DEUTSCHE BÖRSE
CASH MARKET

Xetra® Release 16.0

Market Model Equities

© Deutsche Börse AG

All proprietary rights and rights of use of this Xetra® publication shall be vested in Deutsche Börse AG and all other rights associated with this publication including, but without limitation to, patent, registered design, copyright, trade mark, service mark, connected with this publication shall also be vested in Deutsche Börse AG. Whilst all reasonable care has been taken to ensure that the details contained in this publication are accurate and not misleading at the time of publication, no liability is accepted by Deutsche Börse AG for the use of information contained herein in any circumstances connected with actual trading or otherwise. Neither Deutsche Börse AG, nor its servants nor agents, is responsible for any errors or omissions contained in this publication which is published for information only and shall not constitute an investment advice. This brochure is not intended for solicitation purposes but only for the use of general information. All descriptions, examples and calculations contained in this publication are for guidance purposes only and should not be treated as definitive. This publication is legally non-binding. Binding regulations, particularly with respect to trading models and order types, are only contained in the rules and regulations of Frankfurter Wertpapierbörse (Frankfurt Stock Exchange) and Deutsche Börse AG, may be amended at any time. Such amendments may affect the information given in the present publication.

® Registered trademark of Deutsche Börse AG

Table of Contents

1 Introduction

Xetra® is the pan-European electronic trading system of Deutsche Börse AG for cash market trading in equities and a variety of other instruments including Exchange Traded Funds (ETFs), Exchange Traded Products (ETPs)[1], mutual funds, bonds, warrants, certificates and subscription rights. It was introduced in November 1997 in order to create a transparent and efficient way of automated trading at the Frankfurter Wertpapierbörse (FWB; Frankfurt Stock Exchange). Since its introduction, Xetra has been enhanced through further releases adding functions and capabilities according to market needs.

The document on hand describes electronic trading of equities, related subscription rights, ETFs, ETPs and bonds (for reasons of simplicity in the following regrouped under the term “equities”, unless necessary specifications require a more detailed product definition for which the specifications apply). The market models for Xetra BEST and for Continuous Auction are described in separate market model documents.

The Market Model Equities defines the principles of order matching and price determination as implemented in the trading system Xetra. This includes available trading models, the prioritization of orders, the different order types and the transparency level, i.e. the type and the extent of information available to market participants during trading hours. It represents the current implementation status.

The ultimate and legally binding terms for trading at the Frankfurter Wertpapierbörse are laid down in the rules and regulations of the exchange, especially the “Börsenordnung” (Exchange Rules for the Frankfurter Wertpapierbörse (FWB)) and the “Bedingungen für Geschäfte an der Frankfurter Wertpapierbörse” (Conditions for Transactions on the Frankfurter Wertpapierbörse (FWB)). The market model serves as basis for the rules and regulations which, nevertheless, may contain additional provisions and in particular may exclude or restrict the use of order and quote types described in this market model.

[1] Exchange Traded Products (ETPs) include Exchange Traded Commodities (ETCs) and Exchange Traded Notes (ETNs).

2 Fundamental Principles of the Market Model

Xetra's market model for equity trading follows the principles described below which have been determined in the market model design process:

1. The exchange market model for equity trading is order-driven. Available order types are market orders, limit orders, market-to-limit orders, stop orders, iceberg orders, volume discovery orders, hidden orders, midpoint orders, trailing stop orders, one-cancels-other orders and orders-on-event. In addition, market participants can enter quotes.

2. An equity can be traded in the trading model "continuous trading in connection with auctions", in "auctions", or in "mini auctions in connection with auctions".

3. Trading in the trading model "continuous trading in connection with auctions" as well as in "mini auctions in connection with auctions" starts with an opening auction, can be interrupted by one or several intraday auction(s) and ends with either a closing auction or an end-of-day auction. If trading ends with an end-of-day auction, an intraday closing auction is scheduled which provides an intraday valuation price. Trading starts again after completion of the intraday closing auction.

4. Xetra accepts all order sizes. Exceptions to this rule exist for equities for which the exchange may set a minimum order size and for equities which can only be traded in multiples of a minimum tradable unit. Currently, only subscriptions rights will have a minimum order size greater than the minimum tradable unit.

5. Basically, all order types are supported during the trading forms continuous trading, mini auction, and in auctions. The market-to-limit order, iceberg order, hidden order and midpoint order types are only available for instruments traded in the trading model "continuous trading in connection with auctions" or "mini auctions in connection with auctions". The strike match order can be entered during continuous trading and auctions but executions will be restricted to the closing auction.

6. In general, orders are executed according to price/time priority. If at a given limit, both visible and invisible (hidden) orders exist, the visible orders are always executed with priority. Midpoint orders are executed according to volume/time priority under consideration of the Minimum Acceptable Quantity (MAQ). The hidden volumes of volume discovery orders are executed with price–time priority according to the visible limit of the volume discovery order.

7. Trading is anonymous, i.e. market participants cannot identify which market participant entered an order pre-execution. In securities processed through a central counterparty (CCP), anonymity extends to the settlement layer.

8. In the trading form auction all order sizes are considered for price determination, whereas continuous trading and mini auction are based upon round lots only. Any remaining parts of the order or orders below the round lot size are referred to as odd lots. Odd lots are only considered in auctions that are scheduled in the respective trading model, but not in auction price determinations that are triggered by prices to be expected or order book situations, such as mini auctions, volatility interruptions, or liquidity interruptions. Currently, the round lot size is 1 for all equities.

9. During the call phase of an auction price determination, the order book remains partially closed. The indicative auction price or the best bid and/or ask limit is displayed. Depending on the individual equity, additional market imbalance information may be disseminated. In case of an uncrossed order book, the accumulated volumes at the best bid and best ask are displayed in addition to the best bid and ask limits. In case of a crossed order book the executable volume for the indicative auction price, the side of the surplus and the volume of the surplus are displayed. Currently, the market imbalance information is disseminated for all equities.

10. The last determined price of an equity in an auction, during continuous trading or in a mini auction generally serves as reference price. As an exception to this rule, price determinations based on executed midpoint orders or executions of hidden volumes of volume discovery orders at the midpoint generally do not serve as reference prices.

11. The following aspects must be taken into consideration in order to ensure price continuity and price quality:

    – A volatility interruption takes place if the potential price lies outside a pre-defined price range around the reference price.
    – Market orders are executed at the reference price if there are only market orders executable in the order book.
    – Price determination takes place with consideration of the reference price if non-executed market orders are in the order book in continuous trading which are matched against incoming limit orders.
    – In securities that are traded with liquidity interruption, a liquidity interruption is triggered whenever there is an executable order book situation and there is no quote of a Designated Sponsor available in the order book.

12. The execution probability of market orders in auctions is increased by the introduction of market order interruptions.

13. During an IPO auction, the order book remains closed for the full duration of the auction. Market participants will only be informed about the price range in which the auction price can be determined. The price range will be distributed via the Xetra Newsboard to all market participants by Market Supervision after consultation with the Lead Manager. Further information such as indicative auction price, auction volume and surplus will not be broadcasted during any of the IPO auction phases.

14. Orders are valid for a maximum of 360 days (i.e. 360 calendar days including the current day (=T+359)) from the date of entry.

15. Trade confirmations are disseminated immediately after the respective trade, including information on the counterparty. If the equities in which the trade was concluded are supported by a central counterparty (CCP), the CCP is displayed as counterparty of the trade.

16. The accounting cut-off is carried out daily subsequent to the post-trading phase.

3 Products and Segmentation

All equities listed at the Frankfurter Wertpapierbörse are eligible for electronic trading unless technical restrictions within the nature of the equity prevent this. The “Geschäftsführung” (Management Board) of FWB may define exceptions from this rule.

In order to ensure efficient trading in Xetra, equities are segmented into different groups. Possible criteria for segmentation are, for example, liquidity or country of origin (domestic or foreign). The trading segments valid in Xetra are not dependent on the existing legally stipulated admission segments (market segments) at the Frankfurter Wertpapierbörse.

A trading segment consists of a specific number of instruments for which trading is organized in the same way. Certain parameters of the Xetra market model concerning trading model, order book transparency, trading times etc. can be configured for one trading segment. A combination of parameters is selected for each trading segment, which specifies the trading process in the respective segment.

4 Market Participants

A corporation admitted at Frankfurter Wertpapierbörse (trading member) must fulfill the requirements according to the “Börsenordnung” (Exchange Rules) of the Frankfurter Wertpapierbörse for participation in exchange trading in order to be admitted to trading in the electronic trading system Xetra. These users of the system can be divided into several categories:

- Traders

  Traders are individuals admitted for Xetra trading as mentioned above. A trader can act as agent trader (account A), as proprietary trader (account P) or as liquidity provider (”Designated Sponsor”, account D, or as “Liquidity Manager”, account Q). Orders will be flagged accordingly.

- Other users
  Administrators are users, which are not admitted or authorized for trading (they assign and maintain authorization rights for the member’s personnel). This category also includes personnel in settlement, operation and compliance as well as information users.

5 Provision of Additional Liquidity by Designated Sponsors

Banks and securities firms admitted to trading at Frankfurter Wertpapierbörse act as Designated Sponsors, increasing the shares' liquidity by offering to buy and sell equities, thereby improving the price quality of supported equities. Functions as these conducted in Xetra can be augmented by additional services assumed by the Designated Sponsor. Examples of such services would be research and consulting in investor relations management. In order to be traded in continuous trading or mini auction, each equity requires at least one Designated Sponsor. Equities with sufficient liquidity (according to the Xetra Liquidity Measure - XLM) are exempted from this rule. This exemption does not apply for ETFs, ETPs, subscription rights and bonds trading on Xetra.

Xetra enables all participants including Designated Sponsors to enter quotes. A quote is the simultaneous entry of a buy and sell limit order in Xetra. Quotes entered into the system are good-for-day. Only one quote per equity can be placed in the order book per member's individual trader group. For securities that are traded with enabled liquidity interruption or that are traded in the trading model “mini auctions in connection with auctions”, the submission of relevant quotes is restricted to Designated Sponsors.

Designated Sponsors have to provide quotes for a certain minimum time during the trading forms continuous trading or mini auction. Furthermore, Designated Sponsors are obliged to participate in auctions, mini auctions, liquidity interruptions and volatility interruptions. Additionally, a Xetra member can enter an electronic request (quote request) to all Designated Sponsors registered in the respective equity to provide a quote. The member can indicate whether he is interested in buying or selling and how many shares he wishes to buy or sell.

Depending on the equity's liquidity, Deutsche Börse AG defines requirements for the minimum quote quantity, the maximum quote bid/ask spread, the maximum response time, the latest point in time of entry in auctions, respectively and the minimum time the quote has to remain in the order book. These requirements must be met so that the quote can be included in the Designated Sponsor's performance measurement.

The Designated Sponsor is granted certain privileges for complying with his obligation of placing quotes and meeting the quality standards. Currently, transaction fees for trades executed as a Designated Sponsor will be remitted in full at the end of a period due to his performance in one equity.

A further privilege refers to the information given in a quote request. Only the corresponding Designated Sponsor of an equity knows the identity of the market participant making the request and the optional information (the interested side - bid or ask - and the requested volume).

6 Order Types

All order sizes can be traded in Xetra with the exception of equities where a minimum order size has been defined. An existing minimum order size is validated upon order entry. An order not satisfying the minimum order size will be rejected by the system.

Xetra supports both round lots and odd lots. A round lot is composed of round lot parts or multiples thereof; odd lots are composed of odd lot parts (smaller than the equity-specific round lot size) and possibly further round lot parts. If an order consists of a round lot and an odd lot part, the assigned order size of the current trading form is taken into account for the price determination. Both order parts have the same order number. By means of a partial execution, the round lot part respectively the odd lot part of an order could change.

An order modification leads to a new time priority if either the limit is changed or the order modification has a negative impact on the priority of the execution of other orders in the order book (e.g. increase of the volume of an existing order). However, if the volume of an existing order should be decreased, the current valid time priority will remain. If a new time priority is appointed, the order will receive a new order number.

Orders can be entered as persistent or as non-persistent orders. Non-persistent orders are automatically deleted as soon as technical problems occur in the Xetra backend or trading is interrupted in the corresponding instrument.

6.1 Basic Types

Three order types are admitted for price determination in the various trading forms:

- *Market orders* are unlimited bid/ask orders. They are to be executed at the next price determined.
- *Limit orders* are bid/ask orders, which are to be executed at their specified limit or better.
- *Market-to-limit orders* are unlimited bid/ask orders, which are to be executed at the auction price or in continuous trading at the best limit in the order book. Outside of call phases, market-to-limit orders are only accepted if this limit is represented by at least one limit order and if there is no market order on the other side of the book. Any unexecuted part of a market-to-limit order is entered into the order book with a limit equal to the price of the first partial execution.

Order types can be specified further through additional execution conditions, validity constraints and trading restrictions.

6.2 Execution Conditions for Continuous Trading

Market orders, limit orders, market-to-limit orders and midpoint orders in continuous trading can be defined by the following execution conditions:

- An *immediate-or-cancel order (IOC Order)* is an order, which is executed immediately and fully or as fully as possible. Non-executed parts of an IOC order are deleted without entry in the order book.

- A *fill-or-kill order (FOK Order)* is an order, which is executed immediately and fully or not at all. If immediate and full execution is not possible, the order is rejected without entry in the order book.

Limit orders in continuous trading can additionally be defined by the following execution condition:

- A *book-or-cancel order (BOC Order)* will be accepted and added to the order book if it is not immediately executable against a visible order in the order book, i.e. if the limit of a buy (sell) BOC order is smaller (greater) than the best visible ask (bid). If immediate (and hence aggressive) execution is possible, the order is rejected without entry in the order book. Immediate execution against hidden orders only is exempted from this rule as such execution is always considered to be passive. However, if such execution would trigger a volatility interruption, the BOC order will be rejected. Resting BOC orders are deleted when an auction, liquidity interruption, or volatility interruption is triggered as any trading volume executed in an auction, liquitiy interruption, or volatility interruption is classified as aggressive trading volume. During auctions, liquidity interruptions and volatility interruptions, incoming BOC orders are rejected.

- A *top-of-the-book order (TOP Order)* or *TOP+ Order* will be accepted and added to the order book if it is not immediately executable against a visible order in the order book, i.e. if the limit of a buy (sell) TOP/TOP+ order is smaller (greater) than the best visible ask (bid), and if the total value of all orders on the same side of the order book with the same limit or a limit better than that of the TOP/TOP+ order is below a certain threshold value. TOP and TOP+ orders only differ in the applied threshold. Incoming TOP/TOP+ orders may also be fully or partially executed against resting hidden orders. However, if such execution would trigger a volatility interruption, the TOP+ order will be rejected. Resting TOP/TOP+ orders are deleted when an auction, liquidity interruption or volatility interruption is triggered and during these auctions incoming TOP/TOP+ orders are rejected.

- For the volume discovery orders the following execution condition can be used:
  Good till crossing/auction: volume discovery orders with this condition will only be executed away from auctions. This order will not take part in auctions and volatility interruptions. As soon as the trading phase switches to Call Phase of an auction or a volatility interruption the volume discovery order with the condition Good till crossing/auction will be deleted.

6.3 Validity Constraints

The validity of orders can be determined by means of further constraints. To this effect, the market model offers the following variations.

- *Good-for-day:* Order only valid for the current exchange trading day.
- *Good-till-date:* Order only valid until a specified date (up to a maximum of 360 days (i.e. 360 calendar days including the current day (=T+359)) from the date of entry).
- *Good-till-cancelled:* Order only valid until it is either executed or deleted by the originator or the system on reaching its maximum validity of 360 days (i.e. 360 calendar days including the current day (=T+359)).

6.4 Trading Restrictions

By means of the following restrictions, it is possible to generally assign market and limit orders to all auctions scheduled in the auction plan or to one specific scheduled auction.

- *Opening auction only:* Order only valid in opening auctions.
- *Closing auction only:* Order only valid in closing auctions. The trading restriction “closing auction only” refers either to the closing auction or to the intraday closing auction.
- *Auction only:* Order only valid in auctions. This trading restriction considers only scheduled auctions, but not auctions triggered by prices to be expected or order book situations such as mini auctions, liquidity interruptions, or volatility interruptions.
- *Accept surplus:* The order can only be entered during the order book balancing phase of an auction. The participants have the possibility to execute by this trading restriction the remaining surplus, i.e. those orders, which were unlimited or limited to the auction price but could not be executed, at a later point in time. This special trading restriction must be combined with execution conditions immediate-or-cancel or fill-or-kill. This trading restriction is only supported for instruments with an order book balancing phase.

With the introduction of the intraday closing auction, the following new trading restrictions will be supported:

- *Main trading phase only:* An order is only executable in the main trading phase which is defined from the start of the opening auction until the end of the closing auction or the end of the intraday closing auction.
- *Auctions in main trading phase only*: An order is only executable in the auctions of the main trading phase. This trading restriction considers only scheduled auctions, but not auctions triggered by prices to be expected or order book situations, such as mini auctions, liquidity interruptions, or volatility interruptions.
  - *End-of-day auction only:* Orders are executable in the end-of-day auction only.

6.5 Additional Order Types

6.5.1 Stop Orders

In order to support trading strategies, two stop order types can be used, the execution of which will be possible after reaching a predefined price (stop price):

- *Stop market order:* When the stop price is reached (or exceeded for stop buy orders or fallen below for stop sell orders), the stop order is automatically placed in the order book as a market order.
- *Stop limit order:* When the stop price is reached (or exceeded for stop buy orders or fallen below for stop sell orders), the stop order is automatically placed in the order book as a limit order.

Each modification of a stop order leads to the appointment of a new time stamp.

6.5.2 Iceberg Orders

In order to enable market participants to enter large orders into the order book without revealing the full volume to the market, iceberg orders are provided.

An *iceberg order* is specified by its mandatory limit, its overall volume and a peak volume. Both the overall volume and the peak volume must be a round lot.

The peak is the visible part of an iceberg order and is introduced in the order book with the original timestamp of the iceberg order according to price/time priority. In continuous trading, as soon as the peak has been completely executed and a hidden volume is still available a new peak is entered into the book with a new time stamp. In auction trading, i.e. auctions, mini auction, liquidity interruptions as well as volatility interruption, iceberg orders contribute with their overall volume. Minimum peak sizes and minimum overall volumes are specified per trading segment.

