



Market Watch #9

Circuitbreakers & AFM trade suspension

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On 15 March 2023, prices of bank shares worldwide plummeted due to the collapse of Silicon Valley Bank and the fallout of this on Credit Suisse. Some bank shares even fell by over ten per cent over the course of the trading day, whilst various media reported that trading in shares was halted due to volatility breaches. In fact, these trading halts were the result of circuit breakers being automatically triggered.

The Dutch Authority for the Financial Markets (AFM) is responsible for supervising the fair and orderly functioning of capital markets. To this end, the AFM monitors the proper implementation and operation of trading safeguards which capital market participants are required to have in place based on the applicable legal framework. Trading safeguards and more specifically circuit breakers at trading venues have been in the headlines in recent months. Based on the public debate and questions we received, the AFM believes that the broader public could benefit from further clarification as to the purpose, design, and functioning of trading safeguards. Accordingly, this AFM Market Watch provides background information on trading safeguards and their intended use in relation to trading venues. In this respect, we distinguish between automatic trading safeguards, commonly referred to as circuit breakers, and manual interventions, such as trading suspensions initiated by the trading venue or on the instruction of the financial market supervisor. In this edition, the AFM will explain what these trading safeguards are, how they should be designed and function, and why they should be put in place. In addition, the AFM will provide some clarity on roles and responsibilities when it comes to the proper design, implementation and supervision of these trading safeguards.

The last part of this AFM Market Watch contains a brief 'Facts and Figures' section on current developments in the Dutch capital markets. This is a regular feature of our Market Watch reports. In this edition we give an update on: i) short selling positions; ii) STOR numbers; iii) reported transactions in Dutch shares on different trading venues; and iv) the relative number of Dutch shares traded either through a lit or dark order book previously published in the AFM's State of the Capital Markets 2022.¹

¹ <https://www.afm.nl/en/sector/actueel/2022/november/state-capital-markets>

01 Automatic circuit breakers

Trading venues are legally required to have in place so-called circuit breakers in their trading systems. Circuit breakers essentially act as an emergency brake that is automatically triggered when the price of a financial instrument traded on a trading venue suddenly experiences a steep rise or drop. Once the emergency brake is triggered, trading in the specific instrument will be paused or trading will only be possible at price levels that do not trigger the circuit breaker.

The requirement for trading venues to have in place circuit breakers was first introduced in guidelines published by ESMA, the European financial markets regulator. These guidelines were written in the aftermath of the flash crash of 6 May 2010. On that day, several US-based trading venues witnessed a temporary drop in transaction prices.² This sudden price swing led to anxiety and debate. To mitigate the risk of similar situations occurring within the EU, on 1 May 2012 a set of guidelines came into force which included the requirement for trading venues to implement circuit breakers. These guidelines were incorporated in MiFID II in 2014.³

Breather that calms the market

In most cases, a sudden price movement of a financial instrument that triggers a circuit breaker will result in trading in that financial instrument being paused. This provides room for trading parties to catch a breath. Pausing trading in that particular instrument gives market participants time to assess whether the price movement is logical and explainable. For example, it may be that "new" information has emerged with regard to that specific instrument which justifies a significant price movement. Furthermore, the triggering of a circuit breaker will bring out-of-control trading algorithms (systems able to trade without human intervention) to a standstill. A circuit breaker will also prevent the execution of orders that deviate greatly from the current market price due to human error, known as 'fat finger' orders. These are the result of typing errors, such as accidentally adding a zero to an intended price. If the order

² The price drop was exacerbated by the fact that some trading venues had trading safeguards and other venues not. This resulted in the (selling) order flow being routed to illiquid venues which led to sharp price decline.

³ Article 48(5) of Directive 2014/65/EU (MiFID II), which is implemented in Section 5:30a(1) and (2) of the Dutch Financial Supervision Act (Wft). These rules also apply to multilateral trading facilities and organised trading facilities by virtue of Article 18(5) MiFID II, which is implemented in Section 4:91a(11) of the Dutch Financial Supervision Act. The requirements are further specified in Articles 18 and 19 of Delegated Regulation (EU) 2017/584. See also the ESMA Guidelines on Calibration of circuit breakers and publication of trading halts under MiFID II.

price would be far too high or far too low and the order has not been rejected by other pre-trade controls, the circuit breaker is triggered and trading is automatically halted.

Not a price cap or floor

A circuit breaker is a mechanism that contributes to orderly trading conditions, as it reduces the impact of sudden price jumps or drops. It is important to note that circuit breakers are not intended to limit price developments of financial instruments traded on a trading venue. A circuit breaker does not provide for a price cap or floor above or below which trading in a financial instrument cannot take place. And when trading is resumed after being paused by the circuit breaker mechanism, the upward or downward trend in the trading price may well continue. As already stated, the trading pause will in that case only have provided for a short period of reflection.

