EXAMINATIONS

September 2002

Subject 403— UK Fellowship General Insurance

Paper Two

EXAMINERS' REPORT

Introduction

The attached subject report has been written by the Principal Examiner with the aim of helping candidates. The examiners are mindful that a number of interpretations may be drawn from the syllabus and Core Reading. The questions and comments are based around Core Reading as the interpretation of the syllabus to which the examiners are working. They have however given credit for any alternative approach or interpretation which they consider to be reasonable.

The report does not attempt to offer a specimen solution for each question — that is, a solution that a well prepared candidate might have produced in the time allowed. For most questions substantially more detail is given than would normally be necessary to obtain a clear pass. There can also be valid alternatives which would gain equal marks.

K Forman
Chairman of the Board of Examiners

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1 *(i) The majority of candidates did not distinguish between assets and investments.*

(ii) Most candidates were able to construct revenue accounts and profit & loss accounts but many failed to show sufficient detail or workings, including separating the investment income between technical funds and free assets. Very few stated the additional assumptions they had made. Although candidates were not required to set out the results in a prescribed form, it was evident that candidates who set the results in a structured way were more successful and also spotted the trends and any mistakes in their calculation

(iii) Many candidates could not value a dividend stream. Many also lost marks by valuing the profit stream.

(iv) Few candidates recognised that reserves can be overstated as well as understated, or gave consideration to the value of assets as well as the liabilities.

(v) Most candidates were aware of the basic issues, however only a few set out the impact on the uncertainty surrounding any estimates of reserves, and the possible inapplicability of traditional reserving techniques.

(vi) The majority of candidates set out the basic principles of investment for a closed fund and did not take into account the positive cash flow from new business, the relatively strong solvency position and issues surrounding broker balances. A key aspect of the 400 series exams is that candidates need to demonstrate application and higher skills and therefore need to provide a solution that is appropriate to the question, and not just a statement of basic principles.

(vii) Most candidates focussed on the legislative reasons why a company may not discount reserves and described the impact of the discounting process on the financials, rather than the wider issues of how investors, brokers, credit rating agencies, policyholders etc may react.

(i) Construct the opening balance sheet for the company as at 31 December 2002

Assets		£m
	Bonds	1000
	DAC	60
	Total	1060
Liabilitites		
	UPR	200
	O/S claims	500
	Total	700
Shareholders Funds		360

(ii)

	2002	**2003**	**2004**	**2005**
UPR bf		200.0	220.0	242.0
WP	400	440.0	484.0	532.4
less UPR cf	200	220.0	242.0	266.2
=Earned Premium (A)		420.0	462.0	508.2
DAC bf		60.0	66.0	72.6
Commission		44.0	48.4	53.2
Expenses		88.0	96.8	106.5
less DAC cf	60	66.0	72.6	79.9
=Earned Expenses (B)		126.0	138.6	152.5
Claims Incurred (C)		273.0	300.3	330.3
Underwriting Profit (A)-(B)-(C)		21.0	23.1	25.4
Investment Income		33.6	37.0	40.7
Insurance result		54.6	60.1	66.1
Investment Income on SH		18.9	20.8	22.9
Trading Profit		73.5	80.9	88.9
Dividends		37.5	41.2	45.4
Retained Profits		36.0	39.6	43.6
OCR bf		500.0	550.0	605.0
less OCR cf	500	550.0	605.0	665.5
Technical Funds	640	704.0	774.4	851.8
Average Funds		672.0	739.2	813.1
Free Assets	360	396	435.6	479.16
Average Free Assets		378.0	415.8	457.4

The calculations are straight forward and require application of the relevant information given. Only additional assumption is that premium is received uniformly without significant delays.

(iii) As company is growing at 10% per annum, just need the first dividend figure for 2003 of $37.5m and apply a perpetuity factor with interest equal to 1.15/1.1-1.
Approximately 20*37.5m= £750m.

(iv) Adequacy of reserves. There may be long tailed liabilities that have not been reserved properly or there may be redundant reserves because the case estimates are conservative or the reserving methodology for IBNR is conservative.
Valuation of assets. Are these at fair market value.
Sustainability of return on assets — what is the economic outlook.

Sustainability of average loss ratio — how competitive is the market, how good are the underwriting controls.

Sustainability of expense and commission ratio — are these realistic, how old are the systems, are there any exceptional expenses looming.

Is the 10% growth realistic in the current market and can this be maintained in conjunction with loss ratio assumption. Is there potential for higher growth? How saturated is the market? Is there spare capacity in the market which could lead to lower rates?

Quality of staff, management, systems, distribution channels

How appropriate is the risk discount rate for the risk profile of this company?

Have there been any other transactions in the market that could be used as a bench mark?

Is reinsurance really negligible , and if not how secure are they?

(v) Asbestos related claims are such that the latency period between the first date of exposure and the emergence of the disease can be very long. Therefore the policyholders may receive claims from their former employees for many years into the future. Therefore there may be many pure IBNR claims to arise.

