



**RESERVE BANK OF MALAWI**

**BID FORM FOR 3-YEAR BOND ISSUE RBM-3YB 1/06-2011**

**NAME OF BIDDER:** .....

**MAILING ADDRESS:** .....

**FAX NO.:** ..... **TEL NO.:** .....

**Auction Date:** ..... **Settlement Date:** .....

**Bidder's Bank:** ..... **Settlement A/C No.:** .....

**Branch:** .....

<b>BID NUMBER</b>	<b>AMOUNT APPLIED FOR (MK)</b>	<b>BID PRICE</b>	<b>BID NUMBER</b>	<b>AMOUNT APPLIED FOR (MK)</b>	<b>BID PRICE</b>
1			6		
2			7		
3			8		
4			9		
5			10		

Upon being successful I/we hereby authorize my/our banker to debit my/our indicated settlement account. The amount to be debited will be the cost of the bonds awarded to us.

Authorized signatory (ies) .....

**Mail or fax to:** Director, Financial Markets, Reserve Bank of Malawi, P.O. Box 30063, Capital City, Lilongwe 3; Fax No.: 01772219

## BASIC COMPUTATIONS

### Calculating the Price and Yield to Maturity (YTM) of a Bond

The price and yield to maturity of a bond are inversely related. Thus, if the price is given, an investor can calculate the yield on the bond. Alternatively, an investor can work out the price he/she would be willing to pay for a bond given his/her yield requirement.

The price of a bond, P, is calculated using the following formula:

$$P = \frac{C}{(1+i)^1} + \frac{C}{(1+i)^2} + \dots + \frac{C}{(1+i)^n} + \frac{M}{(1+i)^n}$$

where C=semi-annual coupon (interest payment)

n=number of payment periods (number of years multiplied by 2)

i=interest rate or required yield

M=value at maturity or par value

#### **Example: Price to Yield**

In the case of a 3-year bond with a coupon rate of 8.50% p.a. payable semi-annually and the weighted average price achieved in the auction was 100.0000:

$$P = 100.0000 = \frac{4.25}{(1+i)^1} + \frac{4.25}{(1+i)^2} + \frac{4.25}{(1+i)^3} + \frac{4.25}{(1+i)^4} + \frac{4.25}{(1+i)^5} + \frac{4.25}{(1+i)^6} + \frac{100}{(1+i)^6}$$

Solving for *i* produces an interest rate or required yield of 8.50% p.a.

For ease of calculation, the following table provides guidance in terms of yield and price:

Yield to maturity	Price per K100	Yield to maturity	Price per K100	Yield to maturity	Price per K100	Yield to maturity	Price per K100	Yield to maturity	Price per K100	Yield to maturity	Price per K100
4.000	112.6032	7.000	103.9964	10.000	96.1932	13.000	89.1077	16.000	82.6642	19.000	76.7959
4.125	112.2273	7.125	103.6559	10.125	95.8842	13.125	88.8269	16.125	82.4086	19.125	76.5630
4.250	111.8530	7.250	103.3167	10.250	95.5765	13.250	88.5472	16.250	82.1541	19.250	76.3310
4.375	111.4802	7.375	102.9789	10.375	95.2699	13.375	88.2686	16.375	81.9005	19.375	76.0998
4.500	111.1090	7.500	102.6425	10.500	94.9646	13.500	87.9911	16.500	81.6479	19.500	75.8695
4.625	110.7392	7.625	102.3075	10.625	94.6606	13.625	87.7147	16.625	81.3963	19.625	75.6402
4.750	110.3710	7.750	101.9738	10.750	94.3577	13.750	87.4394	16.750	81.1456	19.750	75.4117
4.875	110.0044	7.875	101.6415	10.875	94.0560	13.875	87.1652	16.875	80.8960	19.875	75.1840
5.000	109.6392	8.000	101.3105	11.000	93.7556	14.000	86.8920	17.000	80.6473	20.000	74.9573
5.125	109.2756	8.125	100.9809	11.125	93.4563	14.125	86.6199	17.125	80.3995	20.125	74.7313
5.250	108.9134	8.250	100.6526	11.250	93.1583	14.250	86.3489	17.250	80.1527	20.250	74.5063
5.375	108.5527	8.375	100.3256	11.375	92.8614	14.375	86.0790	17.375	79.9069	20.375	74.2821
5.500	108.1936	8.500	100.0000	11.500	92.5657	14.500	85.8101	17.500	79.6620	20.500	74.0588
5.625	107.8358	8.625	99.6757	11.625	92.2712	14.625	85.5422	17.625	79.4181	20.625	73.8363
5.750	107.4796	8.750	99.3527	11.750	91.9779	14.750	85.2755	17.750	79.1751	20.750	73.6146
5.875	107.1248	8.875	99.0309	11.875	91.6857	14.875	85.0097	17.875	78.9330	20.875	73.3938
6.000	106.7715	9.000	98.7105	12.000	91.3947	15.000	84.7450	18.000	78.6919	21.000	73.1739
6.125	106.4196	9.125	98.3914	12.125	91.1048	15.125	84.4813	18.125	78.4517	21.125	72.9547
6.250	106.0692	9.250	98.0736	12.250	90.8161	15.250	84.2187	18.250	78.2124	21.250	72.7364
6.375	105.7202	9.375	97.7570	12.375	90.5286	15.375	83.9571	18.375	77.9741	21.375	72.5190
6.500	105.3726	9.500	97.4417	12.500	90.2421	15.500	83.6965	18.500	77.7366	21.500	72.3023
6.625	105.0264	9.625	97.1277	12.625	89.9568	15.625	83.4369	18.625	77.5001	21.625	72.0865
6.750	104.6817	9.750	96.8150	12.750	89.6727	15.750	83.1783	18.750	77.2645	21.750	71.8715
6.875	104.3384	9.875	96.5035	12.875	89.3896	15.875	82.9208	18.875	77.0297	21.875	71.6573