Nasdaq Dubai

Nasdaq Dubai Debt Securities Trading Manual

version 1.4/November 2019

For more information

Nasdaq Dubai Ltd
Level 8 The Exchange (GV 11),
DIFC PO Box 53536 Dubai UAE
+971 4 305 5455

Concerned department:
Market Operations
For Trading related inquiries:
trading@nasdaqdubai.com
+971 4 305 5472/5474/5439

For Settlement related inquiries:
clearing@nasdaqdubai.com
+971 4 305 5133 / 5135

nasdaqdubai.com

Contents

1. INTRODUCTION 3
2. SCOPE OF DOCUMENT 3
3. MARKET PARTICIPANTS 3
4. TRADING 3
4.1 Trading Platform 3
4.2 Trading Model 4
4.3 Market Timing and Trading Phases 5
4.4 Closing Price 7
4.5 Trading Safeguards 7
4.6 Security Trading Symbol Convention 8
4.7 Order Types 8
4.8 Execution Conditions 9
4.9 Order Validity 10
4.10 Off-Order Book 10
4.11 Block Trades 10
4.12 Cross Orders 11
4.13 Order Book Matching 11
4.14 Security States 11
4.15 Minimum Trading Lot 11
4.16 Trade Cancellation 11
4.17 Quotations and Settlement Value 13
4.18 Trading Fees 13
5. Settlement Mechanism 13
6. Settlement Discipline 16
7. Corporate Action Management 16
Appendix 1: Calculation of Theoretical Auction Price (TAP) 17

~~Debt Securities Admitted to Trade on Nasdaq Dubai and Settled on an International CSD~~

~~Note: Unless otherwise provided, capitalised terms shall have definitions assigned to such terms in the Nasdaq Dubai Business Rules.~~

1. INTRODUCTION

Nasdaq Dubai's electronic and automated Debt Securities trading platform allows institutional and Professional Clients to trade Debt Securities Admitted to Trading on Nasdaq Dubai. Trading on an Exchange platform provides more transparency and efficiency in the price formation mechanism.

~~This is an Order driven market model with the optional presence of Market Makers to support trading.~~ All market participants are able to enter their buy or sell Orders.

Settlement and custody services for these Securities are offered by Euroclear Bank SA/NV (Euroclear Bank).

2. SCOPE OF DOCUMENT

This document describes the model for trading of Debt Securities on Nasdaq Dubai. It addresses various Order types andexecution conditions available, the price determination rules for trading and the various trading phases on Nasdaq Dubai. It also briefly addresses market connectivity, Trading Safeguards and other trading and settlement conditions.

3. MARKET PARTICIPANTS

Nasdaq Dubai Trading Members licensed to trade Securities and having requisite settlement arrangements with Euroclear Bank are eligible to trade on the Debt Securities trading platform. Settlement of trades executed on this platform takes place with Euroclear Bank.

4. TRADING

4.1 Trading Platform

~~Debt Securities are available for trade on the DFM X-Stream trading platform.~~

~~**DFM X-Stream Trader Workstation**: The DFM X-Stream Trader Workstation is a Windows based application that must be installed on a PC with connectivity access to one of the trading distribution gateways (located in London or Dubai). The DFM X-Stream Trader Workstation gives full trading access to the DFM X-Stream trading platform and is fully equipped to support Trading Members.~~

~~**X-Stream Client Software Development Kit (SDK):** The SDK contains the X-Sstream client Application Programming Interface (API). The SDK is used by Trading Members of the Exchange to develop software that will connect to the X-Sstream server. Trading Members can use the SDK to develop their own in-house trading application or can alternatively connect through one of our Iindependent Ssoftware Vvendors that have developed to Nasdaq Dubai using the SDK.~~

~~**FIX Gateway:** FIX Ggateway for DFM X Stream trading platform is provided by Nasdaq and supports FIX protocol version 4.4. The systems FIX Gateway supports the Members' Oorder Mmanagement Ssystem of Trading Members.~~

DFM Matching Engine Trader Workstation: The DFM ME XW is a Windows based application that must be installed on a PC with connectivity access to one of the Trading Engine (located Dubai). The DFM ME XW gives full trading access to the DFM ME and is fully equipped to support Members.

X-Stream Client Software Development Kit (SDK): The SDK contains the java client Application Programming Interface (API) to receive market data feed. The SDK is used by Members of the Exchange to develop software that will connect to the Trading Engine and receive feed. Members can use the SDK to develop their own in-house feed handler or alternatively can connect through one of our Independent Software Vendors.

FIX Gateway: FIX gateway for DFM Matching Engine trading platform supports FIX protocol version 5.0 SPI. The systems FIX Gateway allows the Members' order management system to connect and perform order management activity.

4.2 Trading Model

The Nasdaq Dubai trading model comprises of two Order Books; (1.) the Central Order Book (COB) and (2) the Off Order Book (OOB). The COB is the main Order Book into which Orders are entered during the trading day. The OOB is a reporting service for reporting pre-negotiated deals and Block Trades between Nasdaq Dubai Members.

There will be no pre-validation of Orders entered on this platform since settlement of trades will take place in Euroclear Bank through its delivery versus payment (DVP) process.

Debt Securities traded on this platform are quoted in terms of a percentage of face value. Example: If the face value of a Security is USD 1000, a quote of 100 indicates this Security trades at par. A quote above 100 results in trading at a premium, while a quote below 100 means the Security is traded at a discount. Quotes are provided in terms of 'clean' price model. Accrued interest is calculated by a post-trade processing system and provided to Members and the relevant Settlement Agents.

There is no post-trade anonymity for trades matched on this platform. Counterparty information is disclosed to the trading participants after trade execution via a day trade report. Nasdaq Dubai does not novate any Transactions matched in the Debt Securities Order Book. Any relevant Counterparty risk is borne by the trading counterparties. As trades are not cleared by any CCP ("Non-CCP trades"), the Member may only permit Professional Clients to trade in these excluded Securities. Professional Client has been defined in the DFSA Rulebook.

