INSTITUTE OF ACTUARIES OF AUSTRALIA

LIFE INSURANCE **2002 EXAMINATIONS**
EXAM SOLUTIONS **PAPER ONE**

MARKING GUIDE

Level of Difficulty

PAPER ONE

Question	**Syllabus Aims**	**Knowledge & Understanding**	**Straight-forward Judgement**	**Complex Judgement**	**Total Marks**
Q 1	1,7 & 9	15			**15**
Q 2	4 & 9		23		**23**
Q 3	2,3 16 & 17			23	**23**
Q 4	5, 11 & 16		5	5	**10**
Q 5	2 & 6	15			**15**
Q 6	9 & 11		10	4	**14**
TOTAL		**30**	**38**	**32**	**100**

QUESTION 1 (15 marks)

You are the Appointed Actuary for a medium-sized Australian life office writing a range of risk and investment products typical for a modern day Australian Life Insurance Company. A new Director, who has never before been a Director of a Life Insurance Company, has approached you. He would like you to explain to him how product profitability is measured for life insurance business. He is familiar with the concept of an internal rate of return and knows that the company has a hurdle rate of 15% per annum.

Draft a response to the Director outlining the possible ways to evaluate and then analyse the profitability of a life office. In your reply, provide an example of how profitability can be measured and analysed for a term insurance product. (There is no need to provide numerical examples).

(15 marks)

SOLUTIONS – QUESTION 1

- As the director has no experience with Life Insurance Business the student should be demonstrating in their answer an understanding of the difference between the profitability of risk and investment products versus other consumer products in their answer. That is that the actual profit of life insurance business is only known once the business has run off the books, till then the profitability is based upon a series of best estimate assumptions about various factors. (½ mark)
- Tax will also have an impact on profitability so it is possible to measure product profitability both pre and post tax impact as the company may not be able to utilise tax benefits generated by some products. (½ mark)
- Evaluation of profitability would require cash flows to be determined taking into account premiums, investment income, expenses, claims, commissions, tax, and change in reserves based on best estimate assumptions. (1 mark)
- In Australia, Solvency and Capital Adequacy Reserves need to be determined and the presence of these reserves can have a significant impact on profitability. Additional credit for specifically recognising each of these two requirement. (1 mark)
- The Margin on Services regime views product profitability to be generated by the delivery of a service and requires that an appropriate 'profit carrier' be identified so that profit may be released in line with this carrier. The student needs to demonstrate an understanding that this is only a reporting measure based on a series of assumptions and may not reflect the actual profit generated by a product for that period. (1 mark)
- Profitability of a life office is then the sum of the profitability of products plus profit generated from any shareholder's funds or free reserves. So an analysis of profit is done by looking at each product separately and building models of cash flows. (2 marks)

- Profit is evaluated in two ways:
  - Profit testing and determining the expected profitability of products when setting premium rates based on assumptions and looking at the various cash flows for future years and discounting them (1 mark)
  - The actual profits generated over a defined period where the profit is due to differences between actual experience and expected assumptions together with the release of planned profit margins and changes in reserves. (1 mark)
- Profitability is analysed in two ways:
  - Sensitivity Analysis on the various assumptions made in determining expected profits eg lapses, interest rates, expenses, mortality, and morbidity. This analyses how expected profitability of a product may vary with experience (1 mark)
  - By conducting an analysis of profit that compares Actual versus Expected for various assumptions (interest, mortality/morbidity, lapses, expenses, tax etc) based on certain future assumptions unless the business has run off. This identifies the accuracy of assumptions and how experience deviated from those assumptions or from changes in the level of reserves. (1 mark)

The student should then be able to identify a variety of ways to evaluate a product's expected profitability and what their significance is:

- Internal Rate of Return (the rate of interest, if any reasonable one can be determined, that makes the present value of the net transfers equal to 0)
- PV Transfers / PV Premiums at Hurdle Rate (measures value added to the company)
- PV Transfers / PV Premiums at Fund Earning Rate
- PV Transfers / 1st years Premium at Hurdle Rate (measures the contribution to company profits for each dollar of premium written)
- Capital Employed – Net Transfer in year 1 / 1st years Premium (measures how much capital is required to fund each dollar of premium written)
- Breakeven point – how long it takes the capital employed to be repaid

At least two different evaluation methods should be identified (½ mark for each) together with a brief explanation of why it is an appropriate evaluation measure (½ mark for explanation) (Maximum of 2 marks)

Profitability should be analysed by a number of factors to properly understand its cause such as variations in distribution of age, sex, smoker status, benefit size, benefit period/waiting period (for income protection), claims escalation (for income protection). (1 mark)

The main point of asking the student to provide an example is to seek to evaluate their ability to provide a simple to understand written example of the points they have made in their answer in a way that a new director could understand. A term insurance product was chosen as a simple risk product where the profit signature should reflect the premium flow and reserving will not have a significant impact.