Trading venues are responsible for appropriate calibration

Over the past decade, changes to rules and regulations have provided for an increasingly detailed framework. For instance, the regulatory framework stipulates what a circuit breaker should be capable of and what elements should be considered when calibrating circuit breakers. According to the regulations, trading venues are responsible for the design of circuit breakers, which includes determining the thresholds that trigger them. This process is also known as the calibration of circuit breakers. As a part of this process, trading venues determine for the markets they operate how much a "new" price is allowed to deviate from the "old" price. It is also up to the trading venues to decide on the length of trading halts once a circuit breaker is triggered. Or to determine whether trading can resume at price levels that would not have caused a circuit breaker to intervene. It is also up to trading venues to determine how trading is to be resumed after being automatically halted. Trading venues have a thorough understanding of the trading characteristics of financial instruments made available for trading on their markets. Therefore, trading venues are best equipped to calibrate circuit breakers to ensure they are appropriate for the markets they operate. Of course, it is important that the calibration does justice to the purpose of circuit breakers, which is to ensure fair and orderly market conditions. More specifically, the ESMA guidelines on the calibration of circuit breakers⁴ state that

⁴ ESMA Guidelines on Calibration of circuit breakers and publication of trading halts under MiFID II.

trading venues should calibrate their circuit breakers according to a predetermined, statistically supported methodology, taking into account all elements mentioned in these guidelines, such as the nature of the financial instrument and its liquidity profile and volatility profile. It is the responsibility of financial market supervisors to supervise trading venues' calibration of circuit breakers. This supervision enhances the quality of the calibration process.

The classical set-up: dynamic and static circuit breakers

Many trading venues have chosen to implement so-called dynamic and static circuit breakers for the markets they operate. To this end, they have set thresholds for both types of circuit breakers. These thresholds can be set as an absolute amount (i.e., a particular euro amount deviation from the reference price) or as a percentage (i.e., percentage deviation from the reference price). This way, the trading venue establishes a bandwidth/corridor in which the price can move freely without interference from the trading system.

Dynamic circuit breaker

An important characteristic of dynamic circuit breakers is that during the trading day the upper and lower threshold move along with the price of the financial instrument. This is because the reference price used for the dynamic circuit breaker is refreshed throughout the trading day. Often the last trading price or the average trading price during a short time window is used as a reference price. In addition, with dynamic circuit breakers the bandwidth within which the price can move without triggering a trading pause is narrower than with static circuit breakers.

Static circuit breaker

As the name suggests, the bandwidth applied by a static circuit breaker normally remains unchanged during a trading day. An upper and lower threshold are used, which are based on a reference price that is not updated during the trading day. Often this will be the opening price of that trading day or the closing price of the previous trading day. However, there may be valid reasons for a continuing rise or fall in trading prices.



Under those circumstances, a trading venue might decide to either widen the bandwidth or to adjust the reference price used by the static circuit breaker after the mechanism has been triggered, to ensure that trading can be continued.

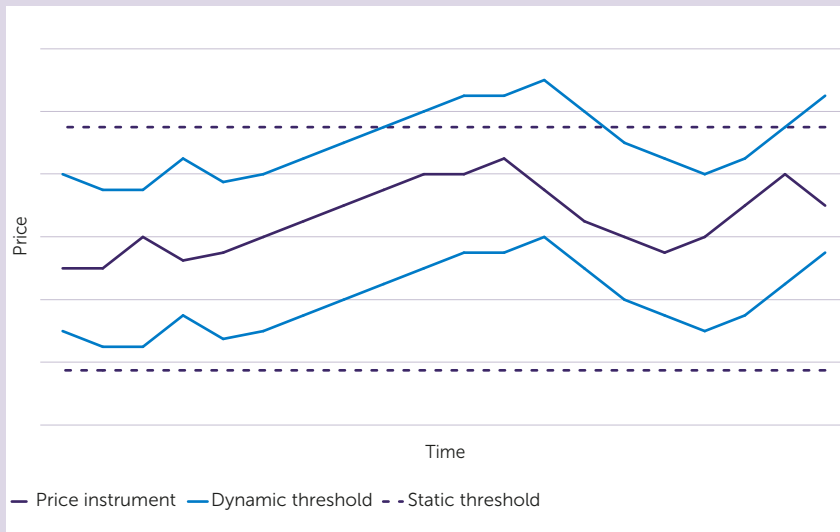


Figure 1. Illustration of operation of "classic" circuit breaker

Trading will be automatically paused once the threshold of either the dynamic or the static circuit breaker is about to be breached. The length of the trading halt depends on the calibration of the circuit breaker. In practice, the length of the halt differs per trading venue and may also differ per financial instrument. Pausing of trading can last for a few seconds, minutes or even for the rest of the trading period or trading day. The way in which trading will be resumed is determined by the trading venue. This can be by means of opening auction, by reopening trading with the old threshold as the new reference price, or by reopening with an unchanged reference price.

