

EXAMINERS' REPORT

November 2011 examinations

Subject F103 — *General Insurance* Fellowship Principles

INTRODUCTION

The attached report has been prepared by the subject's Principle Examiner. General comments are provided on the performance of candidates on each question. The solutions provided are an indication of the points sought by the examiners, and should not be taken as model solutions.

QUESTION 1

i. Surplus reinsurance is a form of proportional reinsurance where the proportions are determined by the cedant for each individual risk covered by the treaty, subject to limits defined in the treaty.

ii. Characteristics:

- Risks should be heterogeneous.
 - The added flexibility of surplus over quota share is then justified.
 - Allows the fine-tuning of risk exposure / diversification.
- Potential losses should be large relative to the insurer's resources.
 - Otherwise the added complexity over quota share is not justified, e.g. personal lines.
- Risks should not be unlimited in size.
 - In such cases XL cover would be preferable, e.g. liability classes.

iii. Cost of surplus cover:

- Cost = Reinsurance Premiums
 - Less: Reinsurance Recoveries
 - Less: Reinsurance Commission
- The gross premiums (and claims) for any risk placed on the treaty are shared in the proportion $1:k$, where k is the number of lines of cover used for the given risk.
- Reinsurance commission paid to the direct writer may comprise return comm., override comm. and profit comm.
- Commissions compensate direct writer for expenses incurred in writing the business.
- The additional reinsurance commission will reflect the attractiveness of the business to the reinsurer.
- Also consider the impact of reduced capital requirements, etc., resulting from having the reinsurance.
- Consider any additional costs resulting from the administration of the treaty, etc.

iv. Maximum SI that can be written = R800 m

Q takes 25%, i.e. R200m

This leaves R600m to be shared between SeaWorthy & S in the ratio 1:4

Thus Max. Retention = $600m/5 = R120 m$

v. Policy 1:

SI after QS = $0.75 \times 60m = R45m$

As this is $< R50m$ Co. S will not take anything.

Thus the premium to S is zero.

Policy 2:

$$\text{SI after QS} = 0.75 \times 400\text{m} = \text{R}300\text{m}$$

Using all 4 lines splits the SI in the ratio 60:240, which is acceptable

$$\text{Thus the premium to S} = 4/5 \times (0.75 \times 10\text{m}) = \text{R}6\text{m}$$

Policy 3:

$$\text{SI after QS} = 0.75 \times 200\text{m} = \text{R}150\text{m}$$

As SeaWorthy must retain at least R50m the balance of the risk (after the QS) is split with Co. S in the ratio 50:100, i.e. 1:2

$$\text{Thus the premium to S} = 2/3 \times (0.75 \times 6\text{m}) = \text{R}3\text{m}$$

Policy 4:

Since policies 1-4 are the largest, and since policy 1 is not large enough to place on the Surplus treaty, we know that no policies other than 1-4 could have been placed on the treaty and hence:

$$\begin{aligned} \text{Prem to S} &= \text{Total Reins. Prens} - \text{Total Prens for QS cover} \\ &\quad - \text{Prens to Co. S i.r.o. policies 1, 2 \& 3} \\ &= 510\text{m} - (0.25 \times 2000\text{m}) - 6\text{m} - 3\text{m} \\ &= 510\text{m} - 500\text{m} - 9\text{m} \\ &= \text{R}1\text{m} \end{aligned}$$

vi. Co. S receives R1m of the R4m premium for policy 4, i.e. $\frac{1}{4}$

Hence $\frac{1}{4}$ of the claim can be recovered from S

$$\text{i.e. } \frac{1}{4} \times 80\text{m} = \text{R}20\text{m}$$

Overall the question was poorly answered by many candidates. Parts (i) & (ii) were bookwork, yet very few candidates scored full marks. In part (iii) many candidates did not answer the question, instead describing how future claims experience (and reinsurance recoveries) could be estimated or modelled.

