



2023

# Guidelines for the Issuance of Government Securities

A GUIDANCE DOCUMENT ON THE OPERATIONAL  
FRAMEWORK OF THE ISSUANCE OF GOVERNMENT  
SECURITIES BY THE CENTRAL OF THE BAHAMAS

Effective Date: August 1, 2023

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## Terms and Abbreviations

ABP	Annual Borrowing Plan
BGSD	Bahamas Government Securities Depository
Bid	An offer of a price at an auction
BISX	Bahamas International Securities Exchange
BRS	Bahamas Registered Stock
CBOB	Central Bank of The Bahamas
Competitive bid	A participating bid in the auction allocated according to the price/rate indicated in the bid.
Coupon	The fixed interest rate of a Treasury Bond, which the investor receives on predetermined dates.
Cut-off Price	Interest rate limit (maximum rate) above which the bids will not be successful.
Dirty Price	Price of the bond that includes any accumulated interest. It could be shown as: Dirty price = Clean price + Accrued interest
Fixed Rate Bonds	Securities for which the coupon rate remains fixed until maturity of the bond.
Floating Rate Bonds (FRB)	Securities for which coupon rates are variable and which re-set at pre-announced intervals. The coupon is tied to a short-term benchmark rate (variable component), plus a fixed spread that holds steady until maturity of the bonds.
ISIN	International Security Identification Number
Maturity Date	The date when the redemption of government securities must take place.
MOF	Ministry of Finance
MTDS	Medium-Term Debt Strategy
Multiple price method	An auction in which each successful bidder pay the prices/rates they bid.
Non-competitive bid	A bid allocated at the weighted average interest rate determined during the auction.
OTC	Over the Counter
Settlement date	The day when the Central Bank receives payment for the government securities purchased at the auction.
Single Price method	An auction in which each successful bidder pays at the cut-off price/rate for the auction.
Treasury Bills (T-Bill)	Short-term zero-coupon securities that pay no interest. They are issued at discounts and redeemed at the face value at maturity. Presently issued in two tenors: 91 and 182 days.
Weighted average interest rate	Weighted average rate, calculated according to the successful competitive bids of the auction.

# Guidelines on Issuance of Government Securities

The objective of the Guidelines on the Issuance of Government Securities (“the Guidelines”) is to outline the general terms and conditions, together with the features and methods, for the issuance of Bahamas government securities. The Guidelines, in conjunction with the Prospectus for issue of government securities released from time to time, will provide prospective investors in Government securities with complete information needed for decision-making. The Guidelines will also enhance transparency and predictability in the primary issuance process and support implementation of the government’s borrowing programme, in accordance with the public debt management objectives.

These Guidelines shall come into force with effect from August 1, 2023.

## 1. Legal and Institutional Arrangements for Issuance of Government Securities

The legal and institutional arrangements for issuance of the Government securities are guided by the Public Debt Management Act 2021 (“the PDMA”), the Central Bank of The Bahamas Act 2020 (“the CBOB Act”), and the Inter-Agency Agreement between the Ministry of Finance (“the MoF”) and the CBOB on public debt management arrangements.

### 1.1. Public Debt Management Act

Under the PDMA, responsibility for managing the public debt of The Bahamas rests with the Minister of Finance (“the Minister”). Responsibilities of the Minister on debt management operations are broadly defined under Section 10 of the PDMA, which includes exercising borrowing powers on behalf of the government; reviewing and recommending the Medium-Term Debt Management Strategy (“the MTDS”) to the Cabinet; causing development of the Annual Borrowing Plan (“the ABP”); restructuring, refinancing, novating, or converting government loans; authorizing payments on all public debt; administration of all guarantees, contingent liabilities, and lending; and authorizing other activities necessary for the smooth execution of the public debt management function.

### 1.2. Central Bank of The Bahamas Act

The CBOB Act provides statutory authority to the CBOB to act as the government’s fiscal agent. Under Section 20 (2) of the Act, the CBOB, in its capacity as fiscal agent, may provide public debt services to the government, including the provision of advice or services in respect of the issuance, repayment, and management of public debt.

