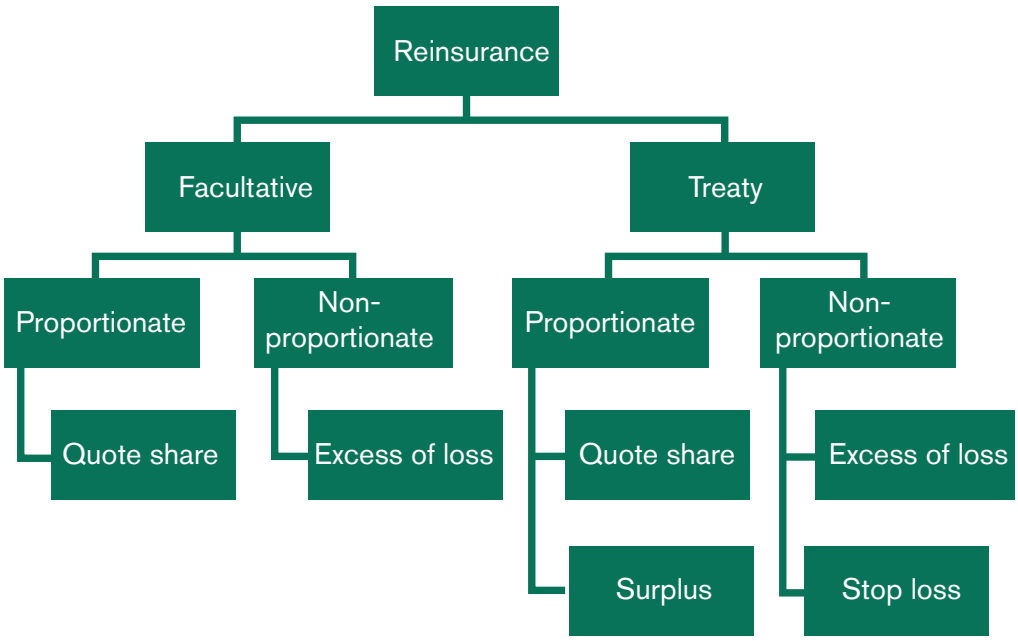
Figure 7.1 illustrates the different types and basis of reinsurance.

Figure 7.1 Types and basis of reinsurance



F3 The need for reinsurance of different classes

Insurers will consider a number of factors when deciding on their reinsurance programme.

F3a Property insurance

Property insurance contains many insurance covers such as fire, engineering and theft. These insurance covers have one thing in common in that the sum insured must relate to a physical loss or damage. Consideration should be given to protecting the insurer from exposure to large individual claims and accumulations.

Suggested reinsurance solutions are:

- Excess of loss reinsurance cover limits the insurer's exposure to large individual claims such as a large fire or explosion event.
- Quota share treaty could help the insurer to quote for large value commercial risks such as shopping centres or might be used by smaller insurers to provide capacity until they had built up the size of their portfolio.
- Surplus treaties have traditionally been popular in providing protection and capacity to property portfolios. Their popularity has recently declined, particularly with larger insurers who have increased financial strength because of higher levels of regulation and financial supervision. This may prompt them to retain more risk and cede less of their premium income to reinsurers. Nevertheless, surplus treaty reinsurance still remains a cost-effective option for property insurers where the price and capacity offered suits their particular circumstances.
- Facultative (proportional or non-proportional) would be suitable for large engineering projects (such as the construction of a power plant or underground rail system) where the value of the contract, both in sums insured and premium, makes it beneficial for the insurer to negotiate a facultative contract. Facultative protection is also used if an insurer has a small number of exceptionally large risks.

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F3b Liability and motor insurance

Non-proportional reinsurances are more appropriate for dealing with third party motor, employers, public and products liability, as the protection required relates to the value of claims as opposed to a proportion of risk. It is imperative that the insurer's liability reinsurance programme protects against the maximum policy limit and possible accumulations (see Section B1b).

For motor insurance, legislation requires insurers to provide unlimited liability cover for third party injury or death. There is no corresponding obligation on a reinsurer to provide unlimited indemnity to an insurer. Following two high-profile accidents in the United Kingdom involving passenger trains (Selby (February 2001, cost €47 million); Reading (November 2004, cost €72 million)), some reinsurers withdrew the provision of unlimited liability for motor insurers. Fortunately for insurers, there continues to be sufficient market capacity providing unlimited indemnity, but the cost of purchasing this cover has increased as a result of the reduced capacity and limited competition for this type of treaty cover.

For liability insurance, primary insurers may arrange additional facultative covers where a policyholder requires higher limits of indemnity, e.g. €13 or €25 million. This gives the insurer enough capacity to underwrite the primary cover.

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G Other methods of controlling exposure

In addition to reinsurance, insurers have other options to help control their exposure to large losses. Some of these are outlined next.

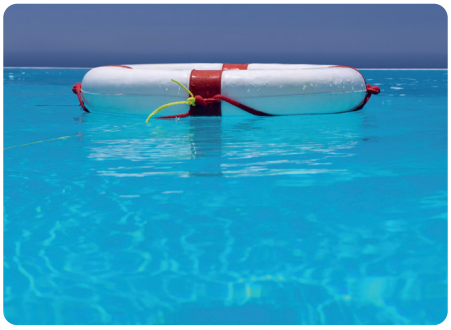
G1 Reinsurance pools

To manage the market-wide losses arising from catastrophes, a **reinsurance pool** is often established for a particular class of business or common type of event. By pooling money in this way, individual companies are protected against claims that would otherwise have insufficient funds.

reinsurance pool

a pool of participating members that contribute premiums to the reinsurance fund and share any claims arising in the same proportions

An example of this type of reinsurance pool is American Nuclear Insurers (ANI), a joint underwriting association created by some of the largest insurers in the United States. This provides reinsurance and insurance cover to member companies, giving a significant amount of property and liability insurance for nuclear power plants and related facilities throughout the world.