To measure the profitability of a term insurance product the expected cash flows for each future year are determined. The example should show premiums, investment income, expenses, claims, commissions, tax, and change in reserves based on best estimate assumptions. (1 mark)

To analyse the profitability of a term insurance product sensitivity analysis and/or actual versus expected analysis should be done on mortality, lapse, expense, and interest rate assumptions. (1 mark)

Where the student fails to include some of the earlier points in their draft response to the director but then demonstrates the principle/idea in their example then they should be given credit for this and awarded the mark for that principle (eg tax is not mentioned in the draft response but it is included as a recognised cash flow in the example).

(Maximum of 15 marks)

QUESTION 2 **(23 marks)**

A medium-sized Bancassurer employs you. The marketing department is planning a series of direct marketing campaigns to the bank's client base. The planned campaigns include:

1. **Mortgage Protection Cover for new loans.**
2. **Accidental Death Cover with no underwriting.**
1. **Term Life Cover with a simple application form with five YES/NO underwriting questions.**

(a) For each of these products, provide suggestions for product features and eligibility criteria that you consider to be appropriate to manage the risk to the Bancassurer associated with these products.

(15 marks)

(b) You have also been asked to approve the specifications for the client base extract that will be used to generate the names and addresses for those clients being sent the various offers. List any principles you would use to determine the actuarial criteria for selecting which lives should be included or excluded; and then list the various criteria you would recommend for each of the three products, given that the database contains at least the following data fields:

- **Name**
- **Address**
- **Postcode**
- **Sex**
- **Date of birth**
- **Marital status**
- **Occupation (5 digit Australian Standard Industry Classification Code)**
- **Income bracket**
- **Current products with the group**

You can request additional data fields if sufficient reason is given to justify the complexity and cost of requesting the data.

(8 marks)

SOLUTION – QUESTION 2

Part (a)

Below are listed guide responses but the important consideration is that the student recognises the risks and how to control them via design and eligibility criteria. Risks include the ability to afford the cover as well as potential negative selection aspects.

Only product features and eligibility criteria which help manage the risk of the products to the Bancassurer received marks. Other features and criteria (such as premiums being payable monthly, quarterly and annually) should not receive any credit.

The dollar amounts and ages are mostly arbitrarily chosen, except where they relate to specific events – eg age 65 / retirement, to focus on the major target market and the relativity in the values between the different products is important – Accidental death is the low cost cover when term life cannot be afforded but the aim for the bank should be to maximise sales so don't offer cheap product to those who will buy the deluxe and don't offer the deluxe to those who cant afford it.

(i) Mortgage Protection cover

<u>Product Design</u>

- Benefit payable on death or total and permanent disablement of the life insured so as to repay the outstanding debt on the loan. A disability income insurance benefit could be added to keep up with the loan repayments while the insured is disabled
- Benefit not payable for suicide in 1st 13 months or for TPD resulting from self-inflicted injury
- Premium rates are not guaranteed
- Premiums are payable by direct debit only to reduce the risk of lapse due to non payment
- Exclusions (or refusal of cover or extra loadings) for hazardous occupations (eg explosives expert) and hazardous hobbies (eg skydiving); exclusions for death due to war and terrorism
- Benefit amount equal to the amount of the loan outstanding at that time. May be possible to cater for redraw and for interest only loans
- Premium term less than term of loan (or policy) due to the fact that at advanced durations, the premium payable will be greater than the sum insured; alternatively single premium is payable
- Larger sums insured with require full medical underwriting possibly including blood tests. Adequate financial underwriting should be possible from the loan applications data.

