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YOUR INVESTMENT CONSULTANTS

## **RF Malta Corporate Bond Index**

### Methodology

January 2016



## 1 - Introduction

This document explains the method of calculation of the RF Malta Corporate Bond Index (CB Index) as compiled by Rizzo, Farrugia & Co. (Stockbrokers) Ltd.

The Index is calculated on a daily basis and is available on [www.rizzofarrugia.com](http://www.rizzofarrugia.com)

## 2 – CB Index Description

The CB Index tracks the trend in Maltese Corporate Bonds (CB) prices based on the daily closing market prices. The CB Index is weighted by the amount outstanding of each constituent.

All CBs listed on the Official List as well as the Alternative Companies List, if any, of the Malta Stock Exchange are included in the CB Index from the date of listing on the Malta Stock Exchange or 31 December 2008 if listing took place prior to this date.

Constituents are removed when trading in the CBs is suspended ahead of delisting.

The CB Index was set at 1,000 points on 31 December 2008.

## 3 – Methodology

The formula used in the calculation of the CB Index is as follows:

$$CBIV_t = CBIV_{t-1} \times \frac{\sum_{i=1}^n CMP_{i,t} \times OA_{i,t-1}}{\sum_{i=1}^n CMP_{i,t-1} \times OA_{i,t-1}}$$

where:

$CBIV_t$	=	CB Index Value at time $t$
$CBIV_{t-1}$	=	CB Index Value at time $t-1$
$CMP_{i,t}$	=	Closing Market Price for the $i^{th}$ corporate bond at time $t$
$CMP_{i,t-1}$	=	Closing Market Price for the $i^{th}$ corporate bond at time $t-1$
$OA_{i,t-1}$	=	Outstanding Amount of the $i^{th}$ corporate bond as per the Price List of the Malta Stock Exchange at time $t-1$

## 4 – Adjustments & Assumptions

### a) Additions

All Corporate Bond issues are included in the CB Index on the date of listing. When a new MGS is listed, the above-mentioned formula is adjusted as follows:

$$CBIV_t = CBIV_{t-1} \times \frac{\sum_{i=1}^n CMP_{i,t} \times OA_{i,t-1}}{\left(\sum_{i=1}^n CMP_{i,t-1} \times OA_{i,t-1}\right) + \left(\sum_{j=1}^n IP_j \times AI_j\right)}$$



where:

$CBIV_t$	=	CB Index Value at time $t$
$CBIV_{t-1}$	=	CB Index Value at time $t-1$
$CMP_{i,t}$	=	Closing Market Price for the $i^{th}$ corporate bond at time $t$ , including the newly added corporate bond
$CMP_{i,t-1}$	=	Closing Market Price for the $i^{th}$ corporate bond at time $t-1$
$OA_{i,t-1}$	=	Outstanding Amount of the $i^{th}$ corporate bond as per the Price List of the Malta Stock Exchange at time $t-1$ , including the newly added corporate bond
$IP_j$	=	Offer Price of the corporate bond being added (In the case of an issue by tender only, the weighted average price on accepted bids is used)
$AI_j$	=	Amount Issued with respect to the corporate bond being added

## b) Deletions

When a corporate bond is permanently suspended due to an upcoming redemption, the respective corporate bond is removed from the Index and the formula is adjusted as follows:

$$CBIV_t = CBIV_{t-1} \times \frac{\sum_{i=1}^n CMP_{i,t} \times OA_{i,t-1}}{\left(\sum_{i=1}^n CMP_{i,t-1} \times OA_{i,t-1}\right) + \left(\sum_{j=1}^n CMP_{j,t-1} \times OA_{j,t-1}\right)}$$

where:

$CBIV_t$	=	CB Index Value at time $t$
$CBIV_{t-1}$	=	CB Index Value at time $t-1$
$CMP_{i,t}$	=	Closing Market Price for the $i^{th}$ corporate bond at time $t$
$CMP_{i,t-1}$	=	Closing Market Price for the $i^{th}$ corporate bond at time $t-1$
$OA_{i,t-1}$	=	Outstanding Amount of the $i^{th}$ corporate bond as per the Price List of the Malta Stock Exchange at time $t-1$
$CMP_{j,t-1}$	=	Last Closing Market Price of the maturing corporate bond before suspension.
$OA_{j,t-1}$	=	Latest amount outstanding of the maturing corporate bond before suspensions.

## c) Mergers

When a fungible issue of a corporate bond merges with another corporate bond with identical characteristics, normally following an interest payment, this does not impact the value of the CB Index. The CB Index only reflects movements in the closing market prices. Therefore no action is taken other than adding the amount outstanding of the fungible issue to that of the original issue.

## d) Suspension of bid prices due to New Fungible Issue

When the Malta Stock Exchange temporarily suspends trading of a particular corporate bond, the last closing market price before suspension is assumed to remain constant for the duration of the suspension in the calculation of the CB Index.



## e) Prices of non-euro denominated corporate bonds

Prices of corporate bonds denominated in a currency other than the euro will be converted to euro at the reference exchange rate as published by the European Central Bank. The exchange rates are published daily at around 15.00 hours on the following webpage <http://www.ecb.europa.eu/stats/exchange/eurofxref/html/index.en.html>.

## 5 – Disclaimer

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