CHARTERED INSTITUTE FOR SECURITIES & INVESTMENT

DIPLOMA DECEMBER 2010 EXAMINATION
BONDS AND FIXED INTEREST MARKETS
CHIEF EXAMINER'S REPORT

GENERAL COMMENTS

Two candidates scored more than 70-marks for which they should be congratulated. Six candidates that scored between 40 and 50-marks. It can be seen that the candidates were more confidant with the essay questions than they were with the questions in Section A and B which were of a more technical nature:

	A	B	C
answers	23	23	23
marks	45	25	30
max	31	19	28
min	0.5	0	10
ave	18.935	10.913	20.652
std dev'n	7.8557	5.2455	4.5688
ave as %	42%	44%	69%
std dev as %	17%	21%	15%

Many candidates found the Section A and B questions challenging although the average marks were distorted by the fact that one candidate scored 4 marks for Section A and did not attempt Section B, while another candidate scored 1 mark for Section A.

Well done to the candidates that have been successful. Commiserations to the candidates who were close but not quite close enough. Specific comments are contained in the following pages.

Section A

questions		1	2	3	4	5	6	7	8	9	10
answers	23	22	19	21	22	21	15	20	17	16	21
marks		3	4	6	2	4	5	6	4	5	6
**max		3	4	5	2	4	3	5.5	3.5	5	5.5
min		1	1	0	1	0	0	0	0	1	1.5
ave		1.386	1.316	3.69	1.386	2.262	1.167	3.45	1.647	2.156	3.595
std dev'n		0.872	1.282	1.054	0.435	1.102	0.838	1.234	0.915	1.151	1.347
ave as %		46%	33%	62%	69%	57%	23%	58%	41%	43%	60%
std dev as %		29%	32%	18%	22%	28%	17%	21%	23%	23%	22%

Question 1
This question could have been answered much better! Anyone who seeks a career in fixed income should be able to calculate bond price considerations for a purchase and sale transaction!

Question 2
It has been widely flagged by commentators that interest rates are likely to rise in either 2011 or 2012. Candidates should understand how yield curves move in response to expected changes in official policy and concerns about inflation. They should also be aware of how to construct trades to take advantage of these expected market changes. I was also looking for candidates to show that they understand the interaction between the gilt market and the repo market and how long positions can be financed by using repo and gilts can be borrowed using reverse repo. Very few candidates showed an understanding of these subjects.

Question 3
Most candidates showed good understanding of how a cross default clause works. However, there was a general lack of understanding that an event of default caused all debts to become due and payable immediately.

Question 4

Question 4 was answered well by most candidates.

Question 5
The fact that a large amount of global liquidity is held by developing nations means that the bond and cross currency swap is becoming an important way for companies to raise finance. Candidates answered this question well in parts, most being aware that in part c) the Australian Dollars that were raised by the issuance of the bond were swapped into Euros. However too many candidates thought that the bond and swap mechanism created foreign exchange risk for the issuing company. A matched coupon swap with an exchange of principal is used to eliminate all foreign exchange risk for the issuer and is in effect a synthetic FRN in the desired currency.

Question 6
Highlighted in most text books as a “must understand” concept and calculation, cash and carry pricing of forwards is an important concept. Most candidates struggled with this question as the average mark of only 23% shows.

Question 7
Answers to Question 7 were mixed with one candidate answering very well. I was expecting candidates to have a better understanding of the effect of combining two instruments. Sadly more work is needed on this subject!

The answers are as follows if the fixed coupon bond is combined with various instruments:

a) An interest rate swap with the same maturity as the bond which is quoted at 1.62% fixed versus 3-month US Dollar LIBOR.

Creates an asset swap paying 3 month L + 1.17%

b) A five year maturity credit default swap referencing BAE Systems plc which is quoted at 1.32% per annum.

Hedges the default risk on BAE Systems plc for the next five years giving a hedged return of 3 month L - 0.15%

c) A three month maturity put option which is quoted at a cost of 1.70% flat. *(2 marks)*

Hedges against a fall in the price of the BAE Systems plc bond for the next three months at a price of 109.0638

Question 8

Question 8 was designed to test the candidates understanding of two aspects of bonds:

1. The relationship between the price of the straight bond, the coupon strip and the principal repayment. In this case subtracting the price of the principal repayment from that of the straight bond will give the price of the coupon strip.
2. How to use bid/offer spreads to arrive at a correct price.

Some candidates showed a good understanding of part1, but many were completely lost with part 2.

