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DYER & BLAIR
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WEBINAR: BOND PRICING DEMYSTIFIED

JULY 20, 2020





1.0 INTRODUCTION

- ❑ 1.1 Definitions
- ❑ 1.2 Yield & Price Relationship
- ❑ 1.3 Bond Trading: Primary vs Secondary Market
- ❑ 1.4 Forms of Primary Issues

1.1 Definitions

Issue Number

- This is the identification number of each government bond issued e.g. IFB1/2018/15.
(**IFB1** - First infrastructure bond, Issued in **2018** with an investment horizon of **15** years)

Face Value

- This is the principal amount that you would invest into a particular bond.
- Coupon payments are based on this amount.
- Upon maturity, the maturity is paid back to the investor.

Coupon rate

- Annual rate of interest a bond holder receives on the face value (amount payable at maturity) of a bond.
- Coupons are usually distributed semi-annually (i.e. every 6 months)

Yield to Maturity (YTM)

- Total return anticipated on a bond assuming the investor holds the bond to maturity and reinvests each interest payment at the same rate.
- Compensates investors for time value of money and risk taken.
- Used to determine the price of a bond
- Where $YTM = \text{Coupon rate}$, bond trades at par (i.e. 100)
- Where $YTM > \text{Coupon rate}$, bond trades below par (i.e. discount)
- Where $YTM < \text{Coupon rate}$, bond trades above par (i.e. premium)



1.1 Definitions

Accrued Interest

- Interest that builds between the last coupon payment date and the value date (date of settlement) of a bond.

Dirty Price

- The present value of all future interest payments and face value of a bond including the accrued interest since the last coupon as at the value date.

Clean Price

- Price that does not take into account accrued interest.
- $\text{Clean price} = \text{Dirty price} - \text{Accrued Interest}$
- On an interest payment date, clean price = dirty price

Maturity Date

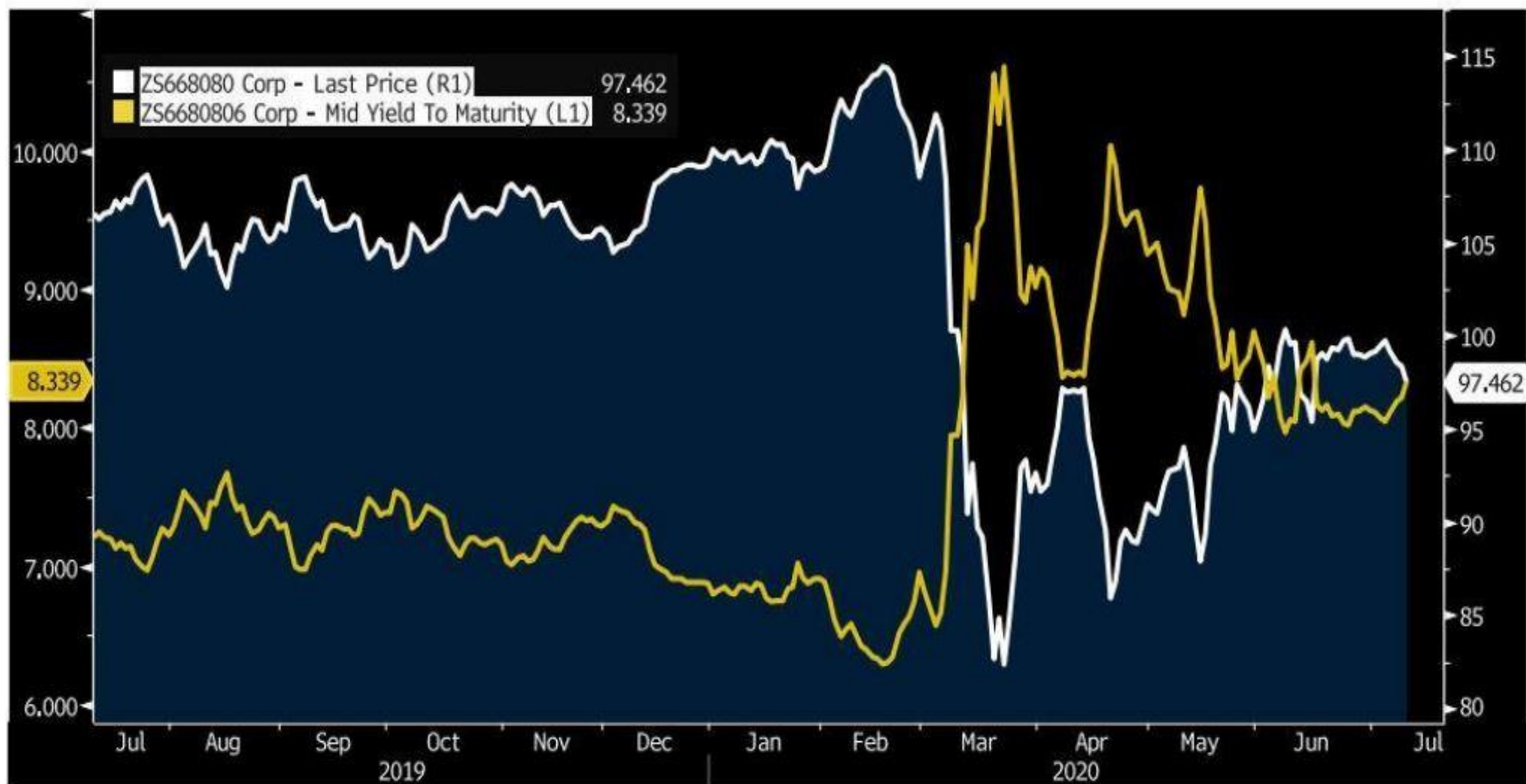
- The date at which the bond will mature and the CBK pays back the whole face value of the bond to the investor.
- Investors don't have to hold the bond to maturity; one can sell the bond through the secondary market when a need or another opportunity arises.