### **1.3. Principal-Agent responsibilities**

In line with the above-mentioned legal provisions, the MoF and the CBOB work in close coordination to formulate and implement key strategies and policies for meeting the government's annual financing requirements.

The MoF, as a principal, bears overall responsibility for public debt management, which includes formulation of the government's MTDS, the ABP and the indicative issuance calendar of securities; determining the structure, maturity, and characteristics of individual debt issues; authorizing the CBOB to undertake issuance of securities; and approving cut-off rates in close consultation with the CBOB.

The CBOB, in its capacity as the government's fiscal agent, has primary responsibility to implement relevant parts of the borrowing programme as approved by the MoF; make rules for determining the terms and conditions and method for sales of government securities in consultation with the MoF; make arrangements for and undertake auctions, buybacks and switches of government securities in the domestic market; take decisions on auction results in consultation with the MoF; support development of the market for government securities; make arrangements with market participants on issues of government securities and market making in the secondary market; make public announcements of the auction results; assist the MoF in developing the issuance calendar for government securities; manage recording of government securities; facilitate redemption and coupon payments of government securities; prepare prospectuses for the issue of government securities and carry out the listing of government securities on the Bahamas International Securities Exchange ("the BISX") after issuance.

### **1.4. Bahamas Government Securities Depository**

As an official registrar and transfer agent of the government, the CBOB maintains an electronic register of ownership of government securities and process transactions through the Bahamas Government Securities Depository ("the BGSD").

Government securities are marketable and can be bought and sold in the secondary market, after the initial issue, through BISX and the Over the Counter (OTC) facility for government securities. The register of government securities is updated in the BGSD after every successful transaction, and the updated record of ownership can be accessed by BGSD participants.

## **2. Types of Government Securities**

Government securities are debt instruments issued by the government for the purpose of borrowing funds directly from investors. As a banker and fiscal agent of the government, the

CBOB issues government securities on behalf of the government. The CBOB currently originates two common types of government securities: Treasury Bills (“T-bills”) and Bahamas Registered Stocks (“BRS”).

### **2.1. Treasury Bills (T-bills)**

T-bills are short-term debt instruments that mature within a year. They are issued at discounts to face value and redeemed at par on maturity. The CBOB currently originates two T-bills denominated in the Bahamian dollar: 91 days and 182 days. These T-bills are issued through auctions, which are conducted on a monthly basis.

### **2.2. Bahamas Registered Stocks (BRS)**

BRS are medium to long-term government securities with maturity equal to and longer than one year. The CBOB currently originates BRS with maturities ranging from 1 to 30 years. Based on section 23(2) of the PDMA, BRS could be issued for the maximum maturity of 60 years. Two common variants of the BRS denominated in Bahamian dollars are available in the domestic market: a) fixed rate bonds and b) floating rate bonds.

#### **(i) Fixed Rate Bonds**

Fixed rate bonds pay fixed rates of interest or coupons to investors on a biannual basis until maturity. They are redeemed at face value on maturity. Depending upon the coupon rate and the prevailing interest rate in the market, the fixed rate bonds could be issued at a discount, at par, or at a premium to the face value.

#### **(ii) Floating Rate Bonds**

Floating rate bonds pay varying interest rates, which are re-set at pre-announced intervals. The coupon is benchmarked to a short-term interest rate (i.e., the Bahamian prime lending rate, although other short-term rates may be appropriate) plus a fixed spread that holds steady until maturity of the bonds. The interest rates or coupons on these bonds adjust periodically in tandem with the movement in the benchmarked interest rate. These bonds are redeemed at face value on maturity.

## **3. Implementation of Borrowing Program**

Implementation of the government’s borrowing plan is facilitated through the Annual Borrowing Plan (ABP), the Issuance Calendar and Prospectus for issue of individual securities.

