



SECURITIES & INVESTMENT INSTITUTE DIPLOMA

WINTER 2008

CHIEF EXAMINER'S REPORT- FUND MANAGEMENT

Introduction

The purpose of this exam was to assess candidates' up-to-date knowledge in the fund management field. In particular, both theoretical knowledge and empirical (practical) issues are tested, so the candidates are encouraged to read relevant textbooks, research papers and case studies (where appropriate) to update their knowledge regularly, given the fast-changing fund management industry.

Section A of the paper aims to assess candidates' general knowledge in this area. Candidates showed an excellent understanding of the concept of risk aversion in question 7; the dividend discount model in question 6; and the current issues in commodities markets in the light of behavioural finance in question 1. However, overall, candidates did not do very well in this section. For example, a significant number of candidates did not get any marks or very few marks on questions 2, 3, 4 and 9, showing the weakness on their analytical side, since all those questions were numerical.

Section B was well answered in this exam by a large number of candidates. Candidates showed a good understanding of the Capital Asset Pricing Model and its relation to index tracking (part (c)), characteristics of growth stocks (part (d)) and types of risks an index tracking portfolio manager may be facing in a portfolio (part (e)). However, the answers show that exchange traded funds (part (a)), enhanced indexation (part (b)), and behavioural finance biases (part (f)) could be understood better. Additionally, optional questions from Section C were answered well by the vast majority of candidates. A few misinterpreted question 15, but the rest of the questions show reasonable understanding of the topics examined, which can particularly be observed in question 13 and 16 on property investment and international investment respectively.

These are issues that need to be addressed. The overall standard of answers in both Section B and Section C was good, while Section A was considerably weaker in comparison to last year.

Section A

Question 1

Most of the candidates correctly commented on the prices of commodities following a downward trend recently. This was one of the best answered questions. A good answer should contain the following: Prices of equity & commodities such as oil and gas are falling. Given that the investor is suffering from loss aversion bias (which should be briefly explained), no changes will be made in the portfolio allocation until there are reversals in prices.

Question 2

This was one of the weakest answered questions. Even though various candidates' interpretations of 'total income' from a bond were taken into account, the majority of candidates still showed a weakness in these calculations. In this case, when a bond is held for two year only, the total income is £117.63 and it is decomposed into coupon income and reinvestment income (the first coupon of £9 received at the end of year one and reinvested (compounded) for 1 year, and the second coupon of £9 received at the end of the second year when the bond is sold) and the bond's selling price at the end of year two (calculated as a present value of cash flows of the bond in years three and four, discounted at the prevailing interest rates for those years).

Question 3

Most candidates recognised that managed futures are a type of collective investment funds which aim to profit by trading futures of equity markets, bonds, currencies and commodities such as metals or wheat. However, large number of candidates fails to recognise their main advantages, such as: they offer a portfolio access to numerous investment markets (increasing investment opportunities); the ease of short selling; low cost leverage trading; increased liquidity; low correlation with other asset classes; and a possible inflation hedge.

Question 4

The answers to this question were very good for some candidates but very weak for the others who misunderstood the circumstances under which the portfolio risk of a two-asset portfolio is a weighted average of risks of individual assets. In particular, a good answer should recognise that that happens only when correlation coefficient between the two assets is perfectly positive, so that then:

$$\sigma_p^2 = w_1^2 \sigma_1^2 + (1 - w_1)^2 \sigma_2^2 + 2w_1(1 - w_1)\sigma_1\sigma_2 = (w_1\sigma_1 + (1 - w_1)\sigma_2)^2$$

Therefore

$$\sigma_p = w_1\sigma_1 + (1 - w_1)\sigma_2$$

Question 5

In general, the candidates showed a good understanding of how to use DDM to identify undervalued and overvalued securities. The majority of the candidates correctly identified that share A is correctly priced after Gordon's model valuation and that share B is overvalued by the market, ie, that it should be sold.

Question 6

All parts of this question were weakly answered by a large number of candidates or not answered at all. The solution in a correct answer should show that a) correlation coefficient between portfolio 1 and the market is 0.60 and 0.64 between portfolio 2 and the market; b) zero beta portfolio can be constructed but the short-selling would be needed and c) portfolio 1 is not fairly priced but overvalued.

