PROMOTING A FAIR EXCHANGE OF VALUE

Bond Pricing Challenges often result in a lack of Fair Exchange of Value concerning the Price of Bonds and the agreed Yield of return. These challenges affect trading activities in both the primary and secondary markets of several Investment Banking and Securities Trading communities.

Analysis of several Bond Pricing Challenges shows a disparity in the allocation of monies among trading parties and within the accounting books of companies on a daily basis. Millions of dollars are incorrectly traded due to Price/Yield miscalculations and anomalies inbuilt in spreadsheets, financial calculators and other pricing tools/software.

The call for a resolution to these fundamental Bond Pricing Challenges solicits the participation of Traders, Central Banks, Finance Ministries, Securities Dealers Associations, among other regulatory authorities and stakeholders. In the pursuit of a common solution, this document provides examples and proposed solutions for several Bond Pricing Challenges.

The examples supplied are aimed at providing evidence of Bond Pricing inconsistencies or anomalies and the scope of disparity among bond issuers, brokers, and other trading participants. Examples are selected with a view of implicitly embracing an all-encompassing and equitable solution for other potential challenges.

For further information see the Bond Pricing Challenges Report by referencing or selecting the following link – http://www.krysglobal.com/Link_Files/Bond_Pricing_Challenges_krys.pdf

KRYS FINANCIALS A/S

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CORRECTING THE EFFECTIVE YIELD AND PRICE OF BONDS

- The Standard Bond Pricing Formula (SBPF) assumes that coupon periods are of the same length and coupon-rate is equal to the yield-rate at par /primary issue.

- Bonds that have odd (uneven) coupon periods at the start and/or at the end break the assumptions of the SBPF. These Odd Coupon Bonds are often the norm than the exception.

- For example, consider an Odd Coupon Bond with first and/or last coupon(s) of 6-months and other coupons at 3-months intervals. In this case, if the coupon-rate is 20% then the yield-rate will be less than 20% (say 19.893%) since there is a loss of 3-months compounding interest in the first and/or last period(s).

- This breach in assumptions could result in a loss for brokers who have placed investor Repurchase Agreements against this bond at 19.95% with an aim of making a profit of 0.05%. Rather than making a spread/gain of .05%, these brokers end-up with a loss of 0.057% (i.e. the bond yield of 19.893% less the repurchase agreement yield of 19.95%).

- The Central Bank and brokers could provide a solution by stating the correct Effective Yield and Price of bonds being traded. This will help remove the 'guess work' from brokers and other counter-parties (investors) who trade these instruments in the secondary market.

RECONSTRUCTING THE SBPF FOR PRICING ODD COUPON BONDS

Figure 1

Adjusting the SBPF for Odd (First/Last) Coupon Bonds requires the inclusion of formulas for Pricing Short and Long Coupons. Odd Bonds have regular (even) coupon periods in the middle and odd (uneven) coupons at the starting and/or ending period(s). Though this is not the place to state complicated mathematical formulas there are different formulas for pricing Regular, Odd-Short and Odd-Long coupon bonds. This diagram shows a bond timeline (from issue to maturity) and highlights the potential Odd and Regular coupon periods.