In parts (v) & (vi) many candidates failed to use all of the information provided to determine the premium and recovery relating to policy 4, and instead made invalid assumptions relating to the policy's sum insured. Several candidates also carelessly omitted currency/units in their answers.

QUESTION 2

i. Assumptions:

- The distribution of each X_j depends on a parameter, denoted θ , whose value is fixed (and the same for all the X_j 's) but is unknown.
- Given θ , the X_j 's are independent and identically distributed.
- Where θ could be a real number or it could be a more general quantity such as a set of real numbers.
- The random variables $\{X_j\}$ are identically distributed.

- The X_j 's are not (necessarily) unconditionally independent.

ii. Properties:

- $Z \in [0,1]$, it cannot exceed 1 and cannot be less than 0.
- The more data there are from the risk itself, the higher should be the value of the credibility factor
- The more variable (and hence less reliable) are the data from the risk itself relative to the data from the other risks, the lower the value of the credibility factor.
- The more relevant the collateral data, the lower should be the value of the credibility factor
- While its value should reflect the amount of data available from the risk itself, its value should not depend on the actual data from the risk itself, i.e. on the value of \bar{X}

iii. Suitability (following the order of the points given in (ii) above):

- Z is always between zero and one
- Z is an increasing function of n .
- Z is a decreasing function of $E[S^2(\theta)]$
- Z is an increasing function of $Var[m(\theta)]$.

Note that a higher $Var[m(\theta)]$ relative to $E[S^2(\theta)]$ indicates more variability between the different risks in the collective and hence the less likely it is that the other risk in the collective will resemble the risk that is of interest, and the less reliance should be placed on the data from these other risks

- Z does not depend on \bar{X}

iv. The Group Means are given by:

$$\begin{aligned}\bar{X}_A &= \frac{456 + 503 + 650 + 475}{4} = 521 \\ \bar{X}_B &= \frac{608 + 674 + 602 + 630}{4} = 628.5 \\ \bar{X}_C &= \frac{807 + 513 + 722 + 617}{4} = 664.75\end{aligned}$$

For A:

$$\begin{aligned}\sum_{i=1}^4 (X_{Ai} - \bar{X}_A)^2 &= (456 - 521)^2 + (503 - 521)^2 + (650 - 521)^2 + (475 - 521)^2 \\ &= 23306\end{aligned}$$

For B:

$$\begin{aligned}\sum_{i=1}^4 (X_{Bi} - \bar{X}_B)^2 &= (608 - 628.5)^2 + (674 - 628.5)^2 + (602 - 628.5)^2 + (630 - 628.5)^2 \\ &= 3195\end{aligned}$$

For C:

$$\sum_{i=1}^4 (X_{Ci} - \bar{X}_C)^2 = (807 - 664.75)^2 + (513 - 664.75)^2 + (722 - 664.75)^2 + (617 - 664.75)^2$$

$$= 48820.75$$

$$E[m(\theta)] = \frac{\sum_{i=1}^4 \bar{X}_i}{3} = \frac{521 + 628.5 + 664.75}{3} = 604.75$$

$$E[s^2(\theta)] = \frac{1}{3} \sum_{i=A,B,C} \left(\frac{1}{3} \sum_{j=1}^4 (X_{ij} - \bar{X}_i)^2 \right) = \frac{1}{9} (23306 + 3195 + 48820.75) = \frac{75321.75}{9}$$

$$= 8369.083333$$

$$\text{Var}[m(\theta)] = \frac{1}{3} \sum_{i=A,B,C} (\bar{X}_i - \bar{X})^2 - \frac{1}{12} \sum_{i=A,B,C} \left(\frac{1}{3} \sum_{j=1}^4 (X_{ij} - \bar{X}_i)^2 \right)$$

$$= \frac{(521 - 604.75)^2 + (628.5 - 604.75)^2 + (664.75 - 604.75)^2}{3} - \frac{1}{36} (75321.75)$$

$$= 3496.791667$$

$$Z = \frac{n}{n + \frac{E[s^2(\theta)]}{\text{Var}[m(\theta)]}} = \frac{4}{4 + 8369.083333 \frac{9}{3496.791667}} = 0.625649054$$

The empirical Bayes credibility estimate of the pure premium for the coming year for Company B is:

$$P = Z\bar{X}_B + (1 - Z)E[m(\theta)]$$

$$= 0.625649054 \times 628.5 + (1 - 0.625649054)604.75 = 619.609165$$

i.e. Premium = R619 609.17 (as figures are in R'000s)

Part (i) was bookwork and was fairly well answered by most candidates. However, some candidates left out assumptions or confused when the various random variables were only identically distributed or when they were independent and identically distributed.