On the Order entry screen, Members are required to input the Trading Account Number maintained to trade on Nasdaq Dubai systems. Clients without trading accounts can open a NIN with Nasdaq Dubai in order to trade Debt Securities. Such NINs will be restricted from trading or holding Equities.

4.3 Market Timing and Trading Phases

Nasdaq Dubai Market is open for trading from Sunday to Thursday.

A list of business holidays is available on the Nasdaq Dubai website.

Market Timings	Trading Phases
09:30 – 09:55	Pre-opening Auction
09:55 – 10:00	Pre-opening Adjustment (No Cancellation Period)
10:00 – 13:45	Main Trading Session (Continuous Trading)
13:45 – 13:53	Pre-closing Auction
13:53 – 13:55	Pre-closing Adjustment (No Cancellation Period)
13:55 – 13:55:20	Pre-close Match (Matching at TAP)
13:55:20 – 14:00:20	Trading-At- Last
From 14:00:20	Post-Trading (Market Close)

Any changes in market timings or trading phases will be notified to the Members by way of a Notice.

Pre-opening Auction (09:30 – 09:55)

- The Pre-opening Auction isan Order accumulation period during which all Orders entered by the Members are automatically recorded in the COB without being executed.
- Orders can be amended or cancelled during this session. Entry of new Limit Orders is permitted. No Market Orders are allowed during this session.
- The Theoretical Auction Price (TAP) is calculated each time a new Order is entered or amended into the COB.
- The TAP is established using the rules detailed in Appendix 1.

Pre-opening Aadjustment (No Cancellation Period) (09:55 – 10:00)

The Pre-opening Adjustment is a No Cancellation Period where theMembers can enter new Orders, however, modifying or withdrawing existing Orders which lead to decreasing the Order priority is not permitted. Following are the characteristics of this session.

- The Pre-opening Adjustment session is an Order accumulation period during which all Orders entered by the Members are recorded on the COB without being executed.
- Entry of new Limit orders, Market Orders, Hidden orders (Iceberg) is permitted. No Minimum Execution, Minimum Fill, AON, FOK, FAK will be allowed during this session.
- ~~Entry of new Limit Orders entry is permitted. No Market Orders are allowed during this session.~~
- Members cannot cancel or deactivate their pending Orders or make the following amendments:
- Decrease Order quantity
- Decrease price for Buy Order
- Increase price for Sell Order
- At the end of the Pre-opening Adjustment session Order matching will happen at TAP.
- The TAP at which matching is done would be considered as the Opening Price.

Main Trading Session/ Continuous Trading (10:00 – 14:00)

If there are matching Orders in the COB at the end of the Pre-opening Auction, this matching will take place at the TAP, based on price/time priority.

Once the Pre-opening Auction is completed Continuous Trading in that Security begins and Orders can be entered, maintained, modified and deleted. All Orders that are unexecuted at the Pre-opening Auction are forwarded into the Main Trading Session.

The OOB will be available to report negotiated deals and Block Trades duringthe Main Trading Session.

Pre-closing Auction~~session details~~ (13:45 – 13:53)

- The Pre-closing Auction is an Order accumulation period during which all Orders entered by the Members are automatically recorded in the COB without being executed.
- Orders can be amended or cancelled during this session. Entry of new Limit orders, Market Orders, Hidden orders (Iceberg) is permitted. No Minimum Execution, Minimum Fill, AON, FOK, FAK will be allowed during this session. If any order with Minimum Execution, Minimum Fill, AON is entered during previous trading session then those orders will be removed from the COB during this session.
- The TAP is calculated each time a new Order is entered or amended into the COB.
- The TAP is established using the rules detailed in Appendix 1.

Pre-closing Adjustment (13:53 – 13:55)~~:~~

The characteristics of the Pre-closing Adjustment session are similar to the Pre-opening Adjustment as set out below:

- The Pre-closing Adjustment session will be an Order accumulation period during which all Orders entered by the Members are recorded on the COB without being executed.

- Entry of new Limit orders, Market Orders, Hidden orders (Iceberg) entry is permitted. No Minimum Execution, Minimum Fill, AON, FOK, FAK will be allowed during this session.
- Members cannot cancel or deactivate their pending Orders or make the following amendments:
    - Decrease Order quantity
    - Decrease price for buy Order
    - Increase price for sell Order at the end of the Pre-closing Adjustment session Order matching will happen at TAP. The TAP at which matching is done would be considered as the Closing Price.

Trading-At-Last (13:55:20 – 14:00:20):

- New Orders can be entered only at a Last Trade Price (LTP) for the day as determined in the Pre-closing Adjustment session or at the previous Closing Price, if there are no trades for that symbol.
- The Orders from Pre-closing session are carried over in the system and their time priority is maintained. During this session, Orders can be amended based on the LTP for the day as determined in the Pre-closing Adjustment session or at the previous Close Price if there are no trades for that symbol.
- Orders can be withdrawn.
- Matching can happen only at the LTP for the day or at the previous Close Price, if there are no trades for that symbol.
- No Market Orders are allowed during this session.
- This trading session is shown as 'Trade At Last' on the trading platform and data feed disseminated to the vendors.

4.4 Closing Price

On each Business Day, Nasdaq Dubai determines the Closing Price as follows:

1. Closing Price will be the price determined in a Pre-closing Auction.
2. If the price cannot be determined in Pre-closing Auction, the Closing Price will be the LTP of the Security during the same Business Day.
3. If there is no LTP on the same Business Day, Nasdaq Dubai will determine the Closing Price based on the quotes provided by its active market participants.
4. If a price cannot be determined by the above two methods, then the previous day's Closing Price shall be the Closing Price.
5. If there is no previous day's Closing Price, Nasdaq Dubai will determine a price from data published by one or more financial data vendors.

Nasdaq Dubai reserves the right to set a Closing Price other than in accordance with this policy, if it believes such action is required to maintain a fair and orderly market.