Eligibility Criteria

- Only able to get TPD or DII if full time employed in acceptable occupation. Usually only allow 'any' occupation TPD or DII or possibly one based on activities of daily living (ADL's).
- Maximum age such that current age plus expected loan duration is less than age 65
- Life insured must never have made a claim or be eligible for TPD or DII or be currently on claim for DII
- Current bank client with no existing mortgage (and no exiting mortgage protection insurance with the bank) with a current account balance between say \$50,000 and \$100,000 (large enough to be a worthwhile property deposit and not so big as to warrant individual private banking attention).
- Proof of mortgage. If mortgage is with bancassurer, then can be verified easily - if with another lender, loan documents must be provided.

(5 marks)

(3/4 mark per point; only ½ mark for benefit limits and age criteria if specific ages or dollar limits not given; ½ or ¼ mark for other incomplete points)

(ii) Accidental Death Cover

Product Design

- Benefit payable on death due to accident of the life insured.
- Accident must be an external, violent and viable cause that is solely and directly responsible for death. Accidents whilst under the influence of alcohol or drugs are excluded. Possible exclude accidents whilst involved in criminal activity. Exclude accidents whilst overseas or involved in military action.
- Exclude accidents due to hazardous occupations
- Exclude accidents due to hazardous hobbies
- Death must occur within a reasonable time of the event for it to be considered caused by the accident.
- Premium rates are not guaranteed
- Premiums are payable by direct debit only to reduce risk of lapse due to non payment
- Benefit amount should be limited to a modest level, say a maximum of \$200,000 to prevent moral hazard.
- Usual to give option of only set levels of cover say of between 1 and 4 units of cover at the client's choice with each unit worth \$50,000.

Eligibility Criteria

- Lives selected by the bank (from the client base) and direct marketed the offer. Not available over the counter or on request (negative selection)

- Age criteria to mange the risk – say between ages 30 and 55 (over accident hump and not yet prone to significant aged accident risk).
- Life insured must never have made a claim or be eligible for a claim on any other policy
- Have less than $500,000 of existing life cover in-force so as to not significantly aggregate risk.
- Not have any loading or exclusion or be rated as a substandard risk on any other in-force policy.

(5 marks)

(3/4 mark per point; only ½ mark for benefit limits and age criteria if specific ages or dollar limits not given; ½ or ¼ mark for other incomplete points)

(ii) Term Life cover with limited underwriting

Product Design

- Benefit payable on death of the life insured.
- Benefit not payable for suicide in 1st 13 months
- Benefit amount should be limited to reasonable level as there is limited medical underwriting say between $300,000 and $500,000.
- Exclusions (or refusal of cover or extra loadings based on responses to Yes/No underwriting questions) for hazardous occupations eg explosives expert and hazardous hobbies eg skydiving; exclusions due to war and terrorism
- Premium rates are not guaranteed
- Premiums are payable by direct debit only to reduce risk of lapse due to non payment

Eligibility Criteria

- Applications are assessed on an accept/decline basis based on the answers to the 5 Yes/No questions. Any unsatisfactory answer should result in a decline. This sort of business is not usually offered loadings or exclusions.
- Maximum age less than age 65
- Life insured must never have made a claim or be eligible for a claim on any other policy
- Have less than $500,000 of existing life cover in-force so as to not significantly aggregate risk.
- Not have any loading or exclusion or be rated as a substandard risk on any other in-force policy.

(5 marks)

(Maximum of 15 marks)

Part (b)

(i) Marks are awarded for any principles which would enable the company to perform a successful direct marketing campaign for these three new products, using the information already contained in the client database. A successful direct marketing campaign will:

- Maximise the volume of products ultimately sold
- Maximise profitability of products ultimately sold
- Minimise mail out costs
- Maximise take up rates of those offered the products
- Minimise annoying and losing the goodwill of customers that don't take up any products offered to them

Examples of valid principles for selection include, but are not limited to:

- Only make one offer per client - Make sure that each client is only in the system once – important to de-duplicate the database as a first step. Also ensures all information on the one life is aggregated into one identity. This minimises mail out costs and avoids annoying customers.
- Do not make offers to lives unable to meet the commitments – minimum balance criteria, income bracket criteria and age criteria (over 16 and under 65). This maximises take up rates.
- Do not make an offer to lives that already have an existing relationship via an intermediary unless that intermediary no longer acts for the company.
- Make sure the data is reasonably current – where there has been no activity on a record for some time there may be some question as to whether the record is a live record (address details current) or even a living person (may be a deceased person). This minimises mail out costs.
- Only make offers to natural persons – remove from the selection data all companies, trusts, estates etc so that offers are to 'natural persons'. This minimises mail out costs.
- Target only those who would want or need insurance products, minimising mail out costs and maximising take up rates.
- Minimise mortality risks, hence maximising profitability of products sold