### **3.1. Annual Borrowing Plan and Issuance Calendar**

At the beginning of every financial year, the MoF releases an ABP on its website to promote transparency, accountability, and predictability. The ABP is one of the main instruments used by the MoF to inform market participants and the public about the government’s financing needs and prospective sources of funding for the given year. It is consistent with the approved MTDS, the government’s Annual Budget, and the Fiscal Strategy—that collectively reinforce the government’s commitment to keep debt within sustainable levels. As a part of the ABP, an Annual Indicative Issuance Calendar (“the Issuance Calendar”) for the proposed issue of government securities during that fiscal year is also released—setting out details of the planned issuance of marketable securities in the domestic market for the year.

The Issuance Calendar is updated, from time to time, through the release of quarterly issuance calendars, which provide indicative details of upcoming issues (e.g., the securities detail, the date of issue, the amount, etc.) and are released on the domestic market website by the last ten days of the month preceding the respective calendar quarter latest. These are comprehensive as they also factor in the current liquidity status of the government, market conditions, investors sentiments, and other relevant factors. The issuance calendars provide certainty to market participants about the prospective issuance and allows them to prepare for the upcoming issues of government securities.

### **3.2. Prospectus**

The sale of upcoming BRS is notified by the CBOB to the public through the release of a Prospectus on the domestic market website. The Prospectus, inter-alia, provides the following information: a. Issue type (new benchmark or bond re-opening); b. International Security Identification Number (ISIN) of securities; c. auction date; d. bids closure date and time; e. offer amounts for security; f. maturity; g. interest payment dates; h. coupon rates, wherever applicable; i. non-competitive tender details; j. minimum bid amount; and k. settlement date and time.

## **4. General Terms and Conditions Applicable to Issue of Treasury Bills (T-bill) and Bahamas Registered Stock (BRS)**

The general terms and conditions applicable to all issues of government securities are as follows:



#### **4.1. Eligibility for Investment**

All Bahamian residents having a securities account in the BGSD are eligible to invest in government securities. Bahamian residents who do not have a securities account may open one through a BGSD participant of their choice, as per the BGSD rules and operational guidelines.

#### **4.2. Minimum Subscription**

The BRS is issued for a minimum investment of B\$100 and thereafter, in multiples of B\$100.

#### **4.3. Maximum Subscription**

The CBOB may, at its own discretion, decline to allot more than 40% of BRS on offer to a bidder, if it is deemed likely that a large allocation may lead to post-auction market distortion.

#### **4.4. Form of Security**

The government securities are issued only by credit to the securities account of the investor maintained with the BGSD. Government security holdings are processed and stored electronically. No physical certificates are issued.

#### **4.5. Application for Government bonds**

Interested persons are to submit offers for purchase of government securities via the application form provided by BGSD participants in their required format. Completed application forms are to be submitted to the CBOB directly or indirectly through a BGSD participant, as applicable, before the close of the bidding time. Interested persons submitting applications for purchase of government securities will be bound by the terms and conditions as indicated in this document, the Prospectus, and the application form.

#### **4.6. Decision on allotment**

The CBOB, in consultation with the MoF, will determine allotment of each issue. The aggregate results will be published on the CBOB's website on the day following the auction. The CBOB will have the right and discretion to: (i) accept or reject any tender application, (ii) accept more or less than the amount of securities specified in the Prospectus and (iii) cancel the issuance of the security.

#### **4.7. Settlement of the Successful Application**

Payment for the government securities will be made by the successful applicants/investors on the dates specified in the Prospectus. Investors may instruct their commercial banks to remit payments on their behalf via RTGS/ACH indicating the account holder's name, account number, issue number, reference number, and amount payable. Payments may also be made via Sand

Dollar. Any funds which cannot be applied, due to wrongly completed messages, will be refunded to the bidder by the CBOB after reconciliation. The CBOB will directly debit settlement accounts of the concerned BGSD participants maintained at the CBOB for the amount due for successful applications. Investors who do not honour payments for their successful bids in full will be barred from investing in government securities for a period as prescribed by the CBOB.