4.5 Trading Safeguards

Order Value Safeguard

Maximum value safeguard for a single Order is equivalent to USD 20,000,000 per Order. Nasdaq Dubai will announce any updates or changes to these safeguards, to the market via Notices.

Reference Safeguard:

The Reference Safeguard prevents Orders from being entered into Nasdaq Dubai's trading system and will be rejected under the following conditions:

- If the price of the Order is 10% greater than the previous Closing Price.
- If the price of the Order is 10% less than the previous Closing Price.

Nasdaq Dubai reserves the right to redefine and modify the safeguard range intraday depending on the market situations including but not exclusive to re-instatement of a Security following a halt or suspension of trading, acquisitions, significant corporate news or extra ordinary corporate actions. Nasdaq Dubai will notify the market when any change to the threshold is made intraday.

4.6 Security Trading Symbol Convention

Trading symbol convention for Debt Securities is as follows:

Security acronym (5 characters) + Maturity month (2 characters) + Maturity Year (2 characters) + CUR (3 characters)

Example – EMAAR issues Bonds/Sukuk that matured on March 2026; Symbol will be EMAAR0326USD

4.7 Order Types

Market Orders

Market Orders can only be entered into the trading platform during the Main Trading Session and do not stipulate a price. A Market Order will execute as much quantity as possible, up to the Trading Safeguard until it is completely filled. If a Market Order is only partially filled, then it is converted into a Limit Order at the Best Bid price (for sell Orders) or Best Ask price (for buy Orders). If no matching Order is available, the Order is rejected by the trading platform.

Limit Orders

Limit Orders stipulate a maximum purchase price or minimum selling price.

Limit Orders entered during the Main Trading Session are executed either fully or partially, as market conditions permit. If the execution of a Limit Order is not immediately possible, it is logged in the Order Book in descending buy-price Order or ascending sell-price Order (the price priority principle) and joins the queue of Orders having the same price (the time priority principle).

Trigger Order

A Trigger Order (also sometimes referred as Stop Loss) is an order that is activated when the price of the security reaches specified price from a specific side, either declining or rising. Orders are activated and put into order book based on the price of the security reaching the trigger criteria.

Hidden Orders (Ice berg)

Hidden orders allow the submission of an order while only disclosing a portion of the entire quantity; the minimum exposed quantity is 10%; Disclosed quantities are only refreshed from the hidden quantity after full execution of the previous disclosed one and it loses is priority in the order book.

4.8 Execution Conditions

All Or None (AON)

Order will execute if the matching is for full quantity or it will remain in the order book

Minimum Execution (ME)

Shares are traded in specific blocks (groups), provided the quantity is above the "Minimum Execution" quantity. If the balance quantity is less than the minimum requirement, the order is removed.

Minimum Fill (MF)

A minimum number of shares must be executed before it is possible to trade the order. It is possible to have more than one corresponding-order for every partial trade. Following execution of the minimum fill or more, the minimum fill requirement is rescinded and the order is treated like other regular orders.

Fill-and-Kill Orders

Fill-and-Kill (FAK) Orders can only be placed during the Main Trading Session. FAK Order may be filled in full or in part depending on the market conditions at the time it is entered and at the specified price or better (which could be a limit price or at market). The remaining part of any FAK Order that is not executed immediately and in full, is cancelled.

Fill or Kill Orders

Fill-or-Kill (FOK) Orders can only be placed during the Main Trading Session. An FOK Order can only be executed in full, depending on the market conditions at the time it is entered and at the specified price or better (which could be a limit price or at market). If an FOK cannot be immediately executed, the Order will immediately expire.

Special Order Types

- Private Order
  Orders may be stored as private orders and selected for placement into the market at a later time

- Market Maker Order

Orders entered by Market Maker participant as identified as MM orders which is then used to check the MM obligations.

4.9 Order Validity

There are three (3) types of validity constraints for Orders entered on the Nasdaq Dubai trading platform:

1. **Day:** A Day Order is the default validity and is only good for the current trading day. All outstanding Orders with day validity, that have not been fully executed at the end of the trading day will automatically expire.
2. **Good Till Cancelled (GTC):** GTC Orders are Orders with a validity period of 365 days, these Orders remain in the Order Book for 365 days, or until the Order is either fully executed or the user cancels the Order. All outstanding Orders with prices falling outside the Reference Safeguards will automatically expire.
3. **Good Till Date (GTD):** GTD Orders are Orders that are good until a specified expiry date. The expiry date can be up to a maximum of 365 days in the future. All outstanding Orders with prices falling outside the Reference Safeguards will automatically expire.

Note: When an FAK or FOK execution condition is specified, the Order validity is automatically set to immediate.

4.10 Off--Order Book

The OOB is a reporting service for Block Trades, OTC Transactions and Cross Trades entered outside of the COB, but still on the Nasdaq Dubai Exchange that affect the market statistics on the day when entered.
Nasdaq Dubai offers its Members three (3) ways in which they can report OOB Transactions:

1. By calling the **Nasdaq Dubai Trading Desk** at **+971 4 305 5472/5474/5439,** followed by an email confirmation.
2. By sending details of the trade, signed by authorized signatories to **trading@nasdaqdubai.com**.
3. Through Bloomberg IB chat, provided the user is on our list of authorized traders.

4.11 Block Trades

Block Trades shall mean OOB Transactions that are equal to, or exceed the following threshold defined as Normal Block Amount ("NBA"):

- USD 10,000,000 in the case of Debt Securities traded on a continuous basis

Block Trades shall be affected at prices within the following ranges:

- 5% around the LTP if the amount of the Block Trade is greater than the relevant NBA

Nasdaq Dubai will have the discretion to allow Block Trades outside of this specified range, after considering prevailing market and liquidity conditions.

