CMFAS Module 6A – Securities & Futures Product Knowledge

Summary of Updates

(April 2019 – Version 2.9)

The updates made to the CMFAS Module 6A (September 2018 – Version 2.8) are summarized as follows:

**Additions / updates / corrections are indicated in blue italics.*
Deletions are indicated in strikethrough.
Section and page references relate to the updated study guide.

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<tr><td colspan="3">Chapter 13 –Extended Settlement Contracts</td></tr>
<tr><td>3.4.1 Identifying and Measuring Risk</td><td>40/ 41</td><td>Hedging : Identifying and Measuring Risk
5. Percentage of value to be hedged
- What percentage of the principal value of the asset (or liability) to be hedged does this transaction cost constitute?
= 0.009375% (i.e. 93.75 / 1,000,000)</td></tr>
<tr><td>3.4.5 Hedges for Currently Held or Anticipated Positions</td><td>44</td><td>Hedging an Anticipated Position
A bank has a 3-month loan due for fixing in a month’s time. The current 3- month interest rate is 1.50%. The nearest futures contract is 90 days to delivery date. Assuming the rate basis will decline linearly over time, what is the target rate?
Today’s date: 23 Sept 2014
Bank Loan due 3 months from today
Fix Date 1 month from today
Interest Rate 1.50% (for 3 months)
Nearest futures contract 90 days
Target date : 22 December 2014 (3 months from today)
Interest Rate 1.75%
Target Rate for Hedge = Futures Rate + Target Rate Basis
$V_t = F + (S_t - F_t)$
= Initial Futures Price + Ending Basis
= 1.75% + {(1.50% - 1.75%) x 60 / 90}
= 1.58%
Target Rate = 1.58%</td></tr>
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3.4.12 Further Examples of Hedging	**49/ 50**	**Locking in Deposit Yield** The treasurer of LMN Corporation is notified that USD 1 million will be available for investment in 3-month Eurodollar deposit on 10th September. His forecast is that interest rates will decline over the next few months. What should he do to lock in the current yield? Current date: 27th July Amount: USD 1,000,000 (funds expected on 10th September) Market information: Date / Cash Market / Futures Market / ED Sep 27th Jul / / 98.62 = 1.38% 10th Sep / 3-month deposit = 0.5% / 99.40 = 0.60% 0.78% If funds are NOT HEDGED: Interest earned (from 10 Sep): USD 1,000,000 X 0.5% X 90/360 = USD 1,250 If funds are HEDGED: Profit earned from futures: USD 1,000,000 X 0.78% X 90/360 = USD 1,950 Interest earned (from 10th Sep): USD 1,001,950 X 0.5% X 90/360 = USD 1,252.44 Yield for 3 months: $\left[\frac{\text{USD } 1{,}950 + \text{USD } 1{,}252.44}{\text{USD } 1{,}000{,}000}\right] \times \frac{360}{90}$ = 1.2*8*% → With the hedge, yield of 1.2*8*% can be locked in (close to the current level of 1.38%).

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3.6.1 **2. Arbitrage between Forward Rate Agreements (FRAs) and Futures**	**56**	Example – Asset Allocation of Bond &Stocks Step 1 – Compute value of the strip "= 1.36 + { (1.75 - 1.36) x 35 /91} = 1.510%"
5.10.1 Traditional Valuation Approach	**120**	**Computing the Value of a Convertible Bond** For JKL Ltd Convertible bond price = SGD 97.00 (par value SGD 100, 5 years tenure) Coupon rate = 5% Price of equivalent straight bond = SGD96.00 Market price of shares = SGD4.00 Conversion ratio = 20 (20 shares for 1 bond) Dividend per share = 10 cents per share 4. $\text{Premium over straight value} = \frac{\text{Market price of convertible bond}}{\text{Straight value}} - 1$ = (SGD 97 / SGD 96) - 1 = 0.0104 = 1.04%
11.5.11 Callable Bull / Bear Contracts (CBBCs) - Examples & Illustrations	**240**	**Scenario 1 : Contract Sold Before Maturity** Strike Price: $10 Call Price : $11 Conversion Ration 10:1 Financing cost (annual rate) 10% Time to Maturity (months) 6 months Current Spot Price of ABC $15.00 Price of Bull Contract = [($15.00 - $10.00) + ($10.00 x 10% x 6/12)] ÷ 10 = $0.55 Rise in ABC Share price ($) = $15.00 - $12.00 = $3.00 Rise in ABC Share price (%) = [($15.00 - $12.00) ÷ ($12.00)] x 100% = 25.00% Profit on Each Bull Contract ($) = $0.55 - $0.30 = $0.25 Profit on Each Bull Contract (%) = [($0.55 - ~~$.030~~ *$0.30*) ÷ $0.30] x 100% = 83.33%
13.6.5 **Arbitraging**	**271**	**To remove Figure 13.6.5.1 ES Contracts Trading at a Premium and** **Figure 13.6.5.2 ES Contracts at a Discount**