Part (ii) was bookwork but was not well answered. Many candidates failed to list the main criteria that Z must lie in the interval [0,1] and that Z should not directly depend on the data itself.

Part (iii) was fairly well answered by most candidates. However some candidates failed to link to the properties listed in part (ii) and some failed to identify the relationships to the various components in the formulae for Z.

Most candidates scored well in part (iv). Many candidates failed to recognize that the figures were given in 000's and therefore the final answer was not given in the appropriate units. Some candidates used incorrect formulae (even though they were in the tables) or did not understand the various terms in the formulae.

QUESTION 3

i. May carry out investigations to:

- Estimate the profitability of existing premium rates
- Understand deviations between assumptions and experience
- Examine potential profitability of new rates
- Review the suitability of the existing rating structure
- Compare the terms offered by competitors with own terms
- Investigate appropriateness of experience rating system
- Investigate current business mix
- Assess lapse experience and impact on business
- Assess distribution / marketing strategy
- Assess impact of changes to policy cover and conditions
- Assess impact of changes in reinsurance

ii. A direct insurer may be less worried about persistency than a company that sells through brokers who may have sizable books of business with the insurer. If a single broker is not happy with the new premium rates he may decide to move his entire book of business to a new insurer thereby causing the insurer to lose a lot of clients. A direct insurer on the other hand would only lose clients one by one. The risk of churn becoming worse as news of the unacceptable new rates spreads is also higher with companies using a broker network than one with individual clients. Thus a direct insurer would not be as constrained by persistency concerns and hence may be able to implement rates faster than a company using brokers.

A large insurer is likely to have a single system that it is in control of hence the process of collecting and analyzing the data required to calculate new premium rates will happen faster than with a company using brokers which may need to collect (and clean) from a number of different systems or sources. The data from the broker systems may not be of good enough quality to enable the insurer to make rate changes quickly or to determine profitability by source.

The process of implementing the rates would require a company using brokers to distribute the new rates to its network of brokers. This may take some time to complete because of the multiple sites where implementation and testing would need to happen. A direct insurer would only need to make such changes at one location. A company using brokers may experience some resistance from brokers (because of the cost of implementing changes or because they feel the new rates will result in a loss of business).

This question was (surprisingly) poorly answered by most candidates. Part (i) had a very broad range of possible answers and so should have been one where candidates scored well. Some candidates ignored the instruction to “list” and went into detailed descriptions of some of their points. The majority of candidates adopted a scattergun approach and listed anything they could think of relating to actuarial investigations, even if unrelated to the issue of premium rates – such an approach will never score well and simply highlights a candidate’s lack of understanding. Part (ii) was reasonably answered by some candidates but most failed to score well by failing to give enough detail to back their positions.

QUESTION 4

i. Most likely to be as the result of the Insurance Cycle.

This is the process whereby hard (that is, profitable) premium rates that often result in an increase in the supply of insurance are followed by soft (that is, unprofitable or less profitable) premium rates usually associated with increased competition, that in turn may be followed by a decrease in supply, reduced competition and a return to hard premium rates.