4.12 Cross Orders

The automatic execution through the Order Book of a buy and sell Order from a single Member is permitted by the trading platform during Continuous Trading. The resulting trade will be marked as a Cross Trade. Cross Orders have to be limited at a price within the Best Bid Offer (BBO). A Cross Order at the BBO is only allowed for a volume higher than the volume available in the Order Book at this price.

In a situation where a Cross Trade is reported but, between the time of reporting and the time of registering the trade on market, the trade no longer meets the Nasdaq Dubai crossing rules; Nasdaq Dubai may, at its sole discretion, allow for the Cross Trade to be reported. In addition, if there is no tradable price within the markets best Bid/Ask limit at the time of entry, the trade can be crossed at either the best Bid or Offer.

4.13 Order Book Matching

Matching is FIFO: 'first in first out' order allocation where each order allocates as much volume as possible before any volume is allocated to the next order in the price/timestamp sequence.

4.14 Security States

Normally, the state of all Securities will be active and trading occurs as set out in the timetable of the Board to which they belong. In certain circumstances, however, Securities may be subject to other states.

When changes occur in the status of a Security, an information message is disseminated via the Nasdaq Dubai trading platform.

Securities on Nasdaq Dubai can be in the following states:

- **Active**: Securities in this state are available for trading. Members can enter new Orders, amend existing Orders and cancel Orders.
  Securities in an Active state will be represented by the letter "**A**" in the status field indicated on the trading platform.
- **Suspended**: Securities in a Suspended state are not available for trading. Members cannot enter new Orders or amend/cancel existing Orders. Securities in a Suspended state will be represented by the letter "**S**" in the status field indicated on the trading platform.

4.15 Minimum Trading Lot

Minimum trading lot will be established by Nasdaq Dubai in accordance with the minimum denominations specified in the Security's Prospectus and the ease of tradability by Members. Minimum trading lot along with other product specifications will be available on the Nasdaq Dubai website.

4.16 Trade Cancellation

Members cannot cancel or modify any Securities Transactions. However, in the case of a material error by a ~~Member which~~Member, which was notified to Nasdaq Dubai within fifteen (15) minutes of the Securities

Transaction being executed, Nasdaq Dubai may, but shall not be obliged to cancel all Securities Transactions effected as a consequence of such error. Nasdaq Dubai may also cancel any and all Securities Transactions, which in its reasonable judgment do not comply with its Procedures, Business Rules, DFSA Rules, applicable laws or regulations.

These cancellation rules do not apply if the following conditions are true:

Trade errors such as the following are not considered to be grounds for cancelling a trade unless a situation occurs where a cancellation would be in the best interest of maintaining a fair and orderly market:

- Entering a sell Order instead of a buy Order.
- Entering an incorrect price where the price that the trade occurred at is not significantly away from the current BBO or the LTP where no BBO exists.
- Entering a higher or lower quantity than intended where it can easily be reversed (Bids and Offers are readily available at reasonable prices for that Security).
- The reversal of the error would result in a total loss of less than USD 1,000 or equivalent.

If a request for cancellation was received within a reasonable time, Nasdaq Dubai will deal with such request on case by case basis and apply the above guidelines as far as practicable. Nasdaq Dubai at its sole discretion will decide if trade cancellation is required.

Time for a request for cancellation

A Member wishing to cancel a Transaction shall submit the cancellation request via phone (+971 4 305472/5474/5439) or email to trading@nasdaqdubai.com no later than fifteen (15) minutes from the time the trade took place. Telephone requests must be confirmed by email as soon as practicable.

Procedures:

When a Nasdaq Dubai Member has submitted a request for cancellation, Nasdaq Dubai will assess whether the prerequisites for cancellation are present.

If the prerequisites for the cancellation request are satisfied, Nasdaq Dubai shall advise the other Nasdaq Dubai Members involved in the Transaction as soon as possible that the trade will be cancelled.

Trade cancellations at the request of a Member will not be entitled to a reversal of trading fees.

Exchange Initiated Trade Cancellations:

Nasdaq Dubai may, where required, cancel a trade to ensure the integrity of the market and that the market is operating in a fair and orderly manner.

Trade Cancellations initiated by Nasdaq Dubai may be the result of:

- An indisputable error or mistake which is caused by a technical or manual error entering an incorrect price, where the price that the trade occurred is significantly away from the current BBO or the LTP where no BBO exists.
- Breach of a material provision of law, regulation or rule.

- Technical disruptions in the trading and/or clearing systems beyond the Member's control.
- Trades that result in misrepresentation of the market price.

Nasdaq Dubai will have the discretion to levy a trade cancellation fee on the party initiating the cancellation. If a trade cancellation is a result of an error on Nasdaq Dubai's part then the fees of the cancelled trade will be waived for the Members involved.

4.17 Quotations and Settlement Value

Prices quoted by the Members on the trading system are clean, i.e. without the accrued interest/profit calculation component.

Once an Order has been matched on the trading platform, Nasdaq Dubai's systems automatically calculate the value of accrued interest/profit calculation based on:

- Face value of Securities traded
- Settlement Date
- Coupon rate/profit rate, last coupon/profit payment date
- Interest calculation/profit calculation convention used by the Issuer (as stated in the Prospectus)

The accrued interest component of the Transaction is then added to the trade value and then the final settlement value is sent to Euroclear Bank for settlement.

Members and Settlement Agents also have accrued Interest amounts added in the relevant trade reports.

4.18 Trading Fees

Trade level Exchange fees are captured in daily trading reports, and the same are invoiced to the Members at the end of each month. Such fees are not considered in the settlement instructions sent to Euroclear Bank.

5. Settlement Mechanism

Settlement of trades executed on the Debt Securities trading platform takes place in Euroclear Bank.

Nasdaq Dubai Trading Member must have sufficient arrangements in place with Euroclear Bank to complete the settlement process. These arrangements include:

i. Access to a direct account with Euroclear Bank; or
ii. Appointing a Settlement Agent that has a direct account with Euroclear Bank. The Settlement Agent must have necessary arrangements in place with Euroclear Bank for settlements.

