Specimen coursework assignment

M80 – Underwriting

The following is a specimen coursework assignment including questions and indicative answers.

It provides guidance to the style and format of coursework questions that will be asked and indicates the length and breadth of answers sought by markers. The answers given are not intended to be the definitive answers; well-reasoned alternative answers will also gain marks.

Contents

M80 Specimen coursework assignment

CII

Coursework submission rules and important notes

Before commencing work on, or submitting, your coursework assignment it is essential that you fully familiarise yourself with the content of *Mixed Assessment Candidate Guidelines*. This includes the following information:

- Answers to a coursework assignment should be between 5,000 and 10,000 words in total depending on your writing style.
- Arial font and size 11 to be used in your answers.
- Important rules relating to referencing all sources including the study text, regulations and citing statute and case law.
- Penalties for contravention of the rules relating to plagiarism and collaboration.
- Six month deadline from enrolment date for the submission of coursework answers.
- The total marks available are 200. You need to obtain 120 marks to pass this assignment.
- Do not include your name or CII PIN anywhere in your answers.

Top tips for answering coursework questions

- Read the Learning Outcome(s) and related study text for each question before answering it.
- Ensure your answer reflects the context of the question. Your answer must be based on the figures and/or information used in the question.
- Ensure you answer all questions.
- Address all the issues raised in each question.
- Do not group question parts together in your answer. If there are parts (a) and (b), answer them separately.
- Where a question requires you to address several items, the marks available for each item are equally weighted. For example, if 4 items are required and the question is worth 12 marks, each item is worth 3 marks.
- Ensure that the length and breadth of each answer matches the maximum marks available. For example, a 30 mark question requires more breadth than a 10 or 20 mark question.

M80 Specimen coursework assignment

The coursework questions link to the Learning Outcomes shown on the M80 syllabus as follows:

Question	Learning Outcome(s)	Chapter(s) in the Study Text	Maximum marks per answer
1	Learning Outcome 1	Chapters 1 & 2	10 marks
2	Learning Outcome 2	Chapter 3	10 marks
3	Learning Outcome 2	Chapter 3	20 marks
4	Learning Outcome 3	Chapter 4	10 marks
5	Learning Outcome 4	Chapter 5	20 marks
6	Learning Outcome 4	Chapter 5	20 marks
7	Learning Outcome 5	Chapter 6	20 marks
8	Across more than one Learning Outcome	Across more than one chapter	30 marks
9	Across more than one Learning Outcome	Across more than one chapter	30 marks
10	Across more than one Learning Outcome	Across more than one chapter	30 marks

<u>M80 specimen coursework questions and answers</u>

<u>Question 1 – Learning Outcome 1 (10 marks)</u>

KB plc, a UK-based insurer, provides a wide range of personal lines products to UK-based customers.

Following a recent customer survey, it has become apparent that some customers do not fully understand the cover they have purchased. In the feedback provided by customers, they have also pointed out that they find some of the products very complex.

Consumer outcomes are defined by the Financial Conduct Authority (FCA) as important and they have specified standards.

(a) Identify **five** key actions that could be taken by KB plc to improve its customer outcomes. (5)

(b) Explain briefly how these **five** actions relate to the FCA's consumer outcomes. (5)

Answer to question 1 (Learning Outcome 1)

(a) In terms of KB plc (KB), customer outcomes are the perceptions of their customers during and after their insurance purchase. Five key actions that could be taken are:

- **Review the product range**. Review the products to see if they are overly complex in comparison to the customers demand and needs. In particular, there should be a focus on the customers who have commented on the survey.

- **Review staff training and competency (TC)**. Conduct a review of the account handlers dealing with the clients to ensure they understand the products themselves and are able to match customer requirements with the appropriate products.

- **Review Product Information**. The product information we send out to clients in their policy documentation should be clear and easy to understand.

- **Emphasise fair treatment of clients**. This may already be embedded in our culture, but this must be communicated to our clients so they too are confident that they will be treated fairly.

(b) The FCA has three outcomes to which all regulated firms must work towards. These are summarised below:

- All consumers should be sold products which meet their needs and they should be provided by firms they can trust.

- Markets should be stable and transparent on pricing information.

- Firms should compete effectively in their market whilst the interests of their customers are at the heart of everything they do.

(CII study text, M80 Underwriting practice, 2016, P1/9)

From these outcomes it can be seen that the regulator places huge emphasis on the customer.

In order to provide the insurance industry with guidance as to how it could achieve and evidence TCF, a document named 'Treating Customers Fairly – towards fair outcomes for consumers' was published in 2006 (CII study text, M80 Underwriting practice, 2016, P1/13).

The document identified six consumer outcomes.

The actions listed above are all aimed in some way at meeting these six different outcomes. For example:

- Reviewing the product range aims to meet the FCA's consumer outcome 2 (products and services sold are designed to meet the needs of consumers) and outcome 5 (consumers are provided with products that perform as they have been led to expect).

- Reviewing staff competency contributes towards outcome 3 (consumers are provided with clear information and are kept appropriately informed). Reviewing product information also contributes to this outcome.

Reviewing the post sales process contributes to outcome 6 (consumers do not face unreasonable post-sale barriers).

Question 2 - Learning Outcome 2 (10 marks)

A comprehensive motor insurance policy was issued to Miss Jones for her car by HJ plc, a motor insurer. The policy includes various claim settlement options for loss of or damage to the insured vehicle and its contents.

Miss Jones reports to HJ plc a claim which arose from an electrical fault in the car's engine. The fault caused a fire which significantly damaged the car and its contents.