The last peak introduced in the order book may be smaller than the peak size specified. Iceberg orders will not be marked as such in the order book. Additional execution conditions or trading restrictions cannot be assigned to an iceberg order.

6.5.3 Volume Discovery Orders

The volume discovery order builds on the functionality of the iceberg order. It allows participants to execute the hidden volume of an iceberg order in parallel at the current midpoint. After insertion of the relevant parameters of an iceberg order, the volume discovery order is activated by entering a second limit. This makes the hidden volume available for matching against hidden parts of other volume discovery orders at the current midpoint. This second limit will not be used for price discovery. It only serves as upper (lower) execution barrier, up to which the hidden buy (sell) volume may be executed at the current midpoint.

The hidden part of the volume discovery order will only be executed against other hidden parts of volume discovery orders. The hidden parts of the volume discovery order will not execute against visible orders in the order book and not against midpoint orders. The matching of the hidden parts of the volume discovery order is done according to price time priority which is deducted from the visible limit of the volume discovery order.

Order volumes which are to be executed at the midpoint have to be equal or larger than a minimum execution size (MEQ). In other cases the volume discovery order will not be activated. In case the hidden volume of the volume discovery order would due to matches of the iceberg peak size be reduced under the required level of the minimum execution size it will not any more be available for matches at the midpoint. In this case the order is functionally reduced to an iceberg order.

When entering a volume discovery order, users can define whether the order should participate in auctions. In case an user does not want the VDO to participate in auctions and volatility interruptions the order will be deleted as soon as the first auction or volatility interruption is initiated. In other cases volume discovery orders will participate in auctions and behave like regular iceberg orders. Volume discovery orders cannot be entered when instruments are traded with Mini Auctions or Liquidity Interruptions.

6.5.4 Midpoint Orders

The midpoint order is an order type which allows market participants to attain execution at the midpoint of the currently available visible Xetra bid/ask spread. The midpoint order interacts only with other midpoint orders, not with the remaining orders available in the Xetra order book. Deutsche Börse AG may define a minimum order value for midpoint orders. In addition, Deutsche Börse may allow entry of a Minimum Acceptable Quantity (MAQ). Market participants can set an MAQ for each midpoint order individually. MAQ defines that the order shall only be executed if a minimum number of shares prescribed by the MAQ can be executed in one price determination. If the remaining volume of a midpoint order falls below the MAQ as a result of partial executions, the MAQ is set to the remaining volume.

Optionally, the midpoint order can be entered with a limit, which, in contrast to other order types, is not considered for price determination but only serves as cap (floor) limiting the price at which a buy (sell) midpoint order may be executed.

Execution price is always the currently available midpoint of the Xetra bid/ask spread in the open order book. Accordingly, with a given order book situation, midpoint orders can be executed merely through a change in Xetra bid/ask spread. During the call phase of an auction, mini auction, volatility interruption, or liquidity interruption no executions of midpoint orders can take place.

Midpoint orders available in the order book are not disclosed to other market participants. As opposed to other order types, volume/time priority under consideration of the MAQ applies if various midpoint orders compete with each other in the order book. Due to the MAQ, order book situations in which strict volume/time priority is disregarded may occur (e.g. for the purpose of optimizing the executable volume or for releasing an executable order book situation blocked by the MAQ).

Midpoint orders can be entered with execution conditions immediate-or-cancel or fill-or-kill and validity constraints good-for-day, good-till-date and good-till-cancelled. A combination of the trading restriction Opt-Out and the execution conditions immediate-or-cancel or fill-or-kill is not possible.

In general, midpoint orders are only executed if the potential execution price of a midpoint order would not trigger a volatility interruption according to chapter 10. However, midpoint orders do not trigger volatility interruptions. Also, executions of midpoint orders do not lead to a new Xetra reference price. Therefore they do not trigger stop orders, either.

6.5.5 Hidden Orders

Hidden orders enable trading participants to enter non-visible limit orders in the Xetra order book. Pursuant to the "Markets in Financial Instruments Directive" (MiFID), hidden orders must be large in scale compared with normal market size.[2] A hidden order also remains invisible if its remaining volume falls below the minimum order size due to partial executions.

In continuous trading, hidden orders are subject to the same matching rules as limit orders, i.e. execution generally follows the price/time priority. However, if at one price both visible and invisible orders (hidden orders) exist, the visible orders (including the hidden volumes of iceberg orders and volume discovery orders) are always executed with priority.

For determination of the indicative price in auction price determination, hidden orders are according to the principle of most executable volume fully considered. Prioritization of hidden orders in auction price determination is according to strict price/visibility/time priority. If determination of an indicative price is not possible, hidden orders are not considered for disclosure of the best bid and/or best ask limits.

Hidden orders can be entered with validity constraints good-for-day, good-till-date and good-till-cancelled. Execution conditions are not supported for hidden orders.

6.5.6 Trailing Stop Order

A trailing stop order is a stop market order with a dynamic stop limit that is adjusted in relation to a reference price. Dynamic stop limits can be entered either as an absolute or percentage difference from the corresponding reference price ("trailing amount"). Alternatively, a specific stop limit can be entered, upon which the absolute difference from the corresponding reference price is calculated and set accordingly.

The dynamic stop limit is continuously monitored and adjusted according to the following rule: If the reference price of a trailing stop sell (buy) order rises (falls) in such a way that the trailing amount is exceeded, the dynamic stop limit is increased (decreased) to maintain compliance with the trailing amount. If the reference price of a trailing stop sell (buy) order falls (rises), the dynamic stop limit is not adjusted. If the reference price of a trailing stop sell (buy) order matches or falls below (rises above) the dynamic stop limit, the trailing stop order is triggered.

Execution conditions and trading restrictions are not supported by trailing stop orders.

[2] The minimum order sizes for each security are defined by the „European Securities and Markets Authority" (ESMA). They can be accessed under the following link: http://mifiddatabase.esma.europa.eu/. For instruments not contained in the MiFiD data base, the Management Board of FWB defines the minimum order size.

6.5.7 One-Cancels-Other Order

A one-cancels-other order is an order that combines a limit order and a stop order. If the limit order is fully executed or the stop order is triggered, the other order will be deleted. If the limit order is partially executed, the stop order will be modified to match the remaining volume of the limit order. The stop order of a one-cancels-other order can be entered either as a stop market or stop limit order.

Execution conditions and trading restrictions are not supported by one-cancels-other orders.

6.5.8 Order-on-Event

An order-on-event is an order that becomes executable after a certain event has been triggered ("trigger event"). Trigger events are defined in relation to the price level of a reference instrument, i.e. an event is triggered whenever the price of the reference instrument reaches, rises above or falls below a previously defined price level. Possible reference instruments include indices, futures as well as any instrument available for trading on Xetra. An order-on-event can be entered either as a market or limit order.

Execution conditions and trading restrictions are not supported by orders-on-event.

6.6 Handling of Orders in Case of Events Affecting Prices

The exchange can interrupt or suspend trading in the event of extraordinary events affecting prices (e.g. company news). In case of suspension, orders existing in the system are deleted. In case of interruption, only non-persistent orders are deleted.

Orders in the order book are deleted in the event of dividend payments and ordinary events affecting prices (e.g. capital adjustments) at the first trading day after the general meeting.

6.7 Cross Request

Crossings and pre-arranged trades in continuous trading are only allowed if the market has been informed in advance via 'Cross Request' functionality detailing the instrument and quantity. Corresponding orders have to be entered into the open order book within 5 to 35 seconds after notifying the market. However, there is no guarantee that these orders will in fact be executed against each other. Any other participant, who has been informed by the Cross Request, can enter orders in the order book which in turn can be executed against the orders designated for the crossing. Crossings and pre-arranged trades during volatility interruptions, extended volatility interruptions, liquidity interruptions as well as during auctions scheduled in the auction plan do not require prior notification of the market with a Cross Request in the trading model continuous trading in connection with auctions.

In the trading models auction and "mini auctions in connection with auctions" there is in general no obligation for prior notification of crossings and pre-arranged trades.

6.8 Self Match Prevention

Since the legal situation in the origin country of several members does not allow crossing at the same member level, neither intended nor unintended crossings, Deutsche Börse offers "Self Match Prevention (SMP)" which allows members to prevent unintended crossing of their orders and quotes.

With the "Self Match Prevention (SMP)" functionality participants are able to avoid the execution of an order or quote against other orders or quotes from the same member in the same instrument.

6.8.1 Overview

The Self Match Prevention functionality can be used via the optional order attribute "CrossID"..

During Continuous Trading (Trading Phase "TRADE") the Xetra system checks if orders/quotes which are executable against each other are from the same member and are entered with the same "CrossID". If this is the case the Self Match Prevention Processing is started.

Orders/quotes which become executable against each other during a volatility interruption or a regular auction will not be validated for the SMP criteria, i.e. SMP is not offered during these trading phases.

Self Match Prevention is not supported for Midpoint Orders, Trailing Stop Orders, One-Cancels-Other Orders, Orders-on-Event, Iceberg Orders, Volume Discovery Orders, Hidden Orders or orders with the execution restriction Fill-or-Kill.

In case a Book-or-Cancel, TOP or TOP+ order is entered and immediately cancelled since it could match against a visible order or quote, this will not trigger the SMP process even if the incoming order and the sitting order have the same "CrossID" and member ID.

Only Designated Sponsor quotes are offered with Self Match Prevention. For BEST or Liquidity Manager quotes Self Match Prevention is not offered.

Per default, Self Match Prevention is switched on for all members. In case SMP is switched off an incoming order or quote containing a "CrossID" will be rejected.

By entering different values in the "CrossID" field, members have the flexibility to define different rules for individual traders, trader groups or sessions.

6.8.2 SMP Process

If an incoming SMP order or quote with a "CrossID" is immediately executable it will be checked if a matching order or quote with the same "CrossID" which was submitted by a trader of the same member exists in the order book (sitting SMP-Order).

The incoming SMP-Order will be allowed to match until it hits a sitting SMP-Order, i.e. it can match partially against other orders in the book with a higher priority than the sitting SMP-Order, even against sitting orders of the same member but with different "CrossID".

As soon as the incoming SMP-Order would match against a sitting SMP-Order at a certain price level, the matching process will stop here and the following procedure is triggered:

- If the incoming SMP-Order's (remaining) quantity is equal to the quantity of the first sitting SMP-Order it hits, the incoming order is cancelled and the sitting order gets deleted as well.

- If the incoming SMP-Order's (remaining) quantity is smaller than the quantity of the first sitting SMP-Order it hits, then the incoming SMP-Order will be cancelled. The quantity of the sitting SMP-Order will be decremented by the incoming order's quantity.
- If the incoming SMP-Order's quantity relevant for the price level is greater than the quantity of the first sitting SMP-Order it hits, the incoming order's (remaining) quantity will be decremented by the sitting SMP-Order's quantity and the sitting order is deleted. The incoming SMP-Order's then remaining quantity will match against other executable sitting orders until there are no further executable orders on this price level, until it is fully executed or until it hits another sitting SMP-Order on this price level. In the latter case the described steps will be repeated. In case there is still quantity left from the incoming SMP-Order after matching on the respective price level has completed, it will not match further price levels but will be cancelled.

The deleted quantity out of a triggered Self Match Prevention procedure is reported to the market together with the respective limit via Enhanced Broadcast Solution.

7 Trading Phases

Trading takes place all day and begins with the pre-trading phase followed by the trading phase and the post-trading phase. The system is not available for trading between the post-trading and pre-trading phase.

The pre-trading phase and the post-trading phase are the same for all equities whereas the course of the trading phase may vary from equity to equity. According to their segmentation, individual equities are traded in different trading models and at different trading hours. Details regarding potential definition of trading models during the main trading phase are given in chapter 9.

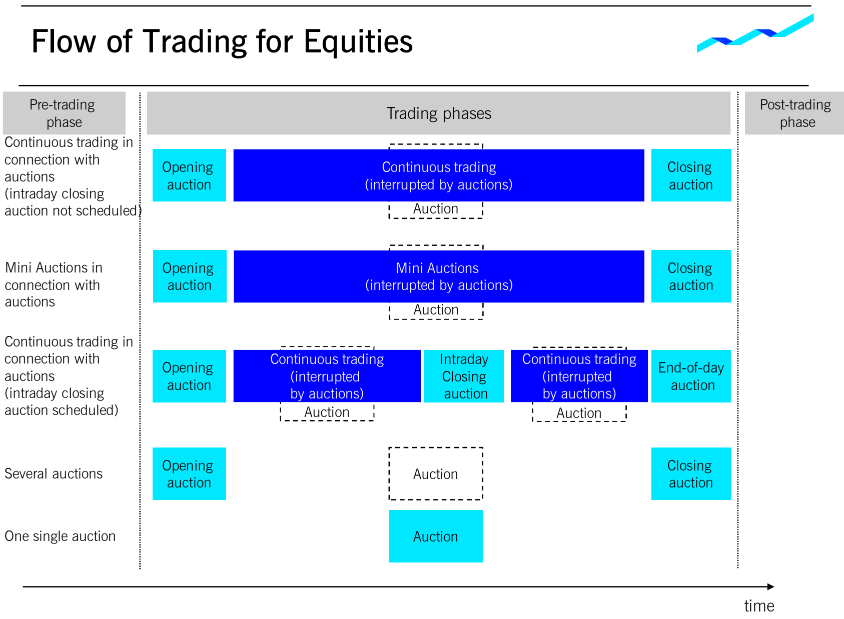


Figure 1: Flow of trading for equities

7.1 Pre-trading Phase

The pre-trading phase initiates the trading phase. Market participants can enter orders and quotes for preparing the actual trading day and modify or delete their existing orders and quotes. The exchange confirms the member's order[3] entry and maintenance by order confirmation. Market participants do not receive an overview of the market's order book situation as the order book is closed during this phase. The last price fixed on the previous day is displayed.

[3] In the order book quotes are always handled like two orders (a limit buy and a limit sell order). Therefore, the document refers in the following only to orders and not to quotes.

7.2 Trading Phase

Depending on the trading model and trading segment, orders of any size or round lots can be traded in the trading phase. The trading phase varies according to the respective trading segments. Depending on trading segment, equities will be traded in one of the trading models described in chapter 9. Trading model information specific to subscription rights trading are described in chapter 11.

7.3 Post-trading Phase

After the trading phase, new orders can be entered and existing orders can be modified or deleted in the post-trading phase. New order entries are taken into consideration in the respective trading form on the following trading day depending on possible execution restrictions and validity constraints. It is also possible to modify trade attributes in the post-trading phase.

8 Trading Forms

Generally, the market model includes the trading forms auction, continuous trading and mini auction for on-exchange trading. These trading forms can be combined to different trading models, which are described in chapter 9. Additionally, Xetra provides IPO and OTC entry functionalities.

8.1 Auction

In auctions, all order sizes (round lot and odd lot orders) are tradable. By considering all existing market orders, limit orders, market-to-limit orders, iceberg orders and hidden orders in one security, a concentration of liquidity is ensured. Iceberg orders and volume discovery orders (of not deleted due to good till crossing/auction condition) participate with their full volume in auctions. In auctions, hidden orders are handled like limit orders. Market-to-limit orders are treated like market orders if they have no limit assigned yet and as limit orders if they have already a limit assigned. If there is no auction price, market-to-limit orders, which were entered during the call phase of the auction, are deleted. If there is an auction price, remaining parts of market-to-limit orders, which are partly executed, and market-to-limit orders, which are not executed, are entered into the order book with a limit equal to the price of the auction. BOC, TOP and TOP+ orders are deleted when an auction is triggered. During auctions, incoming BOC, TOP and TOP+ orders are rejected. Midpoint orders do not participate in auctions.

Price determination in auctions is effected according to the principle of most executable volume. At the same time, price/visibility/time priority is valid so that the maximum of one order, which is limited to the auction price or unlimited, can be partially executed. The order book remains partially closed during the auction's call phase. As information about the market situation, participants obtain the indicative price with executable volumes plus a possible market surplus of the respective order book side (Market Imbalance Information). In case no indicative auction price can be determined, the best bid and ask limit and the cumulated volume at these limits are displayed. Market participants are informed via an auction plan about the time the individual equity is called.

8.2 IPO Auction

Generally, the IPO auction resembles a standard auction. In contrast to the standard auction the order book remains completely closed during an IPO auction. Price determination is restricted to a price range defined by the IPO's Lead Manager. The price range is actually entered by Market Supervision. Within the price range the auction price can be determined according to the modified principle of most executable volume, i.e. the price with the most executable volume within the price range. Market participants will only be informed about the price range via a Xetra news board message entered by Market Supervision. Further information such as indicative auction price, auction volume and surplus will not be broadcasted at any time of the IPO auction phases.

8.3 Continuous Trading

Only round lots are allowed during continuous trading. Each new order (except for stop orders) is immediately checked if it is executable against orders on the other side of the order book. With the exception of midpoint orders, execution of orders during continuous trading is made according to price/time priority. If, at a given price, both visible and invisible orders (hidden orders) exist, the visible orders are always executed with priority. In this trading form, the order book is open. Limits, accumulated order volumes per limit and the number of orders per limit are displayed, whereby hidden orders are not considered.

According to section 6.5.4, execution of midpoint orders takes place according to volume/time priority under consideration of the MAQ. Volumes and limits of midpoint orders are not displayed.

8.4 Mini Auction

Only round lots are allowed for trading in a mini auction. During the pre-auction phase for each new order (except for stop orders) is checked whether it is executable against orders on the other side of the order book. If there is an executable order book situation a mini auction call phase is triggered.

During the pre-auction phase the order book is open, i.e. limits, accumulated order volumes per limit and the number of orders per limit are displayed, whereby hidden orders are not considered. During the call phase of a mini auction the order book is partially closed. As information about the market situation, participants obtain the indicative price with executable volumes plus a possible market surplus of the respective order book side (Market Imbalance Information). In case no indicative auction price can be determined, the best bid and ask limit and the cumulated volume at these limits are displayed.

Price determination in mini auctions is effected according to the principle of most executable volume. At the same time, price/visibility/time priority is valid so that the maximum of one order, which is limited to the auction price or unlimited, can be partially executed. Iceberg orders participate with their full volume in mini auctions. Hidden orders are handled like limit orders. Market-to-limit orders are treated like market orders if they have no limit assigned yet and as limit orders if they have already a limit assigned. If there is a price determined in the mini auction, remaining parts of market-to-limit orders, which are partly executed, and market-to-limit orders, which are not executed, are entered into the order book with a limit equal to the price of the mini auction. If there is no price determined in the mini auction, market-to-limit orders, which were entered during the call phase of the mini auction, are deleted. Orders remaining in the order book after price determination are taken over to the next pre-auction phase.