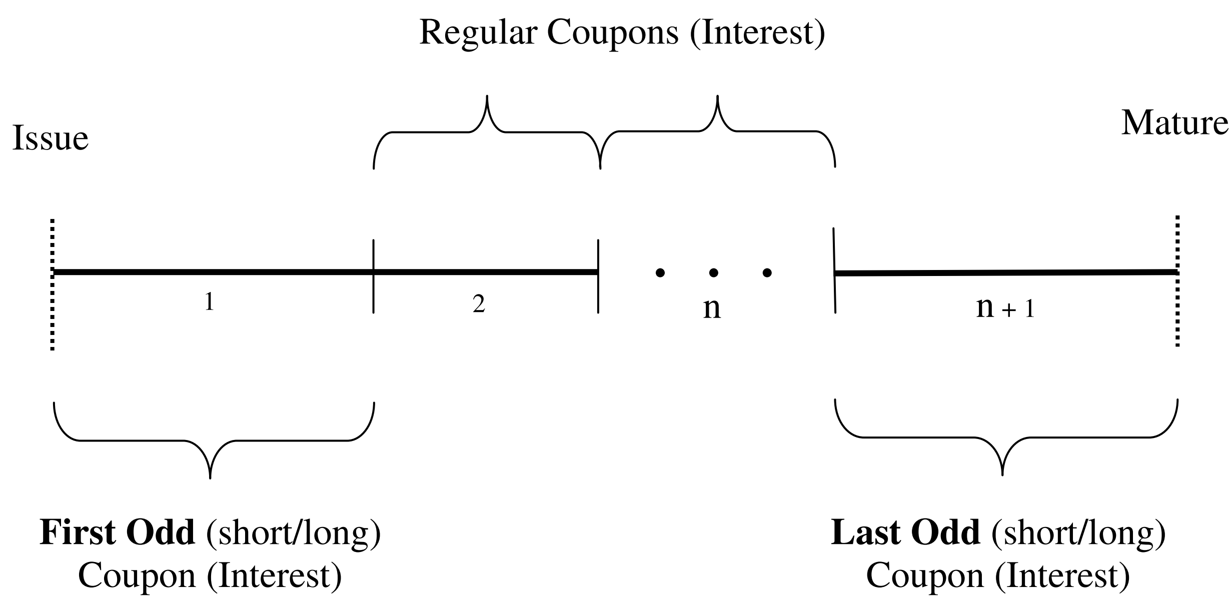


Table 1

This table shows potential Bond Pricing parameters (First/Last Odd Coupon Dates) that may be used for automatically Detecting, Specifying and Pricing Odd Coupon Bonds. This example depicts the challenge with the Yield/Price for Odd Coupon Bonds as previously discussed.

Description	Data
Issue/Settlement Date	15-Feb-2008
First ODD Coupon Date	**15-Aug-2008**
Last ODD Coupon Date	**15-May-2012**
Maturity Date	15-Nov-2012
Percent Coupon	**20%**
Percent Yield	**? %**
Redemption Value	$100
Frequency	4 - Quarterly
Accrual Basis	3 - Actual/365

Table 2

This table shows the Yield Rate (19.89282%) and Coupon Rate (20%) for the parameters of the Odd Coupon Bond specified in Table 1. Traders often mistakenly use Excel and Lotus to price Odd Coupon Bonds in a similar manner as Regular Bonds.

Description	KRYS Odd-Bond Calc	EXCEL and LOTUS Regular Bond Calc	Difference
Yield rate	**19.89282%**	**20%**	**0.10718%**
Coupon rate	20 %	20%	0

DISPARITY WITH COUPONS PAYMENTS AND ACCRUED INTEREST

- Some Central Banks / Finance Ministries pay coupon interest based on the Daily Coupon-rate rather than the preferred Periodic Coupon-rate which is more consistent with the SBPF.
- For example, a Bond with coupons at 3-months intervals should have the same dollar amount for each coupon payment. This is opposed to having dollar amounts varying between 90 and 92 days, which creates disparity in the secondary market.
- If coupons are paid earlier or later due to weekends/holidays then interest should be prorated based on the standard Periodic Coupon dollar amount.
- Accrued Interest represents a partial payment of a coupon that should be prorated based on the standard Periodic Coupon dollar amount versus calculating based on days expended via the Daily Coupon-rate.
- The Daily Coupon-rate of payment may work for persons who hold a bond until maturity, which makes up for any potential coupon gain/loss experienced over the life of the bond. However, this is not good for trading counter-parties (investors) in the secondary market.
- In the secondary market where bonds are changing hands, the Daily Coupon-rate will create unfavourable possibilities where one party's loss or gain in coupon becomes the counter-party's gain or loss respectively.
- The Periodic Coupon-rate promotes a fair exchange of value between counter-parties and reduces the possibilities of coupon loss or gain between counter-parties operating in the secondary market.

Table 3

This table shows the parameters that are used in Table 4 to illustrate that the same Bond may differ in Price between Excel and Lotus. This difference is due to the treatment of Accrual Basis during Accrued Interest computation.

Description	Data
Settlement Date	**12-May-2009**
Maturity Date	15-Nov-2012
Percent Coupon	5.75%
Percent Yield	3.75%
Redemption Value	$100
Frequency	4 - Quarterly
Accrual Basis	**3 - Actual/365**

Table 4

This table shows that the differences in Accrued Interest ($34,250.42) and Price ($10,255.71) can be significant due to Excel's Daily Coupon versus Lotus' Periodic Coupon methods. This represents a disparity in which a potential Seller loses $34,250.42 in interest to a potential Buyer.

