

CHANGES TO THE EUROZONE MERCER YIELD CURVE

The Eurozone Mercer Yield Curve (MYC) is created to support Retirement consultants who are advising clients on assumptions to use for accounting valuations. The data and methodology used to create the MYC are reviewed periodically to ensure that the best use is made of available resources.

The last review and changes were done in October 2013. We have recently conducted another review, and will make a number of minor changes to the MYC with effect from 30 June 2015.

To allow assessment of the impact of these changes we will be estimating the impact of the changes at future key accounting dates in the next year and providing it to the technical teams of the main audit firms as required. Some approximations will need to be made in doing so due to our change in data provider. For the avoidance of doubt, only the new version of the Eurozone Mercer Yield Curve will be published from 30 June 2015.

We have sent a provisional version of this document to the major auditor firms to seek their opinion. The general response was that the changes were fine in principle, but that the audit firms would continue to assess the resulting yield curve against their internal models. Opinion was divided about whether additional disclosures would be required if the changes resulted in a material difference in discount rate; this may vary on a client by client basis.

We have prepared the following summary to assist in communicating the changes to clients:

The Eurozone Mercer Yield Curve model is derived using those corporate bonds with an AA rating that meet our criteria for inclusion. As a result of regular review to ensure efficiency and global consistency, with effect from 30 June 2015 we have changed to a single data provider, Thomson Reuter's Datastream, for the Eurozone Mercer Yield Curve. Prior to June 2015 the ratings information was sourced from Bloomberg, while the yield information was provided by Thomson Reuter's Datastream, and derived bond information was taken from the Barclays capital index. The new data provider sources AA ratings from Moodys and S&P but no longer covers Fitch, which removes a number of bonds with short duration, but provides more information with regards to long dated derived bonds. We also re-evaluated whether certain bonds met our criteria for inclusion, which resulted in a handful of bonds being added or removed.

Our analysis showed that the change to the yield curve shape as a result of these changes was generally small. We have communicated these changes with auditors, who did not have concerns in principle with the changes.

A detailed explanation of the changes and their impact is set out on the following pages.

Ratings Providers

The MYC is currently based on Euro denominated bonds rated AA by one of three ratings providers (Moody's, S&P and Fitch) with ratings information sourced through Bloomberg and information on yields sourced from Thomson Reuter's Datastream product. We have investigated the impact of sourcing the ratings information through Thomson Reuter's DataStream product, which for practical purposes would mean dropping Fitch as a ratings provider:

- Using a single data provider reduces the risk of internally inconsistent data, allows a more efficient yield curve creation process, and provides savings in data provider costs.
- There are fewer bonds included in the MYC. As at 31 December 2014 changing ratings providers would result in the MYC dataset having 13 fewer bonds, all of which have durations lower than 10 years. As the MYC dataset has a large number of bonds with duration lower than 10 years, these bonds do not provide much incremental information.

As at 31 March 2015, a rerating exercise conducted by Fitch resulted in 88 bonds being brought into the MYC, of which 83 were issued by DZ Bank AG (which Moody's continues to rate as A and S&P continues not to rate). As a result, as at 31 March 2015, changing ratings providers would result the MYC dataset having 106 fewer bonds. This is a much more material decrease in the number of bonds. That said, only two of these bonds have duration greater than 10 years (and those two have durations of 10.5 years and 10.6 years) so again the incremental information from these bonds is not especially great.

- Using two ratings agencies means that the MYC is consistent with other Yield Curves produced by Mercer, such as that for the US.
- Using two ratings agencies means that the curve can no longer explicitly include bonds rated non-AA by a majority of ratings providers. Some audit firms had questioned whether these bonds were 'high quality'.

On balance we have concluded that this change is a positive one and should be made.

For accounting purposes, this is a change of data provider, so in our view there should be no need for the extra disclosures that would be needed if it were a change in method.

Review of Bond Database

Bonds are included in the MYC according to their characteristics, such as whether they have options, whether they are collateralised or whether they are government related. As part of this review, we have reassessed the information available for the candidate bonds to see whether they should continue to be included or excluded.

As a result of this we concluded there were minor changes in which bonds should be included in the MYC because, on further investigation that included updated or additional information, we found their position in relation to our criteria had changed. The bonds added or removed are shown in ***Impact of Changes***.