Many governments have encouraged their insurance and reinsurance markets to set up special pools covering the increasing threat of terrorism. These are usually public-private partnerships with government support. Such pools currently exist in Australia, Austria, Belgium, Denmark, France, Germany, Netherlands, Spain, the United Kingdom and the US.[78] Without these pools, it is unlikely that companies would be able to insure or reinsure these risks and governments could be called upon to act as 'insurer of last resort'.

The Pool Re scheme was established by the UK insurance industry and the UK Government in 1993 in response to a series of terrorism incidents in the early 1990s. These raised concerns about whether the commercial market had adequate capital to fund the scale of potential future losses, particularly as international reinsurers had signalled their intention to exclude terrorism from UK reinsurance contracts. Similar reinsurance pools have been established in many countries across the world.[79] In 2019 PoolRe issued a £75 million Cat Bond through the first ever insurance-linked securities contract. This is an example of an alternative way of reinsuring terrorism risk in the UK.[80]

[78] World Forum of Catastrophe Programmes, *Terrorism coverage schemes – a comparative table*, October 2011, pdf, www.ccrif.org

[79] For example, the Australian Reinsurance Pool Corporation was set up in 2003 to provide reinsurance protection for terrorist losses following the9/11 terrorist attacks (www.arpc.gov.au).

[80] Pool Re > Pool Re places the world's first ever cat bond, www.poolre.co.uk, February 2019.

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G2 Co-insurance

collective policy

an insurance policy that exists when there is co-insurance

Where a total sum insured or limit of indemnity is too large to be accepted by one insurer, the risk may be covered under a **collective policy**. This is known as co-insurance, where the risk is shared in agreed proportions between two or more insurers. In this situation, co-insurance is used as an alternative to other risk control options, such as facultative reinsurance.

Where two or more insurers are involved, the risk may be apportioned equally, or one insurer may lead and take the largest share. Instead of each insurer issuing its own policy, the leading insurer is responsible for all aspects of policy administration, including arranging surveys, calculating and collecting premiums, issuing policies and processing endorsements. It is the responsibility of the other insurer(s) to satisfy themselves that the co-insured risk meets their underwriting criteria and risk tolerance.

As the leading insurer(s) incurs most of the expenses, e.g. surveying, underwriting and preparing documents, it is usual for the other co-insurer(s) to pay 5% of their premium share to the leading insurer as a contribution to these expenses.

In a collective policy, the documentation shows the names of each insurer and their proportion of the risk. Each insurer is liable for their proportion of claims. If one of the insurer is unable, e.g. through insolvency, to pay their share of a claim, the other insurers have no liability to pay that proportion of the claim.

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H Retrocession

When reinsurers participate in a primary insurer's reinsurance programme, they find themselves in the same position as the original primary insurer. They need to consider how they can control their potential exposures to large or unexpected losses and they will often purchase reinsurance to provide financial stability and protection. This process is known as **retrocession**. Retrocession is common in regions prone to natural disasters such as earthquakes or hurricanes, where damage to property, vehicles, boats, aircraft and loss of life are more likely to occur. The reinsurer purchasing reinsurance is called the retrocedant, and the reinsurer providing reinsurance is called the retrocessionaire.

retrocession

reinsurance of a reinsurance company

Generally, a reinsurer who has provided retrocession cannot purchase further reinsurance in respect of that retrocession. This is because there were problems in the past where losses originating with reinsurer A had been passed to reinsurer B and on to reinsurer C and, unfortunately, back to reinsurer A. The result is that the original reinsurer (reinsurer A) unwittingly gets back some of its own business and is therefore reinsuring itself. This is known as a 'reinsurance spiral' and it was common primarily in marine and aviation. However, in recent times reinsurers have become better at avoiding it through risk logging (see Section B1a).

It is very important that reinsurers intending to purchase reinsurance check the financial stability of the retrocessionaire, especially if the reinsured's exposures are longtail, i.e. where the claims may arise years after the premium has been paid.

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Summary

In this chapter, we looked at the how insurers identify and control potential exposures to risk. We also discussed the role of reinsurance, the various types of reinsurance, their suitability for different types of risks, and the role of the reinsurance broker. The chapter also examined some other ways of controlling risk exposure and concluded with a look at the process of retrocession (where reinsurers can also protect themselves by purchasing reinsurance).

This concludes our look at the key elements of underwriting and risk control in the non-life insurance sector in Ireland and in the wider global insurance industry.

I1 Study tips

It's important to remember that this textbook is the primary information source for this module. All the questions in your exam will relate directly to information featured in this textbook. Use the 'End of chapter questions', 'Quick questions' and 'Sample exam questions' to quickly test what you've learned so far. Make a note of any topics/areas you need to improve in and keep it to hand so you can refer to it when you revise this chapter again before your exam.

In addition to the textbook, your Member Area has many online study supports that can help you as you study this module.

I2 Online learning supports

Your Member Area includes a guide to success, an automated study planner, an exam countdown timer study tips guide and discussion forums. These study supports are invaluable in reinforcing what you have learned so far. The webinars, chapter-by-chapter key points and other supports will help you to break down the chapter's content when revising.

Remember: This module is examined by mixed assessment, which includes:

- An online mid-semester MCQ assessment (20 questions)
- An end-of-semester written exam paper (9 questions)

Given that your online mid-semester assessment is a multiple-choice question test, completing the online practice paper is the ideal preparation for this. You can prepare for the end of semester written exam and test your knowledge by completing sample and past written exam papers.

To access these online learning supports, just log into your Member Area on **www.iii.ie** and click on the **Connect** logo.

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End of chapter questions

Use these questions to test your understanding of what we've covered in Chapter 7. It should be noted that these end of chapter questions are revision questions to test your understanding of the material in the chapter just studied. They are not sample exam questions.

1. State what is meant by 'aggregation' and give an example of a potential aggregation of risk for a personal accident insurer.