Explain briefly **five** steps you would take to review this account regarding young drivers making specific reference to risk, classification, terms and underwriting. (10)

Answer to Question 2 (Learning Outcome 2)

In order to improve profitability an analysis of the risk and claims data is required and then underwriting terms can be amended accordingly. The steps I would take are as follows:

Step 1:
I would first need to analyse the claims circumstances for the account. Trends can be spotted and then the appropriate underwriting terms and conditions applied.

Step 2 - The customer database will identify drivers that are below the age of 30 and these can be divided into different age bands of 25 – to 30, 21 to 24 and under 21. This will help identify where the highest risks are located in the young age group.

Step 3 - The classification of motor vehicles also needs clarification. Motor cars are rated according to their group classification that is produced by the Motor Insurance Repair Research Centre (CII study text, M80 Underwriting practice, 2016, P3/13).

The group rating takes into account the repair costs, cost of parts, performance, security and value. This will help to see if the account has an even spread of risks.

Step 4 - Having identified the age groups and the car classifications, DF plc can combine this data and identify cover restrictions. For example it could restrict the car groups for certain age bands. Additional premiums can be charged or an increased policy excess could be introduced.

Step 5 - Drivers considered the highest risk are the most likely to have driving endorsements. Restrictions to the use of a vehicle, increased premium or excess, or a combination of both can bring to the attention of the driver the higher risk they pose (CII study text, M80 Underwriting practice, 2016, P3/14).

By conducting a detailed analysis of the driver data and the vehicle they are using, appropriate terms and premiums can be applied. This will improve the profitability of the account.

<u>Question 3 - Learning Outcome 2 (20 marks)</u>

PT plc (PT), an insurer, writes both personal lines and small commercial business lines on a direct basis. PT's investors have agreed to support a significant growth strategy over the next five years. PT is now considering increasing its product range to write larger commercial risks and is reviewing its distribution strategy.

(a) Describe the potential impact on the structure and organisation of PT if a new product range is adopted and the distribution method changed.

(10)

(b) Explain the impact on the pricing model if PT decides to distribute its products through an intermediary.

(10)

<u>Answer to Question 3 (Learning Outcome 2)</u>

(a) Any change in the product range and distribution method will have a considerable impact on the way PT is structured and organised. (CII study text, M80 Underwriting practice, 2016, P3/18) Currently PT distributes its products (personal lines and small commercial) direct with customers. If PT now wants to write larger commercial risks they are unlikely to be able to do so by retaining their current distribution model and will need to sell large commercial risk products either through the intermediary channel or through a delegated authority. This is because large commercial businesses have diverse needs and are, therefore, more complex in terms of their requirements. 85% of all commercial insurance business in the UK is transacted through an intermediary.

Although the intermediary will employ staff with very specific areas of expertise who will interact directly with the client and understand the nature of the risks involved, PT will still need to employ specialist underwriters, claims staff and experts who will be able to design and price their new product range appropriately to ensure the optimum balance of cover and price is achieved in line with PT's business and underwriting strategy and goals.

Support staff will need to be employed to correctly market and manage the new operation. In particular broker development staff will need to be employed to manage the relationship between the intermediaries and PT's underwriters.

Staff involved in the operation of larger commercial risks, distributed through intermediaries, do not need to have client facing skill sets as they will not be dealing with clients. They will deal, on a day to day basis with intermediaries and those involved with the management of claims. Therefore the training and competency needs of staff will be quite different. It is likely that PT will need to employ staff with very different experience and skills. PT will need to ensure their staff remain fully trained and competent in a much more diverse range of sectors. The emphasis will be on technical knowledge rather than the softer, people skills, of the existing employee base.

(b) There will be an impact on the pricing model if PT decides to distribute products through the intermediary channel. The cost of hiring additional staff and experts from a diverse range of sectors will need to be reflected in the pricing structure, along with the increase in expenses for hiring experts such as surveyors, who will need to conduct quite complex site surveys for underwriting purposes, for example.

In addition, commissions will need to be paid to intermediaries to encourage them to bring their clients to PT. Additional expenses such as assisting intermediaries with marketing costs and documentation will need to be factored in to the pricing equation.

Clearly the pricing models for direct and intermediary business differ significantly. The net or pure price of a risk is derived from the summation of:

- The claims cost and experience.
- Any extensions to cover or individual modifications depending on the demands and needs of a very complex risk (as negotiated by intermediaries with differing influences).

- The expense and commission issues discussed above (which differ according to the role played by the intermediary and potential by the scale of commission offered by PT to their supporting intermediaries).
- The intermediary distribution methodology (e.g. is the product distributed through a scheme or delegated authority).
- Staff costs and expenses and reinsurance costs.

Another key consideration in terms of pricing is the cost of reinsurance and the expertise required to source and manage appropriate reinsurance in a new risk area with a new distribution philosophy.

Finally, there will be an impact, either positively or negatively on the cost of professional indemnity and E&O insurance premiums and the limits of cover required if distributing products through intermediaries. This will have a knock on effect on product pricing.

Question 4 - Learning Outcome 3 (10 marks)

You are the lead underwriter in a project which launched a new product where no historical data existed. The senior management team are keen that the emerging claims experience is fully taken into account in the underwriting criteria, policy terms and conditions.

Explain how the emerging claims experience should be used to improve the product's future development and performance, identifying any potential problems.

(10)

Answer to Question 4 (Learning Outcome 3)

A significant factor to be considered when underwriting and determining the right price to charge (in line with the profitability goals and underwriting strategy) for any risk, is the statistical analysis of past claims experience.

When designing a new product it is extremely difficult to make sure that the cover and pricing are optimised, due to the lack of statistical data to review. Therefore, emerging claims experience becomes essential in ensuring price and cover can be adjusted to achieve the underwriting goals.