Tax Obligations

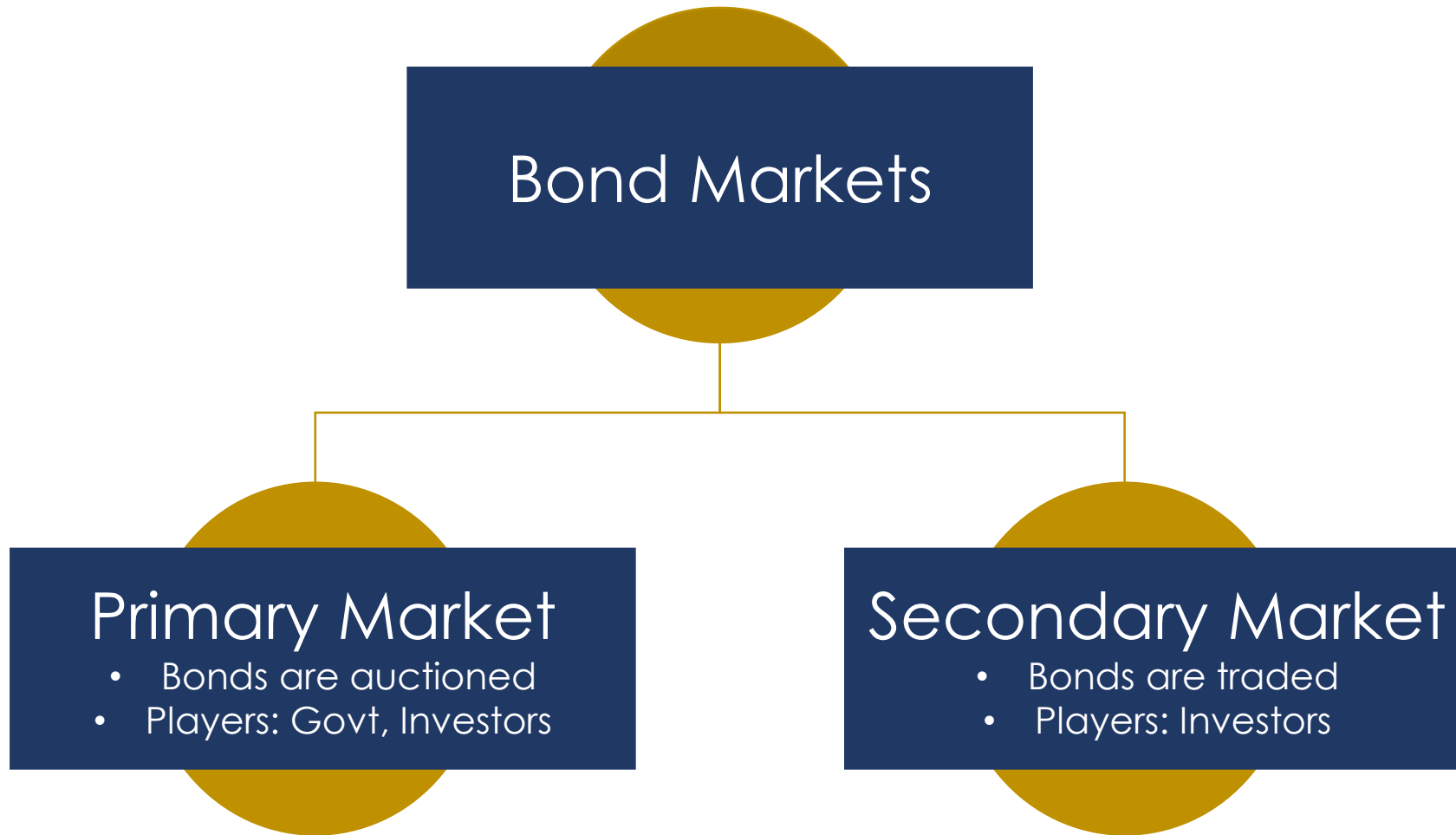
- Interest on Infrastructure bonds (IFBs) is tax exempt.
- Interest on FXDs is taxed a withholding tax of 15.0% for maturities less than 10 years and 10.0% for maturities more than 10 years.



1.2 Yield & Price Relationship



1.3 Bond Trading _ Primary vs Secondary Market



1.4 Forms of Primary Issues

New Issue

- These are bonds issued for the very first time by the government.
- Bids can be competitive or non-competitive.

Primary Bond Re-open

- These are previously issued bonds which are re-auctioned by the government in the primary market.
- Thus available in both the primary and secondary market.
- Bids can be competitive or non-competitive

Tap Sale

- Immediate re-open of a primary issue when the total amount accepted fails to meet the target amount for the issue.
- Tap sale of a re-open can also happen.
- Bids are strictly non-competitive.



2.0 PRIMARY AUCTION PROCESS

- ❑ **2.1 July 2020 Auction:**

**Prospectus for Re-opened 5-YR, 10-YR
and 15-YR FXD Treasury Bonds**

- ❑ **2.2 Factors that may affect the July Issue**

2.1 July 2020 Prospectus



Central Bank of Kenya

PROSPECTUS FOR RE-OPENED FIVE -YEAR, TEN -YEAR AND FIFTEEN -YEAR FIXED COUPON TREASURY BONDS

**FXD1/2020/05 , FXD2/2018/10
AND
FXD1/2019/15**

TOTAL VALUE: KSHS 60 BILLION

JULY 2020

For enquiries please contact Central Bank of Kenya, Financial Markets Department on 2860000 or our Branches in Mombasa, Kisumu and Eldoret or Nyeri, Meru and Nakuru Currency Centres or any Commercial Bank, Investment Bank, Stock Brokers or send an email to NDO@centralbank.go.ke or visit the CBK website on www.centralbank.go.ke