#### **4.8. Participation by the Central Bank of The Bahamas**

In accordance with the CBOB Act, the CBOB cannot purchase or subscribe for government securities from the primary market. CBOB can purchase in the secondary market.

#### **4.9. Methods of Issue**

The CBOB may use the following methods to issue government securities from time to time: (i) auction, (ii) syndication, (iii) tap sale, (iv) buybacks, (v) switch operations and (v) any other mode, as may be notified.

#### **4.10. Issue of Securities through auction**

An auction is one of the most transparent, effective, and efficient methods of issuance of government securities. It could contribute to minimisation of the government's cost of borrowing—directly by promoting competitive bidding and indirectly by promoting liquid, efficient post-auction secondary market for government securities. The CBOB, as a fiscal agent of the government, conducts auctions of government securities using the following auction methods.

##### **Price/yield-competitive auction**

The auction of government securities may be conducted either on a price basis or on a yield basis. Price-based auctions are held for government securities having a pre-determined coupon rate and with bidders quoting the price per BSD100.00 face value of the security. Yield based auctions are used for new government securities with no specified coupon at the time of issue and the bidders quote yield percent per annum for the BSD100.00 face value of the security. The coupon rate of the security is determined at the cut-off/average yield of the accepted competitive offers, rounded to two decimal places. Please see examples in the **ANNEX I**.

The CBOB, in consultation with the MoF, determines the auction results. For price-based auctions, the CBOB determines the minimum offer price at which, offers for purchase of government securities will be accepted. For the yield-based auctions, the CBOB determines the maximum rate of yield at which, bids for the purchase of government securities will be

accepted. Accepted bids will be allotted in order from highest to lowest bid price or lowest to the highest bid interest rates, as the case may be, until the aggregate amount of the accepted bids equals or exceeds the nominal amount of the securities available for allotment. All accepted bids, which are above (below) the lowest accepted price (highest accepted interest rate) will be allotted in full and those bids which are accepted, but are at the cut-off price, may be allotted on pro-rata percentage basis.

The CBOB, in consultation with the MoF, will determine the appropriate format to be used for auctioning government securities, from time to time. The CBOB may use one of the following auction formats: (i) discriminatory/multiple price method or the (ii) uniform/single price method. In discriminatory-price auctions, the financial settlement for the successful bids takes place at the different prices as quoted by the bidder, whereas in the uniform-price auction method all the winning bidders end up paying the same price indicated in the highest rejected bid.

### **Bond reopening auctions**

The reopening of a BRS refers to the issuance of an additional amount of an existing BRS partway through its tenor. Unlike new issuances, a reopened BRS retains the existing bond's maturity date and coupon rate. The auction result of a reopened BRS may be influenced by the prevailing market price of the BRS in the secondary market.

The payment for the auction by the successful bidders for the reopened bonds will also include accrued interest from the last coupon payment date for the bond.

The bond reopening consolidates outstanding volumes across maturities/tenors, increased activities, and market liquidity in the reopened bonds. The CBOB may manage or mitigate increase rollover risk by fixing volume ceilings for individual security, use of buyback and debt switching operations, developing liquidity at the short end of yield curve, issuing long-dated bonds, and increasing predictability of issuance.

### **Uncovered Auctions**

In exceptional circumstances where, in the judgment of the CBOB and the MoF, the bids for the auction are at an unacceptably deep discount to the prevalent market level, the CBOB may reserve the right not to allot any or all the stock on offer. This becomes particularly pertinent for the single price auction, where the nature of the auction format means that the entire auction is allocated at the same low price, rather than individual outlier bids. In some circumstances, it may still be possible that an auction is not 100% covered, even if all bids submitted are accepted.

## **Multiple securities auction**

For BRS auctions involving multiple securities at the same time, the CBOB will have discretion on the total amount for which securities are to be allocated and split between the different securities under the offer.

### **4.11. Non-competitive auction**

Besides competitive auction, BRS and T-Bills will be also issued through non-competitive auctions, which are intended to encourage wider distribution and increased retail holding of government securities. Investors' bids will only provide the nominal amount of securities to be subscribed for in that auction, with allotments made at the weighted average rate of yield/price that will emerge in the auction on the basis of the successful competitive bids in the auction.