A mini auction terminates at the latest at the end of the maximum duration of its call phase including random end. Furthermore, a mini auction ends with price determination ahead of time, in case the Designated Sponsor with the best quote in the order book prior to the start of the mini auction updates its quote during the call phase. The best Designated Sponsor quote is the most aggressive quote limit according to price-time priority on the order book side opposing the incoming order that triggered the mini auction. A deletion of the respective quote will not end the mini auction ahead of time.

8.5 OTC (Xetra Trade Entry)

During the whole trading day (pre-trading, trading and post-trading phase), all participants have the possibility to enter OTC trades in Xetra. In principle, entry is possible for all equities, which are available for exchange trading in Xetra. For the use of this function, a trader's admission is not necessary.

Entered OTC trades must be approved by the counterparty. The approval process can take place manually or automatically. Subsequently, both counterparties receive a trade confirmation generated by the system. Unconfirmed trades are automatically deleted by the system at the end of the trading day. Xetra transmits the confirmed OTC trades to the settlement systems for the subsequent clearing and settlement processing.

It is possible to specify the value date for OTC trades. The entry of OTC trades is not affected by round lot sizes or minimum order sizes.

9 Trading Models

For equity trading, Xetra supports the following trading models:

- Continuous trading in connection with auctions (an opening auction, either none, one or several intraday auctions, and either a closing auction or an intraday closing auction in connection with an end-of-day auction).
- Mini auctions in connection with auctions (an opening auction, either none, one or several intraday auctions, and either a closing auction or an intraday closing auction in connection with an end-of-day auction).
- One or more auctions per day at pre-defined points in time.

9.1 Continuous Trading in Connection with Auctions

Trading starts with an opening auction. At the end of the opening auction, continuous trading is started. Continuous trading can be interrupted by one or several intraday auction(s). At the end of continuous trading, the closing auction is initiated if no intraday closing auction is scheduled.

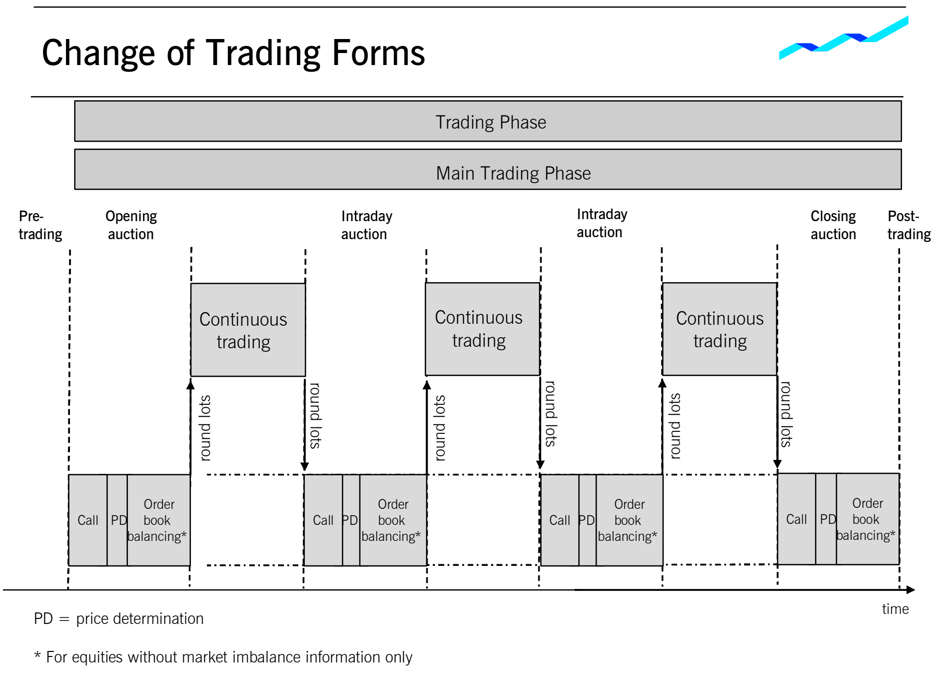


Figure 2: Change of trading forms (no intraday closing auction scheduled)

In case of intraday closing, continuous trading will start again after the intraday closing auction, and can be interrupted by additional intraday auctions. In this case, the last auction of the day is the end-of-day auction. The main trading phase is defined as the time between the beginning of the opening auction and the end of the intraday closing auction.

Market participants are informed via an auction plan about the time the individual equity is called.

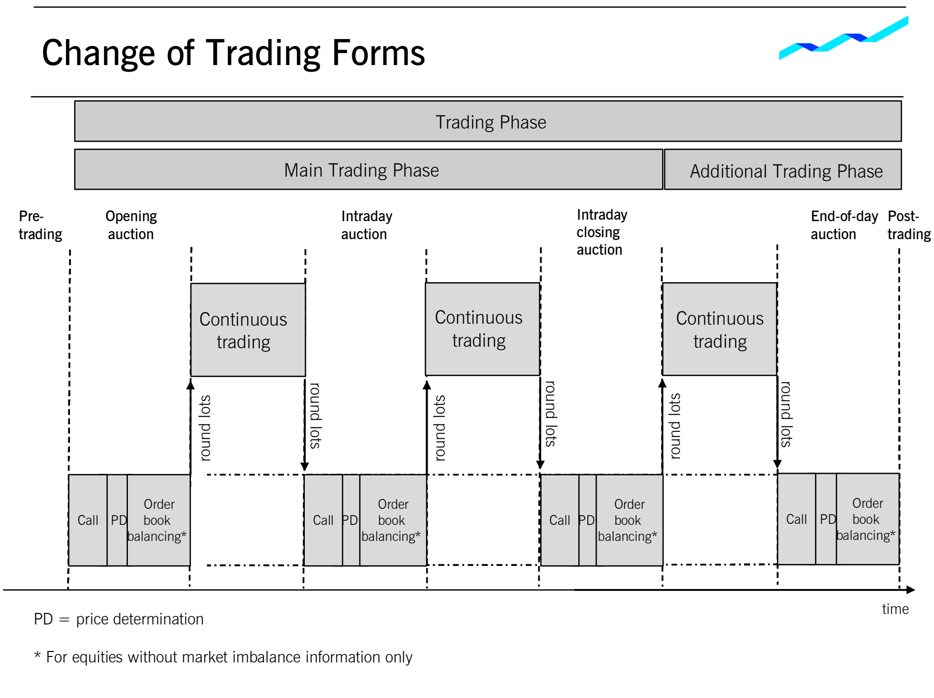


Figure 3: Change of trading forms (intraday closing auction scheduled)

9.1.1 Opening Auction

An opening auction, comprising a call phase, price determination phase and - for all equities without market imbalance information - order book balancing phase, is carried out prior to continuous trading. With the exception of midpoint, BOC, TOP and TOP+ orders, all orders (round lots and odd lots) still valid from the previous day or which have already been entered on the current trading day, participate in this auction unless their execution is restricted to the closing auction or the end-of-day auction. All quotes, iceberg orders and volume discovery orders with their full volume entered in the order book are also taking part in the opening auction. Resting BOC, TOP and TOP+ orders as well as volume discovery orders with the execution condition good till crossing/auction (“GTX”) are deleted at the start of the opening auction. Market-to-limit orders are treated like market orders if they have no limit assigned yet and as limit orders if they have already a limit assigned. All executable orders are matched in the opening auction, thus avoiding a ”crossed order book” (i.e. no price overlapping of bid/ask orders) and initiating continuous trading.

The opening auction begins with a call phase (see Figure 4: Flow of an opening auction). Market participants are able to enter orders and quotes in this phase as well as modify and delete their own existing orders and quotes.

Information on the current order situation is provided continually during the call phase in which the order book remains partially closed. The indicative auction price is displayed when orders are executable. This is the price which would be realized if the price determination was concluded at this time. If an indicative price cannot be determined, the best bid/ask limit is displayed, whereby the limit of hidden orders is not considered.

During the call phase of the auction, additional market imbalance information may be disseminated. This allows the market to react to the surplus before the price determination takes place. In case of an uncrossed order book, the accumulated volumes at the best bid and best ask are displayed in addition to the best bid and ask limits, whereby the volume of hidden orders is not considered. In case of a crossed order book the executable volume for the indicative auction price, the side of the surplus and the volume of the surplus are displayed.

The duration of the call phase can be varied depending on the equity's liquidity. The call phase has a random end after a minimum period in order to avoid price manipulation.

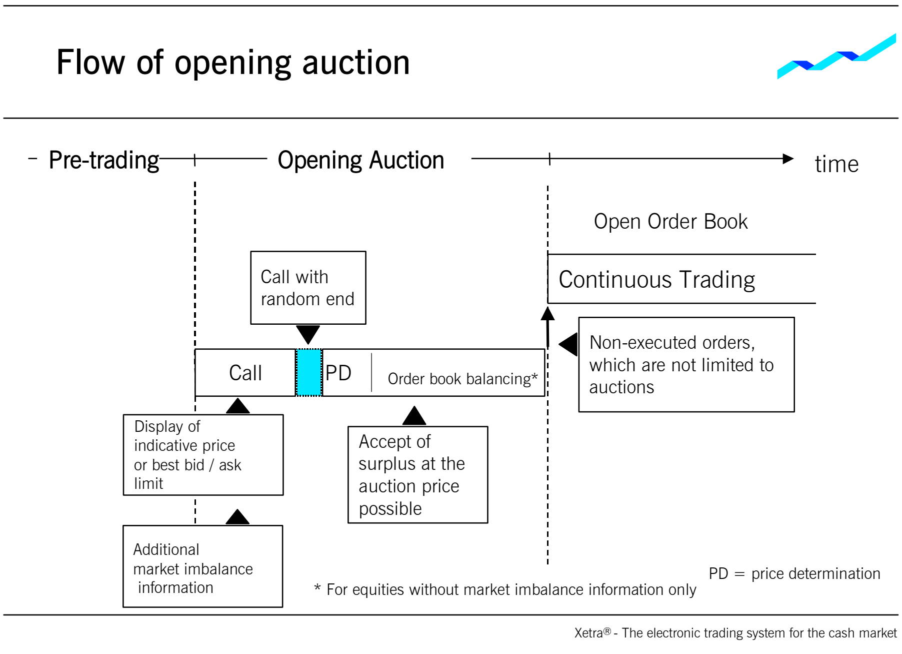


Figure 4: Flow of an opening auction

The call phase is followed by the price determination phase. The auction price is determined according to the principle of most executable volume on the basis of the order book situation at the end of the call phase. The auction price is the price with the highest order volume and the lowest surplus for each limit in the order book. If the order book situation is not clear, i.e. if there is more than one limit with the same executable volume, further criteria are taken into consideration for the determination of the auction price (see chapter 12).

The auction price cannot be determined if no orders are executable. In this case, the best bid/ask limit is displayed, whereby the limit of hidden orders is not considered.

Time priority ensures that the maximum of one order limited to the auction price or unlimited is partially executed. Immediately after the auction price has been determined, both counterparties are informed by way of execution confirmation about the order price, its volume and time of execution. The execution confirmation is followed by a trade confirmation providing participants with the complete settlement and transaction data. Settlement-relevant information of trades of the current trading day can be modified so that participants afterwards receive an updated trade confirmation. The sequence of execution and trade confirmations in case of netting is described in the Xetra functional description.

In equities without market imbalance information an order book balancing phase takes place if there is a surplus. Executable orders, which cannot be executed in the price determination phase, will be made available to the market for a limited period of time. This surplus contains all order sizes. Orders are executed at the determined auction price in the order book balancing phase. Orders of the respective equity can neither be changed nor deleted during order book balancing.

Market participants can either accept the surplus partially or fully by entering accept surplus orders. Accept surplus orders are executed at the auction price in accordance with time priority.

Only accept surplus orders can be entered during the order book balancing phase. The system will reject any other orders as well as quotes and quote requests.

Analogous to the procedure after auction price determination, counterparties receive both an execution confirmation and trade confirmation during the order book balancing phase.

At the end of the auction, all market orders and limit orders, which were not or only partially executed, are forwarded to the next possible trading form according to their trading restrictions. If there is no auction price, market-to-limit orders which do not have a limit assigned yet are deleted. If there is an auction price, remaining parts of market-to-limit orders which are partly executed and market-to-limit orders which are not executed are entered into the order book with a limit equal to the price of the auction. Iceberg orders are transferred to continuous trading with their (remaining) peak shown in the order book.

9.1.2 Continuous Trading

Continuous trading is started after the termination of the opening auction. During continuous trading the order book is open, thus displaying the limits, the accumulated order volumes of each limit and the number of orders in the book at each limit. Hidden orders and midpoint orders are excluded as these are not disclosed to other market participants. Each new order and each new quote is immediately checked for execution against orders on the other side of the order book. Furthermore new orders and quotes are checked for Self Match Prevention.

These orders will be executed according to price/time priority, whereas midpoint orders are executed according to volume/time priority under consideration of the MAQ. Orders can either be executed fully, partially or not at all, thus generating none at all, one or more trades. Orders, which were not or only partially executed, are entered into the order book and sorted according to price/time priority respectively according to volume/time priority in case of midpoint orders.

Sorting orders by price/time priority ensures that buy orders with a higher limit take precedence over orders with lower limits. Vice versa, sell orders with a lower limit take precedence over orders with a higher limit. If, at a given price, both visible and invisible orders (hidden orders) exist, the visible orders are always executed with priority. The second criterion 'time' applies in the event of orders sharing the same limit, i.e. orders which were entered earlier take priority. Market orders have priority over limit orders in the order book. Between market orders, time priority also applies.

In case of midpoint orders, sorting according to volume/time priority under consideration of the MAQ results in orders with high volumes having priority over orders with smaller volumes. Due to the MAQ, order book situations may occur in which strict volume/time priority is disregarded (e.g. for the purpose of optimizing the executable volume or for releasing an executable order book situation blocked by the MAQ.

Time as secondary criterion applies in the event that two orders have the same volume. Therefore, orders entered earlier are treated with priority.

When a peak of an iceberg order or volume discovery order has been completely executed and a hidden volume is still available, another peak with a new time stamp is shown in the book. The hidden volume of an iceberg order or volume discovery order has to be completely executed before hidden orders with the same limit or the next limit in the order book are executed. Therefore, execution of orders limited at less favorable prices is only possible after all orders at that limit are fully executed. However, orders (excluding hidden orders) with the same limit as the new peak are executed before the new peak is executed. If multiple iceberg orders or volume discovery orders are available at a time the respective peaks are introduced according to price/time priority.

Rules for price determination during continuous trading are described in detail in chapter12.

Analogous to the procedure for the opening auction, the counterparties receive both an execution confirmation and a trade confirmation after orders have been matched. The sequence of execution and trade confirmations in case of netting is described in the Xetra Functional Description.

9.1.3 Intraday Auctions

The start of the intraday auction interrupts continuous trading. Like opening auctions, intraday auctions consist of three phases: call phase, price determination and, for equities without market imbalance information, order book balancing phase. All orders (with the exception of midpoint orders) and quotes of one equity (i.e. odd lots and round lots) are automatically concentrated in one order book. This is valid for those orders and quotes, which were taken over from continuous trading as well as for those, which were entered in the order book for auctions only. All iceberg orders and volume discovery orders with their full volume entered in the order book are also taking part in the intraday auction. Resting BOC, TOP and TOP+ orders as well as volume discovery orders with the execution condition good till crossing/auction ("GTX") are deleted at the start of the intraday auction. Market-to-limit orders are treated like market orders if they have no limit assigned yet and as limit orders if they have already a limit assigned.

The order book is partially closed during the call phase. The market participants are given information on the indicative price (if available) or the best bid/ask limit. The auction price cannot be determined if orders are not executable during price determination. Instead, the best bid/ask limit is published, whereby the limit of hidden orders is not considered.

During the call phase of the auction, additional market imbalance information may be disseminated. In case of an uncrossed order book, the accumulated volumes at the best bid and best ask are displayed in addition to the best bid and ask limits, whereby the volume of hidden orders is not considered. In case of a crossed order book the executable volume for the indicative auction price, the side of the surplus and the volume of the surplus are displayed.

As it is the case with opening auctions, only for equities without market imbalance information an order book balancing phase is initiated if there is a surplus of orders. In the order book balancing phase, accept surplus orders are executed at the auction price.

At the end of the auction, all market orders and limit orders, which were not or only partially executed, are forwarded into the next possible trading form according to their respective order sizes and trading restrictions. If there is no auction price, market-to-limit orders which were entered during the call phase of the auction are deleted. If there is an auction price, remaining parts of market-to-limit orders which are partly executed and market-to-limit orders which are not executed are entered into the order book with a limit equal to the price of the auction. Iceberg orders and volume discovery orders are transferred to continuous trading with their (remaining) peak or a new peak shown in the order book.

Continuous trading is restarted at the end of the auction.

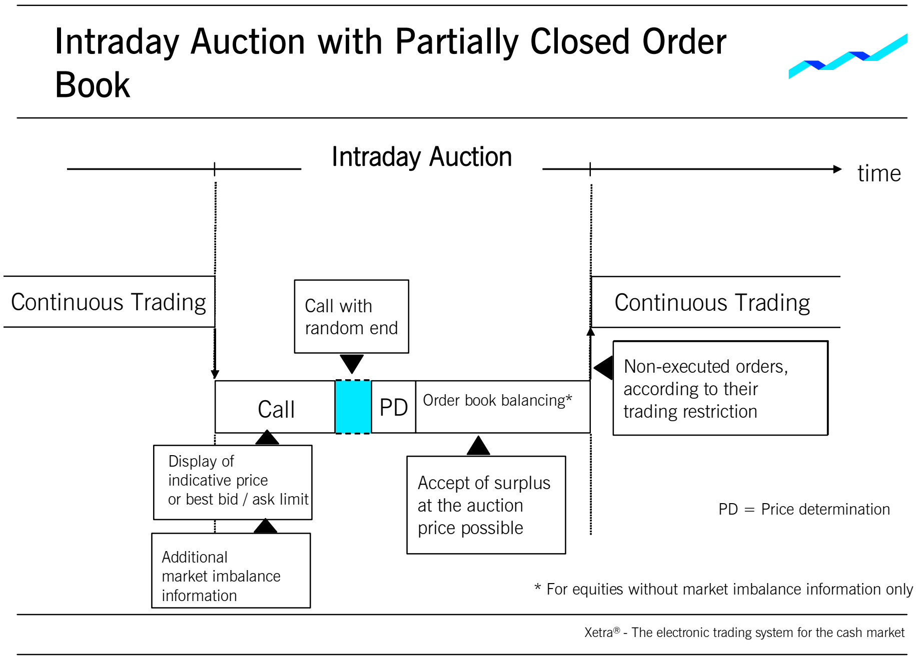


Figure 5: Flow of intraday auction

9.1.4 Closing Auction

If no intraday closing auction is scheduled continuous trading is followed by the closing auction. The closing auction is also divided into call phase, price determination and – for equities without market imbalance information – an order book balancing phase as described above.