Trading Members or the relevant Settlement Agent is required to provide Nasdaq Dubai with a Power Of Attorney (POA) on the Euroclear account they wish to use, in order to transact in the permitted Securities. On the basis of this POA, Nasdaq Dubai will send SWIFT settlement instructions to Euroclear Bank to settle the trades directly in the account provided.

Nasdaq Dubai uses the POA solely for the purpose of sending SWIFT instructions related to Securities traded by a Trading Member on the Nasdaq Dubai Market. However, Trading Members or Settlement Agents may wish to open a separate account with Euroclear Bank to segregate positions arising out of Transactions on Nasdaq Dubai platform from other Euroclear holdings.

Nasdaq Dubai calculates the Transaction value after adding the accrued interest component to the trade value and provides settlement instructions to Euroclear Bank on a T+1 basis for settlement on T+2. Settlement of cash and Securities in Euroclear Bank takes place in accordance with Euroclear Bank's operating procedures.

Instructions are sent to Euroclear Bank via SWIFT in the standard prescribed by Euroclear Bank. Both legs of the Transaction are instructed simultaneously on two different Euroclear Bank accounts of counterparties and hence, by default, pass Euroclear Bank's matching process. For a trade where a Trading Member is involved on both sides with the same Euroclear account, the buy and sell legs offset each other. Such trades are automatically considered as settled. If required, the Member would need to effect any subsequent internal settlement to client holdings in its books and/or Euroclear Bank by placing relevant instructions for this trade.

In accordance with Euroclear Bank procedures, any unsettled trades (settlement fails) are carried forward to the next settlement day up to the maximum days allowed by Euroclear Bank. Nasdaq Dubai reserves the right to cancel any failed settlement instruction, which, in its reasonable judgment is required to ensure an orderly market. Recycling of instructions happens automatically in accordance with Euroclear Bank's procedures. Nasdaq Dubai does not resend the settlement instructions for such unsettled Transactions.

Normal weekly settlement schedule for trades executed on this platform are as follows:

Trading Day	Settlement Day (T+2)
Sunday	Tuesday
Monday	Wednesday
Tuesday	Thursday
Wednesday	Friday
Thursday	Monday

If the settlement day arrived as per the above schedule falls on a non-settlement day in Euroclear Bank, then settlement day is the next business day in Euroclear Bank.

Key Timings

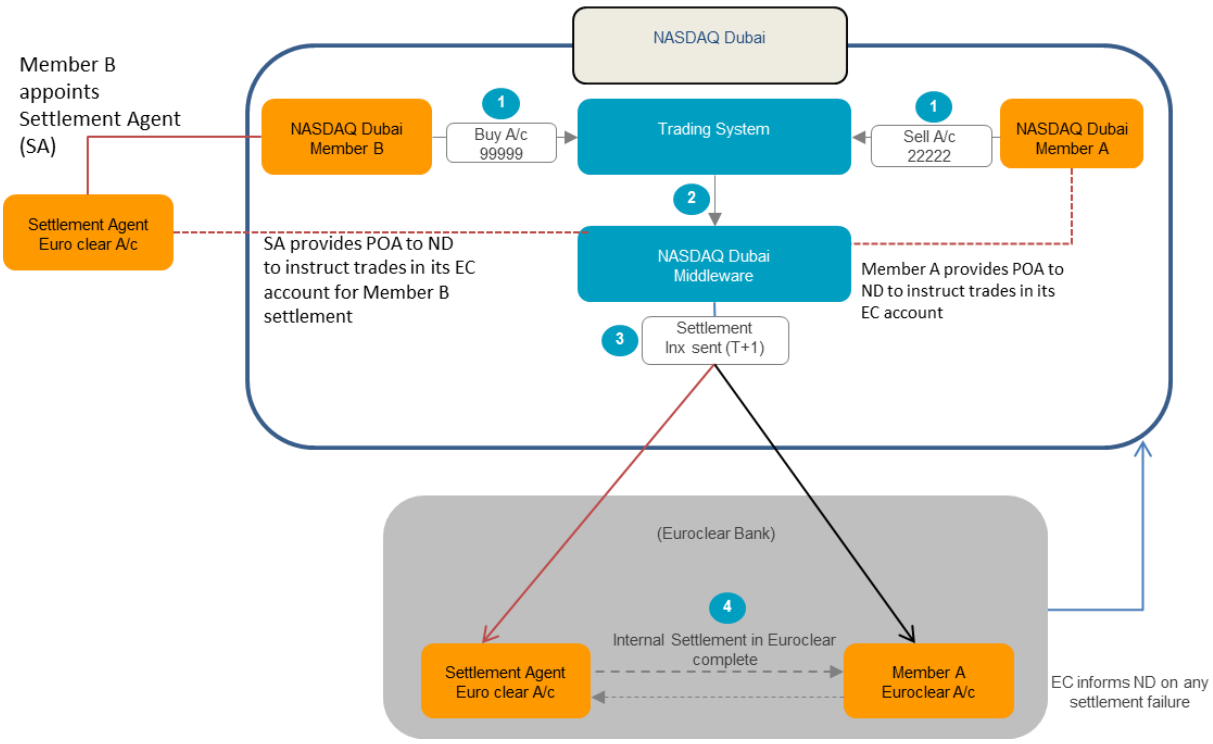
Activity	Schedule
Trading reports available for Members /Settlement Agents	by 15:00 hrs on Trading day (T day)
Trading Members to request Trading Account Number amendment in SWIFT instruction (if any)	by 14:00 hrs on T day +1
Settlement instructions sent to Euroclear Bank on behalf of Members/Settlement Agents	by 16:00 hrs on T day +1
Settlement in Euroclear Bank	On Settlement Day (SD), as per Euroclear settlement timings

Any change from the above schedule will be announced to the market via a Notice/Circular.

Following diagram illustrates the process flow for settlements in Euroclear Bank.