For accounting purposes, this change is simply an improvement in estimate, so in our view there should be no need for the extra disclosures that would be needed if it were a change in method.

Additional Checks for Bonds with Maturities Over 50 Years

Currently all bonds with maturities greater than 0.5 years are used to construct a regressed curve. This is used to generate the yield curve up to the transition point, which occurs at a point in time equal to the average maturity term for the longest five available yields in the bond universe subject to a maximum transition point of 30 years. The curve is then extended to 50 years by holding the spread between the MYC and the treasury curve constant.

Currently, there are no bonds with maturities greater than 50 years which meet the criteria for inclusion. If one was issued, and there continued to be no close comparators, the lack of a deep market in bonds at that maturity means that it would be difficult to assess whether the pricing information was distorted, in which case incorporating the information that bond provided to the curve could be inappropriate. To mitigate this, we have decided that any bonds with maturity greater than 50 years should be subject to additional checks before being included in the curve. As there are no such bonds currently in the curve, this change has no immediate impact.

For accounting purposes, this change has no immediate effect and is intended to result in an improvement in estimate, so in our view there should be no need for the extra disclosures that would be needed if it were a change in method.

Calculation of Derived Bonds

IAS 19 says “In some cases, there may be no deep market in bonds with a sufficiently long maturity to match the estimated maturity of all the benefit payments. In such cases, an entity uses current market rates of the appropriate term to discount shorter-term payments, and estimates the discount rate for longer maturities by extrapolating current market rates along the yield curve”.

For the MYC this point arises at durations of around 15 years, over which there are only five AA-rated bonds which meet our criteria for inclusion. Our process for extrapolating current market rates along the yield curve involves incorporating information from ‘derived bonds’, namely A-rated bonds from the Barclays Euro Aggregate Corporates Index with maturities greater than 15 years, with yields adjusted by our estimate of the long term spread between A-rated and AA-rated bonds. The spread is currently estimated by comparing curves fitted to those AA-rated bonds and A-rated bonds that are included in the Barclays Euro Aggregate Corporates Index.

After consideration, we have concluded that it would be more consistent to use the data gathered for the construction of the MYC to provide the derived bond information. This has two benefits:

- We have a larger number of derived bonds at durations over 15 years, which should improve the extrapolation.
- The comparison between the yield curve of AA-rated bonds and the curve fitted to A-rated bonds, used to determine the spread, relates to the dataset to which the spread is being applied. This change is intended to improve the theoretical accuracy of the spread calculation and the consistency of the MYC calculation.

The change to the data source has several effects:

- It requires an amendment to the method used to calculate a figure (the A – AA spread) which is used to adjust certain yields before the MYC is calculated. It is not a change to the main MYC calculation. As the change is expected to improve the consistency of the data used and the impact of the change is not expected to be material, we do not believe there should be a need for extra disclosures for accounting purposes.
- It increases the number of data points at longer durations, which should make the MYC more stable, all else being equal. This is a result of the change in data provider, and is not a change in method, so in our view there should be no need for the extra disclosures that would be needed if it were a change in method.
- The increased number of data points at longer maturities affects the point at which our method requires us to transfer from the ‘regressed curve’ to the extrapolation relying on a constant spread above treasury rates. The effect of this depends on the shape of the regressed AA curve and the treasury curve, as can be seen in the two charts below. It has arisen solely as a result of a change to our data source, which is intended to result in an improved estimate, and so in our view there should be no need for the extra disclosures that would be needed if it were a change in method.

