EXAMINERS' REPORT

April 2010 examinations

Subject SA6 — Investment
Specialist Applications

Introduction

The attached subject report has been written by the Principal Examiner with the aim of helping candidates. 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.

R D Muckart
Chairman of the Board of Examiners

July 2010

General comments

Candidates typically answered Question 2 better than the others, with Question 3 attracting the worst response. Question 1 required the consideration of economic scenarios and it was surprising how many candidates appeared not to understand the terms "stagflation" and "hyperinflation" given the prevailing climate and widespread coverage.

Candidates are reminded of a bias in the paper towards recognising higher level skills and practical application. Likewise the examination system does properly allow for prior subject knowledge to be assumed. Investment is a necessarily practical subject and, at this level, the examiners expect candidates to demonstrate a breadth and depth of competency as would be expected from a recently qualified actuary or senior student in a frequently evolving discipline. Hence simple regurgitation of bookwork will never be sufficient to ensure a Pass grade.

In order to succeed, candidates must ensure they familiarise themselves with the prevailing investment issues and the general market background facing institutional investors in the 12–18 months preceding a diet, more so the solutions (and sources of) being debated by the various stakeholders. A recurring theme in recent years has been a move towards capital market rather than purely insurance and asset management solutions – hence questions regarding banking and derivative approaches to asset and liability risk management or modern financial theory and commercial applications should be considered likely scope for examination. Against a background of the credit crisis, new asset classes and ways of structuring investments will themselves generate new types of risk (such as operations, liquidity, credit and counterparty), so the need for new ways of regulation, monitoring and management. Finally the examiners encourage candidates to recognise there are different types of investor beyond purely pension funds and different taxation, time line and cost considerations will apply.

1 (i) Stagflation is an economic situation in which inflation and economic stagnation occur simultaneously and remain unchecked for a significant period of time.

(a) **Domestic Equities**

Economic stagnation will hurt the performance of domestic equities as domestic companies struggle with poor economic conditions.

This may be offset to some degree as some domestic equities may benefit from Government initiatives to stimulate growth.

Interest rates are unlikely to be lowered because of inflation, and would not act in their usual counter-cyclical way to help equities during times of poor economic growth.

The domestic economy is likely see its currency depreciate. However, higher interest rates (to combat inflation) may stimulate the flow of hot money into the economy which help strengthen the currency.

A depreciating currency will see domestic equities may have operations abroad, see the value of the operating profits of those operations rise in local currency terms and this should benefit their share prices.

Share prices will also be helped by the rising real value of their assets.

The pricing power of domestic companies will be an important consideration in determining how well they can maintain their real profit margins. Being able to pass on price increases will offset some of the negative effects of the economic stagnation.

(b) **Foreign Equities**

Similar comments as per previous section.

The performance of foreign equities will depend on whether the stagflation is global, regional, or local.

Generally speaking equities based in, or with business related to, regions not experiencing stagflation will perform best.

Assuming the foreign equities are unhedged, the performance of the country's currency will influence their performance. If the domestic currency weakens, the foreign shares will be worth more in local currency, and vice versa.

Equities based in countries with significant commodity resources are likely to fair best, as the rising prices of these commodities will help offset the negative effect of any falling demand.

(c) **Gold**

In theory, the price of gold should rise in line with general price rises. It should maintain its real value over the long term.

The demand for gold for industrial, and other economic activity related uses, is likely to fall due to the economic stagnation. This will likely negatively effect the price of gold. But it is unlikely to offset the previously mentioned point.

Demand for jewellery is also likely to fall due to falling economic activity, which should also negatively effect the price of gold.

The price of gold is determined on international exchanges. Unless the country in question is large the impact of changes in its economic activity should not significantly influence supply and demand for gold.

Gold is priced in dollars on international markets. If the domestic currency depreciates this will increase the domestic price of gold and vice versa.

(d) **Forestry**

In theory, the price of timber should rise in line with general price rises. It should maintain its real value.

The demand for timber for industrial, and other economic activity related uses, is likely to fall due to the economic stagnation. This will likely negatively affect the price of timber and to a greater degree than for gold as timber is used to a greater extent in industry and manufacturing.

Forestry will continue to benefit from the physical annual growth of the trees.