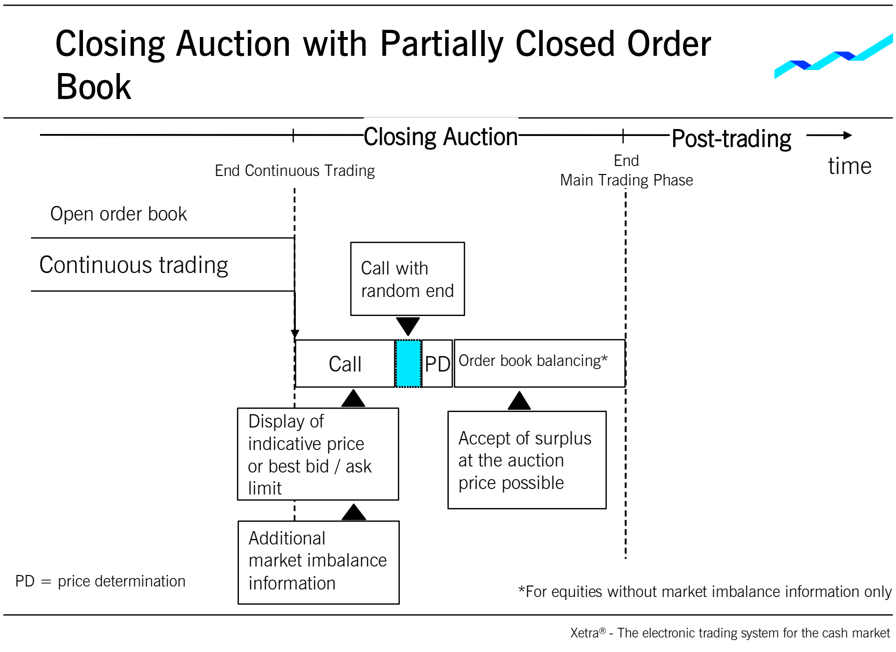


Figure 6: Flow of Closing Auction

In the closing auction, all order sizes (odd lots and round lots) are automatically matched in one order book. This applies to orders (with the exception of midpoint orders) and quotes adopted from continuous trading as well as to orders, which have the trading restrictions “auction only” or “closing auction only” or are only entered in the order book for the closing auction. All quotes, iceberg orders and volume discovery orders with their full volume entered in the order book are also taking part in the closing auction. Resting BOC, TOP and TOP+ orders and volume discovery orders with the execution condition good till crossing/auction condition (“GTX”) are deleted at the start of the closing auction. Market-to-limit orders are treated like market orders if they have no limit assigned yet and as limit orders if they have already a limit assigned.

The auction price cannot be determined if no orders are executable. In this case, the best bid/ask limit is published, whereby the limit of hidden orders is not considered. Market-to-limit orders entered during this auction are deleted. If there is an auction price, all market-to-limit orders (irrespective whether they are partially executed or not at all) receive the auction price as a limit. Non-executed or only partially executed market orders and limit orders and market-to-limit orders with a limit assigned are transferred to the next trading day according to their validity. Quotes are deleted at the end of the trading day as they are only good-for-day.

9.1.5 Intraday Closing Auction

An intraday closing auction – if scheduled – interrupts continuous trading. Like other scheduled auctions, an intraday closing auction consists of a call phase, the price determination and, for equities without market imbalance information, order book balancing phase. All orders (with the exception of midpoint orders) and quotes of one equity (i.e. odd lots and round lots) are automatically concentrated in one order book. This is valid for those orders and quotes, which were taken over from continuous trading as well as for those, which were entered in the order book for "auctions only", "auctions in main trading phase only", "closing auction only" or are entered in the call phase of the closing auction. Resting BOC, TOP and TOP+ orders as well as volume discovery orders with the execution condition good till crossing/auction ("GTX") are deleted at the start of the intraday closing auction.

Concerning the information provided during the auction and the handling of market-to-limit orders, iceberg orders, volume discovery orders, hidden orders and quotes, the intraday closing auction does not differ from other auctions.

An intraday closing auction provides an intraday valuation price. Continuous trading is restarted at the end of the auction.

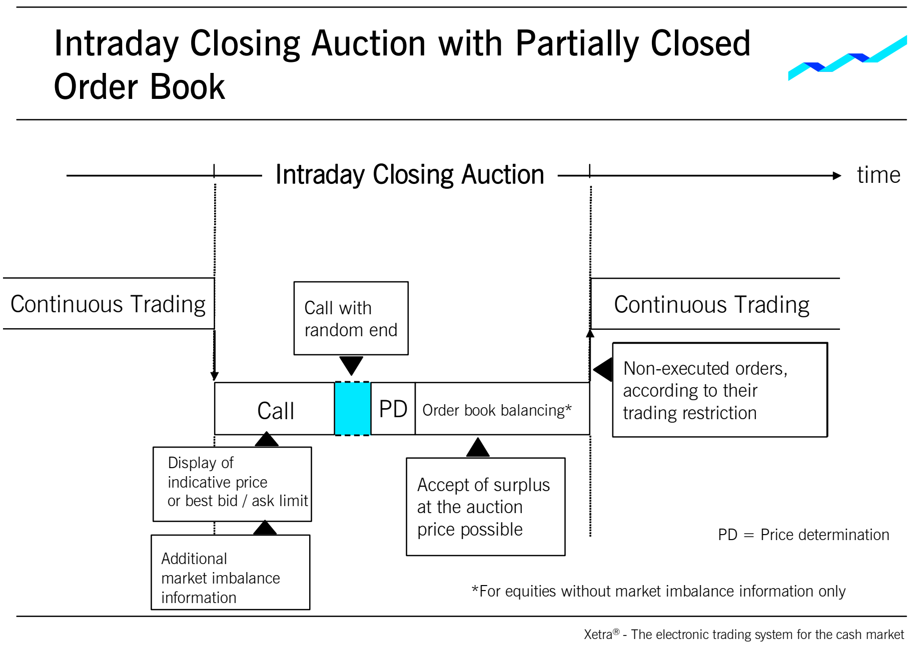


Figure 7: Flow of intraday closing auction

9.1.6 End-of-Day Auction

When scheduled, the end-of-day auction ends continuous trading. The end-of-day auction is also divided into call phase, price determination and – for equities without market imbalance information - order book balancing phase.

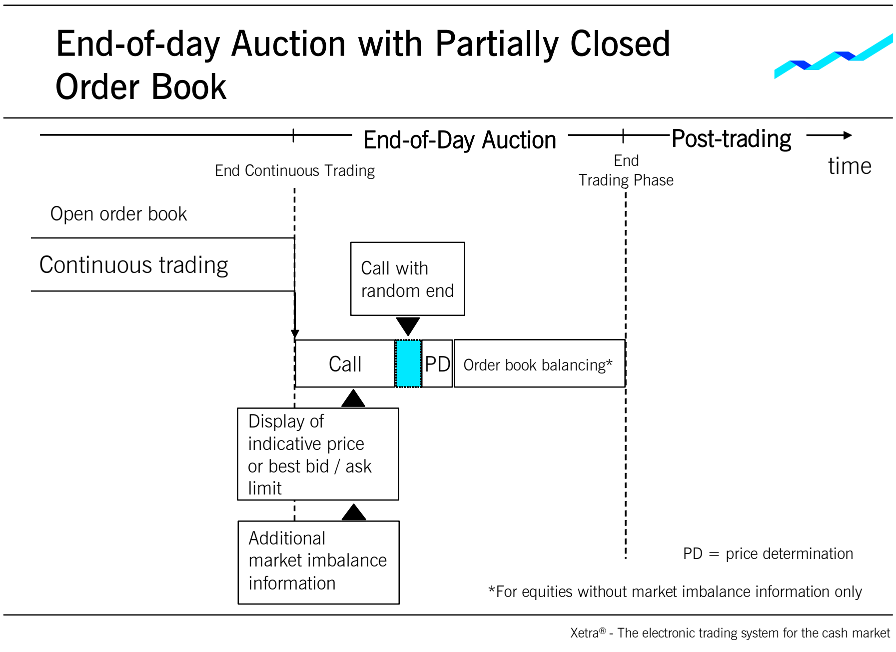


Figure 8: Flow of end-of-day auction

In the end-of-day auction, all orders (odd lots and round lots), with the exception of midpoint orders, and quotes which are not restricted by the trading restrictions “opening auction only”, “main trading phase only”, “auctions in main trading phase only” or “closing auction only” are automatically matched in one order book. This also applies to orders, which are entered in the call phase of the end-of-day auction. Resting BOC, TOP and TOP+ orders as well as volume discovery orders with the execution condition good till crossing/auction (“GTX”) are deleted at the start of the end-of-day auction.

Concerning the information provided during the auction and the handling of market-to-limit orders, iceberg orders, volume discovery orders, hidden orders and quotes, the end-of-day auction does not differ from regular auctions.

9.2 Mini Auctions in Connection with Auctions

The trading day in the trading model “mini auctions in connection with auctions” starts with an opening auction. After the end of the opening auction, trading in mini auctions is started, which may be interrupted by one or more scheduled intraday auctions. At the end of trading in mini auctions, the closing auction is initiated if no intraday closing auction scheduled. This means, the given structure of the trading day in the trading model “mini auctions in connection with auctions” corresponds to the structure of the trading model “continuous trading in connection with auctions”.

In case of intraday closing, trading in mini auctions will start again after the intraday closing auction, and can be interrupted by additional intraday auctions. In this case, the last auction of the day is the end-of-day auction. The main trading phase is defined as the time between the beginning of the opening auction and the end of the intraday closing auction.

Market participants are informed via an auction plan about the time the individual equity is called. The course of action during the respective auctions corresponds to the auctions in the trading model “continuous trading in connection with auctions” as described in section 9.1.

Between the auctions scheduled in the auction plan the trading form mini auction is applied. This means, once an incoming order creates an executable order book situation the call phase of a mini auction is triggered and the hitherto open order book will be partially closed.

The processing of midpoint orders corresponds to the processing in the trading model “continuous trading in connection with auctions”.

9.3 Several Auctions or Single Auction

If an equity is limited to auctions, this/these auction(s) also consist(s) of three phases, i.e. call phase, price determination and order book balancing phase. In contrast to the procedure for the opening auction or intraday auction during continuous trading, orders, which have not been executed, remain in the order book until the next auction. Continuous trading does not take place. An auction plan informs market participants about the time the individual equities are called. Market-to-limit orders, iceberg orders, volume discovery orders, hidden orders and midpoint orders are not supported for this trading model.

The auction price cannot be determined if no orders are executable. In this case, the best bid/ask limit is released and the remaining orders are transferred to the next auction according to their validity.

10 Safeguards

Xetra contains safeguards to improve price continuity, ensure price quality, and increase the probability of execution of market orders. The safeguards are in particular volatility interruptions, liquidity interruptions as well as market order interruptions which can be applied in the different trading forms.

A volatility interruption can occur in auctions, mini auctions and continuous trading. Liquidity interruptions are applicable in mini auctions and in continuous trading, while market order interruptions can only occur in auctions scheduled in the auction plan, i.e. not in triggered mini auctions or auction price determinations that are resulting from a volatility interruption or liquidity interruption.

The subsequent section 10.1 details the fundamental principles of the safeguards before section 10.2 details the implementation in the specific trading forms.

10.1 Fundamental principles of the safeguards

10.1.1 Volatility Interruption

The volatility interruption shall strengthen the price continuity of determined prices. Therefore trading is interrupted by an additional unscheduled auction price determination according to the principle of most executable volume, in case the next potential price would deviate too much from previously determined references prices.

Volatility interruptions can be initiated in two ways:

- The indicative price lies outside the "dynamic" price range around the reference price (see Figure 9: Dynamic and static price range). The reference price (reference price 1) for the dynamic price range is the last traded price of an equity, no matter whether it was determined in an auction, in a mini auction, in continuous trading, in a volatility interruption, or in a liquidity interruption. The reference price is re-adjusted during continuous trading only after an incoming order has been matched (as far as possible) against orders in the order book. Executions triggered by midpoint orders do not lead to an adjustment of the reference price.

- The indicative price lies outside the "static" price range, which has been defined additionally. This wider static price range defines the maximum percentage deviation of an additional reference price (reference price 2) which generally corresponds to the last price determined on the current trading day in a scheduled auction or in a volatility interruption. If this price is not available, the last traded price determined on one of the previous trading days is taken as reference price. Reference price 2 is only re-adjusted during the trading day after auction price determination in a scheduled auction or in a volatility interruption so that the position of the static price range remains largely unchanged during trading. Executions triggered by midpoint orders do not lead to an adjustment of the reference price.

In case the executable order book situation fulfills at the same time the requirements to trigger a volatility interruption and the requirements to trigger a liquidity interruption, a liquidity interruption will be triggered.

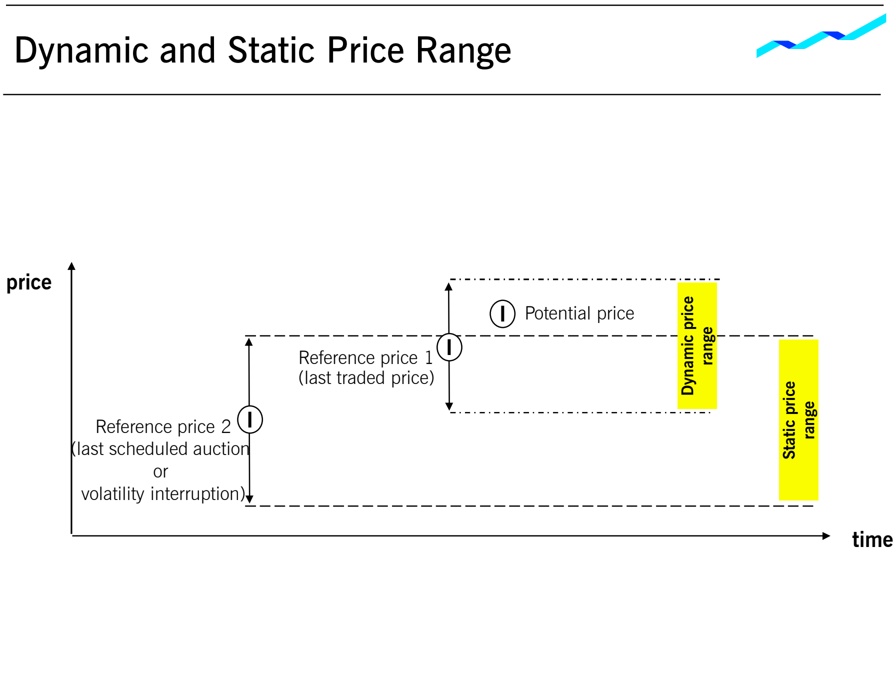


Figure 9: Dynamic and static price range

During continuous trading as well as at the end of an auction, mini auction or liquidity interruption the potential execution price is checked against the volatility interruption requirements.If the respective requirements are met, a volatility interruption is initiated in continuous trading or is attached to the call phase of the auction, mini auction, or liquidity interruption.

If the potential auction price at the end of a volatility interruption continues to lie outside of the static or dynamic price range respectively but not outside the wider range for *extended* volatility interruptions at the end of the volatility interruption, price determination is carried out nonetheless. The same applies to market order interruptions if market orders can only be executed partially or not at all..

If, at the end of a volatility interruption, the potential price lies outside of a defined range, which is broader than the dynamic price range, the volatility interruption will be extended until the volatility interruption is terminated manually. The extension of the volatility interruption is displayed to the market participants.

10.1.2 Liquidity Interruption

The liquidity interruption is an additional safeguard in the trading forms continuous trading and mini auction, which can be activated on instrument level.

In continuous trading as well as in the pre-auction phase of a mini auction a liquidity interruption is triggered when there is a crossed order book and there is no quote from a Designated Sponsor available in the order book. In case the potential execution price of the crossed order book situation also fulfills the prerequisites to trigger a volatility interruption, only a liquidity interruption is triggered.

A liquidity interruption is terminated by a price determination according to the principle of most executable volume. Price determination in a liquidity interruption occurs at the latest with the lapse of the maximum length of its call phase including random end. Price determination is triggered ahead of time in case a Designated Sponsor submits a quote to the order book.

It is validated whether the potential execution price at the end of the liquidity interruption meets the prerequisites to trigger a volatility interruption. If this is the case a volatility interruption will be attached to the call phase of the liquidity interruption. The initiation of the volatility interruption is displayed to the market participants.

10.1.3 Market Order Interruption

Market order interruptions are initiated if market orders or market-to-limit orders, which have not yet a limit assigned, within the order book are not or only partially executable at the end of the call phase of an auction scheduled in the auction plan. Market order interruptions can occur only once per auction.

10.2 Implementation of safeguards in respective trading forms

10.2.1 Volatility Interruption During Continuous Trading

To ensure price continuity, continuous trading is interrupted by a volatility interruption whenever the potential execution price of an order lies outside the dynamic and/or static price range around a reference price. Incoming orders are (partially) executed until the next potential execution price leaves the price corridor (exception: fill-or-kill orders). Market participants are made aware of this market situation.