In the years 2004-2007 the company may be in the soft part of the insurance cycle.

ii. Possible reasons:

- They may not have realised that this business was unprofitable at current rates, e.g. because of:
 - Inadequate data on claims experience
 - Poor expense allocation
 - Poor capital allocation
 - Over-optimistic persistency assumptions
- They may have believed the problem was caused by abnormal events or something they could manage without needing to stop writing business, e.g.:
 - Expense inefficiencies,
 - Poor claims experience, e.g. caused by abnormal weather patterns, etc.
- They may have believed that a strong brand or niche market may have allowed them to do better than other companies during these difficult times
- Profitability may not have been their prime driver, e.g.
 - They may have been trying to gain market share
 - They may be an open-market captive
- They may not have wanted to lose market share because:
 - It may have been seen as an indication of weakness which could damage their reputation in the market
 - They would have lost out on profitable business when rates hardened
 - The cost of recapturing market share at a later date would have been high
- The business may still have been making a contribution towards overheads
- Even if they had withdrawn from the market they may not have been able to reduce overheads quickly

- Reinsurance rates may have been even softer, so a gross loss may have given a net profit.
- This class of business may have provided diversification against the rest of the book, thus keeping capital requirements down.
- Staying in this market may have given opportunities to cross-sell profitable lines of business
- They might have believed that an improvement in the market was imminent

The fact that the insurer might have lots of capital is not a valid answer.

iii. Possible strategies & their consequences:

- Withdraw from the line of business
 - Eliminates unprofitable business provided overheads can also be reduced
 - May be seen as positive, decisive move by shareholders/stock market
 - May reduce market standing overall, leading to lower business in other lines
 - May cut out some profitable business as well
 - May be difficult to re-enter market if desired later
 - Reduces diversification
 - May incur a once-off cost of change (e.g. severance)
- Continue writing the same business but reduce exposure
 - Examples: Follow, rather than lead; Reduce line sizes; more reinsurance
 - Reduces loss in a soft market without having to withdraw
 - Shares part of the problem with the reinsurer, but this may damage relationship
 - Not helpful if business is still marginally profitable because overheads are still the same
 - May now fail to cover fixed expenses
- Fine-tune reinsurance arrangements to address any perceived gaps, e.g. to protect against abnormal weather conditions
 - May help, but may not address underlying problem
 - May be expensive relative to current premiums
- Reduce expenses, for example through cost-cutting or renegotiating commission
 - Increases profitability overall
 - May cut investment, future opportunities etc
 - This may damage relationships with brokers
- Continue writing business but at lower premium rates
 - May make it easier to retain key clients and renew them profitably in future
 - Reduces return on capital employed for the business
- Increase / maintain premium rates
 - Danger of business volumes collapsing
- Continue writing business but be more selective of risks
 - Maximises return on capital employed
 - May need more underwriting effort which will cost more
 - May erode relationships with brokers

Overall, the question was poorly answered by most candidates. Part (i) was straightforward, with most candidates scoring well. Some candidates failed to score full marks, however, by not answering the whole question.

Part (ii) several candidates adopted a scattergun approach and ended up writing down points that were not relevant. Most candidates simply did not write enough to give themselves a real chance of scoring reasonably on this question.

A few candidates scored poorly in part (iii) by not recognising that this part followed on from part (ii). Many candidates failed to tailor their answers to the specific situation described in the question, and the majority simply did not make sufficient points to score well.

QUESTION 5

Liquidity Risk:

- Liquidity risk is the risk of not having funds available to make payments when required even though the company's assets exceed liabilities.
- Where brokers are used, there can be a liquidity risk to insurers as brokers may not pay over the premiums timeously.
- The size of claim payouts poses the biggest liquidity risk to ProtectIT as it may face single large claims (in respect of commercial buildings) or accumulations of risk.
- The timing of claims also adds to the liquidity risk. Because the timing of claims is uncertain (for example an earthquake could happen tomorrow), it is difficult to invest in assets to match the liabilities of a general insurer. Assets may be tied up in illiquid assets when a large claim event occurs.
- The liquidity risk will depend on the investment strategy and percentage of cash held. Holding more cash will reduce liquidity risk.
- Much of ProtectIT's business is likely to be short-tailed, so funds are likely to be invested in short-dated government bonds, which are fairly liquid.
- For its longer tailed business (e.g. some of its public liability business which may involve extended court cases and latent claims), however, assets may be tied up in less liquid assets, posing a liquidity risk to the insurer should claims payouts be required before maturity of the assets, increasing liquidity risk.
- In addition, the earlier the claims are paid, the less time there will be to earn investment return.
- Even where the insurer decides to invest in long-term investments, the regular premium inflow from new business provides a source of liquidity, reducing liquidity risk.
- If the insurer is invested in volatile assets, the value of the investments may be different depending on the timing of claims. E.g. a catastrophe may occur just after the stock market has crashed.
- Expenses higher than expected, or large once-off expenses, e.g. purchasing a new computer system, can also impact on liquidity risk.