(½ mark per point for a total of 2 marks)

(ii) Mortgage Protection cover

- Select lives with dates of birth resulting in current age between say age 30 and 55, since they are better mortality risks and meet the age criteria of the product
- Of those select lives with Income brackets over say $50,000, since they are more likely to have a large mortgage and also may be lower mortality risk

- Of those exclude lives in unacceptable occupation categories, since they will be unacceptably high mortality risks
- And exclude any client that has been declined, loaded or had an exclusion applied to any policy on the system, since these will be excessive mortality risks
- And exclude any client that has been paid a claim in the past, had a claim denied, is currently on claim or being assessed for a claim, since these will be excessive mortality risks
- For those with Marital Status of Married offer joint cover as well as single cover, married lives may also be lower mortality risks
- Include those who have a mortgage with the bank, since they will need/want the product

(½ mark per point for a total of 2 marks; fewer marks if reasoning not given; fewer marks if acceptable values for fields are not discussed)

(iii) Accidental Death Cover

- Select lives with dates of birth resulting in current age between say age 30 and 65, since they are better accidental death risks and meet the age criteria of the product
- Of those select lives with Income brackets over say $20,000, since this will include blue collar workers which have more need/want for the policy than white collar workers
- Of those exclude lives in unacceptable occupation categories, since they will be unacceptably high accidental death risks
- And exclude any client that has been declined, loaded or had an exclusion applied to any policy on the system, since these could have excessively high accidental death risk
- And exclude any client that has been paid a claim in the past, had a claim denied, is currently on claim or being assessed for a claim
- Exclude those with existing insurance products with the group unless its possible to determine the current total sum insured in which case exclude those with more than $500,000 existing cover
- Include those with marital status of married since these clients are less likely to take risks resulting in accidental death.

(½ mark per point for a total of 2 marks; fewer marks if reasoning not given; fewer marks if acceptable values for fields are not discussed)

(iv) Term Life cover with limited underwriting

- Select lives with dates of birth resulting in current age between say age 18 and 65, since they are better mortality risks and meet the age criteria for the product

- Of those select lives with Income brackets over say $30,000, since these are likely to be lower mortality risks
- Of those exclude lives in unacceptable occupation categories, since they will be unacceptably high mortality risks
- And exclude any client that has been declined, loaded or had an exclusion applied to any policy on the system, since these will be excessive mortality risks
- And exclude any client that has been paid a claim in the past, had a claim denied, is currently on claim or being assessed for a claim
- Exclude those with existing insurance products with the group unless its possible to determine the current total sum insured in which case exclude those with more than $500,000 existing cover.
- Include those with marital status of married since these clients are less likely to take risks resulting in accidental death.

(½ mark per point for a total of 2 marks; fewer marks if reasoning not given; fewer marks if acceptable values for fields are not discussed)

(Maximum of 8 marks)

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QUESTION 3 **(23 marks)**

You are the Appointed Actuary of a company with a number of statutory funds, including a full range of policies sold over a number of years. The company was originally a mutual entity but demutualised a number of years ago. The statutory funds include participating policies although these products are now closed to new business.

In the most recent year, the company has made significant investments in new systems to allow more efficient operations going forward. The expenses involved are significant and hence there is some concern that an appropriate allocation basis is applied.

(a) Explain the role of the Appointed Actuary, the Directors and External Auditors in respect of expense allocation. (5 marks)

(b) Comment on the main issues that need to be considered by the Appointed Actuary in respect of the situation referred to above. (8 marks)

(c) Following receipt of your initial recommendation, the Chief Executive has stated that, in her view, more expenses should be allocated to the participating policyholders, as they will benefit from expense savings achieved through use of the system for administering their policies. Outline what comments you would make in addition to those outlined in part (b) or which points you would reinforce in response to these comments. (5 marks)

(d) What actions would be appropriate for you to take as the Appointed Actuary in this situation? (5 marks)

QUESTION 3 - SOLUTION

Part (a)

- Directors ultimately responsible for allocation reflected in the accounts (1 mark)
- Auditors required to make statement relating to expenses (1 mark)
- Appointed Actuary must make written recommendation to the Board regarding the allocation (1 mark)
- In this case, important for the Appointed Actuary to highlight the relevant issues (1 mark)
- In a situation where the Appointed Actuary believes the issue is so serious, s/he should raise it with the regulator under the whistleblower provisions of Life Act (1 mark)