Forestry may benefit from Government related economic stimulus, especially if it has an environmentally friendly element to it.

However, government sponsored forestry grants and subsidies may be scaled back due to likely fiscal problems.

(e) **Domestic Government Bonds**

Domestic Government Bonds are likely to perform poorly

Higher interest rates to combat inflation will hurt performance

Higher interest to attract buyers of government debt for what would likely be a rising budget deficit, and public sector borrowing requirement.

Any downgrading of the credit rating of the country will further hurt the performance.

(ii) **Hyperinflation**

In economics, hyperinflation is inflation that is very high or "out of control", a condition in which prices increase rapidly as a currency loses its value.

It is likely to be associated with near economic collapse.

Domestic Equities

Negatively affected by deteriorating economic conditions. The nominal value of share prices may rise but their real values are likely to deteriorate.

Foreign Equities

Assuming the hyperinflation is not global, the local currency is likely to significantly fall in value, dramatically increasing the value of assets denominated in other currencies.

Gold

In theory gold is likely to rise in price in line with general inflation as it should maintain its real value.

Gold may increasingly be used as a store of wealth increasingly its functional use, which may outweigh the comments mentioned under stagflation.

Forestry

Is likely to maintain its real value offset to the extent its functional value will fall due to lower timber demand. Likely substantial economic problems may to lead to increased crime and vandalism, which may impact forestry investments.

Domestic Government Bonds

Are likely to become worthless.

Should the hyperinflation cause a descent into any form of anarchy, property rights may not be upheld which could affect all of the above assets to some degree or other.

Other sensible answers should also be accepted.

(iii) The client invests in the proposed property fund.

The property fund then enters into a swap where it pays away any growth in the Total Property.

Return index in return for a fixed return (alternative could be a Libor linked return).

The structure could also be operated as a segregated arrangement if the client already has a property exposure.

[diagram of swap]

The fixed rate received depends on market conditions at the time and the term of the swap.

(iv) Advantages:

- Reduces property risk and locks into guaranteed returns of at least 7.5% p.a.
- Straight forward to implement as property derivatives are now fairly liquid and can be transacted under standard ISDA + CSAs.
- Property manager could outperform the property index, thereby increasing the return for the fund.

Disadvantages:

- Fund misses out on any excess property market returns over the term of the swap.
- Time consuming to transact for funds which have not got existing ISDA+CSA documentation in place.
- Introduces counterparty risk.
- Property manager could underperform the property index, thereby reducing the return for the fund.

(v) Rates available on cash deposits, whilst low, this reflects the general low level of short term interest rates prevailing, mirrored in Base Rates. At least by pooling with other clients, clients benefit from a higher marginal interest rate being applied. Rates credited to clients may be reduced from the gross rate received by the wealth management company to pay for administration and banking facilities.

The Committee need to consider all investment decisions in the context of security, profitability, quality and liquidity – and a higher grading of one or more aspects can mitigate a lower rating of another.

An increase in term should increase the return available but again, given the generally low level of interest rates, it is unlikely to yield significantly more for the loss of liquidity and flexibility. It will have an impact on the flexibility of the day to day operation of client monies.

A money market fund will introduce credit risk despite diversification in the underlying corporate bond investments. There can be severe liquidity constraints in markets and the funds are inevitably constrained to those companies that have, can or intend to issue short-dated commercial paper. As a fund, a bid/offer spread will apply to reflect liquidity and liquidating a holding in a few weeks or months time should the Committee/clients decide to invest elsewhere could give rise to a loss on the spread greater than any incremental return achieved.

The alternative deposit taker needs to meet minimum credit rating requirements and offer a suitable account that balances yield and liquidity.

The recommended Bank should be a licensed deposit taker and so subject to the same regulatory oversight as other banks.

Being an online/telephone banking business, it is likely to be economically run.

We would expect debt arrears at a fraction of the industry average (reflecting its target client base being mainly existing insurance company policy holders and so of a higher social category and creditworthiness); this is reflected in the above average yields being offered.

Subject to the prevailing relative yields, the short notice period might be compensated for by the additional yield. Rates are subject to change and should be regularly reviewed against peers to ensure it remains competitive.