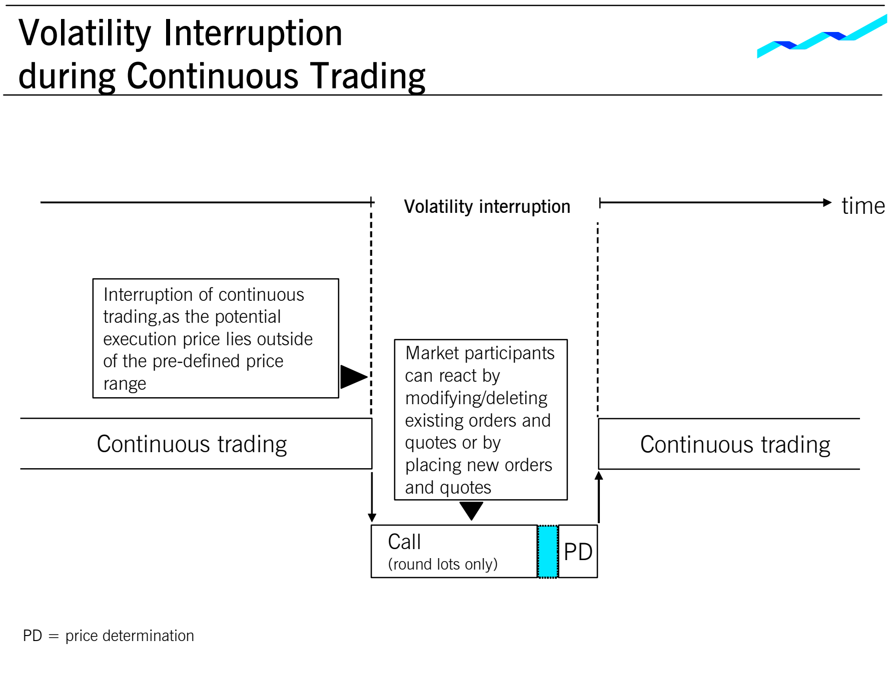


Figure 10: Volatility interruption during continuous trading

A volatility interruption triggers a change of trading form: continuous trading is interrupted and an auction price determination is initiated, which is restricted to orders designated for continuous trading. As with other price determination according the principle of most executable volume, iceberg orders and volume discovery orders participate with their full volume in volatility interruptions. Resting BOC, TOP and TOP+ orders, as well as volume discovery orders with the condition good till crossing/auction (“GTX”) are deleted when a volatility interruption is triggered. Market-to-limit orders, which are entered in the call phase, are considered like market orders concerning price determination. In auctions, hidden orders are handled like limit orders.

The volatility interruption consists of a call phase and price determination phase. After a minimum duration, the call phase in general ends randomly. However, if the potential execution price lies outside of a defined range, which is wider than the dynamic price range, the call will be extended until the volatility interruption is terminated manually. Continuous trading is taken up again after price determination or, if price determination was not possible, at the end of the auction call phase.

For midpoint orders, BOC, TOP and TOP+ orders, special regulations apply: In general, midpoint orders as well as execution of volume discovery orders at the midpoint price are only executed if the potential execution price would not trigger a volatility interruption. However, midpoint orders as well as execution of volume discovery orders at the midpoint price do not trigger volatility interruptions. Furthermore, incoming BOC, TOP and TOP+ orders may execute against resting hidden orders. However, if such execution would trigger a volatility interruption, the BOC, TOP or TOP+ order will be rejected.

10.2.2 Volatility Interruption During Auctions

A volatility interruption is initiated if the potential auction price at the end of the call phase lies outside the dynamic and/or static price range. The price range is stipulated individually for each security and defines the maximum percentage deviation (symmetrically positive and negative) of the reference price in a security. The reference price corresponds to the last traded price or last auction price and dynamically changes the price range with every price determination. Volatility interruptions in an auction are indicated to the market participants. Iceberg orders and volume discovery orders participate with their full volume in volatility interruptions during auctions. In auctions, also hidden orders are handled like limit orders.

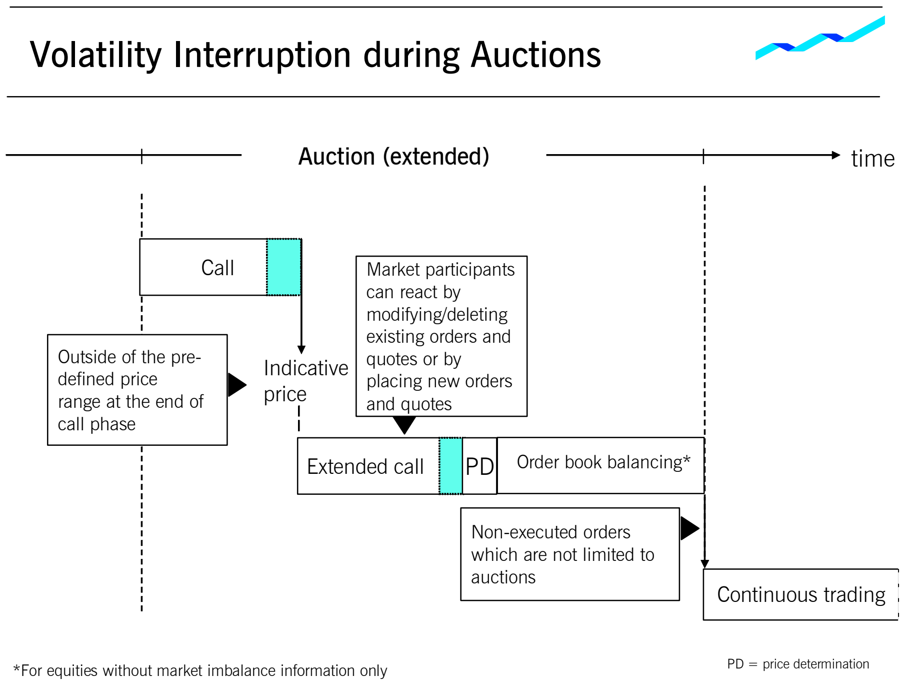


Figure 11: Volatility interruption during auctions

A volatility interruption initiates a limited extension of the call phase, allowing market participants to enter new orders and quotes as well as to modify or delete orders and quotes in the order book. After a minimum duration, the call phase in general ends randomly. However, if the potential execution price lies outside of a defined range, which is wider than the dynamic price range (extended dynamic price range), the call will be extended until the volatility interruption is terminated manually. If possibly a surplus has not been balanced until the end of the order book balancing phase, all non-executed or partially executed market and limit orders are transferred to the next possible trading form according to their order sizes and trading restrictions. If there is no auction price, market-to-limit orders which were entered during the call phase of the auction are deleted. If there is an auction price, remaining parts of market-to-limit orders which are partly executed and market-to-limit orders which are not executed are entered into the order book with a limit equal to the price of the auction.

10.2.3 Volatility Interruption During Mini Auctions

In case the potential execution price at the end of the call phase of a mini auction fulfills the requirements to trigger a volatility interruption, i.e. the potential price lies outside the dynamic and/or static price range for the respective security, the call phase will be extended by a volatility interruption. The initiation of the volatility interruption is indicated to the market participants.

The volatility interruption in mini auctions corresponds to the volatility interruption in auctions. In general a volatility interruption ends with lapse of its configured duration, a termination ahead of time like during the mini auction is not possible. After price determination took place, trading is resumed and orders remaining in the order book are taken over in the next pre-auction phase. However, if the potential execution price lies outside of a defined range, which is wider than the dynamic price range (extended dynamic price range), the call phase will be extended until the volatility interruption is terminated manually.

10.2.4 Liquidity Interruption During Continuous Trading

If activated for an instrument, a liquidity interruption is triggered whenever there is an executable order book situation but no Designated Sponsor quote is available in the order book during continuous trading.

If one or several Designated Sponsor quotes reside in the order book, an executable incoming order will at the most be (partially) executed up to the order book limit at which the Designated Sponsor quote with the lowest price priority resided (exception: fill-or-kill orders).

The liquidity interruption consists of a call phase and price determination phase and considers only orders designated for continuous trading, i.e. orders whose validity has been restricted by trading restrictions to one or several scheduled auctions are not considered. As with other price determinations according to the principle of most executable volume, iceberg orders participate with their full volume in the liquidity interruptions. Resting BOC, TOP and TOP+ orders are deleted when a liquidity interruption is triggered. Market-to-limit orders, which are entered in the call phase, are considered like market orders concerning price determination. In auctions, hidden orders are handled like limit orders.

Price determination takes place at the latest after lapse of the maximum length of the call phase including random end. Price determination in the liquidity interruption is triggered ahead of time as soon as a Designated Sponsor submits a quote to the order book. Subsequent to price determination continuous trading is resumed and orders residing in the order book are taken over to continuous trading.

In case the potential execution price at the end of the call phase of the liquidity interruption fulfills the requirements to trigger a volatility interruption, the call phase of a volatility interruption will be attached to the call phase of the liquidity interruption. The initiation of the volatility interruption is displayed to the market participants.

10.2.5 Liquidity Interruption During Mini Auctions

If activated for an instrument, a liquidity interruption is triggered instead of a mini auction, whenever during the pre-auction phase of a mini auction there is an executable order book situation but no Designated Sponsor quote is available in the order book.

The liquidity interruption consists of a call phase and price determination phase and considers only orders designated for mini auctions, i.e. orders whose validity has been restricted by trading restrictions to one or several auctions are not considered. As with other auctions, iceberg orders participate with their full volume in the liquidity interruptions. Market-to-limit orders, which are entered in the call phase, are considered like market orders concerning price determination. In auctions, hidden orders are handled like limit orders.

Price determination takes place at the latest after lapse of the maximum length of the call phase. Price determination in the liquidity interruption is triggered ahead of time as soon as a Designated Sponsor submits a quote to the order book. Subsequent to price determination trading in mini auctions is resumed and orders residing in the order book are taken over in the pre-auction phase respectively.

In case the potential execution price at the end of the call phase of the liquidity interruption fulfills the requirements to trigger a volatility interruption, the call phase of a volatility interruption will be attached to the call phase of the liquidity interruption. The initiation of the volatility interruption is displayed to the market participants.

10.2.6 Market Order Interruption During Auctions

If market orders or market-to-limit orders (with no limit assigned yet) within the order book are not or only partially executable (market order surplus) at the end of the call phase of an auction scheduled in the auction plan, it will be extended for a limited time in order to increase the execution probability of market orders and market-to-limit orders in auctions. The market order interruption is not applied in auction price determinations triggered by mini auctions, volatility interruptions or liquidity interruptions.

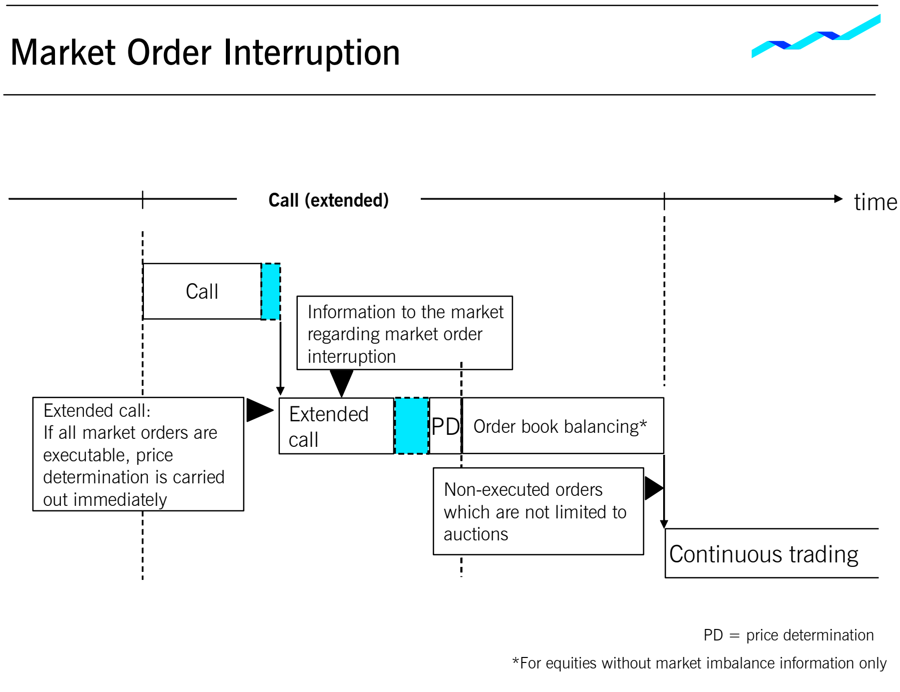


Figure 12: Market order interruption

The market is informed about a market order interruption. Market participants will be able to enter new orders and quotes or change and delete existing orders in the order book. The call phase is terminated as soon as all present market orders and market-to-limit orders could be executed or the extension has expired. The extension of the call phase is also terminated randomly. If the surplus is not balanced until the end of the order book balancing phase, all non-executed or only partially executed market and limit orders are transferred to the next possible trading form according to their order sizes and trading restrictions. If there is no auction price, market-to-limit orders which were entered during the call phase of the auction are deleted. If there is an auction price, remaining parts of market-to-limit orders which are partly executed and market-to-limit orders which are not executed are entered into the order book with a limit equal to the price of the auction. Iceberg orders are transferred to continuous trading with their (remaining) peak or a new peak shown in the order book.

If in an auction scheduled in the auction plan the market order interruption is triggered after a volatility interruption, this market order interruption is subject to a modified price check taking into account the extended dynamic price range.

11 Trading of Subscription Rights

In general the trading of subscription rights takes place in the trading model continuous trading in connection with auctions or in the trading model auction according to the procedures outlined in chapter 9.

In divergence from this rule, Management Board may determine the following trading process:

- On the first trading day the first price determination is carried out in an IPO Auction. Subsequently trading continues either in the trading model auction or in the trading model continuous trading in connection with auctions – starting with an intraday auction. Designated Sponsor obligations begin with the start of this first intraday auction.

- On the subsequent trading days up to and including the trading day preceding the last trading day trading takes place in the trading model continuous trading in connection with auctions or in the trading model auction.

- On the last trading day a price determination is carried out in an IPO Auction.

Irrespective of the actual trading model, at the end of the second to last trading day all orders remaining in the order book will automatically be deleted and have to be re-entered by trading participants on the last trading day, if required.

12 Illustration of Price Determination Processes

12.1 Auctions

12.1.1 Basic Matching Rules

The auction price is determined on the basis of the order book situation stipulated at the end of the call phase. Concerning the price determination in auctions, market-to-limit orders are handled in the same way as market orders as long as no limit has been assigned to them, and in the same way as limit orders if a limit has already been assigned to them. Iceberg orders and volume discovery orders are contributing with their overall volume like a limit order. In auctions, hidden orders are handled like limit orders. Midpoint orders do not participate in auctions.

Should this process determine more than one limit with the highest executable order volume and the lowest surplus for the determination of the auction price, the surplus is referred to for further price determination:

- The auction price is stipulated according to the highest limit if the surplus for all limits is on the buy side (bid surplus) (see example 2).
- The auction price is stipulated according to the lowest limit if the surplus for all limits is on the sell side (ask surplus) (see example 3).

If the inclusion of the surplus does not lead to a clear auction price, the reference price is included as additional criterion. This may be the case

- If there is a bid surplus for one part of the limits and an ask surplus for another part (see example 4),
- If there is no surplus for all limits (see example 5).

In the first case, the lowest limit with an ask surplus or the highest limit with a bid surplus is chosen for further price determination.

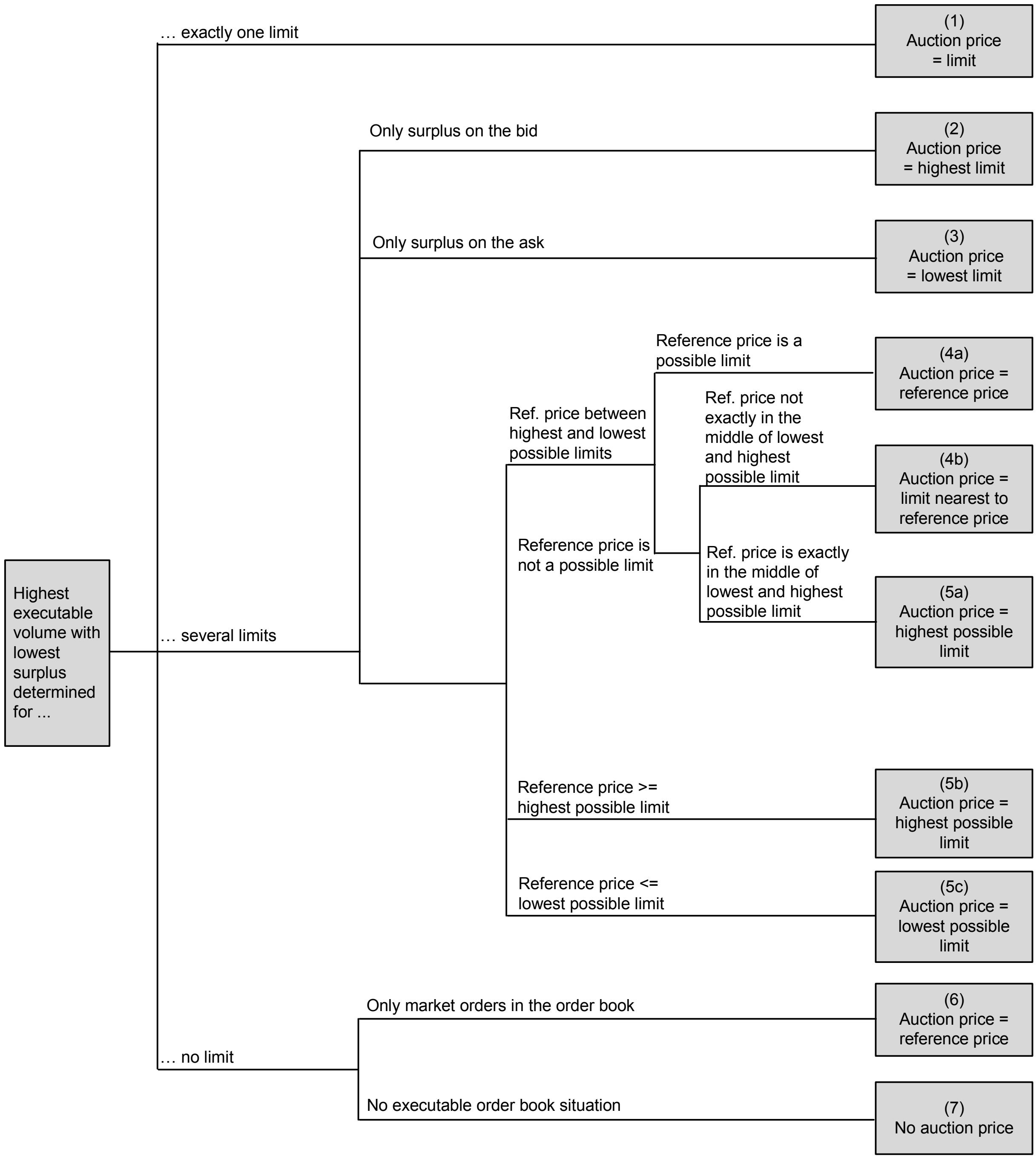
In both cases, the reference price is considered for stipulating the auction price:

- If the reference price is higher than or equal to the highest limit, the auction price is determined according to this limit.
- If the reference price is lower than or equal to the lowest limit, the auction price is determined according to this limit.
- If the reference price lies between the highest and lowest limit, the auction price equals the reference price.