2. Briefly explain how insurers use catastrophe modelling to help control their risk exposure.

3. Briefly explain how reinsurance helps to maintain an insurer's financial stability.

4. List the type of information requested by a reinsurance underwriter.

5. Briefly explain the role of a reinsurance broker.

6. List the two basic types of reinsurance arrangements.

7. Outline what a reinsurance treaty is.

8. State the two main types of proportional reinsurance.

9. Outline the typical losses stop-loss reinsurance cover protects against.

10. Briefly explain the reason an insurer might use co-insurance as a form of risk control.

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Answers to end of chapter questions

Check your answers against those below and make a note of any points you left out. This will highlight the sections you may need to look at more closely during your revision.

1. Aggregation is an accumulation of insured risk to a single insurer, creating exposure to a significant flow of claims arising from a single cause or loss. Personal accident examples include air accidents or natural disasters.

2. Catastrophe modelling (also known as cat modelling) uses sophisticated mathematical prediction techniques that calculate the potential cost of major events, such as hurricanes or earthquakes. The modelling of aggregation, where companies will assess a variety of exposures, is a common use of catastrophe models. For example, an insurer may assess for a given peril, e.g. an earthquake in California, for a given portfolio, e.g. a line of business, and for its estimated loss to that peril at different return points, e.g. 1 in 10 years, 1 in 50 years or 1 in 200 years. It will then be able understand its potential exposure and set limits for these losses.

3. By buying reinsurance, the insurer can avoid fluctuations in claim costs (and therefore underwriting results) between one period and the next. Large variations in underwriting results can damage a company's reputation and cause concern to shareholders and regulators. Reinsurance can smooth results by capping any large losses arising within a particular account, a particular year, or from a particular event. This provides a far greater degree of certainty in underwriting results.

4. The type of information typically requested by a reinsurer is:
   - underwriting strategy and risk appetite
   - portfolio analysis
   - geographical scope
   - basis of acceptance
   - claims experience
   - pricing methodology
   - claims estimating policy
   - details of underwriting controls
   - details of risk control strategy and processes.

   This information is usually requested for each class of business.

5. The primary role of the reinsurance broker falls into three main areas.
   - Procuring business from insurers: this is normally through a direct approach from an insurer that chooses to use a broker to arrange some or all of its reinsurance programmes.
   - Placing business with reinsurers: typically, this may be in the London or Lloyd's market, or in the growing Irish reinsurance market.
   - Servicing of business: As an insurance intermediary often has ongoing contact with a large customer, the reinsurance broker may assist in areas such as claims, passing information to reinsurance and ensuring that premiums are paid.

6. The two basic types of reinsurance arrangements are:
   - Facultative
   - Treaty.

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7. A reinsurance treaty is the most popular type of arrangement. It is an obligatory contract protecting a portfolio of risks, rather than a single risk. The insured is bound to cede a fixed amount of its business, which the reinsurer is obliged to accept.

8. The two main types of proportional reinsurance are: quota share and surplus.

9. While stop-loss reinsurance typically protects against an accumulation of relatively small losses it can also provide protection from larger losses impacting profitability.

10. Where a total sum insured or limit of indemnity is too large to be accepted by one insurer, the risk may be covered under a collective policy. This is called co-insurance, where the risk is shared in agreed proportions between two or more insurers. Here co-insurance is used as an alternative to other risk control options, such as facultative reinsurance. Sometimes it refers to the sharing of risk between insurer and insured.

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Answers to quick questions

1. Aggregation in motor insurance may occur in a serious multiple vehicle accident, such as a motorway 'pile-up' with multiple casualties.

2. Reinsurance products are particularly susceptible to market cycles because underwriting terms and conditions (including the price, limitations of cover and so on) are agreed in advance of the treaty or contract period. They cannot be amended mid-term, e.g. in response to a large market loss, unlike general insurance, where terms and conditions are agreed per individual risk.

   Renewals of large treaties are often cluttered around certain dates, i.e. 1 January. Any swings resulting in changes to pricing and terms are more marked than for a direct insurer, as reinsurers look to the coming year. General insurance policies are typically spread more evenly throughout the year so the effect of any changes in prices or terms applied at individual renewal dates are smoothed.

3. Advantages of treaty reinsurance (any four):

   - It provides automatic reinsurance cover; therefore, avoiding negotiating individual contracts.
   - The reinsured receives a contribution towards brokerage and expense costs under certain treaties, called ceding commission.
   - Under certain treaties, the reinsured can receive additional commission if the business is profitable, i.e. profit commission.
   - Administration of treaty reinsurance is quicker and easier than facultative reinsurance.
   - Accounting procedures are simplified by use of quarterly accounting.
   - Computer technology can be used for data storage and analysis of profitability because reinsurance treaties normally deal with a large number of homogeneous risks.

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Sample exam questions

Question 1

a) Define the term 'aggregation' and outline how important it is for insurers to effectively manage this exposure.

(6 Marks)

b) Outline the main cover offered by an employers liability policy and a public liability policy, and state one example of where there is a potential aggregation of risk for each policy.

(4 Marks)

Total: 10 Marks

Question 2

a) Briefly explain how non-proportional treaties operate.

(4 Marks)

b) Two reinsurers have recently entered into a retrocession arrangement. The details of the arrangement are as follows:

Sum insured	€40,000,000
Retention	€5,000,000
Amount of reinsurance	€35,000,000 in excess of €5,000,000

Using this information, calculate how the following claims will be shared between the retrocessionaire and the retrocedent:

i) A claim for €4 million

ii) A claim for €9 million

iii) A claim for €20 million.

(6 Marks)

Total: 10 Marks

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Your answers

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Sample answers

The answers set out below show the main points you must consider in answering the question. In some cases, a well-reasoned alternative view could earn good marks.

Question 1

Part (a)

Aggregation refers to a significant flow of claims against an insurer arising from a single cause of loss.

It refers to a number of claims draining the insurer's account from a series of claims, e.g. a number of large fire claims on a property account in one year.