The Committee needs to consider the practical matters/costs in opening and operating the account and transferring the funds. It may be sensible to retain both current and notice accounts.

2 (i) **Rationale for investment**

The banking sector is short of capital, resulting in wide lending spreads.

On the assumption that spreads have increased by more than expected losses through defaults, this means that expected returns are likely to be higher than at other times in the economic cycle.

However, if the proportion of defaulting loans has increased (or increases in the next few years), this will reduce expected returns by creating losses.

Particular concerns will arise around the following issues:

- Credit quality/underwriting criteria
- Capacity issues
- Liquidity issues
- Diversification issues
- Management of non-performing loans (workout)

- Fees

(ii) Credit quality

A key concern an investor should have is whether the asset manager has sufficient credit experts in-house to successfully manage a lending operation.

Whilst part of the process (particularly the analytics) can be outsourced, there would need to be some in-house risk personnel to ensure that the credit standing of borrowers is sufficiently high.

This applies both to direct loans as well as existing loans that are purchased from a bank or through a syndication process.

The competency requirement is lower for loans that have been originated by a lender who is then reselling them to the fund, as there will be some history and underwriting already carried out on the borrowers. However, there may be concerns about the credit rating standards of particular loan originators.

Also, relationships with loan originators may make it difficult to treat each loan as an individual investment decision (i.e. need to invest in all issues, not on a piecemeal basis).

Capacity issues

To build a loan book will take several months. If there is high demand from investors, it is possible that credit rating standard may be compromised. The only alternative for the manager is to hold incoming assets in cash pending identification of suitable investment opportunities, or to draw down the incoming assets gradually.

It would be possible for the asset manager to deploy assets quickly by buying a book of loans from a bank, although this is a complex transaction.

Liquidity issues

Loans are an illiquid asset, and the only ways the fund manager can return capital to exiting investors is by receiving principal payments from borrowers, by selling units in the fund to incoming investors or by selling loans from the fund to other investors (which may result in gains or losses).

Also, loans are not straightforward to value. Typically they are recognised at book value and provisions are held against non-performing loans, which are periodically reviewed and adjusted.

The investor needs to have confidence that the process for buying and selling units is equitable between incoming and departing investors. A fund which is closed when it reaches a certain size, and with lockup and notice periods may be better placed to achieve this, although this does create rigidity for the investors.

Diversification issues

Ideally, the loan book will be diversified by vintage of loan. However the fund structure is not especially amenable to this process unless the fund is closed and a new fund is launched every 2 years say.

Unless the fund manager has a broad range of origination contacts/locations, it is likely to be quite difficult to achieve a high level of geographic diversification within the loan book. Potentially this can be improved by buying a book of loans from a bank, although this is a complex transaction with incomplete information and a degree of advantage to the bank in terms of knowledge about the loan portfolio.

Management of non-performing loans

The investor will need to be comfortable that the asset manager is well-placed to manage the non-performing loans in a manner that maximises value for the investor. Banks have significant teams that work with borrowers to maximise returns in situations where the borrower is distressed, and it is unlikely that the asset manager will have these resources or skills in-house.

Whilst some of this work can be outsourced, a bank that also provides banking facilities to the borrower will have an information advantage as they will have a better understanding of the borrower's financial position (and this cannot be replicated by the asset manager). In theory, this should mean that banks have higher recovery rates from a loan portfolio for a given level of credit quality, and this should be allowed for in the investor's views on prospective returns from the fund.

Fees

The fees levied may be high in comparison to other asset classes, which would reduce investment returns. If this is the case, then economically it would be most efficient to access loan assets by investing in bank equity (although this would contain a number of other economic exposures).

The performance fee will create an incentive for the manager to take risk, which may lead to a higher risk strategy than would otherwise be the case with say a higher flat fee. If the threshold for the performance fee to apply is set at too low a level then it could be very easy for the fund manager to construct a portfolio that will generate a performance fee.

(iii) There are three main ways in which these exposures can be obtained, without investing in this fund:

1. Direct investment in a portfolio of loans (build an internal capability to invest/originate loans).

2. Investing in a similar pooled fund (or segregated mandate) that invests in loans (typically larger issues that have been syndicated by banks).