- The liquidity risk caused by claims can be reduced somewhat by risk management techniques such as reinsurance. But there will still be a delay in payment from the reinsurer and there is the potential for the reinsurer to default on recoveries.
- A factor reducing liquidity risk due to claims is that once claims are reported, they do not need to be paid immediately. And the settlement delay for larger claims is likely to be longer as more time and effort will be put into validating the claim.

Overall, recent events (financial crisis) have shown that liquidity risk is no longer a minor issue in the insurance sector, highlighting the need for insurance companies to have the necessary systems and controls in place to adequately manage and mitigate liquidity risk.

On the whole candidates displayed a reasonable understanding of liquidity risk. However, a number of candidates focussed too much on the asset/investment side of liquidity risk (availability of cash) and not enough on the liability side (the need for the cash).

Generally candidates made too few distinct points. A common mistake was that points were not linked it back to the question by explaining their impact on liquidity risk, e.g. stating that reinsurance delays are possible, but not stating that this would increase liquidity risk due to the funds from reinsurance recoveries not being available to pay claims.

QUESTION 6

i. Potential causes of movement in loss ratio over time

- No underlying change, but a change in the estimation procedure. This may be due to the evident underestimating of loss ratios.
- Change in pricing to be more competitive. This may be due to the hardening of the market (insurance cycle). The trend has been increasing and the loss ratios may start to come down in the near future.
- Inflation: building costs may have increased more than was priced into premiums. This would likely be a short-term problem as premiums would be increased at the next review (depending on competition and also whether premiums are fixed or not).
- Increase in claims frequency due to changing weather patterns, increased fires, increased theft (damage caused by burglars).
- An accumulation of risk. For example, an earthquake or a runaway fire causing damage to many commercial buildings (half-mark for example). This is most likely in 2008 which shows a substantially higher loss ratio than other years.
- A few large losses each year may have contributed to the worsening of claims experience (for example buildings burning down). Although large losses are unlikely to cause a steady increase in the loss ratio over time. Large losses may have been the cause for the spike in 2008.
- Deterioration in underwriting standards leading to worse risks being accepted at lower premiums.

- Incorrect pricing structure may be causing anti-selection where poor risks are being attracted and better risks are being lost to competitors. This change in mix of business may be resulting in a worsening of claims experience.
- Slack claims handling procedures, leading to claims being settled for higher amounts or being paid where they should not be and potentially an increase in claims handling costs due to inefficiencies would also have increased the loss ratio as claims handling expenses are included in the definition of claims.
- The reserving method may have become more stringent, leading to increased loss ratios.
- Changes in regulation imposing (new) compulsory cover.
- Changes in reinsurance could have impacted the net loss ratio of the insurer if the reinsurance caused net claims to change disproportionately to net premiums.

ii. Assumptions:

- 2007 accident year is fully run-off
- claims development patterns are stable from year to year
- assume claim expenses are included in incurred claims

Cumulative triangle

	DY				Initial estimate	Claims to date > initial estimate?
	AY	0	1	2	3	
2007	19.49	38.08	50.66	58.86	54.69	Y
2008	31.67	50.18	63.47		71.40	N
2009	31.96	56.09			72.36	N
2010	34.99				77.75	N
DF		1.74	1.29	1.16		
DF to ult.	2.61	1.50	1.16	1.00		
cumulative % of ult.	38.3 %	66.6 %	86.1 %	100.0 %		
incremental % of ult	38.3 %	28.2 %	19.5 %	13.9%		