Insurers should consider the aggregate effect of losses over an entire account to achieve long-term success and profitability. The key priority is to be constantly mindful of these risks and to actively see that they are not overly exposed in a particular place (such as an area prone to flooding) or in market segments (such as architects' professional indemnity insurance).

(6 Marks)

Part (b)

Class of business	What is insured	Nature of potential aggregation of risk
Public liability	Legal liability for third party losses.	Two or more policies covering the same loss exposure, e.g. defective construction of a dam, leading to collapse.
Employers liability	Legal liability to employees.	Two or more policies covering the same loss exposure, e.g. multiple insureds working at the same location, such as an oil rig.

(4 Marks)

Reference Chapter 7A **Total: 10 Marks**

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Question 2

Part (a)

Non-proportional reinsurance is a treaty arrangement based on the size of the losses rather than on the values or sums insured at risk. The reinsurer agrees to pay an amount over and above the amount that the insurer chooses to retain.

There is no pre-determined way of sharing losses. Claim recoveries under the treaty only apply after the cedant's own net retention has been fully exhausted.

There are two main types of non-proportional reinsurance: excess of loss and stop-loss.

The risk itself is not shared.

(4 Marks)

Part (b)

Sum insured	€40,000,000
Retention	€5,000,000
Amount of reinsurance	€35,000,000 in excess of €5,000,000

i) A claim for €4,000,000 would not be shared with the reinsurer as the €4,000,000 falls below the €5,000,000 retention.

ii) A claim for €9,000,000 would be split €5,000,000 to the retrocedant (the retention) and €4,000,000 to the reinsurer (the balance above the €5,000,000 million retention).

iii) A claim for €20,000,000 would be split €5,000,000 to the insurer (the retention) and €15,000,000 million to the reinsurer (the balance above the €5,000,000 retention).

(6 Marks)

Reference Chapter 7F2 **Total: 10 Marks**

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Referenced websites, legal cases, legislation and bibliography

Study Tip

Do you wish to find a specific website, legal case, key term or legislation within the textbook? You can do a quick find in the module eBook, which is available in your Member Area at **www.iii.ie**.

Websites

AIG Inc.
www.aig.ie

Axa Insurance Group
www.group.axa.com

Australian Reinsurance Pool Corporation
www.arpc.gov.au

Central Bank of Ireland
www.centralbank.ie

Central Statistics Office
www.cso.ie

CRESTA
www.cresta.org

Data Protection Commission
www.dataprotection.ie

Health and Safety Authority
www.hsa.ie

Insurance Confidential
www.insuranceconfidential.ie

Insurance Ireland
www.insuranceireland.eu

Irish Statute Book
www.irishstatutebook.ie

Law Reform Commission of Ireland
www.lawreform.ie

Law Society of Ireland
www.lawsociety.ie

Lemonade Insurance
www.lemonade.com

Met Éireann
www.met.ie

Merrion Street: Irish Government News Service
www.merrionstreet.ie

Motor Insurers' Bureau of Ireland
www.mibi.ie

Houses of the Oireachtas
www.oireachtas.ie

Pool Re
www.poolre.co.uk

Raidió Teilifís Éireann
www.rte.ie

Swiss Re
www.swissre.com

Trading Economics
www.tradingeconomics.com

The Insurance Institute
www.iii.ie

Zego Insurance
www.zego.com

Legal cases

Association Belge des Consommateurs Test-Achats ASBL and Others v Conseil des Ministres (2011)

Kelly Builders (Rosemount) Ltd v HCC Underwriting Agency Limited (2016)

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Legislation

Central Bank and Financial Services Authority of Ireland Act 2004

Central Bank Reform Act 2010

Civil Liability and Courts Act 2004

Civil Liability (Amendment) Act 2017

Companies Act 2014

Consumer Insurance Contracts Act 2019

Criminal Justice (Theft and Fraud Offences) Act 2001

Data Protection Acts 1988-2018

Equal Status Act 2000

EC (Non-Life Insurance) Framework Regulations, 1994 (as amended)

EU Sixth Motor Insurance Directive 2009

EU (Motor Insurance) (Limitation of Insurance in relation to Injury to Property) Regulations 2016

EU (Insurance and Reinsurance) Regulations 2015

Factories Act 1955

Financial Services and Pensions Ombudsman Act 2017

Flood Insurance Bill 2016

Flood Insurance Bill 2021

General Data Protection Regulation 2016

Health Insurance Acts 1994-2016

Insurance (Amendment) Act 2011

Insurance (Amendment) Act 2018

Insurance Act 1964

Insurance Acts 1909 to 2009

Judicial Council Act 2019

Liability for Defective Products Act 1991

Marine Insurance Act 1906

Occupiers' Liability Act 1995

Right to Request Remote Working Bill 2022

Road Traffic Acts 1933 and 1961

Road Traffic (Compulsory Insurance) Regulations 1962

Safety, Health and Welfare at Work Acts 2005 and 2010

Safety, Health and Welfare at Work (Construction) Regulations 2006-2016

Safety, Health and Welfare at Work (General Applications) Regulations 2007-2010

Sale of Goods and Supply of Services Act 1980

Solvency II Directive 2009

Stamp Duties Consolidation Act 1999

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Acronyms

Organisations/bodies/regions

ANI	American Nuclear Insurers
AIRM	Association of Irish Risk Management
BI	business interruption insurance
CSO	Central Statistics Office
COR	Combined operating ratio
CE	Conformité Européenne
CPC	Consumer Protection Code
CRESTA	Catastrophe Risk Evaluation and Standardizing Target Accumulations
DCA	Declined Cases Agreement
D&O	directors and officers (liability insurance)
XL	excess of loss
ECB	European Central Bank
EDI	electronic data interchange
EML	estimated maximum loss
ECJ	European Court of Justice
ECSSA	Electrical Contractors Safety and Standards Association
ESG	Environmental Social Governance
FSPO	Financial Services and Pensions Ombudsman
GDPR	General Data Protection Regulation
GPS	global positioning system
GDP	gross domestic product
GWP	gross written premium
HSA	Health and Safety Authority
IBNER	incurred but not enough reported claims
IBNR	incurred but not reported claims
IFCO	Insurance Fraud Coordination Office
IOSH	Institution of Occupational Safety and Health
ICF	Insurance Compensation Fund
II	Insurance Ireland
MGAs	managing general agents
MIBI	Motor Insurers' Bureau of Ireland
NACE	Nomenclature statistique des activités économiques dans la Communauté Européenne