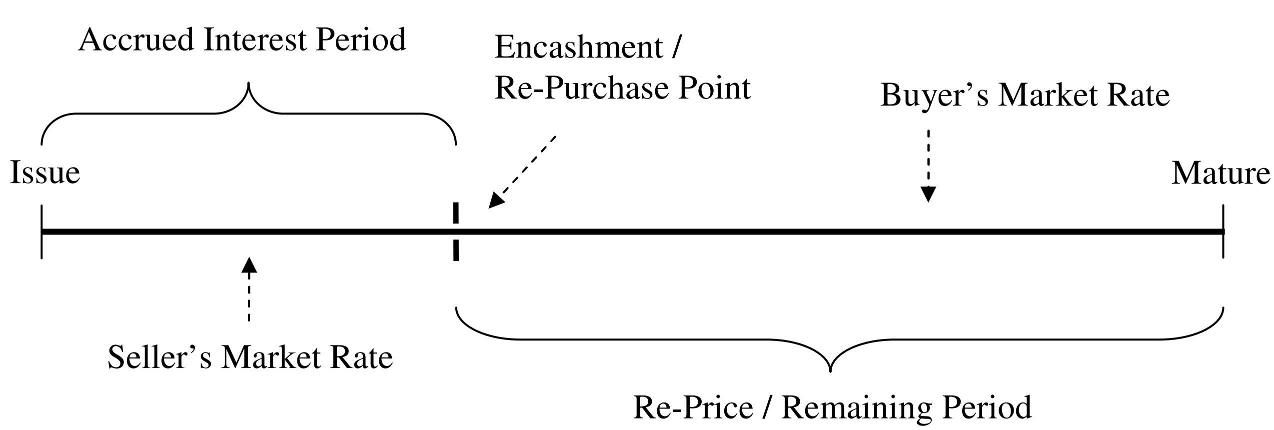
Description	EXCEL Bond Calc	LOTUS Bond Calc	Difference
Face /Par/Nominal	100,000,000.00	100,000,000.00	0.00
Price per 100Face	106.55622912	106.54597341	0.01025571
Price/Value	**$106,556,229.12**	**$106,545,973.41**	**$10,255.71**
Discount /Premium	6,556,229.12	6,545,973.41	10,255.71
Accrued Interest	**$1,354,794.52**	**$1,389,044.94**	**$34,250.42**

PRICES ON THE CENTRAL SECURITIES DEPOSITORY (CSD) SYSTEM

- The CSD system promotes an environment where Bond Pricing will become the norm for trading in the secondary / repurchase market.
- Brokers will no longer earn an interest-rate spread at the maturity (backend) of a repurchase agreement deal with investors.
- Brokers will discount (price) investment bonds and take profits at the front-end as they sell to investors. Note, this may reduce the quality of customer service as brokers take profits upfront without any liability to investors.
- Pricing Bonds/Repurchase Agreements in the secondary market will require pricing investments for odd-interest periods.

Figure 2

This diagram highlights considerations for Selling (Encashing) and Re-Purchasing (Re-Pricing) investments in the secondary market based on the operations of the CSD System. Investments will be discounted, via the bond equivalent price, at points of Encashment or Re-Purchase.



