CHARTERED INSTITUTE FOR SECURITIES & INVESTMENT

DIPLOMA JUNE 2011 EXAMINATION
BONDS AND FIXED INTEREST MARKETS
CHIEF EXAMINER'S REPORT

GENERAL COMMENTS

25 candidates scored higher than 50 marks for which they should be congratulated. Two candidates scored more than 80-marks.

It can be seen that the candidates were more confident 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	28	28	28
marks	45	25	30
max	38	22	28
min	14	6.5	13
ave	28.571	15.089	22.429
std dev'n	5.7827	3.7738	4.0408
ave as %	63%	60%	75%
std dev as %	13%	15%	13%

Many candidates found the Section A and B questions challenging although there were no significant outliers in Section A or Section B.

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

answers	28	28	28	26	28	28	28	28	28	26
marks		3	3	4	4	6	5	8	8	4
max		2	3	4	4	6	5	7	8	4
min		1	1	0	1	0	0	0	0	1
ave		1.393	2.196	1.365	3.411	4.304	3.214	4.839	5.679	2.442
std dev'n		0.438	0.698	0.912	0.782	1.707	1.301	1.106	2.262	0.698
ave as %		46%	73%	34%	85%	72%	64%	60%	71%	61%
std dev as %		15%	23%	23%	20%	28%	26%	14%	28%	17%

Question 1
This question could have been answered better. The significant difference is that with an exchangeable bond the investor is foregoing coupon for a higher credit rating of the issuer, the equity risk is very virtually the same in both bonds.

Question 2
It is good to see that 73% of the candidates answered this question correctly. It is imperative that candidates understand the relationship between the price of a straight bond, its coupon strip and principal repayment.

Question 3
In the current climate where credit risk is so important candidates should be more familiar with how a covered bond improves the covenant of an issue by making it effectively a bond secured on a pool of mortgages. Post credit crunch the quality of collateral can be relied upon to greatly reduce the credit risk incurred by a covered bond investor when compared with a straight issued by the same obligor.

Question 4
Question 4 was answered well (85%)

Question 5
Question 5 was answered well (72%).

Question 6
Duration is a subject which should be well understood by all candidates aspiring to a career in fixed income, especially in a low interest rate environment where investors are taking on more risk in the search for return. Most worrying was the fact that many candidates did not understand that an FRN may be issued with a long maturity, but because the interest rate (LIBOR) resets, in this case, every 6 months the duration (interest rate sensitivity) is very low, (it's Macaulay Duration is 0.5 years).

Question 7
Candidates will find that it is useful to learn how to calculate compound interest rates using an ACT/360 basis and different interest rates, commonly referred to as the "strip formula". This will be a useful tool to compare your expected interest rates to what the market is predicting and has priced in thus allowing for a better decision making process for hedgers.

The process is shown below:

1. Calculate an interest factor for each period, 1+ rate x days/basis
2. Multiply the interest factors together
3. Subtract 1 from the result to give the annual compounded effective interest rate

	Q1	Q2	Q3	Q4	Annual Equivalent
Market Rates	1.25%	1.35%	1.55%	1.75%	**1.48%**
Interest Factor	1.003125	1.003375	1.003875	1.004375	1.014831322
Your Expectations	1.15%	1.45%	1.50%	1.70%	**1.46%**
Interest Factor	1.002875	1.003625	1.00375	1.00425	1.014578547

It's a marginal decision; the hedge rate is 0.02% above your expectations but it locks in the rate for the next year at virtually no cost.

Question 8

Question 8 was answered well (71%). Candidates missed easy points by not picking up that the question including information on yield adjustments, (call income is 5 yield points and the put cost is 8.5 yield points giving a net cost of 3.5 yield points.

Question 9

Convertible bonds have attractions to investors in the current uncertain environment. The following points could have been made:

Positives:

1. If the recession does start to abate and the economy recovers, albeit slowly the stock market should start to increase and because this convertible bond conversion price is only set at a premium of 15% it is conceivable that the price could soon reach parity and make the conversion rights attractive. In any event a rise in the issuing company share price will drive up the convertible bond price on a delta basis.
2. If the recession eases then credit spreads which are currently high will reduce. Narrowing credit spreads will increase the price of the convertible bond.
3. In the current low interest rate environment a 4% coupon for an A- rated company for a 5-year maturity bond is an attractive yield given that the investor also has the possibility to convert the bond to equity at an attractive share price.

Negatives:

1. If the economy recovers short term interest rates will rise which in turn may cause the price of the bond to fall. Also, if inflation increases longer term yields will rise negatively impacting the price of the convertible bond.
2. The retail sector is currently one of the weakest sectors and if the recession is worse than expected this sector will continue to suffer low profitability negatively affecting the share price of the issuer.

Section B

Section B contained two compulsory questions:

Question 10 for a total of seventeen marks required the candidates to understand a RMBS functions
Question 11 for a total of 8 marks dealt with a bond long/short and how the trade is structured in the repo market

The first question in this section was reasonably well answered whilst the second question in this section seemed to challenge most candidates.

	Q10	Q11
answers	28	26
marks	17	8
max	16.5	7
min	0	0.5
ave	12.13	3.192
std dev'n	3.075	1.372
ave as %	71%	40%
std dev as %	18%	17%

Question 10 Comments.