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NCD	no claims discount
OPW	Office of Public Works
ORSA	Own Risk and Solvency Assessment
PIAB	Personal Injuries Assessment Board
PPO	periodic payment order
PPE	personal protective equipment
ROCE	return on capital employed
RTA	Road Traffic Act
RBA	Recovery of Benefits and Assistance Scheme
SME	small-to-medium enterprise
UK	United Kingdom
US	United States (of America)

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Glossary of Key Terms

accumulation	the total number of risks that could be involved in a single loss event involving one or more insured perils
actuary	a person qualified to calculate risks and probabilities regarding uncertain future events especially in an insurance context
affinity group	a group of people with a common interest or connection, who work together to achieve a common goal, e.g. to obtain discounted premium rates or exclusive insurance schemes
aggregate limit of indemnity	the maximum amount that an insurer will pay out on any series of claims in a given time period (usually a year)
aggregation	an accumulation of insured risk to a single insurer, which exposes that insurer to a significant flow of claims arising from a single cause of loss
arson	the criminal act of deliberately setting fire to property
binding authority	an agreement whereby an insurer delegates underwriting authority, within defined parameters, to another party known as the 'coverholder'
Book of Quantum	a general guide to the amounts that may be awarded to a claimant; legislation requires PIAB and judges to have regard to the Book of Quantum when assessing claim values
borderau(x)	a report providing risk, premium or loss data with respect to identified specific risks, which are normally underwritten under a delegated authority arrangement
burning cost	a method of pricing an individual risk on the basis of the claims actually generated by that risk
business description	full, accurate and comprehensive description of the activities involved in the insured's business or occupation and the first element the underwriter will consider when reviewing a proposal for commercial property insurance
business interruption policy	a policy that covers a situation where business income is lost or additional costs incurred as a result of an insured event that interrupts the operations of the business, such as a fire or natural disaster
capital	financial wealth necessary to start or maintain a business, normally provided by investors who may be private individuals or corporate bodies
captive insurer	an authorised insurance company formed as a subsidiary of a non-insurance parent company to insure risks arising out of the parent company's business activities
catastrophe claims	claims arising from a single cause (e.g. a storm) but affecting many different businesses or insurance risks
catastrophe modelling	a mathematical prediction model designed and used primarily by actuaries to assess catastrophe exposure and the potential impact of any associated losses

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catastrophic injuries	very serious, life-changing injuries, e.g. paraplegia, quadriplegia and brain damage
ceding commission	a contribution received by the reinsured towards brokerage and expense costs under certain types of treaties. This tends to be higher in treaty reinsurance than in facultative reinsurance
Central Bank of Ireland	the financial regulatory body in the Republic of Ireland, responsible for the authorisation and prudential supervision of financial service providers
claims inflation	changes (normally increases) in the cost of an insurance claim
'claims made' basis	liability policy cover that is triggered by a claim made against the insured and notified to insurers during the policy period, irrespective of the actual date of the negligence giving rise to the claim
'claims occurrence' basis	liability policy cover that is triggered by a loss that occurred during the period of insurance, although the claim may be brought at a future date even after the expiry of the policy
claims reserves	funds set aside by an insurer to meet the cost of present and future claim payments
claims triangulation	a table that charts the movement of total incurred losses from the original policy period over several subsequent periods in order to analyse the development pattern of losses over time
classification	the systematic identification of common features in insurable risks (e.g. vehicles, drivers, trade activities or types of premises) relevant to specific classes of business (e.g. motor, property and liability)
co-insurance	an arrangement where an insurer shares a risk with other insurers in a fixed percentage through a collective policy, or with the insured through a deductible or other agreed mechanism
collective policy	an insurance policy that exists when there is co-insurance
combined operating ratio (COR)	a measure of profitability used by an insurance company to indicate how well it is performing, calculated by expressing an insurer's underwriting result as a percentage of its earned premium income
commoditisation	the process by which products become less differentiated and buyers care less about which company they buy from; price is the main deciding factor
common pool	the basic concept of insurance that insurers are the managers of a sum or pool of money and that they have an obligation to charge equitable premiums to fund it and pay valid claims from it
consolidation	also known as amalgamation and often referred to as the merger and/or acquisition of a smaller company or companies into a much larger company
consumer	According to the Central Bank Minimum Competency and Consumer Protection Codes, a consumer is: a. a person or group of persons, but not an incorporated body with an annual turnover in excess of €3 million in the previous financial year (a group of persons includes partnerships and other unincorporated bodies such as clubs, charities and trusts), or b. incorporated bodies with an annual turnover of €3 million or less in the previous financial year (provided they are not part of a group having a combined turnover of more than €3 million) and includes a potential 'consumer'.