Investors can participate either in the price/yield competitive auction or for the non- competitive auction. A bidder cannot bid for both non-competitive and competitive portion in the same (BRS) Government securities auction. The maximum amount of bid, which an investor can submit under the non-competitive portion will be limited to B\$500,000. Aggregate allocation for all the non-competitive bids will be specified in the prospectus document as a percentage of the planned issuance amount, in consultation with the MoF, for each government security issuance. The allocation to non-competitive bidders will be made within the public offering amount accepted for the auction. Where the aggregate amount of bids exceed the maximum permitted amount (10% of planned issuance), a pro rata allotment will be made. However, where the aggregate amount of non-competitive bid is less than the maximum permitted amount, the shortfall will be allocated to the competitive portion of the auction.

Interested investors can submit their non-competitive bids to the CBOB through a BGSD participant by 3:00 p.m. on a day prior to the auction date. The securities will be issued to the successful bidders against payment on the date of settlement.

### **4.12. Issue of Securities through Syndication**

A syndicate offering is another method for issuing government securities. This is characterized by a small group of investment banks being assigned most of the responsibility for ensuring the new government securities are sold and placed with high-quality investors.

The CBOB/MoF has the option to appoint reputable investment banks active in the market as a lead manager (or lead managers) and co-lead managers (the syndicate), who will have the responsibility to advise the government on syndication issues and manage the sale of new

securities in the domestic/international market. Individual roles of the participating members of the group are assigned nearer to the time of sale. The precise structure of the group and method of sale may vary from issue to issue depending upon policy preferences, market conditions, prevalent best practices, and recommendations of lead managers.

A prior notice of intention for syndication is given to investors by the CBOB/MOF to allow the market to be suitably prepared for the upcoming syndication. The CBOB/MOF will finalise the granular details of the intended operations, taking into account feedback received from the syndicate members and market participants on liquidity conditions in the market, choices of bonds, investor's sentiments, etc., and announce it at least two weeks in advance of an intended syndication to the market.

The lead manager(s), in consultation with the CBOB/MoF, will announce the price band and total supply of securities to the syndicate group. The syndicate members in turn will approach their customers for orders and submit their bids and demand volume within a prescribed timeline to the lead manager(s). This process builds the price and demand "book", whereby the lead/book manager obtains the list of aggregate demands at each price level. The book will close, and the deal will be priced when the lead Manager(s) and the CBOB/MoF are satisfied that the size and quality of the book meets their sale objectives. Allocation of securities to investors will be carried out by the lead Manager(s) in consultation with the CBOB/MOF.

#### 4.13. Tap issues

A tap issue is yet another method of issue, which allows placement of securities from past issues at the current market price with investors. The securities are issued with their original face value, maturity, and coupon rate, but sold at the current market price. A tap issuance is often used for issue of short-term instruments, such as T-Bills, on account of its quicker process of issuance but can also be used for BGS from the uncovered auctions.

The CBOB/MoF will announce tap issues, details of securities, intended size, any applicable limitations on participation (e.g., minimum/maximum acceptable prices, number of bids permissible allocation limits etc.) and other operational details. Tap issuances can be made either at a fixed price or through auction. *The non-competitive bidding facility will not be extended to tap issues.*

For the fixed price issues, the CBOB will decide the price, in consultation with the MoF. Under a tap sale, the security is made available on a first-come-first-served basis within the announced timeline. In case of issuance through auction, the CBOB may announce a minimum

acceptable price and use the single price auction format for the allocation, subject to usual prorated scaling.

#### **4.14. Buyback/repurchase of bonds**

Buyback of BRS is a method which enables the CBOB/MoF to retire an outstanding debt before its maturity date against a cash payment. The CBOB/MoF can use direct repurchase method or reverse auction method to effect buybacks. For the direct repurchase method, the MoF/CBOB will contact individual dealers on a bilateral basis and solicit quotations or offers to sell specific amount of a particular security. The security is purchased if the price is deemed sufficiently low; otherwise, the CBOB/MoF will contact other dealers until the targeted amount of the security is purchased.