Once a claim is reported it is likely to consist of damages and also loss of wages, cost of care and loss to dependants. The claims are subject to judicial influence and also court award inflation. Significant potential for IBNER and legal costs. Great potential for escalating legal costs in attributing blame to relevant policyholders and insurers.
Traditional triangle based projections may not work and therefore there may be great uncertainty surrounding the reserve requirements for the policyholders insured.

If the exposure to asbestos was in more recent years then the company may not have sufficient past experience, and therefore reserve estimation is subject to greater uncertainty.
There is a great potential for accumulation, as when one employee becomes aware that his disease was caused by exposure to asbestos at work others in the region/neighbourhood begin to make claims.

(vi) The investment policy has to take into account the risk profile of the liabilities. Given motor and EL this is a mix of short tail and long tail liabilities.

Long tail EL could be linked to court and wage inflation and therefore real assets may be suitable to back these reserves. Currency of liabilities will also need to be taken into account.

Fairly high solvency margin relative to statutory minimum, therefore may be able to take long term view and mismatch into equities to provide higher expected return.

If high proportions of premium are broker balances, then liquidity considerations may force into liquid government bonds for the short tail accounts.

Company expected to grow and so liquidity requirements could be met by premium inflow, and given the high solvency margin could invest in longer real assets such as index linked bonds.

Ultimately the policy will also need to reflect the purchaser's risk preferences, i.e. is he willing to take additional risk on the asset side by having a strategy that provides a higher expected return.

(vii) The reserves on an undiscounted basis provide a margin for adverse deviations. The size of the margin depends on the uncertainty surrounding the reserve estimates. For example if the reserves contained some exposure to asbestos claims then there is a possibility that if only discounted reserves are held then they could be insufficient.

The investor community will see this a weakening of the company and therefore the cost of capital may rise, (e.g. for borrowing).

Policyholders/Brokers will also see this as a weakening in the position and may not be willing to place business as they wish to place business with a more highly rated company. The growth plans may be jeopardised.

The FSA may have views on the adequacy of the solvency margin.

If the course of action is followed, there may be tax consequences although following recent legislation in the UK this may not be the case.

If for any reason the assets can not support the discount rate used then losses will occur in the future and reserves will have to be strengthened.

2 *When it is stated that the recipient of a report does not have an insurance background, the examiners are looking for an answer written in plain English with explanations of technical terms, types of insurance etc.*

Whilst most candidates were able to describe the types of cover provided by the various insurance and reinsurance contracts, many did not know about surplus lines or LMX property, or provide sufficient detail in their answers. Little effort was taken in setting out the issues in attempting to quantify the amount of the losses.

Aviation

Aviation insurance will be on a per plane basis.
There may be also some airline specific covers.
Cover will be for:

- Hull, say USD30m — 150m per plane for large passenger jets
- 3rd party property damage
- Liability
- Cargo

3rd party PD and liability limit likely to be USD1bn — USD2bn
Need to assess number of fatalities
Perhaps assume USD2-3m per life aboard the aircraft
Cost per life likely to vary by nationality
How many planes were lost/damaged?
Assess likely salvage, if any

Aviation reinsurance will be on a per event basis
Coverage as per insurance
Usually 1 paid reinstatment, at 100%
How many events will this be?
Likely all our reinsurance covers will be hit
Our loss will either be 1 limit on each contract or 2, depending on how many events it is deemed to be.

Marine

Marine excess of loss reinsurance on each and every loss or series of losses out of one event
How many events?
There will be cover for individual lines:

- Hull and machinery for ships in port
- cargo for warehouse/storage etc. at port
- goods in transit for valuables being moved
- Specie/fine art for any damage or loss to
- art collections
- bullion
- bearer bonds/notes etc.
- on-shore energy for any damage to refineries etc.
- liability for employees of post etc.

Also, there will be limited generals covering various lines above the individual programmes
Many of these programmes are likely to suffer losses
Do we buy any retro coverage?
Need to know basis of coverage to asses likely recovery/exhaustion

Surplus lines insurance

Covers US business not placed locally
Property damage, business interruption or liability
Likely to be significant exposure in earthquake exposed areas

Should have details of aggregate accumulations
provided by producing brokers/agents
to assess likely impact of event
property more likely to be hit than liability
as liability will only pay if property owner liable
Likely to buy a cat programme we can recover on

US property per risk excess of loss

cover for individual property risks
pay up to limit excess of retention
reinsured usually defines what constitutes one risk
reinstatement terms crucial
often unlimited
however, likely to have a limit to the loss per event
so need to know how many events have occurred

US property catastrophe excess of loss

covers the accumulation of losses from one event
pay up to limit excess of retention
often have one or two paid reinstatements
Will have an hours clause to determine one event
72 hours for earthquake
Likely all losses defined as one event in this case

Personal accident insurance and reinsurance

PA insurance can provide large limits for wealthy/valuable individuals
perhaps up to USD10m on death
benefits on death or accident/disablement
Could pick up many claims

PA reinsurance is on an event basis
need to know how many events have happened

LMX property

business written in the London Market
covers property reinsurance or retro
on an excess of loss basis
either risk or catastrophe cover
or both
need to know reinstatement terms
any event/occurrence limitation
considerable uncertainty as to likely loss