Here, the claims team must work very closely with the underwriting team in ensuring feed-back is timely, appropriate and accurate. There is a danger than too much is drawn from early analysis. An accurate picture, with appropriate conclusions cannot be drawn until the volume of claims data allows trends to be identified and understood and the cover and price of the product adjusted accordingly. Single event, large losses are likely to skew claims data analysis leading to incorrect conclusions.

Extrapolation of data and the use of statistical tools (average, frequency etc) and tools such as the law of large numbers can all help make prediction more robust (CII study text, M80 Underwriting practice, 2016, P4/17).

In this way the initial product is moulded by the claims experience and the underwriting profitability is maximised by reviewing the claims data to see where spikes in the trends are coming from. This allows the underwriting team to try to adjust their strategy to fit the most profitable areas and minimise taking on risks which are burning too high.

It should be noted that introducing a new product should be seen as a long term strategy and, due to investment costs, it may not be profitable in the early years; however there may be pressure to prove the original product plan was profitable.

Question 5 - Learning Outcome 4 (20 marks)

MF plc, a UK-headquartered insurer, has offices in ten countries. When reviewing its claims data, MF plc carefully considered the following:

- Credibility of the data
- Segmentation of data
- Changes in inflation rates

Despite these considerations, discrepancies and inaccuracies in claims forecasts have arisen.

Explain **three** other internal and **three** other external factors that MF plc should also take into account to improve claims cost forecasts.

(20)

Answer to Question 5 (Learning Outcome 4)

Understanding claims data and accurately forecasting claims performance is essential to the correct pricing of an insurance product and the cover incorporated. This will also, therefore, affect the ultimate profitability of any insurer. In this case, MF plc (MF) is a multinational insurer and the claims forecasting is even more complex due to cross-border issues.

In addition to ensuring the credibility of claims data, correct segmentation of the claims data and taking into consideration changes in inflation rates, there a number of internal and external factors which MF need to consider.

This will ensure that their claims forecasting remains accurate and, therefore, credible and useful information is generated to feed back to the underwriting and pricing teams.

Internal Factors

Internal factors are those over which MF has control. These include:

- **Changes in cover or limits**. Any change in the cover, excess or deductible taken or policy limits granted will have an effect on the claims experience. The original claims forecast will be based on out of date parameters and so the claims data will differ from that expected. This can mean the claims data is actually better or worse, depending on what was granted by the underwriter.

- **Reserving inaccuracies**. Any change to the reserving philosophy will have an impact on claims experience. Claims reserving decisions must be fully understood to allow data to be correctly interpreted. There is also the risk of backlogs and out of date reserves may skew the data.

- **Risk management**. Changes in risk management practices will clearly alter the expected claims result. This can be either an internal factor (For example where the underwriters have imposed a requirement for a new sprinkler system to be installed), or external, where the insured has undertaken a risk improvement under their own initiative. If the insurer is not told of any such improvements its claims forecast is likely to be inaccurate.

External Factors

External factors are those MF has no direct control over. They include the following:

- **Changes in exchange rates.** Exchange rate fluctuations have particular impact where claims are paid across national borders. In the case of MF, where claims are paid from the UK to other countries, exchange rate changes from the time when claims were forecast will have an impact and it is hard to accurately forecast future market rates.

- **Frequency of loss.** Frequency is the number of losses over time. The longer the time period the more accurate future losses can be predicted. Depending on the class of business written, frequency can be measured by calculating the number of losses by other factors, such as number of vehicles for motor fleet cover, or wage roll, turnover or sum insured as the basis for the same calculation. Changes in the economic climate will have an impact on the frequency of loss.

- **Severity.** This is the size of loss and can be very hard to predict. Catastrophe losses where they occur may be very difficult to predict or take account of. However, MF could benchmark against the market to understand if the severity rates are 'normal' or part of an issue with their underwriting. (CII study text, M80 Underwriting practice, 2016, P5/13)

In addition to the above, claims procedures may need updating to take account of legal changes, working practices, updated crime rates, emerging risk and changes in the economy.

Question 6 - Learning Outcome 4 (20 marks)

You are the lead property underwriter for CR plc, an insurer. A risk which has not made an underwriting profit for the last three years is due for renewal. You have agreed to underwrite the risk again.

Describe the **four** main pricing elements that you would consider when setting the premium and explain how **each** element could contribute to profitability. (20)

Answer to Question 6 (Learning Outcome 4)

There are four main pricing elements to consider when establishing a premium – Risk premium, expenses, profit and ROCE (CII study text, M80 Underwriting practice, 2016, P5/2). In relation to this particular renewal, where there has been no underwriting profit for the last 3 years, those pricing elements are described below, together with an explanation of their contribution to the profitability of CR plc:

1. **Risk Premium**
   The risk premium is the total expected cost in claims allowing for all eventualities. The underwriter's task when setting the appropriate risk premium is to analyse the risk being offered and to forecast future claims costs. Therefore, to be profitable, either the overall premium increases or the risk decreases through effective underwriting and cover adjustments. The only other thing that might affect risk premium and ultimate profitability is that the client has carried out risk management to improve the risk. Risk management improvements can be imposed by the insurer or completed on a voluntary basis.

   We may decide to dictate terms which require certain risk improvements to take place (for example a sprinkler system to be installed or an updated security enhancement).

The new, higher premium could be offered on the basis that the loss ratio has been poor. It is quite likely that the client would accept a certain level of increase as it may be quite hard to get competitive terms elsewhere based on the loss experience. However, in a soft market there may be other underwriters who may be very happy to write this risk at this premium level and so any increase should be balanced against the risk that the client may not renew.