A reverse auction method to repurchase outstanding BRS is the symmetric inverse of a regular auction conducted to issue these securities. The process involves giving a call for tender notice to investors, at least one month in advance, detailing the maturity date of the BGS of interest, the maximum amount the government wishes to repurchase and the auction format to be used for the repurchase. On the tender day, based on the competitive tenders received from the holders of securities, the CBOB, in consultation with the MoF, will decide the maximum repurchase amount and accept the submitted bids in ascending order of prices until full allotment of the issue is reached. The CBOB/MoF will be also mindful of fair value in the market and reserve the right to reject any offer which is at an excessive premium over the prevailing market rate. The reverse auction will not provide any non-competitive bidding facility.

To minimise announcement effects of repurchase of government securities on secondary market, the repurchase auction will be carried out for multiple securities at a time rather than a single security, and the announced maximum size of auction will be kept low, relative to the outstanding size of securities involved in the repurchase.

#### **4.15. Switches/Exchange (Conversion)**

Switches/Exchange is a mechanism through which the CBOB/MoF will facilitate an exchange of an existing BRS held by investors (source bonds) with another BRS (destination bonds). The process involves the cancellation of the relevant amount of the source bond and the creation of a corresponding amount for the destination bond. As far as possible, the process will be kept cash neutral.

The objectives of the switch operations are to smooth the redemption profile of government securities and increase liquidity in the debt securities market. To the market participants, these

operations offer the opportunity to convert existing holdings of less-liquid government securities that may trade infrequently; into larger, more liquid benchmark BRS.

There are two ways through which switch operations will be carried out. The first is by way of a fixed rate format, under which the conversion rate will be decided/pre-set by the CBOB using the current market price. Based on the conversion rate, market participants will simply decide how much of the bonds they are willing to exchange and the window for exchange is kept open for a few days. The second is through a competitive offer, which essentially involves the auction of destination bonds. Prices of the source bond(s) are pre-announced. The successful bidders are allocated nominal amounts of the destination bonds calculated as the ratio of the “dirty” prices of the two bonds. The operations are conducted as regular auctions of the government securities. The bidding in the auction, however, implies that the market participants agree to sell the source bond(s) to the government at the pre-announced price and simultaneously agree to buy the destination bond(s) from the government at their respective quoted prices.

The bids for the auction would specify a) the amount of the source bonds (face value) that the market participants are willing to sell at the pre-announced price; and b) the choice of the destination bond(s) and the price(s) of the destination bond(s) at which, the participants are willing to buy the destination bond(s). The aggregate amount of bids for the destination bond(s) by an investor should not exceed his total holdings of the source bond(s) at the face value.

Based on the quoted price of the destination bond(s), the auction cut-off will be decided by the CBOB/MoF. The CBOB will also calculate the conversion ratio for the successful bidders as the ratio of the pre-announced price of the source bond to the allotment price of the destination bond, which will be used to derive the amount of destination bonds to be issued for each successful bid.

The settlement will typically take place on a T+2 basis. However, specific settlement details will be provided in the prospectus document for each auction.

#### **4.16. Any other mode, as may be notified**

In addition to the above methods, the CBOB may issue BRS through any other method, which will be defined separately in the Prospectus for that issue.

# ANNEX I

## Yield based and Price based Auction

Auctions for Government Securities are designed to minimize the cost of financing of public debt by promoting broad, competitive bidding and liquid secondary market trading. There are two ways in which bidding for auctions for Government securities are held, i.e., on yield basis and price basis. There are also two formats which are commonly used for conducting the auctions viz., single and multiple price method. The Government could use any bidding method, in combination with any auction format, depending upon its appropriateness and market practices for conducting auctions with the overall objective of minimising its cost of borrowing.