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<tr><td>13.5.1 Calculation of Profit and Loss for ES Contracts</td><td>268</td><td>

Example – Selling ES Settlement Contracts

Company: SIA
Quantity: 1000

~~Purchase~~ Sell ES Today: 25-May 2014 (for 25-June 2014 Delivery)	$10.50	$10.50
On 25-June 2014		
SIA shares delivered @ SIA Closing Price	$10.00	$11.00
Profit/Loss ($)	+$0.50 X 1,000 =$500 *PROFIT*	-$0.50 X 1,000 = -$500 LOSS

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<tr><td>13.7.7 Margin Calls</td><td>276</td><td>

Figure 13.7.7 – Margin Call

Example 1 – Margin Calls

The required margin when the valuation price is $9.50 is $1,450. Since the margin holding of the investor is $1,200, the investor will receive a margin call. However, the investor has to top up to the level of Initial Margin + Additional Margin, which adds up to $1,640. Therefore the margin call amount would be $440 ($1,640 - $1,200).

Investor Invests in Company A	Maintenance Margin MM = 10%	Additional Margin AM	Required Margin = MM + AM	Initial Margin IM = 1.2 x MM	IM + AM	Margin Holding	Margin Call
Buys 1 lot of Company A's ES at $10	($10.00 x 1,000) x 10% = **$1,000**	-	**$1,000**	$1,000 x 1.2 = **$1,200**	$1,200	-	**$1,200**
Valuation price = $9.50	($9.50 x 1,000) x 10% = ~~$9.50~~ *$950*	($10 - $9.50) x 1,000 = **$500**	$950 + $500 = **$1,450**	~~$9.50~~ *$950* x 1.2 = **$1,140**	$1,140 + $500 = **$1,640**	**$1,200**	**$440**
Valuation price = $10.20	($10.20 x 1,000) x 10% = **$1,020**	($10 - $10.20) x 1,000 = **-$200**	$1,020 + (-$200) = **$820**	$1,020 x 1.2 = **$1,224**	$1,224 + (-$200) = **$1,024**	**$1,640**	**$0**

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13.7.9 **Excess Margins**	**278**	***Figure 13.7.9 – Excess Margins***

Calculating Excess Margins

Using the same illustration above the Company A shares, when the valuation price rose to $10.20, the margin holding for the customer is $1,640. Excess margin is the amount in excess of Initial Margins + Additional Margins = $ 616 ($1,640 - $1,024).

Investor Invests in Company A		Maintenance Margin MM = 10%	Additional Margin AM	Required Margin = MM + AM	Initial Margin IM = 1.2 X MM	IM + AM	Margin Holding	Margin Call
Day 1	Buys 1 lot of Company A's ES at $10	($10 x 1,000) x 10% = $1,000	-	-	$1,000 x ~~½~~ *1.2* = $1,200	-	$0	**$1,200**
Day 2	Valuation price = $9.50	($9,50 x 1,000) x 10% = $950	($10 - $9.50) x *1,000* = $500	$950 + $500 = $1,450	~~$9.50~~ *$950* x 1.2 = ~~$1,120~~ *$1,140*	$1,140 + $500 = $1,640	**$1,200**	**$440**
Day 3	Valuation price = $10.20	($10.20 x 1,000) x 10% = $1,020	($10 -$10.20) x 1,000 = - $200	$1,020 + (-$200) = $820	$1,020 x 1.2 = $1,224	$1,224 + (- 200) = $1,024	**$1,640**	**$0**