Question 7

Large number of candidates shows that they understand how indifference curves are related to investors' levels of risk aversion. In particular, in part i) most recognised that investor A is more risk averse due to steeper indifference curves; in part ii) investor B prefers portfolio 1 to portfolio 3 as it lies on the higher indifference curve, while investor A is indifferent between the two and that iii) neither investor prefers portfolio 4 to portfolio 3.

Question 8

Traditionally, the concept of market efficiency is both well understood and explained by candidates. Many recognised this in the short run, mispricing and profits are really not the sign of inefficiency, but if one is able to persistently generate profits in the long run – that would indicate inefficiency.

Question 9

The answers to this question were very weak. Future exchange rate should have been

calculated as: Spot rate $\frac{1+r_s}{1+r_p} = 1.85 * \frac{1.05}{1.07} = 1.8154$ and the return for UK investor

investing in the UK bond and the US bond is:

UK: $r_{\text{£}} = 7\%$

US: $1+r_{\text{£}} = (1+r_s)(1+r_{\text{FX}}) = 1.05 * \frac{1.85}{1.8154} = 1.07$; $r_{\text{£}} = 7\%$

Question 10

This was one of the questions that candidates either answered well or very poor. Better answers recognised that Venture Capital Trust (VCT) is an investment trust company with tax advantages for investors. They invest in new and growing small businesses and allow investors to get indirect exposure to this sector of the market by buying a share in the VCT. A few candidates managed to outline the list of conditions for VCT status such as: at least of 70% of the trust's instruments will have to be in unquoted trading companies; a maximum of 15% may be invested in any company or group of companies; its ordinary share capital must be quoted on LSE; income must be derived from shares etc.

Section B

Question 11

The answers in this section were of a good standard in general. Better answers would have included the following:

a) An Exchange Traded Fund (ETF) is a collective investment vehicle that trades like a single stock. This means that it provides the benefits of an index tracking fund and

the benefits of owning an individual share. ETFs generally track the performance of a stock, bond, or commodity index. Because it trades like a stock, an ETF does not have its net asset value (NAV) calculated every day like a mutual fund does. An index tracking fund is a type of mutual fund with a portfolio constructed to match or track the components of a market index, such as the Standard & Poor's 500 Index (S&P 500). ETFs can be short-sold while index funds cannot. ETFs are highly liquid. Both funds have lower expense ratios than active funds.

b) There is a need for enhanced indexation because transaction costs and changes in the composition of the underlying index cause index tracking funds to slightly underperform the benchmark. Examples of enhanced indexation: tilted (core-satellite) approach, asset allocation when rebalancing a portfolio, synthetic indexation and use of T-bills. A short explanation of the enhanced indexation method of choice was expected.

c) This was well explained by a large number of candidates. The CAPM (CML) implies that all investors should hold the market portfolio and the risk-free asset. In addition, all efficient investors' portfolios in CAPM plot on CML. A market portfolio is a portfolio of all globally available risky assets and as such it is unobservable in reality. Therefore market portfolio is proxied with a broad stock market index. The investor who is a believer in the CAPM will then have to hold a stock market index and a risk-free rate. In reality, that is achieved by investing in an index tracking fund and a T-bill.

d) It is possible to track FTSE 350 Growth Index, in the same way as any other index. Almost all candidates who attempted this question answered this correctly. However, a number failed to outline the characteristics of growth stocks in that index, such as: high P/E, P/B ratio, no or low dividend, high growth potential.

e) Systematic and unsystematic risk was explained well by all candidates. However, many failed to recognise that R-squared shows the level of diversification of a portfolio and the proportion of systematic risk in total risk. Therefore, when R-squared is multiplied by a stock's standard deviation, we obtain systematic risk. Similarly, 1-R-squared represents the proportion of unsystematic risk in total risk and multiplying it with standard deviation we can obtain the unsystematic risk value. Further, the candidates showed understanding that the FTSE All share tracking portfolio is well diversified and has only systematic risk. Such systematic risk can be eliminated by use of derivatives on the index, for example by shorting FTSE All share futures contract.

f) Better answers outlined that quality and familiarity biases affect investors in a similar way: they prefer well known companies with strong brand names in their portfolio, and predominantly domestic companies (home bias). However, these biases should not affect managers of index tracking portfolios as they are supposed to buy either all the stocks or representative stocks from the index, regardless of whether they are brand names or not.