3. Investing in a correlated asset class such as equities issues by banks.

(iv) **Direct investment**

Pros – lower costs, greater control, less dependence on external agents.

Cons – only viable for say a £1bn or larger investment in this asset type, hard to recruit/retain internal expertise (compared to a bank or asset manager), internal control structures will need to be created to address agency issues, will take time to create adequate diversification as loans acquired.

Other loan product

Pros – already exists and should be able to find a highly rated manager/product, track record to demonstrate competency in this asset, may be lower cost, more certain long-term commitment to this type of product, no need to build up internal capability.

Cons – not investing specifically in the identified niche so the economic exposure may not be as precise (and potentially narrower or wider spreads), likely to be biased towards large syndicated loans where risk profile is different (larger concentration risk, but perhaps lower individual default risks), not investing in newly issued loans as is the intention with this product.

Equity investment

Pros – simple and inexpensive; no need to build internal capability; easy to obtain diversification (as banks already have a diversified exposure internally); banks will arguably have a competitive advantage through their customer knowledge and contact

Cons – correlated investment only (very imprecise); no flexibility; exposure to many other factors including previous years' loans, retain and transaction banking, securities markets, etc.

3 (i) The current challenges facing regulators of financial markets are as follows:

A common global framework

Financial markets are becoming more global, while regulation is largely being conducted at country level. This presents opportunities for financial organisations to move around to find the most beneficial regulatory environment for them. If one country introduces more effective regulation, they face the threat of other countries effectively prizing away their financial institutions. Regulation could be considered a public good, however, having a country can bring about the "free rider problem", the problem of the "prisoners dilemma" (it is in the interest of countries to cheat to get a greater share of the financial services industry in their jurisdiction).

Agency risk

Agency risk is the risk that comes from the misalignment of interests between employees, managers and directors, shareholders and the public interest.

The financial systems in most countries current make it in the interests of some parties to behave in pro-cyclical and pro-contagion activity. E.g. it was not in the interests of any bank to stop lending during the lending boom, or their share price might suffer, and they would become takeover targets like ABN Amro.

An answer including a discussion of the Fish, the Shoal, and the Trawler analogy would also be accepted.

Increased complexity

Financial markets have been and are continuing to evolve at a significant pace. This means regulators are continually playing catch up. Regulators face the problem of:

- unregulated financial markets, e.g. OTC markets, and CDS markets
- evolution in existing markets, regulated and unregulated, e.g. derivatives markets
- new financial markets, e.g. carbon emission trading

International imbalances

International imbalances, for example, the US trade deficit with China, and the overvalued Chinese currency, create other imbalances, which create financial flows to support them. These can be significant and are often pro-cyclical, and can induce bubbles.

Hot money flows

Related to the above point about international imbalances. Very large hot money flows initiated by potential for short term gain but not back by fundamental economic reasoning, e.g. the current dollar carry trade, create the potential for asset bubbles, which can burst due to changing short term horizons.

Other sensible points and arguments would also be accepted.

(ii) A minimum reserve requirement is a requirement to hold a certain percentage of deposits in liquid assets (e.g. cash or treasury bills). This is necessary to ensure that a bank that accepts deposits will be able to meet demands for withdrawals from depositors. This measure is generally considered necessary to provide depositors with confidence in the banking system.

A risk-based capital requirement differs from the above by requiring a bank to have capital support (equity and subordinated debt capital) to cover a risk-based measure of its assets (loans and deposits with other institutions). This is different to the solvency requirement of ensuring assets exceed liabilities, which would also need to be met.

(iii) A non risk-based capital measure such as solvency would be successful in ensuring that assets exceed liabilities, however this ignores the complexities of valuing a portfolio of loans.

Loans will either be paid back at the level set out in the documentation, or they will default.

In the majority of scenarios, a loan would be paid in full. However, in a significant number of scenarios, the proceeds from the loan (which is an asset of the bank) will be much less than this.

If there is no penalty for risk in the capital measure, then a bank will have an incentive to write a larger proportion of lower quality (but higher expected profit) loans within its loan book to maximise its expected profits for a given amount of capital deployed.

As banks are a key part of financial system, involved in both payments and deposit-taking, it is generally accepted that a risk-based capital measure is preferable.

END OF EXAMINERS' REPORT