FXD1/2020/5 , FXD2/2018/10 & FXD1/2019/15

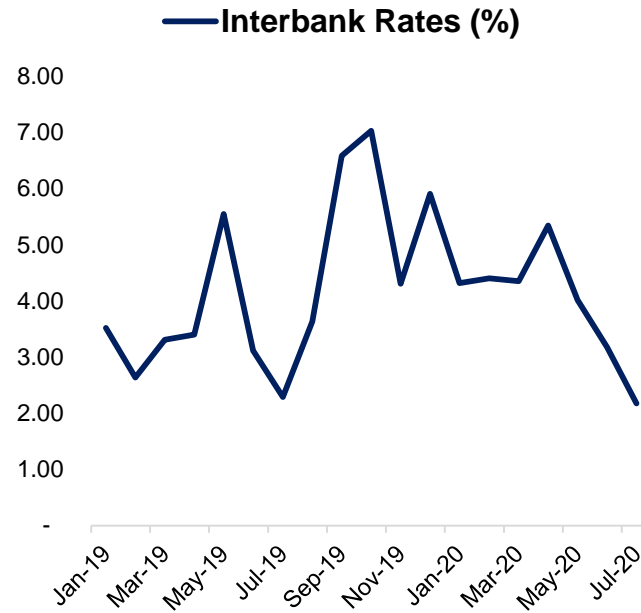
Central Bank of Kenya, acting in its capacity as fiscal agent for the Republic of Kenya, invites bids for the above bonds whose terms and conditions are as follows:-

Issuer	:	Republic of Kenya
Amount	:	Kshs. 60 Billion
Purpose	:	Budgetary Support
Tenor	:	Five- year (4.90years) Ten -year (8.49years) Fifteen -year (13.61 years)
Coupon Rate	:	Five year-11.667% Ten year-12.502% Fifteen year-12.857%
Period of sale	:	06/07/2020 to 21/07/2020
Value Date	:	27/07/2020
Price Quote	:	Discounted/Premium/ Par
Minimum Amount	:	Kshs. 50,000.00
Interest Payment Dates	:	FXD1/2020/05 09/11/2020 07/11/2022 04/11/2024 10/05/2021 08/05/2023 05/05/2025 08/11/2021 06/11/2023 09/05/2022 06/05/2024 FXD2/2018/10 14/12/2020 12/06/2023 09/06/2025 07/06/2027 14/06/2021 11/12/2023 08/12/2025 06/12/2027 13/12/2021 10/06/2024 08/06/2026 05/06/2028 13/06/2022 09/12/2024 07/12/2026 04/12/2028 12/12/2022 FXD1/2019/15 25/01/2021 22/07/2024 17/01/2028 14/07/2031 26/07/2021 20/01/2025 17/07/2028 12/01/2032 24/01/2022 21/07/2025 15/01/2029 12/07/2032 25/07/2022 19/01/2026 16/07/2029 10/01/2033 23/01/2023 20/07/2026 14/01/2030 11/07/2033 24/07/2023 18/01/2027 15/07/2030 09/01/2034 22/01/2024 19/07/2027 13/01/2031
Taxation	:	Discount/Interest is subject to withholding tax at a rate of 15% for the 5-year and 10% for the 10 and 15-year .
Redemption Dates	:	Five year -05/05/2025 Ten year - 04/12/2028 Fifteen year-09/01/2034
Issuing and Paying Agent	:	Central Bank of Kenya.
Placing Agents	:	• Commercial Banks