(5 marks in total, 1 mark per point)

Part (b)

- Purpose of allocation – allocations are performed for many purposes and whether the allocation basis between products is important may depend on purpose
- Relevant legislative requirements in terms of expense allocation should be adhered to
- Materiality of incurred expenses to total expenses and reported financial results, for example, is the allocation of an the expenses going to change financial outcome materially and therefore affect policyholders outcome through bonuses
- Proportion of total business which is par business and hence subject to 80/20 rule – is the participating business a significant block and hence may be able to benefit from the use of the new system which may result in expense savings (see below) or if the company overall is more efficient will this indirectly flow to the par policyholders?
- Use of system and applicability to different lines of business – is the system directly applicable to one line of business and hence delivers more efficient administration of those policies,
- Are there likely to be increased profits available for distribution to par policy holders going forward as a result of the implementation

(8 marks in total – 2 marks per issue, one mark for valid issue, 1 mark for explanation)

Part (c)

The particular issues that must be addressed in relation to an increased allocation to the par fund are as follows:

- Will system lead to generation of expense savings in par fund?
- Will the system indirectly lead to increased profits in the par fund?
- How material is the par fund to the whole business?
- How will impact of allocation of additional expenses impact policyholder reasonable expectations, in particular will it have any impact on bonuses declared, whether reversionary or terminal
- Are their any guidelines within company regarding maximum allocation of expenses to the par fund
- Are their any legislative requirements that must be complied with?

(1 mark for each valid issue relating to the par portfolio - 5 marks in total)

Part (d)

- Ultimately if recommendations are not accepted and seriously compromised then whistleblower provisions can be followed
- Prior to reaching this stage however would want to ensure the following steps had been followed:

- Ensure detailed supporting material is available for discussion
- Engage third party as independent expert if necessary to validate recommendations are reasonable
- Provide written report to Directors outlining issues and recommendations

Marking Guide for Part (d)

1 mark for whistle blower potential

1 mark for this not being used until other reasonable steps followed

3 marks for reasonable steps to take pre whistle blowing

(5 marks in total)

(Maximum of 23 marks)

QUESTION 4 **(10 marks)**

You are the Investment Actuary of a company which has mainly investment business, both investment linked and investment account business. You work with the Investment Team and Product Managers to determine the declared interest rate for the investment account business. An Investment Equalisation Reserve ("IER") is held by the company (as part of the policy liabilities) for smoothing of returns over time on investment account business.

In the most recent year, the following results were observed for the investment account business.

	$m
Premium	**100**
Investment Income	**200**
Claims	**100**
Expenses	**50**
Increase in Reserves	**100**
MoS Profit	**50**
Interest Credited to Accounts	**75**
IER at Beginning	**400**
IER at End	**525**
MoS Reserve at Beginning	**3,000**
MoS Reserve at End	**3,100**

(a) Explain the relationship between surplus, MoS profits, Investment Equalisation Reserve, investment return and interest credited to accounts in these results. **(4 marks)**

(b) Discuss the issues that you will have considered in determining the crediting rate policy. **(4 marks)**

(c) Some policies have an additional payment to be paid on termination that reflects the performance of the policy in the most recent years. Comment briefly on the potential reasons for this approach. **(2 marks)**

QUESTION 4 - SOLUTION

Part (a)

Given the IER is held as part of the MoS liability there is a surplus emerging, which is not being distributed to policyholders immediately. The surplus is arising because not all investment returns are being distributed but are being held within the IER for future crediting, i.e. the MoS profit will not include this amount however this amount will be available for future distributions to policyholders.

(4 marks in total – 2 for identification of difference between surplus emerging and MoS profit, 2 for identifying that these amounts can be used in future)

Part (b)

The crediting rate policy will take into account:

- Mix of realised and unrealised returns
- Tax on returns
- Policyholder expectations of returns
- Guaranteed returns built into products
- Asset mix

(1 mark for valid item taken into account)

There may also be consideration of the following analyses:

- Dynamic financial analysis
- Asset liability matching analysis
- Option pricing analysis

(Bonus mark for identifying analyses that may support policy)

(Total of 4 marks)

Part (c)

The payment of amounts on termination is an attempt to achieve an equitable outcome for the terminating policyholders given the smoothing approach used in determining the crediting rates for IA policyholders.