Question 9

A very disappointing set of answers. Candidates should understand bond and swap and relative advantage concepts. In particular candidates should understand that fixed coupon bonds can be converted into synthetic FRNs by receiving fixed on an interest rate swap and by doing so the fixed cost of the bond coupons can be offset by the fixed rate that it is received on the interest rate swap. The difference between the two fixed rates plus the cost of the floating rate paid on the interest rate swap is the cost of funds to the issuer.

Therefore:
AA+ Rated Company should issue a fixed coupon bond and receive fixed on an interest rate swap to raise floating rate funding at LIBOR -0.17%

BBB- Rated Company should take a five year floating rate bank loan and pay fixed on an interest rate swap to raise fixed rate funding at 4.50% fixed.

Question 10

If the two very poor scores are ignored this question was answered fairly well by most candidates.

Section B

Section B contained two compulsory questions:

> Question 11 for a total of fifteen marks required the candidates to understand how a life insurance company might use zero coupon gilts to hedge future liabilities
>
> Question 12 for a total of ten marks dealt with hedging foreign exchange risk in an investment portfolio.

This section seemed to challenge most candidates with three candidates offering no answer for Q11 and six candidates not attempting Q12. The scores for both questions were 52% and 55% respectively but the high standard deviations showed the degree of variance in the answers. The details of the marks were as follows:

Question 11 Comments.

a) Asked candidates to calculate the weighted modified duration of the liabilities which most candidates did correctly.
b) The question stated that the company wanted to avoid reinvestment risk. This should have given candidates a clue that the answer was to use zero coupon gilts which some candidates answered correctly.
c) and d) were simple calculation, calculate the price of the zero and apply it to the liability and then sum the results. Few candidates showed that they understood how this calculation should be made.
d) Mostly correct answers (increases the duration of the liabilities of the company) but without elaborating on the impact of the interest rate sensitivity of the portfolio.

Question 12 Comments.

This question should have been answered much better! This question required candidates to describe three currency hedging strategies and calculate the rates achieved which few candidates managed with any degree of accuracy.

The answers were as follows:

	Up-front cost	**Potential profit (limited or unlimited)**	**Potential loss (limited or unlimited)**
1) Outright forward hedge	Nil	None rate locked in at 1.3397	None rate locked in at 1.3397
2) Put option purchase	€50m x 2.5% = €1,250,000	Unlimited below a rate 1.3065 at maturity	Limited but with a breakeven rate of 1.3735
3) Collar the risk	Nil	Limited to a rate of 1.2775	Limited to a rate of 1.40

Section C

	Q13	Q14	Q15	Q16
answers	8	9	21	8
marks	15	15	15	15
max	14	13	14	14
min	3	2	9	7
ave	11.50	9.78	10.81	8.50
std dev'n	2.070	2.949	1.940	3.854
ave as %	77%	65%	72%	57%
std dev as %	14%	20%	13%	26%

Question 13 Answered by 8 candidates for an average mark of 11.5
One of the two least favoured choices but well answered by those candidates that did offer an answer. The most important discussion point was how a bond fund such as the one that was profiled would perform in a rising interest rate scenario. Most candidates mentioned that unless the fund is actively managed it will suffer losses as interest rates rise. Most candidates understood and discussed the implications for credit spreads in an economic recovery and a double dip recession.

Question 14 Answered by 9 candidates for an average mark of 9.78
The answers to this question were on the whole a little disappointing. Most candidates did not suggest that if inflation rises it is likely to cause profits of Tesco plc to rise, whilst low inflation will give Tesco plc low funding cost but may have a negative impact on their profitability, therefore, an index linked issue would naturally be hedged by their own performance. It is unlikely that a company would issue an inflation linked instrument without buying in protection from the market (by way of an inflation swap or option) unless their profitability offers some degree of protection. Too many candidates though this to be the case!

Question 15 Answered by 21 candidates for an average mark of 10.81
This was the most popular question which asked candidates to assume that they were members of the Bank of England MPC and discuss how members might have voted. This was a well answered question.

Question 16 Answered by 8 candidates for an average mark of 8.50.
This question was not well answered with too many candidates concentrating on the implications for the US on a downgrade of their credit rating and not enough attention paid to the "knock on effect" for the Global Economy. Points that were generally missed were:

- Which currency could take on the role of a reserve currency
- How would internationally traded commodities such as crude oil be priced if the US Dollar were to be view as a permanently weak currency
- What would happen to global interest rates if US rates had to increase to meet funding requirements for the US
- What would non US holders of US Treasuries do with their existing holdings