Incremental triangle

AY	DY				Ultimate	Outstanding	Ultimate > initial estimate?
	0	1	2	3			
2007	19.4 9	18.5 9	12.5 8	8.20	58.86	0.00	Y
2008	31.6 7	18.5 1	13.2 9	9.95	73.42	9.95	Y
2009	31.9 6	24.1 3	14.1 1	10.0 8	80.29	24.20	Y
2010	34.9 9	21.9 5	15.1 7	10.8 3	82.94	47.95	Y
						82.10	

Appropriateness of the method

The loss to date in 2010 of 34.99 is 45% of the initial estimated loss of 77.75. This is higher than the 38% suggested by the chain ladder.

The chain ladder is thus likely to overstate the reserve as this high amount of 34.99 incurred in 2010 will be projected forward.

Additional points

- The tail may not be fully run off and this would result in the reserves being underestimated.
- Liability for example is likely to have a much longer settlement period. This will be particularly true if employers' liability.
- The different elements of commercial property such as property damage, liability, business interruption, liability etc. have not been separated. Each of these may have different claims settlement patterns and hence should be split when calculating reserves.
- Neither of these methods allow for stochastic variability.

The reserves of all the classes should be considered jointly since there is likely to be a benefit of diversification if the percentile approach is being used (not applicable if mean values are used).

The subjective input to the BF method means that the final reserve is less susceptible to random variation in past years or irrelevant past experience to predict the future.

In part (i) candidates generally did not give enough points and scored poorly. Many candidates commented on factors affecting claims and premiums individually without recognising that certain factors would affect both claims and premiums similarly (and so have little impact on the

loss ratio). Candidates generally did not pick up the increasing trend with the outlier in 2008. Better candidates commented on the trend and suggested reasons for the large loss ratio in 2008.

In part (ii) candidates who understood the BF method did well with the calculations. Some candidates confused the simple loss ratio method with the BF method. Assumptions were often not stated at all. The comments comparing the BF and chain-ladder methods were generally taken straight from the notes and were not insightful or made relevant to the question

QUESTION 7

i. A rating factor is:

- a factor used to determine the premium rate for a policy
- which is measurable in an objective way
- and relates to the intensity of risk.

It must, therefore, be a risk factor or a proxy for a risk factor or risk factors

ii. Possible consequences:

- Males and females with the same characteristics (besides gender) will need to be charged the same premium
- If males and females currently pay different premiums, then the insurer will need to charge some kind of weighted premium (based on expected business mix) to both males and females to remain profitable
- This will mean that either males or females are paying too much, while the other gender is paying too little for the risk they represent
 - For example, males between the age of 18 and 25 are known to be more accident prone and hence pose a greater risk to an insurer, and so would benefit from paying a premium not based on gender
- The insurer faces the risk of having more policyholders of the riskier gender than was assumed when calculating the weighted premium.
- There may be a tendency for the mix by gender to stabilize across companies following the change.
- There may also be a change in target market which may impact the mix of business by gender.
- It is likely that insurers will err on the side of caution, increasing the premiums of females substantially but not decreasing the premiums of males by much (assuming males were originally charged more than females)
- An alternative to charging a weighted average premium is to try and find alternative rating factors to approximate the risk other than gender
 - Gender is after all not a risk factor, but a proxy for risk factors such as driving ability, distance travelled, etc.

- In motor insurance this is becoming increasingly more possible as technology improves
- For example, vehicle tracking devices can now calculate things such as distance travelled, driving behaviour (such as acceleration, braking, cornering etc.) and areas visited, which are likely to provide much better proxies for the risks of accident and theft than gender is
- Insurers that adopt this strategy early on are likely to attract the “safer” drivers, while the insurers that fall behind are likely to experience anti-selection
- If insurers are unable to be competitive in any particular age group they may simply refuse to provide cover to policyholders in this age group
- The insurer may, initially, face a lapse and re-entry risk as it may be possible for a policyholder to lapse his/her policy at the start of the new calendar year and take out a new one at a cheaper rate.
- The insurer may face once-off expenses in explaining the change to policyholders, which may need to be done by a separate communication.