If the client has undertaken risk improvements, or if we as an underwriter limit the cover or impose exclusions and risk improvement requirements, then the potential cost of future claims is reduced and the risk premium will also be reduced as risk premium is the sum of the ultimate cost in claims plus an allowance for the degree of uncertainty attaching

At each renewal, the underwriter must reconsider exposure, subject matter, scope of cover, rating factors, claims experience, large losses and also possible future issues which may arise (CII study text, M80 Underwriting practice, 2016, P5/3). Understanding these elements helps the underwriter understand the risk in a more structured way.

2. **Expenses**
Expenses contribute to the overall premium and play a considerable part in the profitability of the business. Some expenses can be controlled on a case by case basis. However, some expenses are fixed.

If the risk premium is higher than previous years the overall premium will have to increase and this may mean the client does not renew. However, if costs can be controlled, this may reduce the overall premium without effecting profitability.

There are a number of expenses to consider:

- **Fixed expenses:** these relate to processing costs and are independent of the size or complexity of the risk. Fixed costs will include staff, buildings and IT costs. It is almost impossible to influence fixed expenses on an account unless it is so large it can be handled on its own.

- **Variable expenses**: these are those which are incurred in running the account such as site visits, surveys and servicing for instance. It may be possible to reduce variable expenses by, for example, surveying less frequently.

- **Claims-handling costs**: these may be reduced by reviewing loss-adjuster expenses, having less site visits and having fewer audits. If there is a high claims frequency a larger excess may help to reduce the claims handling cost.

- **Reinsurance costs**: these may be reduced if an improved deal can be negotiated with our reinsurers. Reinsurance can be expensive and if a better deal can be obtained then this saving can be put back into profitability. However, this is unlikely to happen in this instance as it is only one account. If appropriate, a review of the facultative arrangements can take place to see if the costs can be reduced.

- **Intermediary Remuneration:** all commissions need to be built into the premium and should be fair. It may be possible to negotiate a reduced premium if the broker is keen to retain business where the premium increases to the extent that a client may look for another intermediary. This would be especially so for a risk which has made losses for such a long period.

3. **Profit**
Clearly, insurers are in business to make a profit for their shareholders. Profit must be factored into the overall premium and is very closely linked to loss ratio. A good loss ratio, where the actual losses incurred are less than the risk premium, will result in a profit. A poor loss ratio, as has been experienced for the last three years, will use capital reserves rather than add to them or allow the insurer to pay a dividend to shareholders from the profit generated.

4. **Return on capital employed (ROCE)**

The insurer could still make a profit even if there was an underwriting loss as the premium charged could be invested and the profit from the investment could make up for any underwriting loss (CII study text, M80 Underwriting practice, 2016, P5/8).

<u>Question 7 - Learning Outcome 5 (20 marks)</u>

You are the lead property underwriter for XJ plc, an insurer. An intermediary has presented you with a risk involving two recently constructed warehouses on the same industrial site. The warehouses are 100m apart from each other and close to a river. There is open space between the two warehouses.

Explain and justify the factors that you should take into account when considering potential aggregation of this risk.

(20)

Answer to Question 7 (Learning Outcome 5)

The term, aggregation relates to an accumulation of insured risk, which may expose a single insurer to more than one claim arising from a single cause of loss. (CII study text, M80 Underwriting practice, 2016, P6/5) It is very important for insurers to fully understand and assess the risk of aggregation and not simply to view each risk in isolation. An insurers approach to aggregation will form a key part of their underwriting strategy.

In this case, as the lead property underwriter, a possible approach would be to create a table listing all the classes of business insured in one column, next to each class, list what is being insured and then in a third column to list the nature of potential aggregation. Where sums insured and limits are known, they could be added to the table resulting in a clearer understanding of the aggregated values and a clearer picture of the overall risk. (CII study text, M80 Underwriting practice, 2016, P6/6)

The issue here is not with the individual risks themselves, it is the fact that we would be underwriting both risks on the same site. This could cause issues with our underwriting strategy depending on the estimated maximum loss (EML) as it could be that the risk is too large for our strategy. We would need to consider carefully the risks in both warehouses making sure that we fully understand all the risk factors and the interdependencies between both warehouses also ensuring that the overall risk would fit our risk acceptance criteria. We need to understand the losses covered and in what instances a loss will mean potential claims at both warehouses. Is there enough separation between the two warehouses to minimise fire spread? We would need details of the construction of the warehouses to consider how they would perform in bad weather and what the chances are of a total loss on both buildings. Does the space between them and the water limit the risk? This would all need to be accounted for in the aggregation calculation.

Depending on the geography we could put the risk data through a Catastrophe Model (CII study text, M80 Underwriting practice, 2016, P5/6).

This is a complex tool which enables underwriters to see the chances of having a loss and also the potential damage a loss would cause if it were to happen. They can put the model through various potential losses to see what the outcome would be. The model will allow for all risks to be inputted showing exposure across the entire underwriting book, which enables a far greater understanding of the business written and therefore the ability to adjust the underwriting strategy to compensate for perhaps too much business in one territory. We can also look at how much business is placed close to the watercourse as the models will allow you to plot distance to water from the coding in the models. This will enable us to see if the book of business could be prone to flooding and whether we should either stop writing business close to the watercourse or invest in extra reinsurance.

Furthermore, the modelling allows the underwriting book to be analysed to make sure that the reinsurances that were in place are still relevant. It may be the case that that a treaty reinsurance put in place at the start of the year, only has a certain limit for a particular area so if the business wishes to continue to underwrite in that area they must either self-insure or buy further reinsurance (probably facultative).