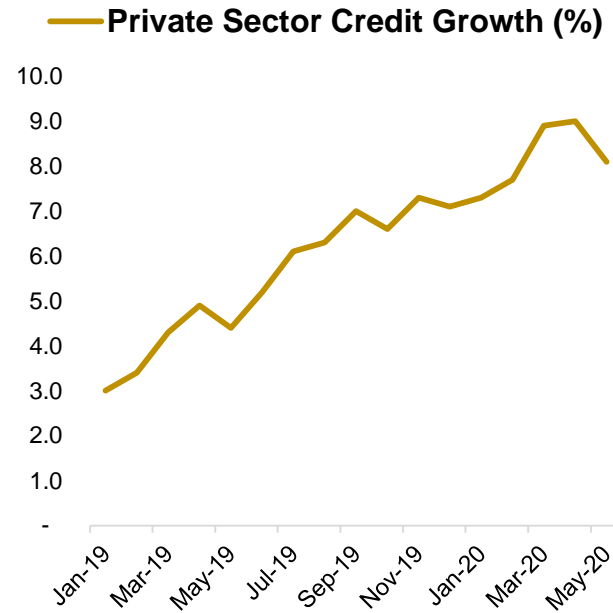
Issuance method	:	• Non-Bank Financial Institutions • Licensed Stock Brokers • Licensed Investment Advisors Multi-Price Bid Auction.
Non-Competitive Bids	:	Maximum Kshs. 20 Million per CDS account per tenor. This does not apply to State corporations, public universities and Semi-Autonomous Government Agencies.
Bids Closure	:	Duly completed bond application forms must be submitted to any branch of the Central Bank in the specified tender box or via Treasury Mobile Direct (TMD) or CBK internet Banking by 2.00 p.m on Tuesday, 21st July, 2020.
Auction Date Results	:	Wednesday, 22/07/2020. Investors should obtain details of amounts payable for successful bids from Central Bank of Kenya on 23/07/2020.
Defaulters	:	Defaulters may be suspended from subsequent investment in Government Securities.
Commission	:	Licensed placing agents will be paid commission at the rate of 0.15% of actual sales (at cost) net of 5% withholding tax.
Rediscounting	:	The Central Bank will rediscount the bonds as a last resort at 3% above the prevailing market yield or coupon rate whichever is higher, upon written confirmation to do so from the Nairobi Securities Exchange.
Liquidity	:	The bonds qualify for statutory liquidity ratio requirements for Commercial Banks and Non-Bank Financial Institutions as stipulated in the Banking Act CAP 488 of the Laws of Kenya.
Listing	:	The bonds will be listed on the Nairobi Securities Exchange.
Classification Eligibility	:	The bonds are benchmark Bonds. Only investors with active CDS Accounts with the Central Bank of Kenya.
Re-opening Secondary Trading	:	The Bonds may be re-opened at a future date. Secondary trading in multiples of KShs 50,000.00 to commence on Tuesday, 28th July, 2020.
Right to accept applications	:	The Central Bank reserves the right to accept bids in full or part thereof or reject them in



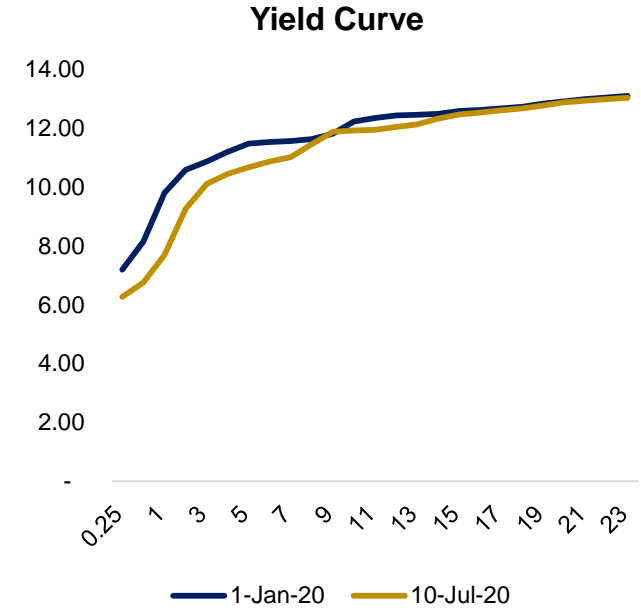
2.2 Factors that may affect the July Issue



Interbank rates have been declining on the back of high liquidity



Private sector credit growth has been stalled by COVID-19



Yields have dropped especially on the short end of the curve.