This question was answered well by most candidates.

QUESTION 8

i. Risks faced:

- The risk of default would depend upon the credit worthiness of the debtor and the client’s ability to measure this – which could be difficult, particularly initially.
- There is the risk of anti-selection as the client may select against the company and insure only selected risky debtors.
- The client may be less inclined to pursue defaulting debtors if the loss is eliminated by insurance.
- If the client can recover interest charges on outstanding debts the insurer faces the risk that the client may impose penal interest charges and then be reluctant to declare a debtor in default resulting in a larger loss.
- Moral hazard: If the bank is responsible for the sale of the asset it may accept a lower price for it knowing that the shortfall is covered.
- It is very possible that the risks are not independent (i.e. an accumulation of risk), for example:
 - Correlated to the general economic circumstances prevailing in the country concerned.
 - Geographical: the closure of an industry in a particular geographical region, putting many individuals out of work.
- The client is a small company. It may be limited in the amount of business it could write through limited capital.
- The anticipated market for the product may not materialise, leaving the company with unrecouped development expenses.
- If it does prove to be a lucrative product other companies may enter the market.

- The company, being small, may face a liquidity risk.
- It may be difficult for the company to price this new product as it will have no past data to go on, which could result in insufficient profit being made.
- Appropriate reinsurance may not be available for this new product.
- Or may not be available on acceptable terms.
- There could be a reputational risk as house repossessions are viewed as being ruthless.

ii. Risk factors could include:

- Type and history of the market in which the client operates.
- Type of asset as it impacts future asset value appreciation or depreciation
- Average loan advanced
- Distribution of loans by size.
- Total size of portfolio
- Number of independent debts.
- Client history of stressed debt collection.
- Economic climate.
- Extent and nature of collateral required by client.
- Credit rating of company
- Term of loan

iii. “Subrogation” is the substitution of one party for another as creditor, with a transfer of rights and responsibilities.

It applies within insurance when an insurer accepts a claim by an insured, thus assuming the responsibility for any liabilities or recoveries relating to the claim.

For example, the insurer will be responsible for defending legal disputes and will be entitled to reduce its loss by selling assets set up as collateral for the debt (although these will probably be pursued by the client before declaring its loss).

iv. Ways of mitigating risk:

- The company can use past data to determine the competence of the client to assess the credit worthiness of its debtors.
- Depending upon resources that are available, the company may be able to guide the client in its choice of debtors.
- The company should avoid the underwriting of select risks and offer cover on a portfolio of risks, which would not be constituted at the discretion of the client.
- It would be important for the client to participate in its own experience, and cover should be granted on a proportional or excess basis with the client sharing the balance of the risk.
- Could use retrospective rating or profit share.
- The company should investigate the availability and price of appropriate reinsurance
 - Aggregate excess of loss reinsurance would be necessary to avoid accumulations.

- The company would need to limit its retention to the maximum that the capital will allow. The balance must be reinsured until such time as the capital has been increased.
- Stop loss cover, if available, may be useful.
- The reinsurer could also reduce the risks associated with a lack of capital through a financing arrangement.
- The reinsurer could also provide data and technical assistance.
- Investigate other forms of risk transfer.
- If it is correct that this market is largely untapped, there may be little pressure on premium rates initially. This may allow the company to include larger margins to cover risks.
- The client company would be required to set out the process of declaring a debtor in default with possible use of the client's auditor to prevent unnecessary failure of the client to act.

Candidates generally scored well on this question. A large range of risks was accepted in part (i), although some key risks carried more weight. Some candidates lost marks because they did not explain their points clearly.

Part (iii) was a glossary definition and most candidates obtained full-marks. The better candidates used the risks identified in part (i) to help answer part (iv).

END OF EXAMINERS' REPORT