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Consumer Protection Code (CPC)	the code issued by the Central Bank of Ireland setting out requirements that regulated firms must comply with in order to ensure a level of protection for consumers
corporate objectives	clearly defined and articulated statements of intent that serve to influence a company's internal strategic decisions
corporate strategy	agreed direction that a company takes across its various business operations in order to achieve its overall business goals
cooling-off period	a period of time in which a consumer has a right to cancel an insurance contract without any penalty
coverholder (agent)	brokers that act as agents for insurers, writing insurance contracts on their behalf and serving as their local representatives
cross selling	the process of selling an additional product or service to an existing customer
damages	a sum of money paid or awarded as compensation for injury, loss or damage
data controller	a natural or legal person who controls, and is responsible for, the keeping and use of personal information on a computer or in structured manual files
data processor	a natural or legal person, public authority, agency or any other body that processes personal data on behalf of a data controller
Data Protection Commission	office established under the **Data Protection Act 1988**, which is responsible for enforcing obligations placed on data controllers regarding how they obtain and use personal data and information and upholding the rights of individuals as set out in the Act
data subject	an individual who is the subject of personal data
Declined Cases Agreement	agreement operated by Insurance Ireland, to provide a quotation for third party motor insurance in circumstances where at least three insurers have declined to offer cover to a proposer
deductible/excess	first part of each and every loss that is the responsibility of the insured; these terms are interchangeable in some sectors of the market
delegated authority	authority granted to the agent of an insurer, usually in the context of a scheme arrangement, to issue policy documentation and possibly carry out limited underwriting and claims functions
discrimination factors	any aspect of a risk that will influence an insurer to amend the premium, terms or conditions that would apply as standard to that class of insurance
earned premium	the proportion of an insurer's annual premium that has been earned as the risk period elapses and relates to the expired portion of an insurance policy
earthquake	the result of a sudden release of energy in the earth's crust that creates seismic waves, measured on the Richter scale from 1 to 10
Eircode	seven-digit alpha-numeric postcode system introduced in 2015
electronic data interchange (EDI)	the computer-to-computer exchange of business data and documents in a standard and structured electronic format between business partners, which uses automated processing
employers liability insurance	insurance to cover the legal liability of the insured to any person who is under a contract of service or apprenticeship
endorsement	a document or a wording that amends the policy in some way – it may add, remove or alter the scope of coverage under the policy

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equitable premium	a basic principle of insurance is that each person wishing to join an insurance pool must be prepared to make a fair contribution to the pool; the contribution per participant represents the degree of risk each participant brings to the pool
estimated maximum loss (EML)	the maximum loss reasonably sustainable as a result of a single incident considered to be within the realms of probability
excess of loss	a form of reinsurance that indemnifies the ceding company for the portion of a loss that exceeds its own retention, i.e. the ceding company (reinsured) agrees to pay the first amount (€X) of losses arising and the reinsurer agrees to pay an amount (€Y) in excess of amount (€X) up to another agreed limit
expense ratio	indicator as to the insurer's efficiency before factoring in claims on its policies and investment gains or losses. It is the amount of an insurer's expenses expressed as a percentage of their premium income, calculated by dividing the amount of expenditure by the amount of premiums
exposure measure	the basis to which rates are applied to determine premium
factsheet	electronic form used in a quotation process, asking if the statements given onscreen are correct – to which the proposer clicks 'Yes' or 'No'
facultative reinsurance	a type of reinsurance cover for individually large or unusual risks that are typically excluded from standard reinsurance treaties
fair and personal analysis of the market	an analysis of a sufficiently large number of insurance contracts available on the market to enable the intermediary to make a recommendation, in accordance with professional criteria, as to which insurance contract adequately meets the customer's needs **Insurance Distribution Regulations 2018**
flood	the escape of water outside its natural confines or a rising body of water that overflows onto normally dry land
frequency	how often an event will (or is likely to) happen
green cards	are internationally recognised insurance documents which provide proof of insurance cover to law enforcement agencies. It satisfies the police in the country visited that the motorist has the minimum compulsory insurance cover required
geocoding	the process of converting an address to a specific numerical code
gross domestic product (GDP)	the value of all goods and services produced by a country in a particular period (usually a year or a quarter)
gross premium/gross written premium (GWP)	the premium charged by an insurer in return for providing financial protection under a policy of insurance, excluding any premium taxes, stamp duty or levies and before the deduction of any premium ceded to reinsurers
gross profit (in business interruption insurance)	the difference between (a) turnover plus closing stock and work in progress, and (b) opening stock and work in progress plus the uninsured working expenses (variable charges)
hard market	a period when insurance premiums are high, underwriting terms may be inflexible and capacity (competition) for most types of insurance is reduced

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home country (state)	the country responsible for the supervision on a consolidated basis (usually where the head office is located)[81]
homogeneous risks	the existence of a number of risks with similar profiles or characteristics, e.g. in terms of frequency and severity patterns
housekeeping	an aspect of physical and moral hazard that relates to management standards, premises upkeep, tidiness, contingency planning and attitude to safety
inception hazard	factor(s) that could start a fire, e.g. processes or activities carried out at the risk location, risk of arson and so on
incurred but not enough reported claims (IBNER)	claims that have been reported to the insurer and, although the insurer has opened a reserve within its books, the value of the reserve proves to be inadequate in relation to final settlement
incurred but not reported claims (IBNR)	claims an insurer has not yet been notified of, but where the incidents that will give rise to such claims have already occurred
indemnity period	the period starting with the insured incident and ending no later than the maximum indemnity period chosen until the business returns to its pre-loss level of trading
inner limits	specific maximum amounts payable for defined items within an overall sum insured
Insurance Compensation Fund (ICF)	an insurance guarantee scheme in Ireland that protects policyholders of insurers that are unable to meet their liabilities; funded by contributions from insurers based on their gross premium income and capped at 2% per annum
Insurance Fraud Coordination Office	a dedicated unit of An Garda Síochána, established in 2021, to deal with insurance fraud
insurance intermediary	generic term for all types of firms that give advice on insurance products
Insurance Ireland	an industry body that represents Irish life and non-life insurers
InsuranceLink	a database of past claimants, maintained by Insurance Ireland
insurance undertaking	an undertaking that has received official authorisation from the Central Bank of Ireland to trade in Ireland under Article 6 of Directive 73/239/EEC, Article 6 of Directive 79/267/EEC or Article 3 of Directive 2005/68/EC
insurer capacity	the insurer's ability to accept risks up to a certain sum insured/limit of indemnity or meet future requests for increases in cover
investment income	income generated by insurers through investing their cash and capital funds, including share capital, unearned premium reserve and claims reserves (as distinct from premium income, which is generated by the trading activities of the insurer in underwriting risks).
law of large numbers	the larger the number of similar-type events that occur, the more likely the outcome will match the expected result
limited analysis of the market	providing services on the basis of a limited number of contracts and product producers available on the market, i.e. while not tied to one product producer, the services are not provided on the basis of a fair analysis of the market Consumer Protection Code (Definitions)

[81] 'Memorandum of Understanding on Cooperation between the Financial Supervisory Authorities, Central Banks and Finance Ministries of the European Union: On Cross-Border Financial Stability', ECFIN/CEFCPE (2008) REP/53106 REV, June 2008.