It also provide the office with some degree of freedom in its financing as payments on termination are not guaranteed and are declared at the time – also they can be withdrawn at any time if necessary.

(1 mark for discussion of equity) (1 mark for discussion of flexibility)

QUESTION 5 **(15 marks)**

You have recently become the Appointed Actuary for a relatively new Australian Life Insurance Company. The Company has been writing Term Life and Disability Income Insurance business for four years.

On your first day at work, during the course of discussions with the Managing Director, he comments that the previous actuary was very conservative when he set the discontinuance rate assumptions, particularly for Disability Income Insurance. In the Managing Director's view, the experience to date was volatile, and that given time, the experience for Disability Income and Term Insurance will move closer together.

When you return to your office, you review the most recent Financial Condition Report, which contains high-level details of experience investigations showing lapse rates of 6% for Term Insurance and 23% for Disability Income Insurance.

(a) What factors might contribute to the discontinuance experience varying so widely between these products. List five factors and explain your reasoning for each factor. **(10 marks)**

(b) What additional investigations should be conducted to more fully understand the experience? List five additional investigations and outline what you are looking for in each investigation. **(5 marks)**

QUESTION 5 - SOLUTION

Part (a)

(2 marks per factor (1 for identifying, 1 for reasoning))

Factors may include:

- Distribution method – eg Term Life is more suited to Direct distribution due to its simple nature
- Disability Income may be sold by agents/brokers, etc, who may engage in twisting
- Product design – has the DII product remained competitive in current market conditions? Is Term Insurance aggressively priced?
- Repricing of disability – company may have significantly increased DII premium rates recently resulting in shock lapses
- Commission terms – including responsibility periods, up-front versus level commission, etc
- Small book – statistical variation is possible
- New company – may have had various promotions, etc, to sell new business – but quality of service may not have met Agents' expectations

- Mix of business – the two products may have different profiles in terms of duration, policy size, payment method and frequency, or demographic aspects which could impact on relative discontinuance rates
- The numbers in the FCR could be incorrect – due to problems with the source data for investigation or (less likely) due to inconsistencies in the calculation method between term and DII

(Maximum of 10 marks)

Part (b)

1 mark per additional investigation (1/2 per investigation, 1/2 for identifying what is being looked for)

Additional investigations include:

- Lapse rates by premium frequency (do some methods of payment eg quarterly, lend themselves to higher discontinuance rates)
- Lapse rates at points in time (was there a concerted effort by a competitor to offer better rates and takeover terms that has impacted the business)
- History of company's term and DII lapse rates (to examine trends and variability)
- Comparison to industry data (to see if other companies are having similar experience)
- Lapse rates by duration (especially to see what happens at the end of the commission responsibility period)
- Lapse rates by distribution method (or individual adviser if enough data)
- Lapse rates by policy size, occupation class (DII only) or demographic aspects
- Analysis of the company's products (and commission arrangements) against those of competitors
- Discussions with the previous actuary, relevant members of staff, advisers or (cost permitting) a survey of ex policyholders to help understand the reasons behind the experience

(Maximum of 5 marks)

QUESTION 6 **(14 marks)**

You are the Product Development Actuary for a medium-sized life office that writes a variety of individual risk and investment products. Your company's Distribution Manager has approached you regarding his suggestion that the company introduce a Group Salary Continuance Product.

His initial comments to you are that as the individual product features are very similar to the group product, he expects that the development effort required by the actuarial team to introduce the new group product should be relatively small, as the company has been writing income protection business for a number of years.

Draft your response to the Distribution Manager commenting on his proposed approach to the product development for the Group Salary Continuance Product.
(14 marks)

QUESTION 6 – SOLUTION

The perception that group salary continuance (GSC) and individual income protection (IP) are similar fails to identify that a product is much more than just the benefits they provide. The student should be demonstrating that a product consists of not only its benefits but also its premium collection, risk selection, administration and management requirements. The response to the distribution manager should identify that group business requires a unique skills set.