Question 8 – Across more than one Learning Outcome (30 marks)

You are an underwriter for NC plc, an insurer, and have been asked to cover a large property risk. The risk, a warehouse where there are no aggregation issues has recently had a new sprinkler system installed. The property falls within your target market and seems to fit NC plc's underwriting policy of writing quality, well managed properties. However, the market is hardening and capacity is very limited.

(a) Explain the position of AB plc under the insurance policy they have issued. (12)

(b) Explain how the underwriting considerations might differ if NC plc were operating in a 'soft' market. (8)

(c) Explain how the cost and availability of reinsurance will affect your decision as to whether to cover the new risk. (10)

Answer to question 8 (Across more than one Learning Outcome)

(a) The maximum capacity will follow from the underwriting strategy and will be documented in the underwriting policy, although it may vary depending on the nature and quality of risk; it is quite possible that a good risk like this one may have a higher maximum capacity (CII study text, M80 Underwriting practice, 2016, P6/2).

The maximum capacity is the maximum amount of exposure NC plc (NC) are willing to accept for this risk. The amount, referred to here as the full value sums insured, will be expressed as a sum insured for the property and associated risks, but it can also be a limit of indemnity. The amount represents the considered potential of a claim and it needs to be carefully calculated to see if it falls within the maximum capacity and whether or not there is enough capacity available to write the risk. NC must ensure they maintain enough assets to pay the claims as well as maintain specific levels of capital in accordance with the statutory rules.

NC are likely to use one of two methods to calculate the maximum exposure and, therefore, determine whether they have sufficient capacity to accept the risk. These two methods are explained below:

Calculate the full value sums insured.
The risk should not be seen simply as the total cost of rebuilding the warehouse if it were to be destroyed by fire, for example. A single loss can often trigger different covers, so the aggregation of the sums insured should be considered in order for the true maximum exposure to be calculated. In the case of a fire, both the material damage costs and the business interruption costs must be considered, for example.

Estimated maximum loss (EML).
The second method used to measure exposure is to assess the EML at this location. EML is the amount which is considered to be an accurate reflection of the worst possible financial effect that the maximum foreseeable loss would have. It is normally expressed as a percentage of the sum insured. (CII study text, M80 Underwriting practice, 2016, P6/3)

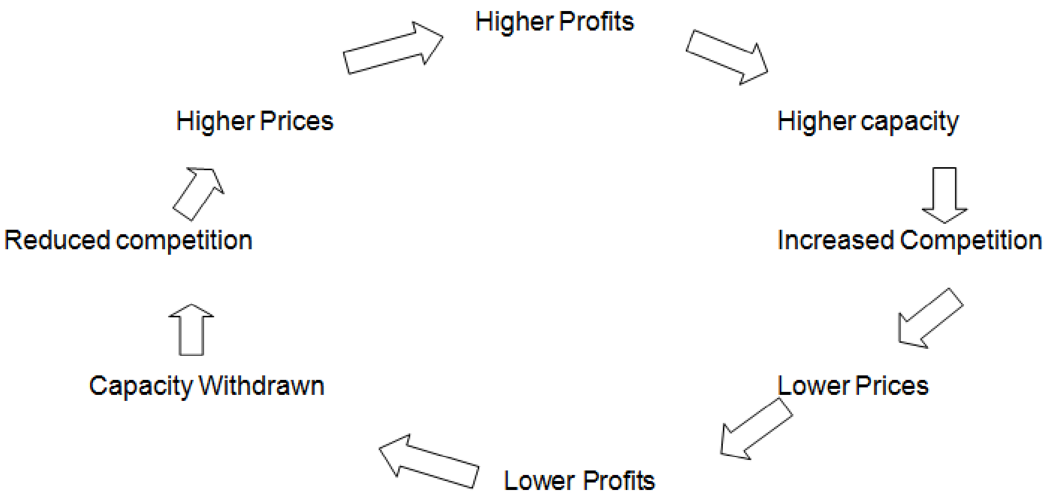
The correct EML can be difficult to establish and would require a detailed site survey report where the surveyor must consider a wide range of criteria including, but not limited to the fire protections, construction material, contents of the warehouse (their nature, distribution and combustibility), the use of the building (any hazardous processes and substances), proximity to any other high-risk buildings, standard of management, housekeeping procedures and risk management.

An overestimate of the EML could mean the risk is not taken on if it falls above NC's maximum capacity, or the unnecessary purchase of reinsurance. Underestimation could lead to the risk being accepted even though it is over NC's maximum capacity limits and potentially leading to a situation where a loss is paid for where no provision has been made, resulting in poor profitability.

(b) Since the 1930's the insurance market has always been in a state of pricing flux. There is either a hard market (premium rates going up) or a soft market (premium rates going down). The reasons for this cyclical trend in the insurance market are varied and it should be noted that every insurance market follows its own pace across the globe and even within the same market; different classes of business may be at differing stages of the cycle (CII study text, M80 Underwriting practice, 2016, P2/18).

The price of insurance products varies in relation to the availability of capital, which is in turn influenced by the actual or perceived profitability of the insurance market or insurance product within that market. Profitability is directly influenced by the number of claims experienced. Price instability in a hard market is caused by the in-flow of market capacity as high rates and selective underwriting lead to profitability. As market capacity increases, premiums start to fall through competitive pressure to maintain market share. This creates what is known as a soft market.