### 1. Yield Based Auctions

In yield-based auctions, the bidder submits competitive bids expressing his/her desired annual percentage yield and the nominal amount of the Government securities demanded at that yield. Competitive bids received in the auction are ranked from the lowest to the highest yields by the CBOB and allotment of the Government security is made at successively higher yields, until the nominal amount of accepted bids equals or exceeds the nominal amount of the Government security available for allotment. For a new Government security, the yield-based auction can also be used to fix its coupon.

#### 1.1 Illustration of a Yield-based Auction

Assume that the Government is seeking to raise B\$100,000 in one-year T-Bills. The T-Bills do not have any specified discount rate at the time of auction. Let us also assume, five bids with discount rates ranging from 3.84 to 3.88 per cent for an aggregate amount of B\$150,000, are received in the auction. As shown in Table 1, bids are arranged in ascending order of discount rates demanded by the bidders.



**Table 1: Yield Based Auction-Bids**

Bidders	Discount Rate	Value of bids	Cumulative Amount
A	3.84%	\$40,000	\$40,000
B	3.85%	\$10,000	\$50,000
C	3.86%	\$20,000	\$70,000
D	3.87%	\$50,000	\$120,000
E	3.88%	\$30,000	\$150,000

As the government prefers to borrow at the lowest possible cost, the bids with the lowest discount rates are accepted first. In this case, since the Government is seeking to raise B\$100,000, the bids of Bidders A, B, C and D up to the lowest discount rate of 3.87% are accepted. However, as total bids up to Bidder D would exceed the amount of the auction (B\$100,000) by B\$20,000, a prorated allotment is made against bids of B\$50,000 received from Bidder D for the balance amount of B\$30,000. All bids above the cut off discount rate of 3.87% are rejected. For the multiple price auction format, the successful bidders will make payment for the T-Bills corresponding to the discount rate they have bid. However, if the T-Bill auction is held using a single price auction format, all successful bidders will pay the same price for the T-Bill, which will be equivalent to the highest accepted discount rate or cut-off rate for the auction.

## **2. Price Based Auction**

A price-based auction for sale of Government securities is conducted when the coupon rate for the Government security is already known. Bidders submit bids in terms of price per B\$100 of face value of the Government security on offer for sale (e.g., B\$102.00, B\$101.00, B\$100.00, B\$99.00, etc., per B\$100). The bids received in the auction are arranged in descending order from the highest to lowest price and are accepted from highest to lowest tendered prices until the nominal amount of accepted bids equal or exceed the nominal amount of the security available for allotment. The bids at the lowest accepted price may receive full or partial allocation, depending upon whether the aggregate amount of all accepted bids equal or exceed the notified amount of the security available for sale in the auction.

## 2.1 Illustration of a Price-based Auction

Let us assume that the Government seeks to raise B\$300,000 in financing by reopening the existing BGRS 2024 through a price-based auction. The maturity date for the BGRS 2024 is on July 14, 2024. The BGRS provides a coupon rate of 4.10%, which is paid semi-annually on January 14 and July 14. The auction for sale of BGRS 2024 is held on May 3, 2023 and settled on May 5, 2023.

**Table 2: Price based auction-Bids received**

Bidders	Price of Bid (per \$100 of face value Security)	Value of bid	Implicit annual yield	Cumulative Amount
A	100.34	\$80,000	3.8015%	\$80,000
B	100.32	\$70,000	3.8188%	\$150,000
C	100.31	\$90,000	3.8274%	\$240,000
D	100.30	\$60,000	3.8361%	\$300,000
E	100.30	\$60,000	3.8361%	\$360,000
F	100.29	\$80,000	3.8447%	\$440,000
G	100.28	\$50,000	3.8533%	\$490,000

As depicted in Table 2, bids received for the auction are arranged in decreasing order of bid price. The required amount of B\$300,000 could be raised by accepting all bids of bidders A, B, C and D. However, since the bid of bidder E is also at the same price tendered by bidder D, bidders D and E would receive proportionate allotments so the notified amount for the auction is not exceeded. As the price quoted by other bidders are less than the cut-off price, their bids are rejected.

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