Member B appoints Settlement Agent to settle trades in Euroclear Bank (EC).

Member A settles trades directly in Euroclear Bank (EC).



6. Settlement Discipline

Trades executed and matched on this platform are settled on T+2 basis. If any Trading Member fails to settle until T+5, then the failing Trading Member will be charged with compensation to the affected counterparty as follows:

Settlement Day	Settlement Delay Charges (Charges on a daily basis)
T+5 and thereafter	10 bps on value of cash/Securities failed to settled

As settlement of trades takes place outside Nasdaq Dubai, the affected counterparty must inform Nasdaq Dubai of any such settlement failure after T+5 to initiate the compensation process. Nasdaq Dubai will verify the settlement failure details with Euroclear Bank and settle the compensation between Members.

Failed settlements are carried over for next settlement day. Nasdaq Dubai reserves the right to cancel this failed settlement instruction if it thinks necessary to do so. Such cancellation will be informed to Trading Members via email.

Nasdaq Dubai verifies the details with Euroclear Bank for details of failed trades and settles the charge between the failing Trading Member and the affected counterparty.

These charges are in addition to charges levied by Euroclear Bank on its account holders for settlement failures.

The compensation rates stated above are reviewed periodically and revisions communicated via Notice.

7. Corporate Action Management

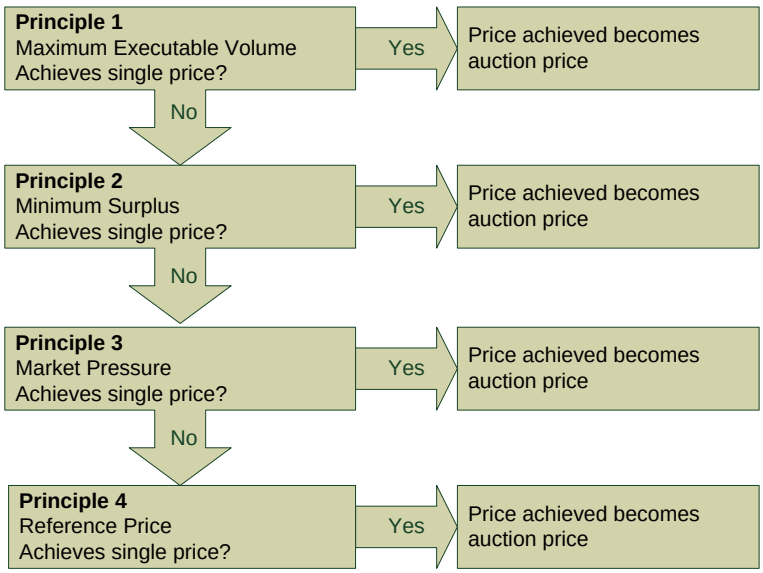
Corporate actions in Securities transacted on the Debt Securities trading platform will be managed outside of Nasdaq Dubai and entirely in accordance with Euroclear Bank procedures. Payments will be made by Euroclear Bank directly to investors holding the Security as on the record date of the corporate action.

Appendix 1: Calculation of Theoretical Auction Price (TAP)

Calculation Steps:

There are four Principles in determining the TAP . If a price cannot be determined after the first principle, the model progresses to the second principle, and If a price cannot be determined after the second principle, the model progresses to the third principle, and if necessary, to the fourth.

These principles are applied in the following order:



Principle 1: Maximum Executable Volume (MEV)

This principle establishes the price(s) at which the maximum number of securities will be executed. There are two stages involved in applying this rule.

1. The first stage adds together all the bids (Cumulative Bid) and all the asks (Cumulative Ask). The Cumulative Bid is calculated by taking the quantity of securities from the highest bid price and adding to this the quantity of securities from the second highest bid price and then the third highest bid and so on. The Cumulative Ask is calculated by taking the quantity of securities to from the lowest ask price and adding to this the quantity of securities from the second lowest ask price, then the third lowest and so on.

2. The second stage establishes the Maximum executable volume based on the Cumulative Bid and Cumulative Ask at each price level.

In **Example 1** below there is a Cumulative Bid of 180 securities at a price of $0.81 that match with a Cumulative Ask of 180 securities at the same price of $0.81. In this example, the purchase orders of 50 at $0.83 and 70 at $0.82 were also executed at the lower price of $0.81. On the other side, the sale orders of 100 at $0.79 and 60 and $0.80 were also executed at the higher price of $0.81.

Example 1 – TAP identified as Single Price:

Bid Quantity (limit orders)	Cumulative buy quantity	Surplus	Price	Surplus	Cumulative sell quantity	Ask Quantity (limit orders)
50	50		**0.83**	130	180	
70	120		**0.82**	60	180	
60	180	0	**0.81**	0	180	20
	180	20	**0.80**		160	60
	180	80	**0.79**		100	100

In the order book situation displayed above, the TAP will be **$0.81** according to the Maximum executable Volume.

Example 2 – TAP multiple prices identified: Establish Maximum Executable Volume (MEV) at each eligible price.

In this example, the maximum quantity of shares that will be traded is 180. Hence, had it been only one price at which the maximum quantity of shares that may be traded, that price would be the official auction price.

Bid Quantity (limit orders)	Cumulative buy quantity	Price	Cumulative Sell quantity	Ask Quantity (limit orders)	Maximum Excutable Vol. (MEV)
50	50	**0.83**	300	50	50
130	180	**0.82**	250	40	180
0	180	**0.81**	210	30	180
30	210	**0.80**	180	0	180

0	210	**0.79**	180	0	180
40	250	**0.78**	180	60	180
40	290	**0.77**	120	50	120
40	330	**0.76**	70	70	70

The Maximum Executable Volume (MEV) is minimum of the Cumulative Buy and Cumulative Sell quantities at that price.

The MEV occurred at prices 0.78, 0.79, 0.80, 0.81 and 0.82. Therefore, at the completion of Principle 1, the potential auction price would be any of these prices.