Section C

Question 12

Not many candidates attempted this question. Those writing weaker answers failed to explain valuation methods for convertible bonds and did not show full understanding of their advantages/disadvantages. Better answers should recognise that the advantages of convertibles are:

- i) the holder has the security of fixed income, offering downside protection if the shares fall in value, whilst at the same time offering the opportunity to benefit if shares perform well;
- ii) claim is senior to equity in case of liquidation;
- iii) they tend to offer higher yields than underlying shares;
- iv) they tend to have good marketability in comparison to non-convertible issues.

The main disadvantages are:

- i) they have lower yields than equivalent straight bonds;
- ii) they are not as attractive if there is a call option attached to them;
- iii) if anticipated share growth is not achieved, the holder will have sacrificed yield for no benefit.

Either of the two valuation methods could have been explained (dividend valuation and crossover method (income based approach) for example). Better answers recognised that convertibles are used in convertible arbitrage strategy with hedge funds.

Question 13

Overall, this was the best answered question in this section, attempted by a large number of candidates. The good answers stated that property, together with other types of alternative investments, has become more popular in recent years due to exceptionally high returns, but not so exceptionally high risk. Small investors can get access to property market through Property Unit trusts, investment trusts, and REITs. These were briefly explained in better answers. Further, candidates outlined the main risks of property as an investment, which include: decentralised market, market risk, individual risk, physical risk for example. An explanation of each was expected. Weaker answers failed to recognise that property historically tends to perform very well in periods of high inflation.

Question 14

This was not very well answered, but some of the candidates who attempted it understand that the Sharpe Ratio will not be used for measuring performance of an index tracking fund but tracking error would. However, many did not give a correct interpretation for the Sharpe ratio equation, ie, that it is a measure of excess return (over risk free rate NOT the market) per unit of total risk (standard deviation). The Sharpe ratio is appropriate for measuring outperformance of active funds. However, neither measure is very good for measuring performance of hedge funds for the following reasons: i) Sharpe ratio concentrates on the ratio of mean to standard deviation of returns but this can be misleading as hedge fund returns have negative skewness and are not normally distributed; ii) Tracking error on the other hand is a part of Information ratio, which avoids some of the issues with skewness, but not all.

Also, tracking error is problematic in the fact that we need to identify the benchmarks to be used: identifying the appropriate benchmark for a hedge fund is still a problem.

Question 15

The answers to this question were the poorest in Section C. In better answers, a detailed explanation of the short-selling of risky assets is given. In particular, short-selling occurs because the short-seller expects the price of a security to fall and s/he can make a profit if s/he sells it when the price is still high. Therefore, such an investor borrows the security from a broker, sells it, and when the price falls s/he buys the security back at the lower price and either returns it to the broker or gives him/her the proceeds from the short-sale. Note that with short-selling, portfolios give infinite rates of return. This is because securities with low expected returns are sold and the proceeds are used to purchase securities with high returns. Needless to say that by short-selling investor also increases standard deviation (risk) due to the fact that short-selling may incur unlimited losses. Therefore, with short-selling of risky assets, the efficient frontier is extended to the right, to areas of higher risk and higher return. Weak answers to this question failed to recognise that the question is implying short-selling of equity (risky assets) NOT short selling the risk-free asset, in which case the efficient frontier would be a straight line.

Question 16

Similarly to question 13, the candidates gave good answers to this question, showing good knowledge of international investments. It is interesting to note that all candidates attempted this question. The main risks from international investments that were discussed in the good answers are: imperfect information on foreign markets, higher costs, currency risk (including translation and transaction risk), liquidity risk, taxation, political risk, capital control, different regulatory framework and accounting standards of a foreign market, limited hedging possibilities etc. Better answers also mention home bias in the UK investors' portfolios.