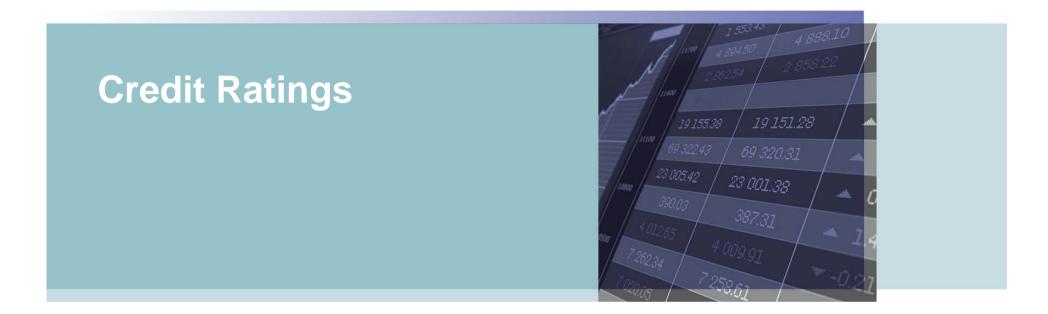
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What are Credit Ratings?

- An assessment by professional organisations of an entity's ability to punctually service and repay debt obligations
- Used by investors as indication of likelihood of getting their money back in accordance with the terms on which they invested or the converse risk of default
- Internationally recognised and provide global comparisons of the credit quality of institutions, financial stability of these institutions and whether or not there is a recourse to 'lenders of last resort'
- Organisations use these ratings as an integral part of their credit and investment policy

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Why use Credit Ratings?

- Security of funds should be the first priority for Local Authorities
- There is also a duty to balance risk and return
- Enhanced returns should be a secondary priority
- Strong emphasis on Risk Management

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Credit Ratings: definitions

Short-term (Fitch Ratings - Issuer Default Rating)	Long-term (Fitch Ratings - Issuer Default Rating)
Covers obligations which have original maturity < 1 year	Generally covers maturities up to 5 years
It places greater reliance on liquidity required to meet financial commitments	Emphasis shifts to assessment of ongoing stability of the institutions prospective financial position

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Establishing Credit Criteria

- No combination of ratings can be viewed as entirely fail safe
- One way to determine relative degrees of security is to use matrices based on credit ratings
- Matrices provide a method to decide what levels of credit quality may be appropriate in determining policy
- Combination of ratings and maturity limits are not definitive

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Credit Risk Assessment

Rating Agencies

- Fitch
- Standard & Poor's
- Moody's

Capita Asset Services' Credit Methodology

Overlay Credit ratings with the use of Credit Default Swaps

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Creditworthiness: Capita Asset Services Methodology

- Mathematical and transparent in its approach.
- A system which assigns values to ratings from all 3 agencies and integrates them accordingly.
- The scoring starts from 1 for the highest ratings and increases in an ascending manner.
- The ratings are then calculated and a final score is assigned to each institution.
- This score is then compared to pre-assigned bands and a colour is derived from this.

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Capita Asset Services Credit Procedure

1. Monthly review of FCA authorised deposit takers



2. Ratings and rating watches / outlooks obtained from all 3 rating agencies



 Counterparties subject to Capita Asset Services'
Credit Methodology



6. External analysis carried out, including CDS trends analysis and sovereign spread analysis



5. CDS Overlay applied to gauge a market view of the counterparty. Final suggested duration



4. A suggested duration based on credit ratings and credit ratings with watches / outlooks



7. Market views and external research taken into consideration



8. Notice of any rating changes or extreme market movements reported to clients



9. Weekly audit of Capita Asset Services' Credit List

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Stage 1: Obtain Credit Ratings

Barclays				
	Fitch	Moody's	S&P	
Long Term	А	A2	Α	
Short Term F1 P-1 A-1				

- Subscriptions to all 3 ratings agencies
- Use a full 2 way approach where possible

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Stage 2: Score the counterparty

Fitch	Score
Α	6 <
F1	2 🥋
	A

	Moody's	Score
Long Term	A2	6
Short Term	P-1	2

	S&P	Score
Long Term	Α	6
Short Term	A-1	2

		Long Ter	m Ratings		
Fit	ch	Mo	odys	St	&P
Rating	Scoring	Rating	Scoring	Rating	Scoring
AAA	1	Aaa	1	AAA	1
AA+	2	Aa1	2	AA+	2
AA	3	Aa2	3	AA	3
AA-	4	Aa3	4	AA-	4
A+	5	A1	5	A+	5
Α	~~6	A2	6	Α	6
A-	7	A3	7	A-	7
BBB+	8	Baa1	8	BBB+	8
BBB	9	Baa2	9	BBB	9
BBB-	10	Baa3	10	BBB-	10

		Short Ter	m Ratings		
Fi	tch	Mod	odys	St	&P
Rating	Scoring	Rating	Scoring	Rating	Scoring
F1+	``\ 1	-	-	A-1+	1
F1	2	P-1	2	A-1	2
F2	3	P-2	3	A-2	3
F3	4	P-3	4	A-3	4