However, the lower pricing and less stringent underwriting which characterise a soft market, also lead to reduced profitability. As the returns on capital invested reduce, so too does capacity. This leads to an increase in premium and more selective underwriting. The process is illustrated below:



In a soft market, there is more likely to be more capacity. This will lift the maximum capacity for this particular risk, meaning NC will have a greater appetite to write this risk and potentially other risks as it will have more capital to write business. In addition, there will be more competition for the better risks and NC's underwriting policy may enable the underwriting and acceptance considerations to be more aggressive, or more relaxed in terms of cover restrictions and pricing, to ensure they are competitive.

(c) Although the insurer may have capital reserves to pay potential claims for this risk, it faces the same uncertainty of a loss occurring as the insured. Uncertainty surrounds the frequency and severity of loss which, once the risk is accepted, will be carried by NC in return for a premium. Reinsurance offers NC, as a reinsured, protection. Reinsurance offers NC stability, it frees up capital and it protects against catastrophes. However, reinsurance premiums increase the expenses element of the overall price and can reduce short term underwriting profitability.

Like insurance, reinsurance is subject to its own market cycle. In fact, reinsurance is particularly susceptible to market cycles because underwriting terms, conditions and price are generally agreed in advance of the treaty or contract period and cannot be amended mid-term. In addition, as the renewal of many large treaties is clustered around certain dates (such as 1st January), the swings resulting in changes to pricing and terms are more marked than for direct insurance as the reinsurer must consider the whole year ahead.

The cost and availability of reinsurance will fluctuate. However, only facultative reinsurance relating to specific risks would be incorporated in this premium as a specific cost. As reinsurance costs are a key part of an insurer's expenses, the availability and cost of reinsurance will directly affect the decision to cover the new risk. As reinsurance rates increase, NC will need to make a decision to purchase less reinsurance cover, or reduce the profitability of this risk. The overall decision will be dictated by the maximum capacity, the underwriting strategy and the underwriting policy (CII study text, M80 Underwriting practice, 2016, P6/13).

In the end, it will come down to a decision based on profitability. Reinsurance is a key element because it directly affects profitability.

Question 9 - Across more than one Learning Outcome (30 marks)

AB plc is an insurer with a long history of successfully insuring high risk, high premium commercial properties which other insurers tend to avoid.

(a) Explain **five** key elements in AB plc's underwriting strategy which may have contributed to the success of this business. (20)

(b) Explain the range of actions AB plc could take at each property renewal to manage an individual risk which had a particularly high number of claims. (10)

Answer to question 9 (Across more than one Learning Outcome)

(a) AB plc's underwriting strategy is one of high risk for high gain. AB has been successful which indicates it understands the risks it underwrites and prices accordingly.

There are a range of elements which are most likely to lead to its success, I have identified the ones I believe are most likely to make a contribution to successful underwriting of AB's high risk, high gain strategy, these are explained below:

Disciplined underwriting.

All AB plc's underwriting activities should relate to the underwriting strategy. The underwriting strategy must be communicated clearly and be understood by all by means of business plans, broken down into key elements. The strategy should be regularly reviewed to ensure it is still appropriate and that the operation is being conducted in line with the strategy. No risk which falls outside the objectives should be accepted. Due to the high risk nature of AB's strategy, it is even more important to understand each risk. It may be that underwriting surveys are conducted. Underwriters will need to trust their intermediaries and not be afraid to say no if risks do not meet target parameters.

Appropriate pricing.
This is essential to ensuring profitability. The premiums charged should be in line with the risks accepted and anyone involved in establishing price must have a good understanding of the elements that contribute to price, expenses, risk premium, profit and capital. The price must also be acceptable to ensure a high enough take up and good communications with intermediaries is essential in achieving an understanding of the market's response to the price. A very detailed understanding of maximum loss is required in relation to pricing.

Good use of claims information.
The business will not be profitable if the claims history is not understood. This requires careful analysis and excellent lines of communication between the underwriting, claims and actuarial functions. An awareness of the limitations of historical, statistical data is also required, as is an ability to project forward in terms of forecasting, identifying trends and understanding the market as well as an ability to look back. Aggregation may be an issue and there will certainly be a need for catastrophe modelling and it could well be that AB has very sophisticated modelling systems which give them an advantage over competitors who do not have access to such facilities. A good claims team will also reduce claims leakage (this is where a claim is settled which should not have been or where settlement is at a greater cost than it should have been) which means that your net claims margin will reduce. This is essential in any business but more so when dealing with high risk business as the potential exposure and amount of losses is greater.

Good use of reinsurance.
Reinsurance is essential to profitability in that it provides protection of the book, frees up capital to write more business, maintains claims stability and protects against catastrophes. However, buying too much will reduce profitability and it will be important to understand the reinsurance market so the most competitive cover can be sourced. The reinsurance strategy must be in line with and directly support the underwriting strategy. The company's ability to buy reinsurance at an advantageous rate and negotiate a good deal on its outwards coverage is vital. AB will need to make sure that the coverage is the same as the direct placements and that the reinsuring underwriters are stable as any that go into liquidation will affect the company's bottom line profit.

Goal orientation.
For AB to remain profitable, everything it does must be in line with a clear set of goals which are, in turn, derived from the corporate strategy.

There will be a 12 month, 2 year and 5 year plan against which performance can be measured and appropriate corrective action taken where required.

(b) At renewal there are a range of options available for AB to take for a risk that has experienced a particularly high number of claims. AB can choose not to offer renewal terms. Alternatively AB could increase the premium, or change the terms of the cover, or use a combination of premium increase and cover changes. AB is an insurer who has experience at writing high risk business, so it may choose the later. The key is to analyse the losses which have occurred to look for potential patterns, or emerging trends in the loss history and take action which is appropriate to reduce the exposure or increase the premium to ensure profitability.