3.0 LIVE PRICING OF BONDS

- ❑ 3.1 Fixed Coupon Bonds (FXDs)
- ❑ 3.2 Infrastructure Bonds (IFBs)

Introduction

Live pricing

Coupon Schedule

3.1.1 Fixed Coupon Bond (FXD)



Central Bank Of Kenya

PROSPECTUS FOR TEN YEAR FIXED COUPON TREASURY BOND

ISSUE NO. FXD 2/2018/10

TOTAL VALUE: KSHS 40 BILLION

DECEMBER 2018

For enquiries please contact Central Bank of Kenya, Financial Markets Department on 2860000 or our Branches in Mombasa, Kisumu and Eldoret or Nyeri, Meru and Nakuru Currency Centres or any Commercial Bank, Investment Bank, Stock Brokers or send an email to NDO@centralbank.go.ke or visit the CBK website on www.centralbank.go.ke

A. RESULTS FOR TEN YEAR FIXED COUPON TREASURY BOND ISSUE NO.FXD2/2018/10 DATED 17/12/2018

The auction outcome is summarised in the table below.

TENOR	10 YEAR
Due Date	04/12/2028
Total Amount Offered (Kshs. M)	40,000.00
Total bids Received at cost (Kshs. M)	28,860.50
Performance Rate (%)	72.15
Amount Accepted (Kshs. M)	26,158.96
Of which : Competitive bids	20,488.71
: Non-competitive bids	5,670.25
Bid-to-Cover Ratio	1.10
Market Weighted Average Rate (%)	12.580
Weighted Average Rate of Accepted Bids (%)	12.502
Price per Kshs 100 at average yield	100.000
Coupon Rate (%)	12.502
Purpose/ Application of funds:	
Redemptions	25,477.55
New Borrowing	681.41

B. COMPARATIVE INTEREST RATES

	THIS AUCTION (%)	LAST AUCTION (%)	VARIANCE
10 YEAR - MARKET WEIGHTED AVERAGE RATE	12.580	12.669	0.089
- WEIGHTED AVERAGE RATE OF ACCEPTED BIDS	12.502	12.665	0.163



3.1.2 Live Pricing I: Fixed Coupon Bond (FXD)

PRICING FOR THE FXD2/2018/10		
Issue No		FXD2/2018/10
Coupon Rate		12.502%
Issue Date		17-Dec-18
Maturity Date		4-Dec-28
Last Payment Date		15-Jun-20
Next Payment Date		14-Dec-20
Value Date		27-Jul-20
Period to Final Redemption		8.38 yrs
Face Value		1,000,000.00
Yield to Maturity		12.5020%
Days Accrued Interest		42.00
Interest to Accrue to Maturity		1,048,244.62
Dirty Price		101.4091
Accrued Interest		1.4425
Clean Price		99.9666
Consideration (KES)		1,014,091.00
Transaction Charges		
Brokerage Commission	0.0240%	500.00
CMA, NSE, CDSC Levies	0.0110%	111.55
VAT (14%)	0.0034%	70.00
Total Charges		681.55
Net Amount Payable		1,014,772.55
Net Amount Receivable		1,013,409.45

2nd 10-year Fixed Coupon Bond issued in 2018

The Interest (coupon) you will earn every year, given in 2 instalments, semi annually

Determines the amount of accrued interest

Yield to Maturity (determines the clean price)

Clean Price + Accrued Interest

Gross Value of the Bond

Total Amount Payable by the Buyer

Total Amount to be Received by the Seller



3.1.3 Coupon Schedule: FXD2/2018/10

Bond	FXD2/2018/10
Face Value	1,000,000
Coupon Rate	12.502%
Tax	10.000%
Maturity Date	12/4/2028

Payment Dates	Payment Type	Payment Amount
14-Dec-20	Coupon	56,259.00
14-Jun-21	Coupon	56,259.00
13-Dec-21	Coupon	56,259.00
13-Jun-22	Coupon	56,259.00
12-Dec-22	Coupon	56,259.00
12-Jun-23	Coupon	56,259.00
11-Dec-23	Coupon	56,259.00
10-Jun-24	Coupon	56,259.00
9-Dec-24	Coupon	56,259.00
9-Jun-25	Coupon	56,259.00
8-Dec-25	Coupon	56,259.00
8-Jun-26	Coupon	56,259.00
7-Dec-26	Coupon	56,259.00
7-Jun-27	Coupon	56,259.00
6-Dec-27	Coupon	56,259.00
5-Jun-28	Coupon	56,259.00
4-Dec-28	Coupon + Principal	1,056,259.00