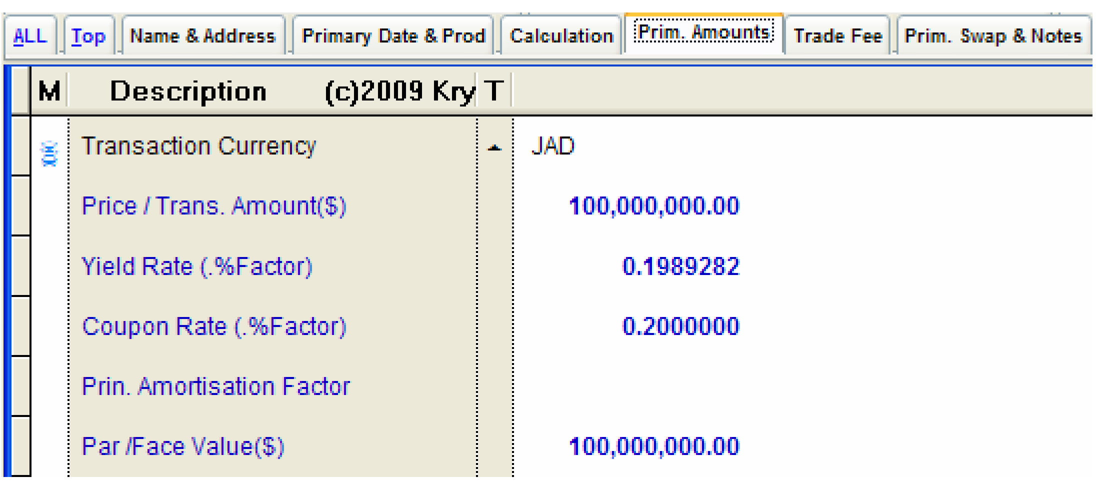
THE KRYS MORPHIT BOND PRICING SOLUTION

- KRYS is an Accounting, Investment and Business Management tool that has been tested and proven since 1994. KRYS is designed to support several methods of pricing bonds and may be configured to provide a specific solution for a specific market.

- Brokers have suggested utilizing KRYS MorphIT to upload the bond issues relating to a particular country/market on a web-based platform and make available to all participants. This aims to offer a consistent means of Pricing Bonds among trading participants within and across various financial markets.

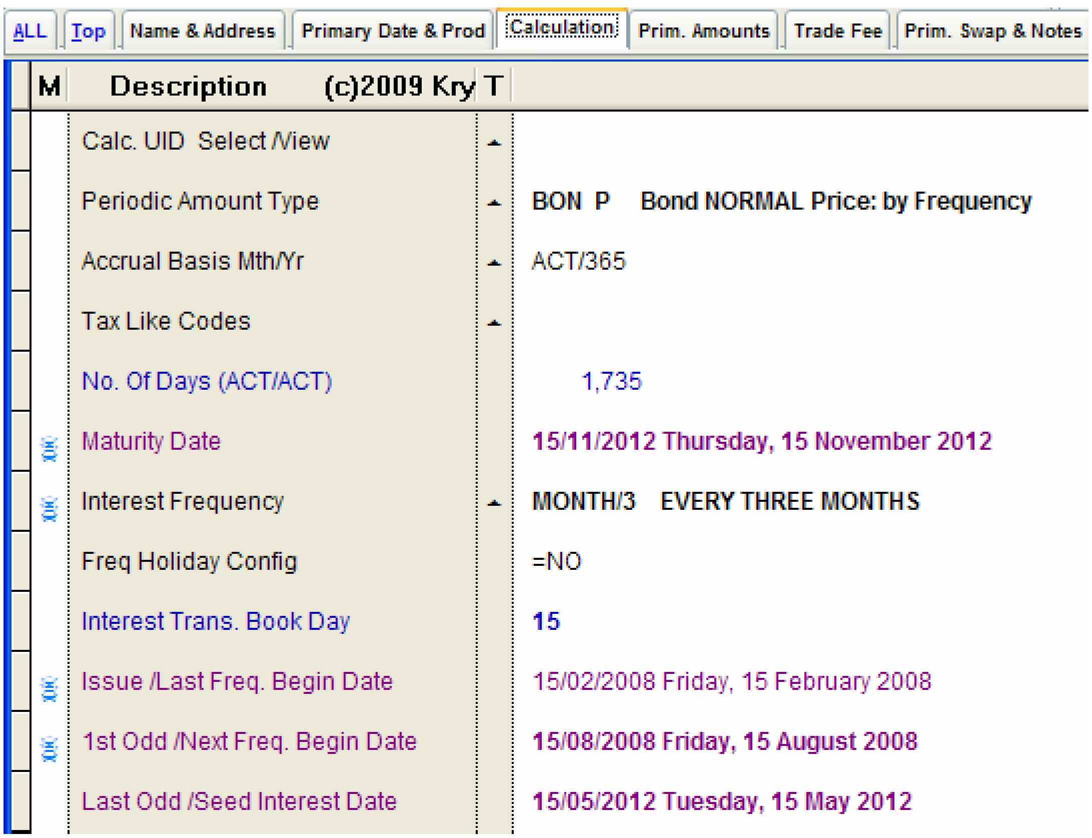
KRYS Screen-Shot 1

This diagram shows the Price, Yield Rate, Coupon Rate and Face Value of the Bond. Price and Yield may optionally be re-computed automatically based on changes in other parameters.



KRYS Screen-Shot 2

This diagram shows the Accrual Basis, Maturity Date, Interest Frequency, Holiday Configuration and Odd Coupon Payment Dates, where applicable. Odd Coupon Dates are used to automatically detect and specify Odd/Regular coupon bonds.



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