It may be that the risk has simply experienced a number of unique unrelated losses. If that is the case, it may be possible to apply a premium calculation based on the claims generated. This is known as ‘burning cost’. This method is an experienced-based method that translates the actual incurred losses into a rate against a measure of exposure. For this method to be valid, a sufficiently high number of claims must be analysed to ensure the result is reliable and unlikely to have occurred by chance. In this case, a significant increase in premium may result in the insured investing in risk management that will naturally reduce the incidence of future claims. The burning cost method is transparent in that the insured will understand how it is calculated and takes into consideration only the individual risk history.

However, AB could apply terms which require the insured to carry out specific risk management activity that will improve the risk (such as change the composition of certain materials used in construction, conduct fleet risk management, or install a sprinkler system). If there are a high number of lower value claims, AB could also increase the excess, so that the insured is effectively self-insuring these claims. (CII study text, M80 Underwriting practice, 2016, P3/11) If the moral hazard is high and traditional risk management has not worked, a co-insurance clause may be applied. Cover exclusions could also be applied to improve the risk from the insurer’s perspective.

AB could increase the amount of stop-loss reinsurance that it purchases and charge the costs on to the client.

With a high return on investment, it may still be possible to generate profit with an underwriting loss. However, if the losses are too high, the premium that AB may have to charge in order to be profitable may be too great for the insured to accept. The key is to conduct careful analysis of the claims and take appropriate action.

Question 10 - Across more than one Learning Outcome (30 marks)

DE plc, an insurer, has the following claims information for its motor account:

Number of claims (x)	Probability P (x)
1	0.10
2	0.25
3	0.35
4	0.20
5	0.05
6	0.05
Total	

Cost of claim (x)	Probability P (x)
£250.00	0.50
£600.00	0.35
£1,200.00	0.07
£1,500.00	0.05
£2,100.00	0.03

(a) Using the above claims information, calculate, **showing all your workings**, the expected total value of claims.

(5)

(b) Explain the limitations of using statistical data when estimating the likely future claims experience for DE plc's motor insurance account.

(5)

Burning Costs

Underwriting year	Insured Values	Incurred Claims
2011	£500,000.00	£100,000.00
2012	£750,000.00	£150,000.00
2013	£800,000.00	£400,000.00
2014	£1,000,000.00	£700,000.00
Totals		

(c) Using the above information, calculate, **showing all your workings**, the burning cost for each year of account and the total aggregate for the period 2011 to 2014. (5)

(d) Explain, with justification, **five** underwriting actions DE plc could take to seek to improve the cost of claims in future underwriting years. (15)

Answer to question 10 (Across more than one Learning Outcome)

(a) The expected total value of all claims is the sum of each of the individual expected values for each claim. The expected values are a multiple of the number of claims, their values and their probability (CII study text, M80 Underwriting practice, 2016, P4/15). The calculations for each expected value and the total expected value are shown in the tables below:

Number of claims	Probability	Expected Value (Number of claims x
1	0.1	0.1
2	0.25	0.5
3	0.35	1.05
4	0.2	0.8
5	0.05	0.25
6	0.05	0.3
	Total	3

The two totals, once multiplied now represent the total expected value of the claims shown on DE plc's motor account claims:

3 x £557 which = £1671

(b) When estimating the likely future claims experience for DE plc's motor insurance account, care should be taken not to place an over reliance on statistical historical data. The data must be reliable and relevant. There should also be an understanding by DE plc's underwriters and claims managers, that the past claims data may not be indicative of future claims where the following is likely to occur:

- Changes to the underlying risks. For example offering fully comprehensive cover where third party only was being offered.
- Changes to the policy wording following the addition of exclusions or policy limits, thereby eliminating losses which have occurred in the past.
- Changes in exposure over time, such as a change to the premium base.

- Changes in legislation (motor insurance is compulsory and there may be changes in the law).

(CII study text, M80 Underwriting practice, 2016, P4/18)

These unplanned events can change both the frequency and or severity of future claims. The impact of future exposure periods should be understood in light of any potential changes that will affect or disrupt the reliance on past data.

(c) The burning cost for each year of account and the total aggregate for the period 2011 to 2014 are shown in the table below. The burning costs are calculated using the following formula:

Insured value for each year divided by the incurred costs. This value is divided into 100 so it can be expressed as a percentage e.g. for 2011:

500,000/100,000 = 5
100/5 = 20%

The total burning cost is a sum of each year divided by the total number of years: 20+20+50+70=160
160/4 = 40%

Burning Costs

Underwriting year	Insured Values	Incurred Claims	Burning Cost
2011	£500,000.00	£100,000.00	20.00%
2012	£750,000.00	£150,000.00	20.00%
2013	£800,000.00	£400,000.00	50.00%
2014	£1,000,000.00	£700,000.00	70.00%
Totals			40%

(d) There is a range of underwriting actions DE plc could take to improve the cost of claims in the future. High quality claims analysis should be able to identify trends that would allow the cover to be adjusted to eliminate some of the losses. These include:

1. **Age or experience restrictions** could be applied. If a trend is emerging for young driver losses, or losses on high performance cars this would be quite effective. Age restrictions could be linked to engine performance or even experience on type.

2. If there are a high volume of smaller value claims, the **excess** could be increased. Is would effectively impose a level of self insurance on the insured as they would pay for the first part of any claim.

3. Limitations on cover, or premium increases could also be applied for drivers with driver related **convictions,** such as speeding or drink related issues. Once again, good quality claims analysis would indicate if this would be effective.