What is the purpose of each of the following parts of the structure?
A. The Collateral Pool - Purchase assets from the originator, raise risk and earn a credit spread could have been better explained
B. The Special Purpose Vehicle - To make the originator bankruptcy remote from the note buyers – very few candidates mentioned bankruptcy remoteness
C. The 1st Loss Piece - To absorb the losses from the collateral pool up to the aggregate value of the first loss piece
D. The Collateral Manager - To administer the collateral pool on behalf of the SPV by collecting income as it becomes due
E. If the collateral pool suffers losses of 30-million after recoveries have been taken into account how much do the BBB Rated Note Investors receive on maturity of the notes? - The first loss piece would have been used to absorb losses. The losses exceeded the value of the first loss piece by 2.5 million, therefore, the value of the notes would be reduced pro rata by £3m and the note holders would receive 45m on maturity subject to all other fees having been paid.
F. Why have Sub-Prime RMBS caused such problems to the banking system?
1) Many of the later (2006 onwards) RMBS collateral pools contained the very poor quality loans which were almost certainly going to default at some stage.
2) Default rates were significantly higher than were expected causing first loss and mezzanine tranches to be extinguished leaving the senior notes open to downgrade and default
3) At the same time as default rates were increasing the underlying collateral (house) prices were falling sharply
4) RMBS were essentially hold to maturity notes with virtually secondary market liquidity
5) Structurers had created CDOs of RMBS and it became impossible to trace the final owners of defaulting loans until after the event.

Question 11 Comments.

This question should have been answered much better! Candidates should understand the workings of the repo market which has two significant purposes:

1. To transfer credit risk in the LIBOR market from banks to sovereign debt thus reducing credit risk and capital utilisation
2. To enable the process of borrowing a bond to execute a short or long short trade

The answers were as follows:

Describe how you might undertake this trade and with what amounts of nominal. - You could buy €10m nominal of the German bond and sell short €10m nominal of the Portuguese Bond.

What risks will you incur if you undertake this trade?

The main risk that you are running is that you are mismatched with your credit spread sensitivity and funding.

A more usual way to execute this trade would be to match either credit spread sensitivity or funding leaving a mismatch of nominal.

You also have mismatched repo risk and you might encounter a cost in reversing in the short Portuguese bond

The repo calculations are shown below:

Nominal	£	10,000,000.00	-£	10,000,000.00
Consideration	-£	9,745,006.57	£	9,553,991.26
Repo Rate		1.25%		0.85%
Repo Period		30		30
Repo interest	-£	10,151.05	£	6,767.41
Bond Price		97.4501		93.54
Bond P&L		0.0000		1.9999
			£	199,991.26
Coupon Income/Expense	£	16,438.36	-£	57,534.25

Net Repo Cost	-£	3,383.64
Bond P&L	£	200,000.00
Net Coupon	-£	41,095.89
	£	155,520.47

Section C

	Q12	Q13	Q14	Q15
answers	14	23	10	8
marks	15	15	15	15
max	14	14	14	14
min	3	2	9	7
ave	10.79	12.17	11.70	10.00
std dev'n	2.119	1.696	1.703	3.117
ave as %	72%	81%	78%	67%
std dev as %	14%	11%	11%	21%

Question 12 Answered by 14 candidates for an average mark of 10.79
The second most favoured question and answered quite well. CoCos have become part of the Tier 1 Capital debate and financial landscape. Candidates should be aware that this type of security carries a high coupon but also equity style risk in that the timing of conversion is outside of the control of the investor and will happen at the least favourable moment, i.e. when the core tier 1 ratio becomes delinquent. At this time it is highly likely that the share price will be falling and the investor will own shares through conversion at a much higher price than the current price. The attraction to the issuer is that capital can be enhanced (up to a limit of 15%) without diluting existing shareholders, unless of course the CoCo's are converted.

Question 13 Answered by 23 candidates for an average mark of 12.17
This was the most favoured answer in this section with an average score of 81%. In most cases the candidates knew and understood most of the arguments; well done!

Question 14 Answered by 10 candidates for an average mark of 11.70
The second least chosen question but well answered by those candidates that attempted it for an average score of 78%. Since the examination was set there has been a steady stream of non-government issuers bringing retail targeted inflation linked bonds to the market. This is a subject with which candidates should become conversant. Salient points were as follows:

Good for high profile companies who can access the bond markets in modest amounts without going through intermediaries.

Good for issuers because they have access to medium term "sticky" retail funds at a reasonable price.

The LSE retail bond market has made bonds more accessible to retail investors.

Possible risk is that retail investors don't understand bonds. This will be tested when interest rates start to rise.

Question 15 Answered by 8 candidates for an average mark of 10.00.
The least favoured question and a topical issue. This question was moderately well answered and is pertinent because:

A. The regulators are trying to discourage banks from speculative and proprietary trading. Most of the Gilt Edged Market Makers are banks and will be impacted by new trading/capital regulations. It is true to say that GEMMs cannot pre-sell the whole of the auction volumes and must therefore

take fairly large inventory positions. Constructing workable hedges is much more difficult than it used to be and therefore GEMMs have to commit capital to support the auctions.

B. The DMO has to issue large volumes of gilts; August 2011 was in excess of £15bn and therefore need the support of the GEMMs.

C. The GEMMs are receiving mixed messages, “don’t speculate” but “do support the DMO in raising finance for the Government”