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limit of indemnity	the maximum amount that an insurer will pay out for any one claim
long-tail business	classes of insurance where claims are complex and have long settlement periods with specific losses not known for a long time
loss ratio	indicator as to how the account was assessed and rated in the past and whether or not it is in profit, calculated by dividing the incurred claims by the earned premium and multiplying by 100 as it is usually expressed as a percentage
managing general agents	an intermediary that has been given delegated underwriting authority by a risk carrier or insurer to accept risks on their behalf
marketing mix	the combination of product, price, promotion and place for a business
material damage	A term used to describe physical loss or destruction to property or contents
material damage warranty/material damage proviso	requirement for the admission of liability under a material damage policy before any claim is payable under a business interruption policy
material fact	fact that would influence the decision of an insurer in deciding whether to accept an insurance risk and the terms at which it would accept the risk
maximum capacity	the maximum amount of exposure that an insurer is willing or able to accept, as documented in the insurer's underwriting policy
maximum indemnity period	a period of time chosen by the policyholder under a business interruption policy as the maximum time necessary for the business to recover to the future expected trading position
mediation	informal method of dispute resolution involving a neutral mediator, who helps the parties work out their own solutions with no apportioning of blame
medical malpractice (Medmal) insurance	a policy written on a 'claims made' basis, which covers legal liability for acts, errors and omissions for those providing medical care.
money laundering	process by which criminals and terrorists convert money that has been obtained illegally into apparently legitimate funds
moral hazard	influencing factors concerned with the attitude and conduct of people (in insurance, usually the person insured)
net retention	the amount that an insurer retains on its own books on individual risks, or across the entire portfolio
no claims discount (NCD)	a reduction of premium for successive claim-free years, which increases to a maximum over a period of (usually) 5 years, held in the consumer's own name, usually found in private motor policies
non-proportional reinsurance	an agreement whereby the ceding insurer agrees to accept all losses up to a predetermined level, and the reinsurer agrees to reimburse the ceding insurer for losses above the predetermined level and up to the reimbursement limit provided for in the contract
operative clause	clause(s) that describes the standard scope of cover of each section of an insurance policy
Own Risk and Solvency Assessment (ORSA)	the processes and procedures that insurers use to identify, manage and report their short and long-term risks, and to determine the funds needed to meet their solvency
package policy	single policy containing different types of cover, underwritten and rated on an inclusive basis

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passporting	EU system whereby an insurer established and authorised in one member state can sell to residents of another member state by either establishing a branch there or by way of cross-border services
periodic payment order (PPO)	court order that involves the payment of compensation to a catastrophically injured person by way of a series of staged payments, rather than a single lump sum award
Personal injury guidelines	guideline principles governing the assessment and award of damages for personal injuries with a view to achieving greater consistency in awards
physical hazard	those physical aspects of a risk that directly impact on its insurability or the terms, conditions and exceptions on which insurance may be accepted
policy condition	a provision in a policy that must be complied with
polystyrene insulated panels	construction material consisting of an insulating layer of rigid core sandwiched between two layers of structural panels
portfolio analysis	details of the underlying portfolio underwritten by the insurer, e.g. frequency and severity of risks, in terms of premium income and sums insured
premium base	pure risk premium combined with internal and external factors that will impact the future pricing
premium rebate	a refund paid to the insured following cancellation, a material change or adjustment of an insurance policy
premium reserve (unearned)	an amount that appears on an insurer's balance sheet as a liability; it relates to the total amount of premium written but not yet earned because each premium covers a 12 month period and has to be allocated to future months and accounting periods
products liability insurance	insurance for all providers of goods – whether manufacturers, intermediaries or retailers – against claims arising out of the use, handling or consumption of a product
professional indemnity insurance	liability insurance that covers policyholders for claims arising from their professional activities (including negligent or inadequate advice given)
profit	the difference between the total income (revenue) of the business and the total running costs (operating expenses) associated with the continued operation of the business
propagation hazard	factor that impacts on how quickly an insured peril will spread, e.g. in the case of fire or flooding
proportional reinsurance	an arrangement whereby the reinsured party decides how much of the original risk they wish to retain, expressed as a percentage, and agrees (or cedes) the remaining portion to the reinsurer
proposal form	type of questionnaire, asking questions about the subject matter of insurance
public liability insurance	insurance that covers injury or death to anyone on or around the policyholder's property
punitive damages	damages awarded by a court designed to punish the defendant rather than compensate for loss suffered by the plaintiff
quota share reinsurance	an arrangement whereby premium and losses on all risks covered in the contract are shared at a fixed proportion (or quota)
rate(s)	the pricing factor upon which a premium is based