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Stage 3: Calculate the credit score

	Fitch	Score
Long Term	Α	64
Short Term	F1	2

	Moody's	Score
Long Term	A2	6
Short Term	P-1	2

	S&P	Score
 Long Term	А	6
Short Term	A-1	2

Calculation		
Long Term Average	$(6+6+6) \div 3 = 6$	
Short Term Average	$(2+2+2) \div 3 = 2$	
Total score	6 + 2 = 8	

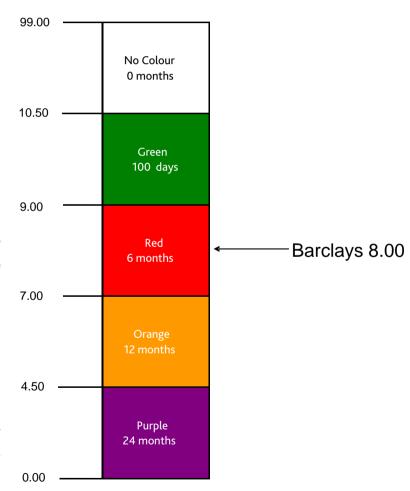
- The credit score is a summation of the averages of the scores for each rating component (i.e. Long and Short Term) from each credit rating agency.
- If a rating component is missing e.g. there is no Long Term rating from <u>any</u> of the 3 agencies, then the counterparty is not penalised.

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Stage 4: Determine Duration

	Lower Boundary	Upper Boundary
Р	0	4.5
0	4.5	7
R	7	9
G	9	10.5
N/C	10.5	99

- The score for the counterparty is then ^{9.00} measured against pre-determined bands (which have been historically back tested) to determine what colour the counterparty will _{7.00} take (see above)
- There are currently 5 colour bands, with each band relating to a duration.
- In the case of Barclays, we can see that a score of 8.00 falls into the Red band giving it a credit rating suggested duration of 6 months.



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Capita Asset Services Credit Methodology – An Example

Stage 5: Watch/Outlook Adjusted Duration

Status	Effect on Credit Score
Negative Watch	+1/2
Negative Outlook	+1/4
Positive Watch	- 1/2
Positive Outlook	- 1/4
Under Review for Possible Downgrade	+1/2
Under Review for Possible Upgrade	- 1/2

	99.00 ———		
	10.50	No Colour 0 months	
		Green 100 days	
	7.00	Red 6 months	←——Barclays 8.17
•	4.50	Orange 12 months	
t	4.50	Purple	

24 months

Barclays - Watches and outlooks					
	Fitch	Moody's	S&P		
Long Term	Stable Outlook	Negative Outlook	Negative Outlook		
Short Term					

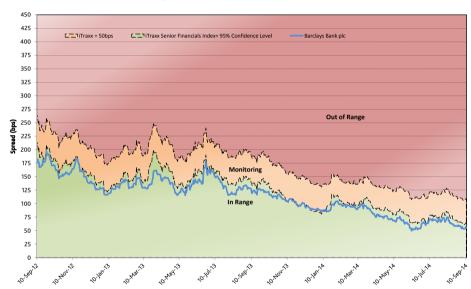
 As Barclays has 2 negative outlook status' the credit score is <u>increased</u> by 1/6 point bringing the score to 8.17 and it therefore remains in Red.

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Capita Asset Services Credit Methodology – An Example

Stage 6: CDS Overlay

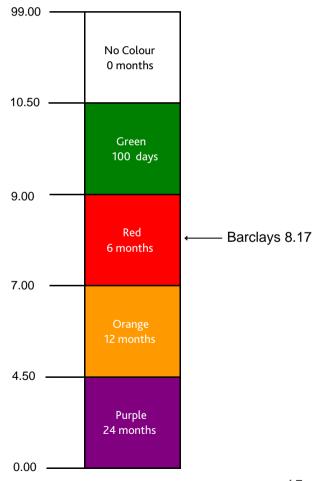
- The final layer to be considered is that of the CDS spread (if available). The CDS spread gives a market sentiment of the credit risk surrounding a particular institution.
- This CDS spread is then compared to an iTraxx benchmark. The iTraxx benchmark gives an indication of the average CDS spread for financial institutions.
- An upper band is produced based either on a fixed spread of 50bps above the iTraxx benchmark or based on a volatility measure.



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- As Barclays is in "In Range" i.e. its CDS spread is below the iTraxx we maintain its suggested duration at Red – 6 months.
- This is illustrated below:

Stage	Colour	Duration
Credit Ratings	Red	6 months
Outlooks/Watches	Red	6 months
CDS Spreads	Red	6 months



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Capita Asset Services Credit Methodology – An Example

When the iTraxx is below 100 :

0-100 No Change. ("In Range" status)

Above 100-150 Duration reduced by one period ("Monitoring" status)

Above 150 Duration changed to "No Colour". ("Out of Range" status)

When the iTraxx is above 100 :

Below iTraxx
No Change. ("In Range" status)

Up to iTraxx+50bps
Duration reduced by one period. ("Monitoring" status)

Over iTraxx+50bps Duration changed to "No Colour". ("Out of Range" status)

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