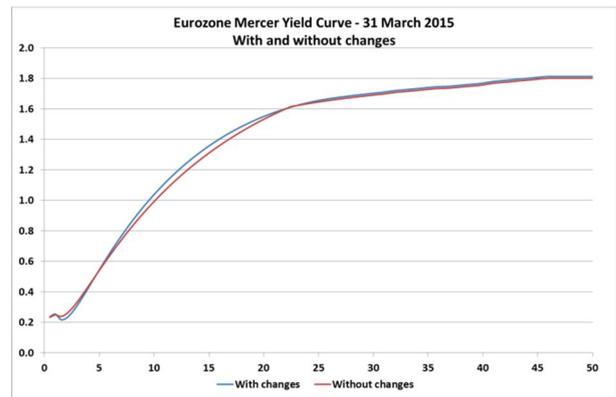
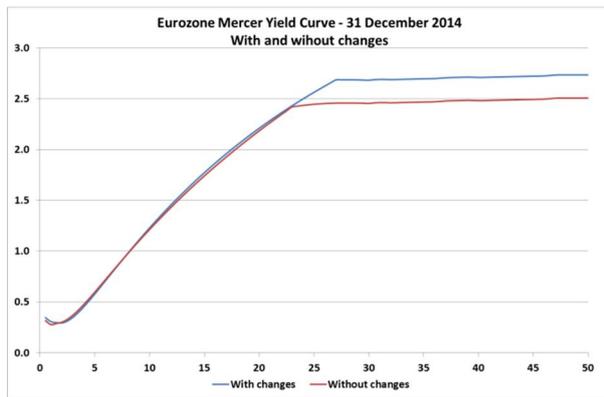
Impact of Changes

To illustrate the impact of the changes, we have run the MYC both with and without the changes as at 31 December 2014 and 31 March 2015 and shown the dataset changes, the yield curves and the single equivalent rates for several sample schemes:

ISINs in Dataset After Changes	31 December 2014		31 March 2015	
	Bonds Added	Bonds Removed	Bonds Added	Bonds Removed
	XS0272770396	XS0445655284	XS0413806596	XS0521103860
	XS0345450653	XS0521103860	XS0369461644	XS0262913998
	BE6228793350	XS0262913998	DE000A1G85B4	XS0693854605
	BE6238117475	XS0693854605	DE000A1UDWM7	XS0273766732
	BE6239860446	XS0273766732	DE000A1UDWN5	XS0879089331
	XS0834487414	XS0093075249	XS0345450653	XS0093075249
	XS0885399583	XS0849677348	BE6228793350	XS0822316765
	BE0002433085	DE000HV2AJ11	BE6238117475	XS0849677348
	DE000MHB9080	XS0995417846	BE6239860446	XS1166863339
	XS0982777657	XS0732522965	XS0834487414	XS0879327962
	DE000DR6D0M8	XS0981596819	XS1208625613	XS0937197431
	XS1023649962	XS0516040671	XS0885399583	DE000HV2AJ11
	XS1065235506	XS0968433135	BE0002433085	XS0995417846
	BE6272425172	XS0118693430	DE000MHB9080	XS0732522965
Blue: Change in Data Provider	XS1082890663	XS1077631635	XS0982777657	XS0906393151
	XS0440592748	XS1130067140	DE000DR6D0M8	XS0981596819
Purple: Review of Bond Database	XS0442449939	XS0817639924	XS1023649962	XS1135782628
	XS0888667200	XS0925599556	XS1065235506	XS0945067436
	XS0911388832	XS1074382893	BE6272425172	XS0968433135
Green: Derived Yield Calculation	BE6272359488	BE6248644013	XS1082890663	XS0118693430
		XS0968972199	XS0442449939	XS0992602465
			XS0888667200	XS0999475196
			XS0911388832	XS1077631635
			BE6272359488	XS1130067140
				XS1132789949
				XS0817639924
				XS0925599556
				XS1074382893
				DE0005752729
				XS1180130939
				BE6248644013
				XS0968972199
				83 Bonds issued by DZ Bank AG not listed

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Scheme Profile	31 December 2014		31 March 2015	
	Without Changes	With Changes	Without Changes	With Changes
Retiree	1.88%	1.95%	1.38%	1.40%
Intermediate	2.28%	2.42%	1.62%	1.64%
Long	2.41%	2.60%	1.71%	1.72%

As at 31 December 2014, the shape of the yield curve is very similar before and after the changes are applied. However the transition point at which we start to fix the spread between the corporate bond curve and the treasury curve has moved to the right, as discussed in the section 'Calculation of derived bonds' above, increasing the single equivalent rates. In contrast, both the shape of the yield curve and the single equivalent rates (including those not shown) as at 31 March 2015 are very similar before and after the changes were applied.

These figures are for information only – we do not intend to apply any of the changes discussed above retrospectively. However the changes will apply to the MYC from 30 June 2015.

**UK Retirement Resource Group
June 2015**