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rating factors	features or circumstances used by underwriters to determine the extent of the risk and the premium to be charged
regulated entity	a financial service provider authorised, registered or licensed by the Central Bank or other EU or EEA member state that is providing regulated activities in the state
reinsurance	insurance of an insurance company, e.g. against large insurance losses
reinsurance pool	a pool of participating members that contribute premiums to the reinsurance fund and share any claims arising in the same proportions
remuneration	payments by insurers to insurance intermediaries for placing business, usually paid by way of commission
retention (reinsurance)	the amount of risk that a reinsured (insurer) is responsible for
retroactive date	a date shown on a 'claims made' policy (not an occurrence policy). There is no cover for claims produced by wrongful acts that took place prior to this date, even if the claim is first made during the policy period. This date will often be prior to policy inception and in many cases will correlate with the period of time the insured has held uninterrupted cover.
retrocession	reinsurance of a reinsurance company
return on capital employed (ROCE)	a profitability ratio that measures how efficiently a company can generate profits from its capital employed by comparing net operating profit to capital employed. It is expressed as a percentage
risk exposure	the quantified potential for loss that might occur as a result of some event or activity
risk premium	the amount of premium required by an underwriter to cover the anticipated cost of claims under an insurance policy
schedule	tailored section (of a policy) that provides the policy number and all variable information about the policyholder, period premium and subject matter, and highlights any special terms, conditions or exclusions that apply
financial rating (of an insurer)	a rating by an independent company giving an opinion of an insurer's financial strength and ability to meet ongoing policyholder obligations
severity	the seriousness (size) of an event (also referred to as 'impact')
sensitive data	personal data about the racial/ethnic origin, political opinions, membership of a trade union, physical or mental health, sexual life, committing of any offence, disposal of proceedings of any court of the data subject
short-tail business	classes of insurance where losses are usually known and paid shortly after the loss actually occurs
soft market	a period where insurance premiums are reduced, underwriting terms are usually flexible and there is a high availability of insurance cover
solvency capital requirement	the amount of funds (capital) that Solvency II regulation requires an insurer to hold, calculated using a standard formula taking into account all the relevant risks to the insurer's financial stability
Solvency II Directive	an EU Directive designed to produce a more consistent and harmonised solvency standard across Europe that will protect consumers and other beneficiaries, and transposed into Irish law by the **EU (Insurance and Reinsurance) Regulations 2015**

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special reserves	funds set aside by insurers to cater for new events or risks (e.g. industrial diseases)
standard construction	varies from insurer to insurer, but typically refers to a property built of bricks, mortar or stone with a slate or tiled roof
statement of fact	document generated by an insurer, recording the answers given by a proposer to a telesales operator or insurance intermediary or on a website in response to specific questions asked after the proposer has requested a quotation (reference also 'factsheet')
stock	stock in trade and goods held in trust or on commission that the policyholder is responsible for, and includes raw materials, work in progress and finished goods
stop-loss reinsurance	type of reinsurance that provides protection for a whole portfolio of business, rather than just an individual risk, whereby the reinsurer agrees to pay the annual losses that exceed an agreed retention, usually expressed as a percentage of the annual premium income
storm	a violent weather condition, with strong winds, usually with a sustained speed in excess of 89kph (55 mph) and often accompanied by rain, snow and possibly thunder and lightning
subject matter (of insurance)	item or event in which the insured has an insurable interest, e.g. car, house, valuables, factory stock, or liability for acts of negligence
subsidence	the movement of land on which the premises stands
surplus reinsurance	type of reinsurance in which the reinsured or ceding company decides how much of each risk it wants to retain based on the expected financial loss (often based on the sum insured and sometimes the estimated maximum loss), whereby the reinsurer is then obliged to accept the amount that exceeds the insurer's retention, i.e. the surplus
target stock	stock that is particularly attractive to thieves, usually due to its portability and high intrinsic value
technical provisions (reserves)	reserves held so that assets are matched with known and estimated future claims liabilities and associated expenses
telematics (vehicles)	the use of vehicle and information technologies to collect and transmit data about a vehicle, its journeys and driving behaviour
tender process	a structured process where a potential purchaser invites sellers to submit bids for the provision of goods and services
tied insurance intermediary	any intermediary who: a. undertakes insurance or reinsurance distribution for and on behalf of one or more insurer/reinsurer(s) or other intermediaries in the case of insurance products that are not in competition; b. acts under the responsibility of those insurers/reinsurers or other intermediaries, and c. is subject to oversight of compliance with conditions for registration by the insurer/reinsurer or other intermediary on whose behalf it is acting. **Insurance Distribution Regulations 2018**

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trade endorsement	endorsements attaching to liability policies relating to the business description and associated risks – typically used to exclude or restrict cover for liability arising from hazardous activities
treaty reinsurance	a pre-negotiated agreement between the primary insurer and the reinsurer, whereby the primary insurer agrees to cede all risks within a defined class or classes to the reinsurer; and in return, the reinsurer agrees to provide reinsurance on all risks ceded without individual underwriting
underwriter	(1) a company liable for insured losses in return for a fee or premium (2) a person who assesses a risk proposed for insurance, decides whether to accept it and, if so, sets the level of premium required and the terms and conditions applicable
underwriting	the process of assessing and pricing risks for insurance
underwriting profit	profit made by an insurer after claims and administration and acquisition costs, but before taking account of any investment income
underwriting result	the extent of how well the non-life insurance business has performed, measuring the profit/loss after the cost of incurred claims, management expenses, commissions and other costs are deducted from its earned premium income
unoccupied (property)	property that is unused, vacant or empty, i.e. that is not occupied on a permanent full-time basis by the owner, a member of their household or any other person authorised by them
utmost good faith	the positive duty to voluntarily disclose, accurately and fully, all facts material to the risk being proposed, whether requested or not
variable	a measure that can assume any value within a given range of possible values
volatility	a measure of the difference between an expected result (the average cost of claims) and its standard deviation (variations from the average)
wageroll	employees' gross remuneration excluding employers' PRSI contributions
warranty	term (in an insurance contract) with which the insured must strictly and literally company

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Formulae

Burning cost

$$\frac{\text{Incurred claims}}{\text{Exposure measure}} \times 100 = \%$$

Combined operating ratio

$$\frac{\text{Incurred losses + Expenses}}{\text{Earned Premium}} \times 100 = \%$$

Expense ratio

$$\frac{\text{Amount of expenditure}}{\text{Premium income}} \times 100 = \%$$

Gross profit

(Turnover + closing stock and closing work in progress) – (opening stock and opening work in progress + uninsured working expenses)

Loss ratio

$$\frac{\text{Incurred claims}}{\text{Earned premium}} \times 100 = \%$$

Premium

Exposure measure x rate = premium

Underwriting result

[earned premium] – [(incurred claims) + (management expenses) + (commissions) + (other costs)]

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