3.2.1 Infrastructure Bond (IFB)



CENTRAL BANK OF KENYA

PROSPECTUS FOR GOVERNMENT OF KENYA INFRASTRUCTURE BOND OFFER

7-YEAR AMORTIZED BOND
ISSUE NO. IFB 1/2017/7

TOTAL VALUE: KSHS 30 BILLION

NOVEMBER 2017

For enquiries please contact Central Bank of Kenya, Financial Markets Department on 2880000 or our Branches in Mombasa, Kisumu and Eldoret or Nyeri, Meru and Nakuru Currency Centres or any Commercial bank, Investment bank, stock brokers or send an email to NDO@centralbank.go.ke or visit the CBK website on www.centralbank.go.ke

IFB 1/2017/7

The Central Bank of Kenya, acting in its capacity as fiscal agent for the Republic of Kenya, invites bids for the above bond whose terms and conditions are as follows:-

Issuer	:	Republic of Kenya
Amount	:	Kshs. 30 Billion
Purpose	:	For partial funding of infrastructure projects in the following sectors: Roads- Kshs 10Bn, Energy-Kshs15Bn, Water-5Bn
Tenor	:	Seven-year
Coupon	:	12.500% p.a
Period of sale	:	14/11/2017 to 21/11/2017
Value Date	:	27/11/2017
Price Quote	:	Discounted/Premium/ Par
Minimum Amount	:	Kshs. 100,000.00
Interest Payment Dates:		28/05/2018 22/11/2021 26/11/2018 23/05/2022 27/05/2019 21/11/2022 25/11/2019 22/05/2023 25/05/2020 20/11/2023 23/11/2020 20/05/2024 24/05/2021 18/11/2024
Redemption Date	:	18/11/2024
Taxation	:	The Bond will be tax free as is the case for all Infrastructure Bonds as provided for under the Income Tax Act.
Redemption Structure	:	21st November, 2022- 50.000% of unencumbered outstanding principal amount. 18th November, 2024 - 100% - Final Redemption of all outstanding amounts.
Amortization	:	No partial redemption will be paid on encumbered securities on amortization dates. Any amount upto Kshs. 1.0 million per CDS account at amortization will be redeemed in full except for encumbered securities.
Issuing and Paying Agent:		Central Bank of Kenya
Placing Agents	:	Commercial Banks, Non-Bank Financial institutions, Licensed Stock Brokers and Licenced Investment Advisors.

Auction Method	:	Multi-Price Bid Auction.
Non-Competitive Bids	:	Maximum Kshs 20 Million per investor.
Bids Closure	:	Duly completed bond application forms must be submitted to any branch of the Central Bank in the specified tender box by 2.00p.m on Tuesday, 21st November, 2017.
Auction Date	:	Wednesday, 22/11/2017
Results	:	Investors should obtain details of amounts payable for successful bids, from Central Bank on Thursday, 23/11/2017.
Defaulters	:	Defaulters may be suspended from subsequent investment in Government Securities.
Re-opening	:	The Bond may be re-opened at a future date
Commission	:	Licensed placing agents will be paid commission at the rate of 0.15% of actual sales (at cost) net of 5% withholding tax.
Rediscounting	:	The Central Bank will rediscount the bond as a last resort at 3% above the prevailing market yield or coupon rate whichever is higher, upon written confirmation to do so from the Nairobi Securities Exchange.
Liquidity	:	The bond qualifies for statutory liquidity ratio requirements for Commercial Banks and Non Bank Financial Institutions as stipulated in the Banking Act CAP 488 of the Laws of Kenya.
Listing	:	The bond will be listed on the Nairobi Securities Exchange.
Classification	:	The bond is a non-benchmark Bond
Eligibility	:	Only CDS Account holders
Secondary Trading	:	Secondary trading in multiples of KShs 50,000.00 to commence on Tuesday, 28th November, 2017.
Right to accept applications:	:	The Central Bank reserves the right to accept bids in full or part thereof or reject them in total without giving any reason.