If only market orders are executable against one another, they are matched at the reference price (see example 6).

An auction price cannot be determined if orders are not executable against one another. In this case, the best bid/ask limit (if available) is displayed, whereby the limit of hidden orders is not considered (see example 7).

The following figure gives an outline of how price determination rules affect possible order book situations in an auction. The number in brackets refers to the corresponding example for this rule.



12.1.2 Matching Examples

The following examples are given to clarify the basic matching rules in auctions. In the examples, price determination is carried out using exemplary order book situations.

Example 1: There is exactly one limit at which the highest order volume can be executed and which has the lowest surplus.

Bid								**Ask**
	Quantity	Acc. Quantity	Surplus	Limit	Surplus	Acc. Quantity	Quantity	
Limit	200	200		202	500	700		
Limit	200	400		201	300	700		
Limit	300	700		200		700	100	Limit
		700	100	198		600	200	Limit
		700	300	197		400	400	Limit

Corresponding to this limit, the auction price is fixed at € 200.

Example 2: There are several possible limits and there is a surplus on the bid.

Bid								**Ask**
	Quantity	Acc. Quantity	Surplus	Limit	Surplus	Acc. Quantity	Quantity	
Limit	400	400		202	100	500		
Limit	200	600	100	201		500		
		600	100	199		500	300	Limit
		600	400	198		200	200	Limit

Corresponding to the highest limit, the auction price is fixed at € 201.

Example 3: There are several possible limits and there is a surplus on the ask.

Bid								**Ask**
	Quantity	Acc. Quantity	Surplus	Limit	Surplus	Acc. Quantity	Quantity	
Limit	300	300		202	300	600		
Limit	200	500		201	100	600		
		500		199	100	600	400	Limit
		500	300	198		200	200	Limit

Corresponding to the lowest limit, the auction price is fixed at € 199.

Example 4: There are several possible limits and there is both an ask surplus and a bid surplus.

Bid								**Ask**
	Quantity	Acc. Quantity	Surplus	Limit	Surplus	Acc. Quantity	Quantity	
Market	100	100		Market	100	200		
		100		202	100	200	100	Limit
Limit	100	200	100	199		100		
		200	100	Market		100	100	Market

The auction price either equals the reference price or is fixed according to the limit nearest to the reference price:

a) If the reference price is € 199, the auction price will be € 199.

b) If the reference price is € 200, the auction price will be € 199.

Example 5: There are several possible limits and no surplus on hand.

Bid								**Ask**
	Volume	Acc. Quantity	Surplus	Limit	Surplus	Acc. Quantity	Volume	
Limit	300	300		202	200	500		
Limit	200	500		201		500		
		500		199		500	300	Limit
		500	300	198		200	200	Limit

The auction price either equals the reference price or is fixed according to the limit nearest to the reference price:

a) If the reference price is € 200, the auction price will be € 201.

b) If the reference price is € 202, the auction price will be € 201.

c) If the reference price is € 198, the auction price will be € 199.

Example 6: Only market orders are executable in the order book.

Bid								**Ask**
	Quantity	Acc. Quantity	Surplus	Limit	Surplus	Acc. Quantity	Quantity	
Market	900	900	100	Market		800		
		900	100	Market		800	800	Market

The auction price equals the reference price.

Example 7: There is no eligible limit as there are only orders in the order book which are not executable.

Bid								**Ask**
	Quantity	Acc. Quantity	Surplus	Limit	Surplus	Acc. Quantity	Quantity	
				201		80	80	Limit
Hidden	80	80		200				
Limit	80	160		199				

It is not possible to determine an auction price. In this case, the highest visible bid limit (€ 199) and the lowest visible ask limit (€ 201) are published.

Additional example: Partial execution of an order within the opening auction

Bid								**Ask**
	Quantity	Acc. Quantity	Surplus	Limit	Surplus	Acc. Quantity	Quantity	
Limit 9:00	300	600	200	200		400	400	Limit
Limit 9:01	300							

When two limit orders are available on the bid side at auction price, time priority decides which of both orders is to be executed partially. In this case, the order with the time stamp 9:00 is executed fully and the order with the time stamp 9:01 partially (100 shares) at an auction price of € 200. The surplus of 200 shares resulting from the partial execution is transferred into continuous trading, provided that it is not limited to auctions only.

12.2 Continuous Trading

12.2.1 Basic Matching Rules

Midpoint orders are explicitly excluded from the basic matching rules described below, since they can only be executed against each other and not against other order types. The basic matching rules for midpoint orders are explained separately in section 12.2.3. Corresponding matching examples can be found in section 12.2.4.

Each new incoming order is immediately checked for execution against orders on the other side of the order book which will be executed according to price/time priority. If, at a given price, both visible and invisible orders (hidden orders) exist, the visible orders are always executed with priority.

Orders can be executed fully in one or more steps, partially or not at all. Thus, each new incoming order may generate none at all, one or several trades.

Orders or non-executed parts thereof or remaining peaks of an iceberg order or volume discovery orders are entered in the order book and sorted according to price/time priority. Remaining parts of a partially executed market-to-limit order will enter the order book with a limit and a time stamp equal to the price of the executed part.

Price determination in continuous trading is carried out in addition to price/time priority according to the following rules:

Rule 1: If an incoming market order meets an order book with market orders only on the other side, this market order is executed at the reference price (as far as possible) (see example 1).

Rule 2: If an incoming market order, market-to-limit order or limit order meets an order book with limit orders only on the other side, the highest bid limit or lowest ask limit, respectively, in the order book determines the price (see examples 2, 3, 10, 11, 18, 19).

Rule 3: If an incoming market-to-limit order meets an order book with market orders only or market and limit orders or no orders at all on the other side of the book, this market-to-limit order is rejected (see examples 9, 12, 13).

Rule 4:

- If an incoming market order meets an order book with market orders and limit orders on the other side (see examples 4, 5, 6, 7), or
- if an incoming limit order meets an order book with market orders only on the other side (see examples 14, 15, 16, 17), or
- if an incoming limit order meets an order book with market orders and limit orders on the other side (see examples 21, 22, 23, 24, 25, 26),

then the incoming order is executed against the market orders in accordance with price/time priority with respect to non-executed bid market orders at the reference price or higher (at the highest limit of the executable orders) or at the reference price or lower (at the lowest limit of the executable orders) with respect to non-executed ask market orders.

Market orders, which have not been executed in the order book, must be executed immediately with the next transaction (if possible). In this case, the following principles must be taken into consideration for continuous trading:

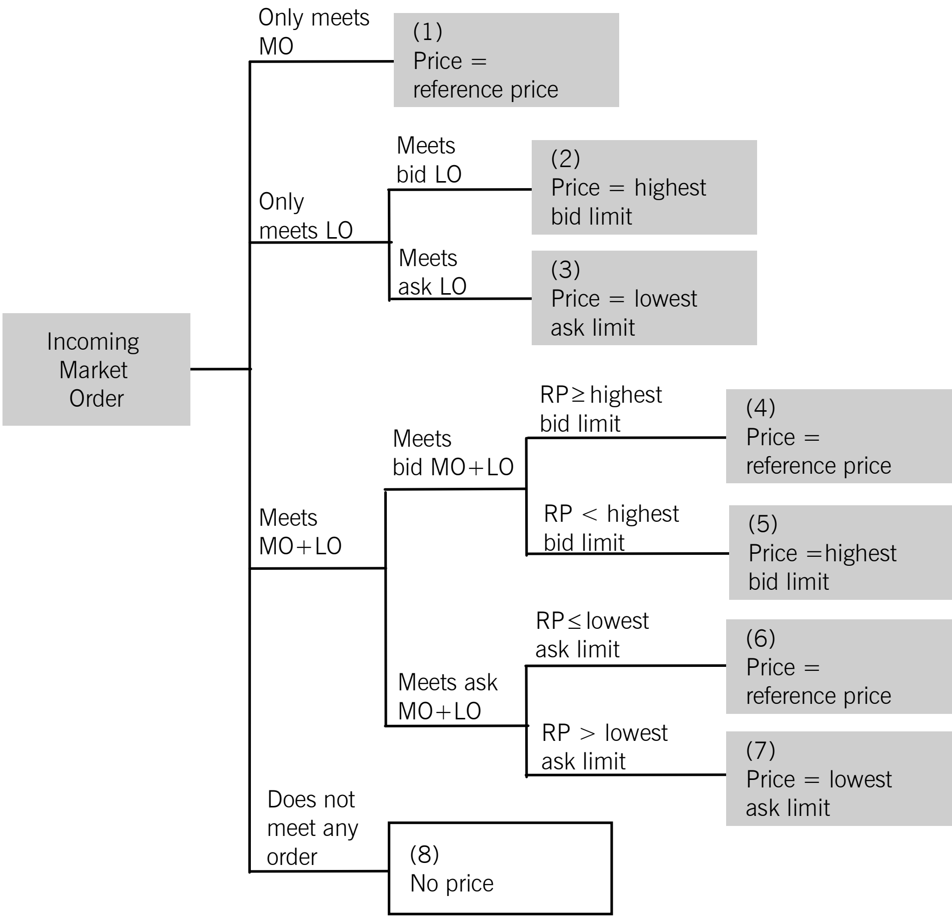
Principle 1: Market orders are given the reference price as a ”virtual” price. On this basis, execution is carried out at the reference price provided that this does not violate price/time priority.

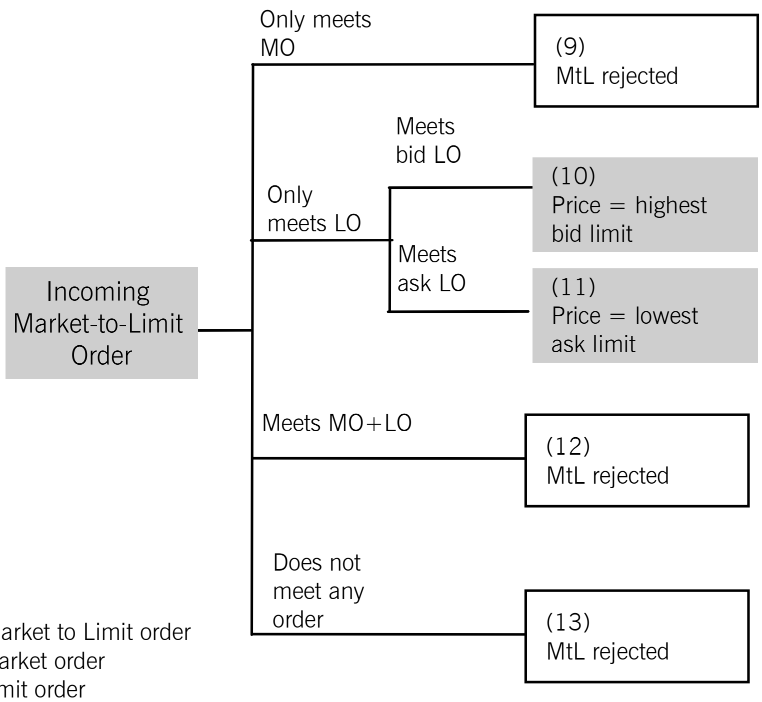
Principle 2: If orders cannot be executed at the reference price, they are executed in accordance with price/time priority by means of price determination above or below the reference price (non-executed bid market orders or ask market orders) i.e. the price is determined by a limit within the order book or a limit of an incoming order.

Rule 5: If an incoming order does not meet any order in the order book (see examples 8, 13, 27) or if an incoming limit order meets an order book with limit orders only on the other side of the book and the limit of the incoming buy (sell) order is lower (higher) than the limit of the best sell (buy) order in the book (see example 20), no price is determined.

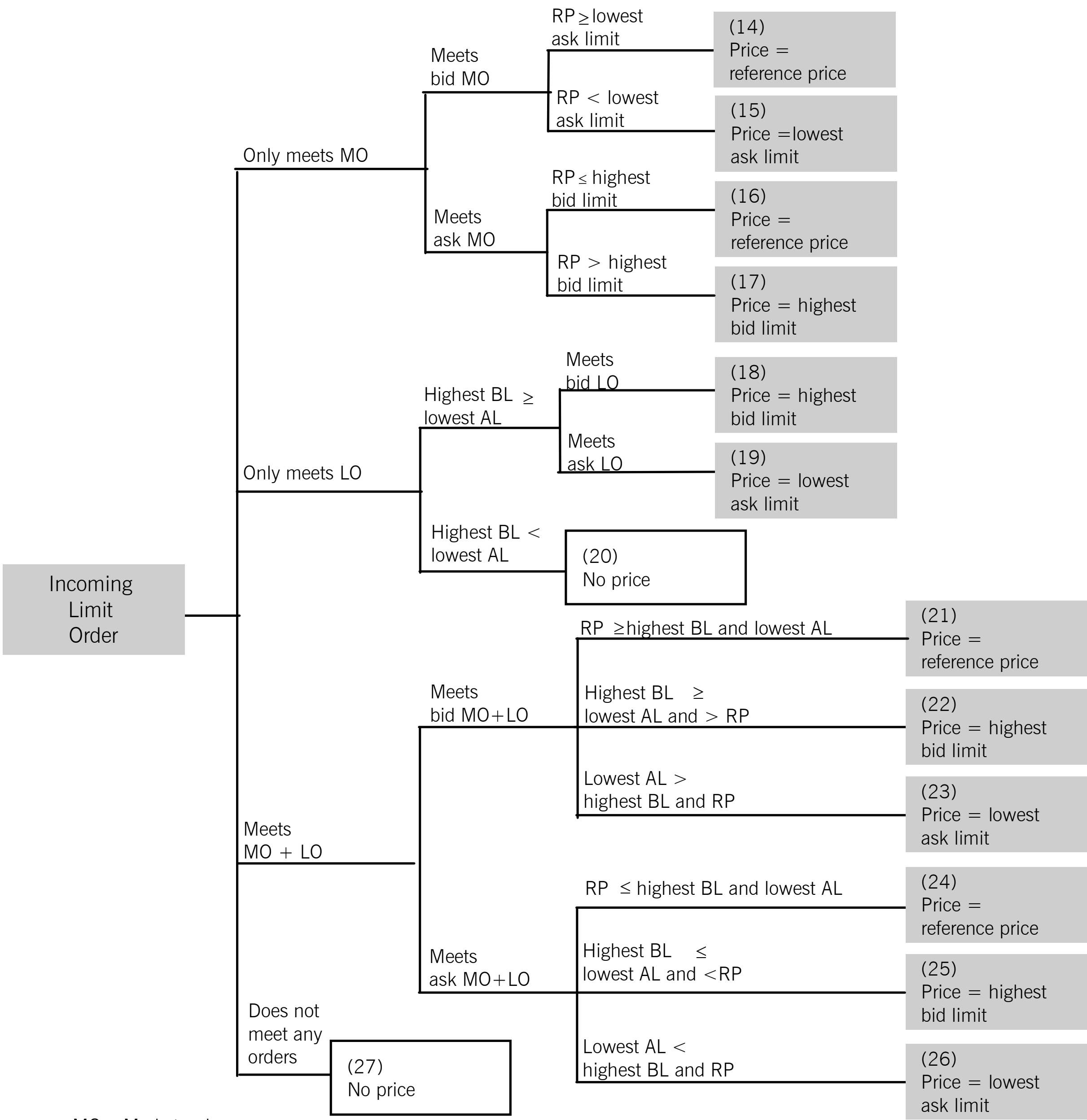
Rule 6: Both hidden orders and limit orders are executed according to price/time priority. If, at a given price, both visible and invisible orders (hidden orders) exist, the visible orders are always executed with priority (see further examples in section 12.2.2.2).

The following figures give an outline of how price determination rules affect possible order book situations in continuous trading. The head number refers to the corresponding example for these situations.





MtL = Market to Limit order
MO = Market order
LO = Limit order
RP = Reference price



MO = Market order
LO = Limit order
BL = Bid limit
AL = Ask limit
RP = Reference price

12.2.2 Matching Examples

This chapter is subdivided into two sections: the first section (12.2.2.1) provides matching examples which cover the order book situations mentioned in the figures presented above. In the second section (12.2.2.2) additional examples are provided which cover special order book situations, e.g. volatility interruptions and the functionality of iceberg orders and hidden orders.

12.2.2.1 Matching Examples for Basic Matching Rules

The following examples are meant to clarify the basic matching rules for continuous trading by carrying out the price determination using exemplary order book situations.

Example 1: A market order meets an order book with market orders only on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~6000~~	Market			

Incoming order:
Ask market order,
quantity 6000 shares

The reference price is € 200.
Both market orders are executed at the reference price of € 200 (see principle 1).

Example 2: A market order meets an order book with limit orders only on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	200			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~6000~~	200			

Incoming order:
Ask market order,
quantity 6000 shares

Both orders are executed at the highest bid limit of € 200.

Example 3: A market order meets an order book with limit orders only on the other side of the order book.

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
			200	6000	9:01

Incoming order:
Bid market order,
quantity 6000 shares

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
			200	~~6000~~	9:01

Both orders are executed at the lowest ask limit of € 200.

Example 4: A market order meets an order book with market orders and limit orders on the other side of the order book.

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
9:01	6000	Market			
9:02	1000	195			

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
9:01	~~6000~~	Market			
9:02	1000	195			

Incoming order:
Ask market order,
quantity 6000 shares

The reference price is € 200. It is higher than or equal to the highest bid limit.
The incoming ask market order is executed against the bid market order in the order book at the reference price of € 200 (see principle 1).

Example 5: A market order meets an order book with market orders and limit orders on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			
9:02	1000	202			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~6000~~	Market			
9:02	1000	202			

Incoming order:
Ask market order,
quantity 6000 shares

The reference price is € 200. It is lower than the highest bid limit.
The incoming ask market order is executed against the bid market order in the order book at the highest bid limit of € 202 (see principle 2).