Marks should be awarded for identifying differences in the follow areas:

Benefit design

- With IP the benefit amount is determined by the amount applied for by the life insured so long as it is supportable by the evidence provided to a maximum of 75% of earnings from personal exertion. With GSC the benefit is usually determined by reference to a formula that is usually based on the salary recorded in the employers administration system and it may include an amount over and above the 75% level (up to an additional 10%) to cover employer contributions to superannuation for each member. Agreed Value versus Indemnity is a separate point. The market requires different benefit designs

Morbidity assumptions differences

- GSC experience in terms of total claims costs is only about 70% of IP. Group business generally demonstrates lower claims cost though the reason for this has not been proved. Whether it is due to higher negative selection on individual business, generally lower replacement ratios with GSC, or because self-employed persons purchase the majority of IP whilst GSC generally covers employees is unknown. There is some blurring of this difference as GSC schemes are extended to less closely associated groups. The pricing requires different assumptions

Underwriting differences – AAL's

- Whilst each IP contract is underwritten on its own merits and possible loadings, exclusions or conditions applied, GSC usually includes an automatic acceptance component which, provided membership is compulsory, members join as required and are at work on the day cover commences then up to a given amount of cover (the automatic acceptance limit) will be immediately covered regardless of the current state of health of the member (no health declaration or underwriting is required).
- Some GSC schemes also have Pre-existing condition exclusions as a way of minimising underwriting. These that mean claims arising from pre-existing conditions (defined as conditions known and or treated within a specified time up to joining the cover) are not paid for a specified time from the commencement of cover (to a maximum of three years) and after such time all new claims arising are covered. There is some blurring of this difference as GSC schemes are extended to less closely associated groups.
- The underwriting requires specialist skills.

Administration differences

- Very large GSC schemes do not provide individual membership detail to the same level as IP but are unit rated and only provide sum insured and premium data on membership. Claims are where the level of detail is obtained.
- The employer usually pays premiums for GSC collectively and at less frequent intervals whilst IP premiums are paid at the individual's choice. For GSC often there is a deposit premium paid at the start of the period and an adjustment amount paid once the actual cost has been determined (latest membership and salary data provided). There is some blurring of this difference as GSC schemes are extended to less closely associated groups.
- The administration of GSC is significantly different from IP and requires specialist skills and systems

Product differences – fewer bells and whistles

- GSC usually only coverers Total and Partial disability with limited additional features and options whereas IP has a large number of additional benefits including things like specified sicknesses and injury, rehabilitation benefits, bed confinement and accommodation benefits etc. Some GSC contracts are beginning to see some additional features added in but generally these are very minor
- The definition of Total and Partial disability in GSC is generally more conservative than in IP partly as a result of the level of competition in the market and the attempt by IP products to get good ratings from research houses.

- GSC usually offers a continuation option, provided the member is moving to other gainful fulltime employment. This allows them to commence a new policy at the same level of cover without underwriting subject to certain terms and conditions and time constraints.

Market differences – access to clients

- IP is sold by intermediaries to individual clients and generate initial commissions of reasonably large amounts (say 60% of Premium plus bonuses etc). GSC is sold to organisations to cover employees or other defined groups and generated a level commission of say 10% to 20%.
- The sales process is different and requires a different set of skills. Most intermediaries that sell IP cannot effectively sell GSC – it appeals to a different market.
- The intermediary will not usually get access to the individual lives insured but will have a relationship with the owner / employer of the group.

Self-selection / moral hazard

- The individual makes the IP purchasing decision with GSC the individual lives insured are usually not involved in the choice of waiting period, benefit period etc. This greater self-choice with IP means the individual is more aware of the cover and of the benefits and features available. With GSC usually a member obtains cover as a secondary effect as a result of joining the group (eg commencing new employment). This greater self involvement in IP, and given that most IP policies are owned by self employed persons who have some control over their business and accounting practises creates increased opportunity for self-selection and exposure to moral hazard.

Indemnity Basis vs. Agreed Value (individual)

- Traditionally GSC has been an indemnity-based benefit where cover is determined at the time of claim and other benefits such as sick leave; government benefits etc are offset (Indemnity Based). In contrast IP has historically been on an Agreed Value basis so that once the benefit amount is agreed it is the amount payable regardless of changes in the individuals pre-disability earnings (some offsets do apply but these can vary by occupation category). Recently Indemnity based benefits have been introduced into IP (with up to a 20% cheaper premium) but Agreed Value is still very popular. This difference may be one of the reasons for the difference in claims costs.

(2 marks each, 1 for comment and 1 for explanation to a maximum of 14 marks)

END OF PAPER ONE SOLUTIONS