3.2.2 Live Pricing II: Infrastructure Bond (IFB)

PRICING FOR THE IFB1/2017/7		
Issue No	IFB1/2017/7	
Coupon Rate	12.500%	
Issue Date	27-Nov-17	
Maturity Date	18-Nov-24	
Last Payment Date	25-May-20	
Next Payment Date	23-Nov-20	
Value Date	20-Jul-20	
Period to Final Redemption	4.35 yrs	
Face Value	1,000,000.00	
Yield to Maturity	12.0000%	
Days Accrued Interest	56.00	
Interest to Accrue to Maturity	418,269.23	
Dirty Price	103.2107	
Accrued Interest	1.9231	
Clean Price	101.2876	
Consideration (KES)	1,032,107.00	
Transaction Charges		
Brokerage Commission	0.0240%	500.00
CMA, NSE, CDSC Levies	0.0110%	113.53
VAT (14%)	0.0034%	70.00
Total Charges		683.53
Net Amount Payable	1,032,790.53	
Net Amount Receivable	1,031,423.47	

1st Infrastructure bond issued in 2017 for 7 years

The interest (coupon) you will earn every year, given in 2 instalments, semi annually

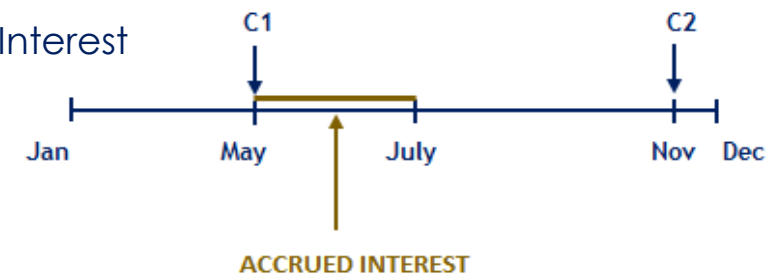
Helpful in calculating the accrued interest

Yield to Maturity (affects the clean price)

Clean Price + Accrued Interest

Gross amount payable

Net amount payable



3.2.3 Coupon Schedule: IFB1/2017/7

Bond	IFB1/2017/7
Face Value	1,000,000
Tax	0.00%
Coupon Rate	12.50%
Maturity Date	11/18/2024

Payment Dates	Payment Type	Payment Amount
23-Nov-20	Coupon	62,500.00
24-May-21	Coupon	62,500.00
22-Nov-21	Coupon	62,500.00
23-May-22	Coupon	62,500.00
21-Nov-22	Coupon + 50% Principal	562,500.00
22-May-23	Coupon	31,250.00
20-Nov-23	Coupon	31,250.00
20-May-24	Coupon	31,250.00
18-Nov-24	Coupon + 100% Principal	531,250.00

The background of the slide is a collage of various US dollar bills, including \$5, \$10, and \$20 denominations, scattered across the entire surface. A large, dark blue arrow points from the left towards the right, partially overlapping the text and the list of topics.

4.0 HOW TO INVEST

- ❑ 4.1 Alternative methods
- ❑ 4.2 Primary vs Secondary Trading



4.1 Alternative Methods



4.2 Primary vs Secondary Trading

Primary Auction

- At primary auction, DBIB processes for both CBK account holders and DBIB account holders.
- FXD - Minimum Amount: KES 50,000 only
- IFB - Minimum Amount: KES 100,000 only

Secondary Trading

- DBIB sources counter-party trades and closes the trade on behalf of the client.

Q&A

For further queries, feel free to email:
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research@dyerandblair.com
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