Example 6: A market order meets an order book with market orders and limit orders on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
			Market	6000	9:01
			202	1000	9:02

Incoming order:
Bid market order,
quantity 6000 shares

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
			Market	~~6000~~	9:01
			202	1000	9:02

The reference price is € 200. It is lower than or equal to the lowest ask limit.
The incoming bid market order is executed against the ask market order in the order book at the reference price of € 200 (see principle 1).

Example 7: A market order meets an order book with market orders and limit orders on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
			Market	6000	9:01
			202	1000	9:02

Incoming order:
Bid market order,
quantity 6000 shares

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
			Market	~~6000~~	9:01
			202	1000	9:02

The reference price is € 203. It is higher than the lowest ask limit.
The incoming bid market order is executed against the ask market order in the order book at the lowest ask limit of € 202 (see principle 2).

Example 8: A market order meets an order book in which there are no orders.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time

Incoming order:
Bid market order,
quantity 6000 shares

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
10:01	6000	Market			

The incoming bid market order is entered in the order book. A price is not determined and no orders are executed.

Example 9: A market-to-limit order meets an order book with market orders only on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			

Incoming order:
Ask market-to-limit order,
quantity 6000 shares

The market-to-limit order is rejected. A price is not determined and no orders are executed.

Example 10: A market-to-limit order meets an order book with limit orders only on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	200			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~6000~~	200			

Incoming order:
Ask market-to-limit order,
quantity 6000 shares

Both orders are executed at the highest bid limit of € 200.

Example 11: A market-to-limit order meets an order book with limit orders only on the other side of the order book.

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time
			200	6000	9:01

Incoming order:
Bid market-to-limit order,
quantity 6000 shares

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time
			200	~~6000~~	9:01

Both orders are executed at the lowest ask limit of € 200.

Example 12: A market-to-limit order meets an order book with market orders and limit orders on the other side of the order book.

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time
9:01	6000	Market			
8:55	5000	199			

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time
9:01	6000	Market			
8:55	5000	199			

Incoming order:
Ask market-to-limit order,
quantity 6000 shares

The market-to-limit order is rejected. A price is not determined and no orders are executed.

Example 13: A market-to-limit order meets an order book in which there are no orders on the other side of the order book.

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time

Incoming order:
Ask market-to-limit order,
quantity 6000 shares

The market-to-limit order is rejected. A price is not determined and no orders are executed.

Example 14: A limit order meets an order book with market orders only on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~6000~~	Market			

Incoming order:
Ask order, limit € 195,
quantity 6000 shares

The reference price is € 200. It is higher than or equal to the lowest ask limit.
Both orders are executed at the reference price of € 200 (see principle 1).

Example 15: A limit order meets an order book with market orders only on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~6000~~	Market			

Incoming order:
Ask order, limit € 203,
quantity 6000 shares

The reference price is € 200. It is lower than the lowest ask limit.
Both orders are executed at the lowest ask limit of € 203 (see principle 2).

Example 16: A limit order meets an order book with market orders only on the other side of the order book.

Bid					Ask
Time	Quantity	Limit	Limit	Quantity	Time
			Market	6000	9:01

Incoming order:
Bid order, limit € 203,
quantity 6000 shares

Bid					Ask
Time	Quantity	Limit	Limit	Quantity	Time
			Market	~~6000~~	9:01

The reference price is € 200. It is lower than or equal to the highest bid limit.
Both orders are executed at the reference price of € 200 (see principle 1).

Example 17: A limit order meets an order book with market orders only on the other side of the order book.

Bid					Ask
Time	Quantity	Limit	Limit	Quantity	Time
			Market	6000	9:01

Incoming order:
Bid order, limit € 199,
quantity 6000 shares

Bid					Ask
Time	Quantity	Limit	Limit	Quantity	Time
			Market	~~6000~~	9:01

The reference price is € 200. It is higher than the highest bid limit.
Both orders are executed at the highest bid limit of € 199 (see principle 2).

Example 18: A limit order meets an order book with limit orders only on the other side of the order book.

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:33	6000	199			

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:33	~~6000~~	199			

Incoming order:
Ask order, limit € 198,
quantity 6000 shares

The highest bid limit is higher than or equal to the lowest ask limit.
Both orders are executed at the highest bid limit of € 199.

Example 19: A limit order meets an order book with limit orders only on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
			199	6000	9:33

Incoming order:
Bid order, limit € 200,
quantity 6000 shares

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
			199	~~6000~~	9:33

The highest bid limit is higher than or equal to the lowest ask limit.
Both orders are executed at the lowest ask limit of € 199.

Example 20: A limit order meets an order book with limit orders only on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:33	6000	199			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:33	6000	199	200	6000	10:01

Incoming order:
Ask order, limit € 200,
quantity 6000 shares

The highest bid limit is lower than the lowest ask limit.
The incoming ask order is entered into the order book. A *price* is not determined and no orders are executed.

Example 21: A limit order meets an order book with market orders and limit orders on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			
9:02	1000	196			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~6000~~	Market			
9:02	1000	196			

Incoming order:
Ask order, limit € 195,
quantity 6000 shares

The reference price is € 200. It is higher than or equal to the highest bid limit and higher than or equal to the lowest ask limit.
The incoming ask order is executed against the bid market order in the order book at the reference price of € 200 (see principle 1).

Example 22: A limit order meets an order book with market orders and limit orders on the other side of the order book.

Bid					Ask
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			
9:02	1000	202			

Bid					Ask
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~6000~~	Market			
9:02	1000	202			

Incoming order:
Ask order, limit € 199,
quantity 6000 shares

The reference price is € 200. The highest bid limit is higher than or equal to the lowest ask limit and higher than the reference price.
The incoming ask order is executed against the bid market order in the order book at the highest bid limit of € 202 (see principle 2).

Example 23: A limit order meets an order book with market orders and limit orders on the other side of the order book.

Bid					Ask
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			
9:02	1000	202			

Bid					Ask
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~6000~~	Market			
9:02	1000	202			

Incoming order:
Ask order, limit € 203,
quantity 6000 shares

The reference price is € 200. The lowest ask limit is higher than the highest bid limit and the reference price.
The incoming ask order is executed against the bid market order in the order book at the lowest ask limit of € 203 (see principle 2).

Example 24: A limit order meets an order book with market orders and limit orders on the other side of the order book.

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
			Market	6000	9:01
			202	1000	9:02

Incoming order:
Bid order, limit € 203,
quantity 6000 shares

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
			Market	~~6000~~	9:01
			202	1000	9:02

The reference price is € 200. It is lower than or equal to the highest bid limit and lower than or equal to the lowest ask limit.
The incoming bid order is executed against the ask market order in the order book at the reference price of € 200 (see principle 1).

Example 25: A limit order meets an order book with market orders and limit orders on the other side of the order book.

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
			Market	6000	9:01
			202	1000	9:02

Incoming order:
Bid order, limit € 200,
quantity 6000 shares

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
			Market	~~6000~~	9:01
			202	1000	9:02

The reference price is € 201. The highest bid limit is lower than or equal to the lowest ask limit and lower than the reference price.
The incoming bid order is executed against the ask market order in the order book at the highest bid limit of € 200 (see principle 2).

Example 26: A limit order meets an order book with market orders and limit orders on the other side of the order book.

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time
			Market	6000	9:01
			199	1000	9:02

Incoming order:
Bid order, limit € 203,
quantity 6000 shares

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time
			Market	~~6000~~	9:01
			199	1000	9:02

The reference price is € 200. The lowest ask limit is lower than the highest bid limit and the reference price. The incoming bid order is executed against the ask market order in the order book at the lowest ask limit of € 199 (see principle 2).

Example 27: A limit order meets an order book in which there are no orders.

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time

Incoming order:
Bid order, limit € 200,
quantity 6000 shares

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time
10:01	6000	200			

The incoming bid order is entered into the order book. A price is not determined and no orders are executed.

12.2.2.2 Further Examples

Partial execution of a market order. A limit order meets an order book in which there are market orders and limit orders on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	6000	Market			
9:02	1000	202			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	5000	Market			
9:02	1000	202			

Incoming order:
Ask order, limit € 203,
quantity 1000 shares

The reference price is € 200. The lowest ask limit is higher than the highest bid limit and the reference price. The incoming ask order can only be partially executed against the bid market order in the order book, which is carried out at the lowest ask limit of € 203 (see principle 2).

Initiation of a volatility interruption. A limit order meets an order book in which there are market orders and limit orders on the other side of the order book.

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:01	6000	Market			
9:02	1000	202			

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:01	6000	Market	220	1000	10:01
9:02	1000	202			

Incoming order:
Ask order, limit € 220,
quantity 1000 shares

The reference price is € 200 and the price range is +/- 2% of the last determined price. The limit of the incoming ask order lies outside the pre-defined price range and an execution is not carried out. The ask order is entered in the order book and continuous trading is interrupted by an auction.

Partial execution of a market-to-limit order. A market-to-limit order meets an order book with limit orders only on the other side of the order book.

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	1000	203			
9:02	1000	202			

Bid					**Ask**
Time	Quantity	Limit	Limit	Quantity	Time
9:01	~~1000~~	203	203	2000	9:05
9:02	1000	202			

Incoming order:
Ask market-to-limit order,
quantity 3000 shares,
time: 9:05

The incoming market-to-limit order can only be partially executed against the best bid limit order in the order book at € 203. The remaining part of the market-to-limit order (2000) is entered into the order book with a limit equal to the price of the executed part at € 203.

Examples showing the functionality of iceberg orders:

In contrary to the previous examples, in the following an initial order book situation which changes stepwise in multiple stages is provided to explain the functionality of iceberg orders. Beyond this, contrary to the display in the order book of Xetra, orders at same price level are displayed separately (in Xetra they are displayed in an aggregated view per limit). Furthermore, the peaks of an iceberg order are written in italics (in Xetra they are not marked at all).

An iceberg order is entered into the order book and meets limit orders only on the other side of the order book.

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:01:00	6000	202	203	500	8:55:00
9:02:00	2000	201			

Incoming order:
Ask iceberg order, limit € 201
overall volume 50000 shares,
peak 10000 shares,
time: 9:05:00

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:01:00	~~6000~~	202	*201*	*2000*	*9:05:00*
9:02:00	~~2000~~	201	203	500	8:55:00
		Iceberg	201	40000	9:05:00

The peak of the iceberg order is executed against the orders in the order book as far as possible (6000 at € 202; 2000 at € 201). The remaining peak of the iceberg order (2000) is entered into the order book according to price/time priority with a remaining volume of 40000 behind it.

A new bid market order meets the order book.

Bid						Ask
Time	Quantity	Limit		Limit	Quantity	Time
				201	*2000*	*9:05:00*
				203	500	8:55:00
			iceberg	201	40000	9:05:00

Incoming order:
Bid market order,
quantity 5000 shares,
time: 9:07:00

Bid						Ask
Time	Quantity	Limit		Limit	Quantity	Time
				201	*~~2000~~* *7000*	*~~9:05:00~~* *9:07:00*
				203	500	8:55:00
			iceberg	201	~~40000~~ 30000	9:07:00

The incoming market order is executed against the peak (2000) of the iceberg order at € 201. Then the next peak of the iceberg order is introduced in the order book with a new time stamp (9:07:00). It is executed against the remaining part of the incoming order (3000). The remaining peak of the iceberg order (7000) is shown in the order book with a volume of 30000 behind it.

Another iceberg order is entered into the order book.

Bid						Ask
Time	Volume	Limit		Limit	Volume	Time
				201	*7000*	*9:07:00*
				203	500	8:55:00
			iceberg	201	30000	9:07:00

Incoming order:
Ask iceberg order, limit € 201,
overall volume 30000 shares,
peak 5000 shares,
time: 9:08:01

Bid						Ask
Time	Volume	Limit		Limit	Volume	Time
				201	*7000*	*9:07:00*
				201	*5000*	*9:08:01*
				203	500	8:55:00
			iceberg	201	30000	9:07:00
			iceberg	201	25000	9:08:01

The peak of the iceberg order cannot be executed against orders on the other side of the book. The visible part (peak) of the iceberg order is entered into the order book according to price/time priority with a volume of 25000 behind it.

A new bid market order meets the order book.

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time
			201	*7000*	*9:07:00*
			201	*5000*	*9:08:01*
			203	500	8:55:00
		iceberg	201	30000	9:07:00
		iceberg	201	25000	9:08:01

Incoming order:
Bid market order,
quantity 14000 shares,
time: 9:10:40

Bid Time	Quantity	Limit	Limit	Quantity	**Ask** Time
			201	~~*7000*~~ *8000*	~~*9:07:00*~~ *9:10:40*
			201	~~*5000*~~ *5000*	~~*9:08:01*~~ *9:10:40*
			203	500	8:55:00
		iceberg	201	~~30000~~ 20000	9:10:40
		iceberg	201	~~25000~~ 20000	9:10:40

The incoming market order first is executed against the peak of the iceberg order at € 201 with a volume of 7000.

Before the next peak of this iceberg order is introduced, the peak of the iceberg order at the same limit is executed (5000).

A new peak of the first iceberg order is introduced in the book with a new time stamp (9:10:40) and a remaining volume of 20000 behind it.

A new peak of the second iceberg order is introduced in the book with a new time stamp (9:10:40) and a remaining volume of 20000 behind it.

Then the remaining part of the incoming order (2000) is executed against the new peak of the first iceberg order. The remaining part of this iceberg order (8000) is shown in the book with a volume of 20000 behind it.

Another limit order is entered into the order book.

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
			201	*8000*	*9:10:40*
			201	*5000*	*9:10:40*
			203	500	8:55:00
		iceberg	201	20000	9:10:40
		iceberg	201	20000	9:10:40

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
			201	*8000*	*9:10:40*
			201	*5000*	*9:10:40*
			201	2000	9:13:13
			203	500	8:55:00
		iceberg	201	20000	9:10:40
		iceberg	201	20000	9:10:40

Incoming order:
Ask limit order, limit € 201,
quantity 2000 shares,
time: 9:13:13

The new limit order cannot be executed against orders on the other side of the book. It is entered into the order book according to price/time priority.

A new bid market order meets the order book.

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
			201	*8000*	*9:10:40*
			201	*5000*	*9:10:40*
			201	2000	9:13:13
			203	500	8:55:00
		iceberg	201	20000	9:10:40
		iceberg	201	20000	9:10:40

Incoming order:
Bid market order,
quantity 23000 shares,
time: 9:15:00

Bid Time	Quantity	Limit	Limit	Quantity	Ask Time
			201	*~~8000~~* *2000*	*~~9:10:40~~* *9:15:00*
			201	*~~5000~~* *5000*	*~~9:10:40~~* *9:15:00*
			201	~~2000~~	~~9:13:13~~
			203	500	8:55:00
		iceberg	201	~~20000~~ 10000	9:15:00
		iceberg	201	~~20000~~ 15000	9:15:00

The incoming bid market order first is executed against the lowest ask limit on the other side of the order book which is represented by a peak (8000) of an iceberg order at € 201.

Before the next peak of the iceberg order is introduced, all other peaks and limit orders at the same limit have to be executed. Therefore, the next peak (5000) and the next limit order (2000) in the order book are executed against the incoming order.

A new peak of the first iceberg order is introduced in the order book with a new time stamp (9:15:00) and a remaining volume of 10000 behind it.

A new peak of the second iceberg order is introduced in the order book with a new time stamp (9:15:00) and a remaining volume of 15000 behind it.

The remaining volume (8000) of the incoming order then is executed against the new peak of the first iceberg order at € 201. A remaining peak of this iceberg order of 2000 is shown in the order book.

Examples with regard to volume discovery orders:

Example 1

MEQ: 500, Midpoint: 203

Buy time	Volume (hidden) (shares)	2nd limit VDO	limit	limit	2nd limit VDO	Volume (hidden) (shares)	Sell time
9:10:01	650		202	204		800	9:10:02
9:11:00	*(700) 200*	*(204)*	*201*	205		500	9:10:04
9:10:03	(800) 300	(202)	200	206	(203)	100 (500)	9:10:10

The last (9:11:00) incoming Buy order is a volume discovery order (VDO) with a limit of 201 and a not visible quantity of 700 shares. This not visible quantity is larger than the required minimum execution quantity of 500 shares. The 2nd limit of 204 for the Buy order is above the current midpoint price of 203. This Buy order matches against the visible volume of 500 shares of a volume discovery order on the Sell side, which has a visible limit of 206 and an executable not visible limit of 203.
The Buy VDO, which has a limit of 200 is not executed as the 2nd limit is not executable at the current midpoint price.

Order book after execution of the volume discovery order

Buy time	Volume (hidden) (shares)	2nd limit VDO	limit	limit	2nd limit VDO	Volume (hidden) (shares)	Sell time
9:10:01	650		202	204		800	9:10:02
9:11:00	*(200) 200*	-	*201*	205		500	9:10:04
9:10:03	(800) 300	(202)	200	206	-	100	9:10:10

After the execution volumes of the partially executed VDO remain in the book as follows: on the sell side remains a former VDO as limit order with a volume of 100 shares and a limit of 206. On the Buy side remains a former VDO as an iceberg order with 200 shares with a limit of 201 and a non visible volume of 200 shares. This order is not available for matching at the midpoint as the not visible volume is smaller than the MEQ.

Example 2

MEQ: 500
Midpoint: 202.5

Buy Time	Volume (hidden) (shares)	2nd limit VDO	limit	limit	2nd limit VDO	Volume (hidden) (shares)	Sell time
9:10:01	(500) 200	(203,5)	201	204		800	9:10:02
9:10:03	(300) 300	(202)	200	205	(203.5)	100 (500)	9:10:04
				206	(203)	100 (500)	9:10:10

In this order book are two VDOs on the Buy side. The VDO with a limit of 201 and a 2nd limit of 203.5 has a not visible volume of 500 which is executable at the current midpoint of 202.5. The VDO with a limit of 200 is not executable at the current midpoint as the volume is smaller than the required MEQ.

On the Sell side both VDOs fulfil the MEQ criteria but are not executable at the current midpoint as the limits are too high.

Midpoint changes after entry of Buy order with limit of 203: 203.5

Buy time	Volume (hidden) (shares)	2nd limit VDO	Limit	limit	2nd limit VDO	Volume (hidden) (shares)	Sell time
9:11:00	*650*		*203*	204		800	9:10:02
9:10:01	(500) 200	(203.5)	201	205	(203.5)	100 (500)	9:10:04
9:10:03	(300) 300	(202)	200	206	(203)	100 (500)	9:10:10

The incoming Buy limit order changes the current midpoint from 202.5 to 203.5. By this change the non visible volumes of the two Sell VDOs become executable against the non visible volume of Buy VDO at the price of 203,5. All participating VDOs fulfil the MEQ criteria.