The algorithm has eliminated prices 0.83, 0.77 and 0.76 to further narrow the choices for an auction price. Hence, System moves to Principle 2 to determine the Minimum Surplus level.

Principle 2: Minimum Surplus

If there is more than one price at which there is a Maximum Executable Volume (MEV), the price with the minimum surplus (the fewest unexecuted securities) will be chosen as the TAP.

Example 1: The Maximum Executable Volume (MEV) is 80 being the total number of securities that make up the Cumulative Ask which can be executed at three prices of $0.80, $0.81 and $0.82. In this example the TAP is $0.82 because the Maximum Executable Volume (MEV) of 80 can be executed against a Cumulative Bid of 90 securities at a price of $0.82 with a Minimum Surplus (MS) of 10; i.e. leaving just 10 securities unexecuted.

Example 1 TAP identified as Single Price:

Bid Quantity (limit orders)	Cumulative buy quantity	Price	Cumulative Sell quantity	Ask Quantity (limit orders)	Maximum Excutable Vol. (MEV)	Minimum Surplus (MS)
50	50	**0.83**	80		50	30
40	90	**0.82**	80		80	10
10	100	**0.81**	80		80	20
	100	**0.80**	80	30	80	20
	100	**0.79**	50	50	50	50

The Minimum Surplus (MS) at each price level is equal to the Cumulative Buy Quantity less the Cumulative Sell Quantity.

Example 2 – TAP multiple price identified: Establish Minimum Surplus (MS) at each eligible price.

Bid Quantity (limit orders)	Cumulative buy quantity	Price	Cumulative Sell quantity	Ask Quantity (limit orders)	Maximum ~~Excutable~~Executable Vol. (MEV)	Minimum Surplus (MS)
50	50	**0.83**	300	50	50	*
130	180	**0.82**	250	40	180	70
0	180	**0.81**	210	30	180	30
30	210	**0.80**	180	0	180	30
0	210	**0.79**	180	0	180	30
40	250	**0.78**	180	60	180	70
40	290	**0.77**	120	50	120	*
40	330	**0.76**	70	70	70	*

*Price eliminated by Principle 1.

Ignoring the positive and negative signs, the lowest number in the MS column is 30. Had it been only one price at which this occurs, that price would be the official auction price.

In this example, the MS occurs at prices 0.79, 0.80 and 0.81. Therefore, at the completion of Principle 2, the potential auction price would be any of these prices.

The algorithm has further eliminated 0.82 and 0.78 as auction price to further narrow the choices for an auction price. Hence the system moves to Principle 3 to determine Market Pressure.

Principle 3: Market Pressure

This principle determines where the Market Pressure of the potential auction prices exists – on the buy or the sell side. A positive sign (+) indicates a surplus will remain on the buy side, demonstrating buy side pressure at the conclusion of the auction. A negative sign (-) indicates a surplus will remain on the sell side, demonstrating sell side pressure at the conclusion of the auction

If the Market pressure is on the buy side (positive sign of unmatched quantity) then the highest of the potential auction prices is used.

If the Market pressure is on the sell side (negative sign of unmatched quantity) then the lowest of the potential auction prices is used.

If Market pressure exists on both the buy side and the sell side, or the MS is "0" the algorithm will proceed to Principle 4.

Bid Quantity (limit orders)	Cumulative buy quantity	Price	Cumulative Sell quantity	Ask Quantity (limit orders)	Maximum Executable Vol. (MEV)	Minimum Surplus (MS)
50	50	**0.83**	300	50	50	*
130	180	**0.82**	250	40	180	*
0	180	**0.81**	210	30	180	-30
30	210	**0.80**	180	0	180	30
0	210	**0.79**	180	0	180	30
40	250	**0.78**	180	60	180	*
40	290	**0.77**	120	50	120	*
40	330	**0.76**	70	70	70	*

*Price eliminated by Principle 1 and Principle 2

In the above example it is not yet possible to calculate an auction price, since the surpluses at 0.79, 0.80 and 0.81 are identical in magnitude but different in sign

At the potential auction prices of 0.79 and 0.80, the surplus is positive (+30), indicating that Market Pressure is on the buy side. At 0.81 the surplus is negative, indicating that Market Pressure is on the sell side. If the market opens at 0.79 or 0.80, a surplus of +30 signifies that after the market opens 30 shares will remain unfilled on the buy side at 0.79 or 0.80, while if the market opens at 0.81 a surplus of -30 indicates that 30 shares will remain unfilled on the sell side at 0.81.

Buy pressure is likely to cause the price to rise after the opening. If surpluses are all positive, the algorithm chooses the highest of the potential prices and this becomes the official auction price.

Sell pressure is likely to cause the price to fall after the opening. If the surpluses are all negative then the algorithm will opt for the lowest of the potential prices as the official auction price.

As the surpluses at 0.79, 0.80 and 0.81 are equal in size but opposite in direction, the algorithm continues to the fourth and final principle to establish an auction price.

Principle 4: Consulting Reference Price

This principle determines an auction price from the range of prices, established in Principle 3, on the basis of their proximity to a reference price.

Generally, the reference price is the last automatically matched traded price. Where an automatically matched trade has occurred on the current trading day, the reference price will be the price of the latest trade executed on

that day. If, during the current trading day, an automatically matched trade has not occurred, the reference price will be carried over from the previous trading day (adjusted for corporate actions, if any).

This principle follows two steps to get the auction price depending upon the condition of the reference price.

Step1: Narrowing the options of potential auction prices to two within the entire range of possible auction prices.

a- If the result of Principle 3 is a combination of positive and negative MS, then the algorithm marks the two prices where the sign changes, i.e in the table above, the MS sign for prices 0.79 and 0.80 is positive (30,30) and changes to negative (-30) at price 0.81; hence, the algorithm chooses 0.80 and 0.81 as potential auction prices to be applied.

b- If the Minimum Surplus for all possible auction prices is zero, and then the algorithm marks the highest and lowest prices within that range as the potential auction prices to be applied i.e. 0.79 and 0.81.