4. The cost of claims could also be reduced by ensuring that the **claims supplier network** remains cost effective. It may be that deals can be agreed with suppliers and repair networks in return for a clause which would limit insured's to using only insurer approved suppliers for vehicle and accident repair.

Claims function performance. If the claims costs are high, it may be that the claims function is not operating correctly and claims maybe paid which fall outside the cover. The underwriting function needs to work closely with the claims function to ensure good communication, so that the claims team only pay the claims they should and the underwriting function obtain accurate claims data.

Reference list

Philip Priddle ACII & Mark Wallace BA, FIA (2016), *M80/P80 Underwriting practice*, The Chartered Insurance Institute.

Question deconstruction and answer planning

The following three plans are based on 10, 20 and 30 mark questions respectively.

Question 1 - Learning Outcome 1 (10 marks)

TC plc, a UK-based commercial property owner, has a portfolio of small offices in the UK, which are insured on a traditional risk transfer basis. TC plc is currently negotiating to purchase a high value office block in the UK. TC plc's UK-based insurance broker needs to place the high value office block with a suitable insurance organisation.

Explain, with justification, **two** types of insurance organisation that the insurance broker might consider suitable to cover this risk. (10)

Question deconstruction

- Review learning outcome 1 in the course material and the relevant information in the study text.
- Highlight the instructions within the question (which are circled in red above).
- What is the context? UK-based and high value office block.
- The question asks for two types of insurance organisations. This means that you should spend an equal amount of time and effort in your answer in relation to each type of insurance organisation.

Answer plan

- Explain your two likely organisations. For example, a proprietary insurer who has or can get reinsurance and a Lloyd's syndicate who can share the risk if appropriate.
- Discuss each organisation and how they would each be able to cover the risk.
- As this is a 10 mark question, your answer should be shorter than the answers to either a 20 or 30 mark question.

<u>**Question 2 - Learning Outcome 2 (20 marks)**</u>

SD plc, a UK-based insurer, has offices located in twelve countries. Its innovative approach and exceptionally good performance has led to rapid expansion.

Competitors are now targeting SD plc's customers and this has led to a reduction in SD plc's operating performance. SD plc has recognised this competitive environment and has therefore decided to recruit a new Chief Executive Officer (CEO) to drive the business forward.

(a) Identify, with justification, the most appropriate management style the new CEO, of SD plc, might use. (5)

(b) Analyse **two** advantages and **three** disadvantages of the style that you have identified for SD plc, given the scenario above. (15)

Question deconstruction

- Review learning outcome 2 in the course material and the relevant information in the study text.
- Highlight the instructions within the question (which are circled in red above).
- Consider the context which includes the planned appointment of a new CEO, historic innovation and growth; and recent competition.
- The 15 marks in part (b) are awarded for relevant advantages and disadvantages which are clearly linked to the chosen management style.

Answer plan

- Part (a): You need to **identify** and **justify** the most appropriate style. This needs to be linked to the scenario so that the style chosen is appropriate for SD plc.
- Part (b): For the style listed above you now need to analyse in depth two advantages and three disadvantages. You must make reference to the scenario when looking at these. Marks are allocated for the advantages and disadvantages (which are justified), followed by a brief conclusion.
  As this is a 20 mark question, your answer should be longer than the answer to a 10 mark question but shorter than the answer to a 30 mark question.

Question 5 - Learning Outcome 5 (30 marks)

CG plc, a UK-based insurance broker, is evaluating a manufacturing company as a potential long-term customer, using the manufacturing company's financial statements for last year. This evaluation is focused on the income statement/profit and loss account, balance sheet and cash flow statement.

The manufacturing company reported an annual profit of £400 million in 2015, with a net cash outflow of £250 million in the same period. The company has expanded its business in the last six months, in an environment where products become obsolete quickly. It responded to this fast changing environment, by acquiring £150 million of new production machinery in 2015. The company gives its customers considerable time to pay their bills.

(a) Analyse the potential risks to CG plc if the manufacturing company becomes their customer, based on the above information. (20)

(b) Identify, with justification, **five** additional items of financial information that CG plc would find helpful in arriving at a final decision. (10)

Question deconstruction

Review learning outcome 5 in the course material and the relevant information in the study text.

- Highlight the instructions within the question (which are circled in red above).
- Consideration of the context which is the long-term financial viability of a potential customer. The scenario also tells you the following limited information relating to 2015:
  - Profit of £400m in 2015.
  - Cash outflow of £250m in 2015.
  - Expanded business in the last 6 months, but products becoming obsolete quickly.
  - Acquired £150m of new production machinery in 2015.
  - Customers have considerable time to pay bills.

Answer plan

- Part (a) is worth 20 marks and part (b) is worth 10 marks, so each needs to be answered accordingly in length and depth.
  In part (a) each of the profit, cash outflow, expanded business, new machinery acquisition and customers' bill payment needs to be analysed in detail. Make conclusions about the potential risks.
- In part (b) identify with justification the additional financial information required. There should be a sentence or two for each justification. The financial information should fill the gaps from the scenario.
  As this is a 30 mark question, your answer should be longer than the answers to 10 and 20 mark questions.

Glossary of key words

Analyse

Find the relevant facts and examine these in depth. Examine the relationship between various facts and make conclusions or recommendations.

Describe

Give an account in words of (someone or something) including all relevant, characteristics, qualities or events.

Discuss

To consider something in detail; examining the different ideas and opinions about something, for example to weigh up alternative views.

Explain

To make something clear and easy to understand with reasoning and/or justification.

Identify

Recognise and name.

Justify

Support an argument or conclusion. Prove or show grounds for a decision.

Recommend with reasons

Provide reasons in favour.

State

Express main points in brief, clear form.