Buy time	Volume (hidden) (shares)	2nd limit VDO	Limit	limit	2nd limit VDO	Volume (hidden) (shares)	Sell time
9:11:00	*650*		*203*	204		800	9:10:02
9:10:01	200	-	201	205	-	100	9:10:04
9:10:03	(300) 300	(202)	200	206	(203)	100 (500)	9:10:10

The non visible volume of 500 shares of the more aggressive Sell VDO with the visible limit of 205 is executed against the 500 non visible shares of the Buy VDO with a visible limit at 201.

Examples with regard to the features of hidden orders:

In the examples, hidden orders are marked with “H” after the limit. In the open order book, hidden orders are not disclosed to the market participants.

A market order meets an order book in which hidden orders and limit orders are at the same limit on the opposite order book side.

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:01	6000	200 (H)			
9:02	4000	200			

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:01	6000	200			
9:02	~~4000~~	200			

Incoming order:
Market ask order,
Volume 4000 shares

Execution of the incoming market order takes place at the highest bid limit of € 200. As there are a visible as well as an invisible order (hidden order) at that limit, the visible order is executed with priority. Better time priority of the hidden order is irrelevant.

A market order meets an order book in which limit orders and hidden orders at different limits are on the opposite order book side.

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:01	6000	200 (H)			
9:02	1000	199			

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:01	~~6000~~	200 (H)			
9:02	1000	199			

Incoming order:
Market ask order,
Volume 6000 shares

Execution of the incoming market order takes place at the highest bid limit of € 200. Because no visible order exists at this limit, the hidden order is executed.

Examples for liquidity interruptions.

Designated Sponsor Quotes are marked with (DS) in the following examples. However, in the open order book orders and quotes cannot be distinguished. The following examples refer to securities that are traded with liquidity interruption.

A limit order meets an order book in which there is no Designated Sponsor quote.

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:01	1000	200			
9:02	2000	199			

Bid					Ask
Time	Volume	Limit	Limit	Volume	Time
9:01	1000	200	199	3000	09:03
9:02	2000	199			

Incoming order:
Ask Limit Order, Limit 199€
Volume 3000 shares

No immediate execution is taking place. The ask order is entered into the order book and the continuous trading is interrupted for a liquidity interruption. The price determination in the mini auction corresponds to the price determination process in auctions (see section 12.1). The price determination in a mini auction is triggered ahead of time, in case a Designated Sponsor enters a quote during the call phase.

A limit order meets an order book in which there is a Designated Sponsor quote.

Bid					**Ask**
Time	Volume	Limit	Limit	Volume	Time
9:04	2000	200 (DS)	202 (DS)	2000	09:04
9:05	1000	200			
9:04	1500	190			

Bid					Ask
Time	Volume	Limit	Limit	Volume	Time
~~9:04~~	~~2000~~	~~200 (DS)~~	Market	1000	09:05
~~9:05~~	~~1000~~	~~200~~	202 (DS)	2000	09:04
9:04	1500	190			

Incoming order:
Market ask order
Volume 4000 shares

The incoming order is partially executed up to the entire order book limit where the quote resided. Thereby the order is executed against the quote as well as against the limit order at the limit of 200 €. The remainder of the market ask order with a volume of 1000 shares is not executed immediately, as there is no longer a Designated Sponsor quote residing in the order book. The remainder is entered into the order book and continuous trading is interrupted for a liquidity interruption.

Example for Self Match Prevention

Initial order book with orders sorted according to their price-visibility-time priority looks as follows:

Bid							**Ask**
Time	Volume	Mbr/Cross ID	Limit	Limit	Mbr/CrossID	Volume	Time
9:01	50		209	210		50	9:05
9:03	20	XYZFR/9987	208	211	XYZFR/5566	100	9:04
9:04	500		208				
9:05	10	ABCFR/1234	207				
9:06	50	ABCFR/9987	207				
9:07	5		207				
9:08	10		206				
9:09	40	ABCFR/9987	206				

A new sell order with quantity 650 and limit 206 from member ABCFR with CrossID “9987” is entered into the order book.

This order matches according to price-visibility-time priority first with Buy Order (50@209), then with Buy Order (20@208) which has the same CrossID but was entered by a different member and afterwards with Buy Order (500@208).

After Buy Order (10@207) is matched which was entered by a trader of ABCFR as well but with a different CrossID, a quantity of 70 shares remains from the incoming Sell Order.

The remaining quantity of the incoming SMP-Order now hits the sitting SMP Buy Order (50@207) and the conditions for Self Match Prevention (same member, same CrossID) are fulfilled. As the (remaining) quantity of the incoming SMP-Order is bigger, the sitting order is deleted and the quantity of the incoming order is decremented accordingly to 20.

The incoming Sell SMP Order is now checked for executions on the same price level where SMP was triggered and Buy Order (5@207) gets executed. The remaining quantity of incoming Sell Order (15@206) is deleted afterwards since no further match on the same price level is possible.

The sitting Buy Orders with the time stamp from 9:10 and 9:11 stay unchanged:

Bid							Ask
Time	Volume	Mbr/Cross ID	Limit	Limit	Mbr/CrossID	Volume	Time
				210		50	9:11
				211	XYZFR/5566	100	9:10
9:10	10		206				
9:11	40	ABCFR/9987	206				

12.2.3 Basic Matching Rules for Midpoint Orders

An incoming midpoint order is checked immediately for executability against midpoint orders on the other side of the order book whose execution takes place according to volume/time priority under consideration of the MAQ.

Execution price is always the midpoint of the currently available visible Xetra bid/ask spread in Continuous Trading. Execution may take place fully in one or more steps, partly or not at all, thereby generating no, one, or various trades.

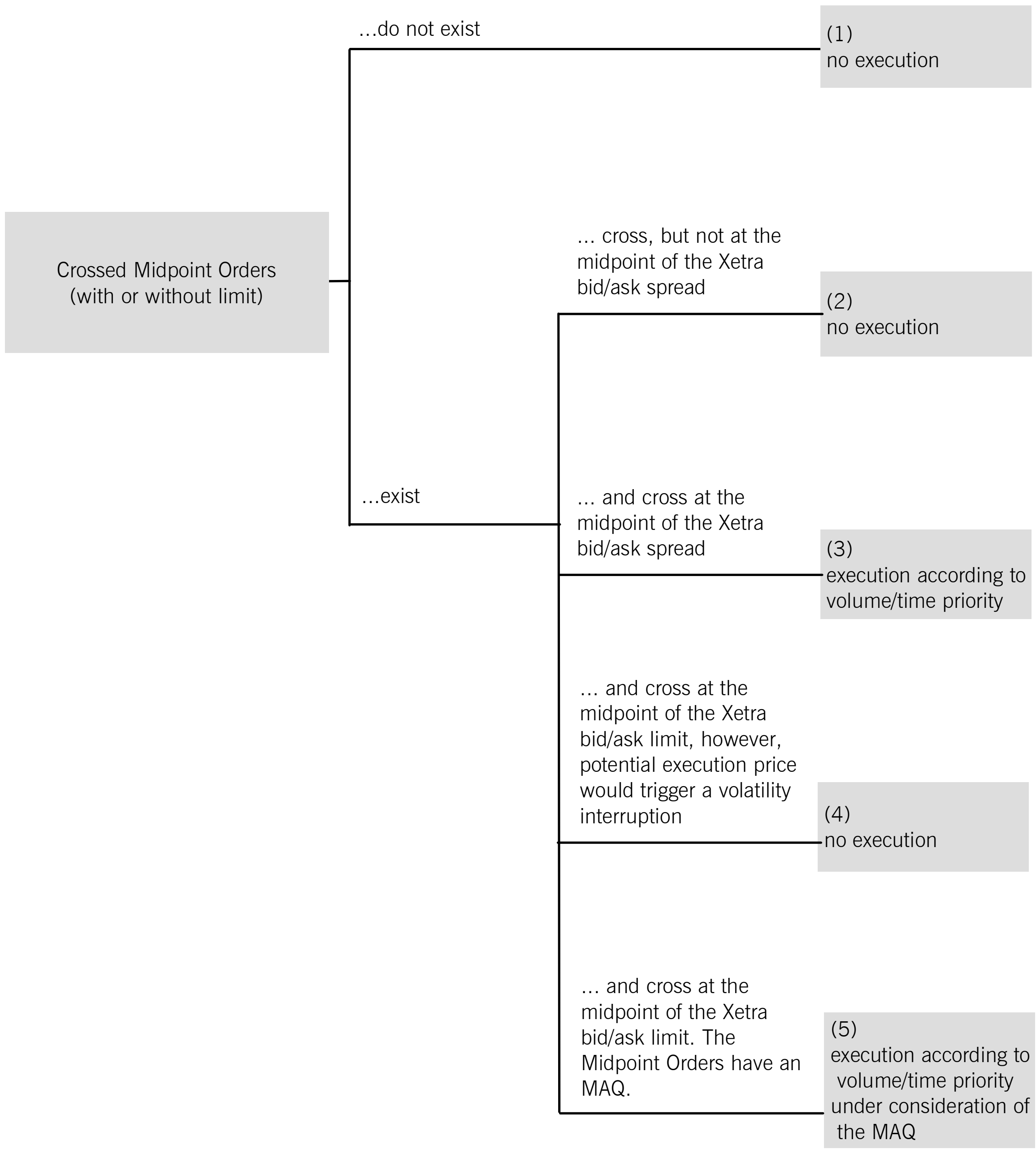
Non-executed or only partly executed midpoint orders are entered in the order book and sorted according to volume/time priority.

Volume/time priority under consideration of the MAQ regulates that the midpoint order with the highest entered volume (i.e. the volume prior to any potential partial executions) at the moment of execution is executed first. Due to the MAQ, strict volume/time priority is disregarded in particular situations, e.g. for the purpose of optimizing the executable volume or for releasing a crossed order book which would otherwise be blocked by a specific MAQ.

If various midpoint orders with the same volume priority exist, the midpoint order with the oldest time stamp is executed first.

As execution prices are limited to the midpoint of the currently available Xetra bid/ask spread in Continuous Trading, crossed, however non-executable midpoint orders may occur. Also crossed yet non-executable midpoint orders might occur, due to the MAQ.

The following figure gives an overview of possible order book situations of midpoint orders in Continuous Trading. Numbers in brackets refer to the corresponding example for the rule.



12.2.4 Matching Examples for Midpoint Orders

The following examples are given to clarify the basic matching rules for midpoint orders in Continuous Trading through illustration of exemplary order book situations.

Example 1: A limited midpoint order meets an order book with limited midpoint orders only on the other side. Due to their limit, they are not executable.
The currently available Xetra bid/ask spread is 197 – 202 (midpoint = 199.50).

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	6000	200			

Incoming order:
Ask midpoint order,
Limit € 203, Volume
6000 shares

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	6000	200	203	6000	9:05

Although the highest bid limit exceeds the Xetra midpoint, it is lower than the lowest ask limit. Therefore, the incoming ask midpoint order is entered in the order book. No orders are executed.

Example 2: A limited midpoint order meets an order book with limited midpoint orders only on the other side. The midpoint orders cross, but not at the midpoint. Therefore, they are not executable.
The currently available Xetra bid/ask spread is 197 – 202 (midpoint = 199.50).

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	6000	198			

Incoming order:
Ask midpoint order,
Limit € 197, Volume
6000 shares

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	6000	198	197	6000	9:05

Although the highest bid limit is higher than the lowest ask limit, it does not exceed the Xetra midpoint. The incoming ask midpoint order is entered in the order book. No orders are executed. There are crossed midpoint orders which, however, are not executable at the midpoint of the currently available Xetra bid/ask spread.

Example 3: A limited midpoint order meets an order book with limited midpoint orders only on the other side. The midpoint orders cross at the midpoint and are executed.
The currently available Xetra bid/ask spread is 197 – 202 (midpoint = 199.50).

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	6000	200			

Incoming order:
Ask midpoint order,
Limit € 197, Volume
8000 shares

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	~~6000~~	200	197	2000	9:05

The highest bid limit exceeds the Xetra midpoint and is higher than the lowest ask limit, with the latter being below the Xetra midpoint. The order book is crossed at the midpoint of the currently available Xetra bid/ask spread. Therefore, 6000 shares are executed at € 199.50. 2000 remaining shares of the incoming ask midpoint orders are entered in the order book.

Example 4: A limited midpoint order meets an order book with limited midpoint orders only on the other side. The midpoint orders cross at the midpoint. However, the potential execution price would trigger a volatility interruption. No execution takes place.
The currently available Xetra bid/ask spread is 197 – 202, the midpoint (199.50) is outside the dynamic respectively static price range.

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	6000	200			

Incoming order:
Ask midpoint order,
Limit € 199, Volume
6000 shares

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	6000	200	199	6000	9:05

The highest bid limit exceeds the Xetra midpoint (199.50) and is higher than the lowest ask limit, with the latter being below the Xetra midpoint. The order book is crossed at the midpoint of the currently available Xetra bid/ask spread. However, the potential execution price of € 199.50 would trigger a volatility interruption. Therefore, the incoming midpoint order is entered in the order book and no execution takes place. No volatility interruption is triggered.

Example 5: A limited midpoint order with MAQ meets an order book with limited midpoint orders only on the other side. One of them has an MAQ. The midpoint orders cross at the midpoint. In order to release the order book crossed at the midpoint, strict volume/time priority is disregarded. Execution takes place at the midpoint.
The currently available Xetra bid/ask spread is 197 – 202; midpoint 199.50.

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	5000	201			
9:02	4000 (3000 MAQ)	200			

Incoming order:
Ask Midpoint Order,
Limit € 199, Volume 6000 shares, MAQ 6000 shares

Bid Time	Volume	Midpoint Order Limit	Midpoint Order Limit	Volume	Ask Time
9:01	2000	201			
9:02	1000 (1000 MAQ)	200			

The highest bid limit exceeds the Xetra midpoint (199.50), and is higher than the lowest ask limit which is below the Xetra midpoint. The order book is crossed at the currently available midpoint of the Xetra bid/ask spread. Full execution of the largest bid order is not possible, although its priority is higher due to its higher volume. The reason is that its volume does not fulfil the MAQ of the incoming ask midpoint order and the remaining volume of the incoming ask midpoint order does not suffice to fulfil the MAQ of the second bid midpoint order. To optimize the executable volume, the incoming ask midpoint order is executed against the MAQ (3000 shares) of the bid midpoint order with lower priority and against 3000 shares of the bid midpoint order with higher priority.

12.3 Mini Auctions

The price determination process in the trading model trading in mini auctions corresponds to the rules for price determination in the trading form auction, as described in section 12.1.

Deviating from the trading form auction, price determination in mini auctions can be triggered ahead of time, i.e. prior to the lapse of the maximum length of the call phase. The ability to terminate the call phase ahead of time is assigned to the Designated Sponsor with the best quote in the order book prior to the start of the mini auction. The best Designated Sponsor Quote is the most aggressive quote limit according to price-time priority on the order book side opposing the incoming order that triggered the mini auction.

The subsequent examples exemplify this rule. Therefore, Designated Sponsor quote are marked with (DS) in the following examples. In case several Designated Sponsor quotes are apparent in the order book they are numbered consecutively.

A limit order meets an order book in which there is one Designated Sponsor quote

Bid					Ask
Time	Volume	Limit	Limit	Volume	Time
9:02	2000	200	202	1000	09:03
9:03	1000	200 (DS)	203 (DS)	2000	09:04

Bid					Ask
Time	Volume	Limit	Limit	Volume	Time
9:02	2000	200	200	1000	09:05
9:03	1000	200 (DS)	202	1000	09:03
			203 (DS)	2000	09:04

Incoming Order:
Limit ask order, Limit 200 €
Volume 1000 shares

As the incoming limit ask order creates a crossed order book situation, the order is entered into the order book and the call phase of a mini auction is triggered. On the order book side opposing the incoming order there is a Designated Sponsor quote (DS) and therefore the Designated Sponsor DS has the ability to end the call phase of the mini auction ahead of time by updating its current quote. A deletion of the quote does not terminate the mini auction ahead of time. If (DS) does not end the auction ahead of time, price determination will be initiated after lapse of the call phase.

During the call phase of the mini auction market participants can continue to perform order submissions, modification or deletions, which are reflected in the following price determination accordingly.

A limit order meets an order book in which there are several Designated Sponsor quotes

Bid					Ask
Time	Volume	Limit	Limit	Volume	Time
9:04	2000	200	202 (DS2)	1000	09:05
9:05	1000	199 (DS1)	203 (DS1)	2000	09:04
9:04	1500	198 (DS2)			

Bid					Ask
Time	Volume	Limit	Limit	Volume	Time
9:04	2000	200	198	4000	09:06
9:05	1000	199 (DS1)	202 (DS2)	1000	09:05
9:04	1500	198 (DS2)	203 (DS1)	2000	09:04

Incoming Order:
Limit ask order, Limit 198 €
Volume 4000 shares

As the incoming limit ask order creates a crossed order book situation, the order is entered into the order book and the call phase of a mini auction is triggered. On the order book side opposing the incoming order there are several quotes and quote (DS1) has the highest price-time priority. Accordingly the Designated Sponsor DS1 is assigned the ability to terminate the call phase of the mini auction ahead of time by updating its current quote.

A limit order meets an order book in which there is a non-executable Designated Sponsor quote

Bid					Ask
Time	Volume	Limit	Limit	Volume	Time
9:06	1000	201	203	1000	09:05
9:07	2000	200 (DS)	203 (DS)	2000	09:07

Bid					Ask
Time	Volume	Limit	Limit	Volume	Time
9:06	1000	201	201	1000	09:08
9:07	2000	200 (DS)	203	1000	09:05
			203 (DS)	2000	09:07

Incoming Order:
Limit ask order, Limit 201 €
Volume 1000 shares

As the incoming limit ask order creates a crossed order book situation, the order is entered into the order book and the call phase of a mini auction is triggered. Irrespective of the fact that the quote (DS) on the order book side opposing the incoming order is not executable against the incoming order, the Designated Sponsor (DS) is assigned the ability to end the call phase of the mini auction ahead of time by updating its quote. If (DS) does not end the auction ahead of time, price determination will be initiated after lapse of the call phase.