Step 2: Determine the relationship between the reference price and the final auction price.

a- If reference price is equal to or greater than the higher of the two possible prices established in Step 1, then the higher price becomes the auction price

b- If reference price is equal to or less than the lower of the two possible prices established in Step 1, then the lower price becomes the auction price

c- If reference price lies between the two possible prices established in Step 1, then the price closest to the reference price itself becomes the auction price. If the reference price is equally distant from these two possible prices, then the higher of the two prices becomes the auction price.

If reference price does not exist, for example, in the cases of an Initial Public Offering, new listing or the first day of trading a security on a reconstructed basis, the auction price becomes the lower of the two possible prices established in step 1.

~~There are three steps in determining the TAP (i.e. Opening/Closing Price). If a closing price cannot be determined after the first step, the model progresses to the second step and, if necessary, the third. The steps to calculate the TAP are applied in the following order:~~

~~• **Step 1: Maximum Tradable Volume –** the price that generates the greatest tradable volume (see **Example 1**).~~

~~• **Step 2: Establishing the Minimum Surplus –** if there is more than one price at which there is Maximum Tradable Volume, the price with minimum unexecuted volume (Minimum Surplus) will be chosen (see **Eexample 2**).~~

~~• **Step 3: Mid pPoint –** midpoint of the prices that have more than one Maximum Tradable Volume and at least two prices with the same Minimum Surplus (see **Eexamples 3 and 4**). In order to determine the TAP, the midpoint is rounded up to the nearest price tick.~~

~~**Step 1: The Maximum Tradable Volume**~~

~~This step establishes the price(s) at which the maximum number of securities will be traded. There are two stages involved in applying this rule.~~

1. The first stage adds together all the Bbids (Cumulative Bid) and all the Aasks (Cumulative Ask). The Cumulative Bid is calculated by taking the quantity of Ssecurities from the highest Bbid price and adding to this the quantity of Ssecurities from the second highest Bbid price and then the third highest Bbid and so on. The Cumulative Ask is calculated by taking the quantity of Ssecurities from the lowest Aask price and adding to this the quantity of Ssecurities from the second lowest Aask price, then the third lowest and so on.

2. The second stage establishes the greatest tradable volume based on the Cumulative Bid and Cumulative Ask at each price level. In **Example 1,** below there is a Cumulative Bid of 180 Ssecurities at a price of $0.81 that match with a Cumulative Ask of 180 Ssecurities at the same price of $0.81. In this example, the purchase Oorders of 50 at $0.83 and 70 at $0.82 were also executed at the lower price of $0.81. On the other side, the sale Oorders of 100 at $0.79 and 60 and $0.80 were also executed at the higher price of $0.81.

Example 1:

Bid Quantity (Llimit Oorders)	Cumulative Bbuy Qquantity	Surplus	Price	Surplus	Cumulative Ssell Qquantity	Ask Quantity (Llimit Oorders)
50	50		**0.83**	130	180	
70	120		**0.82**	60	180	
60	180	0	**0.81**	0	180	20
	180	20	**0.80**		160	60
	180	80	**0.79**		100	100

In the Oorder Bbook situation displayed above, the TAP will be **$0.81** according to the Maximum Tradable Volume.

Step 2: Establishing the Minimum Surplus

If there is more than one price at which there is a Maximum Tradable Volume, the price with the minimum surplus (the fewest unexecuted Ssecurities) will be chosen as the TAP.

In **Example 2** below, the Maximum Tradable Volume is 80 being the total number of Ssecurities that make up the Cumulative Ask which can be executed at three prices of $0.80, $0.81 and $0.82. In this example the TAP is $0.82 because the Maximum Tradable Volume of 80 can be executed against a Cumulative Bid of 90 Ssecurities at a price of $0.82 leaving just 10 Ssecurities unexecuted.

Example 2:

Bid Quantity (Limit Orders)	Cumulative Bbuy Qquantity	Surplus	Price	Surplus	Cumulative Ssell Qquantity	Ask Quantity (Limit Orders)
50	50		**0.83**	30	80	
40	90	10	**0.82**		80	
10	100	20	**0.81**		80	
	100	20	**0.80**		80	30
	100	50	**0.79**		50	50

In the Oorder Bbook situation displayed above, the TAP will be **$0.82** according to the Maximum Tradable Volume with the Minimum Surplus.

Step 3: Midpoint

Step 3 applies in a situation where there is more than one Maximum Tradable Volume with the same Minimum Surplus. In this case, the midpoint of the prices that have more than one Mminimum Ssurplus becomes the TAP. In **Example 3** below, the Maximum Tradable Volume yields three possible auction prices; the Minimum Surplus also yields three possible auction prices; therefore, the mMidpoint is used to determine the TAP.

Example 3:

Bid Quantity (Limit Orders)	Cumulative Bbuy Qquantity	Surplus	Price	Surplus	Cumulative Ssell Qquantity	Ask Quantity (Limit Orders)
50	50		**0.83**	80	130	
60	110		**0.82**	20	130	
	110		**0.81**	20	130	
	110		**0.80**	20	130	90
	110	70	**0.79**		40	40

In the Oorder Bbook situation displayed above, the TAP will be **$0.81** (midpoint of $0.82 and $0.80) according to the Maximum Tradable Volume with the Minimum Surplus and taking the mMidpoint.

In **Example 4** below, the Maximum Tradable Volume yields two possible auction prices; the Minimum Surplus yields two possible auction prices; therefore, the mMidpoint of **$0.805** is used to determine the TAP.

Example 4:

Bid Quantity (Llimit Oorders)	Cumulative Bbuy Qquantity	Surplus	Price	Surplus	Cumulative Ssell Qquantity	Ask Quantity (Llimit Oorders)
50	50		**0.82**	20	70	
20	70		**0.81**		70	
	70		**0.80**		70	40
	70	40	**0.79**		30	30