Automatic mechanism with no human intervention

A circuit breaker is automatically triggered if the price of a financial instrument traded on a trading venue is about to breach the set threshold. That means that no human intervention is involved in this. It may be the case that staff become involved once the circuit breaker is triggered. The trading venue may decide to manually postpone the resumption of trading, for instance, because it assesses that an orderly reopening of trading would not be possible. Or the trading venue may decide to widen the thresholds after the mechanism had been triggered; for example, when market information is publicly available that provides a rationale for prices to move beyond the initial threshold.

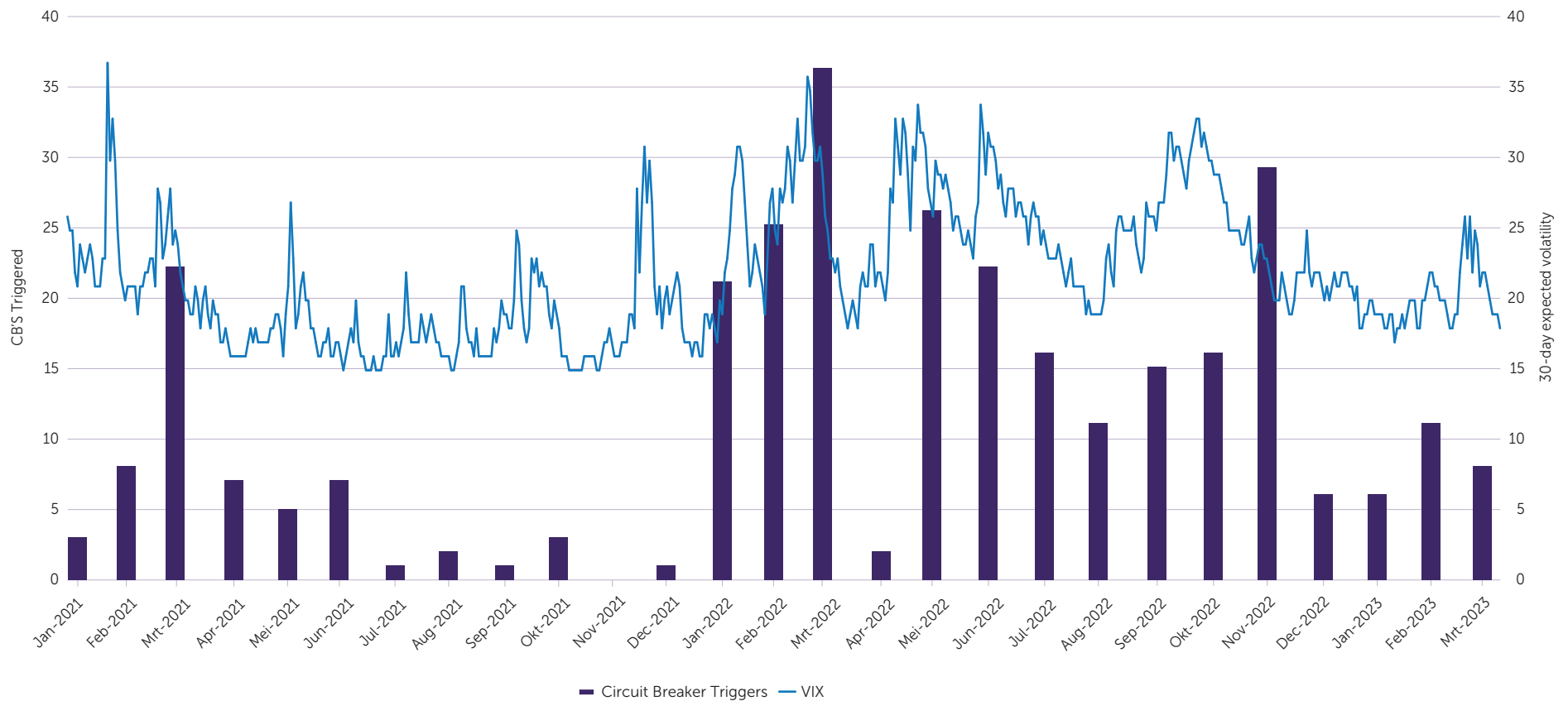
Having rules and regulation prescribing a single form of circuit breaker with a single set of thresholds would not be effective. A single set of thresholds does not provide the necessary tooling for a wide variety of financial instruments with very different characteristics. Furthermore, the market conditions or market characteristics per financial instrument can vary significantly. In the end, the trading venue determines what kind of circuit breaker best suits the markets it operates, taking into account the legal requirements related to circuit breakers. Trading venues should have a clear understanding of the characteristics of the financial instrument and the related market. Trading venues are expected to have a clear understanding of the calibration of these circuit breakers to ensure that this tool is only triggered when necessary. Trading venues must strike the right balance between orderly trading and the unimpeded functioning of the market.

Although we have not empirically tested the correlation between volatility and the frequency of the triggering of circuit breakers, for the period from January 2021 until March 2023 it is observable that the frequency of circuit breaker triggers appears to increase as volatility increases. This visual observation is in line with theoretical expectations; circuit breakers are intended to be triggered in case of sudden price swings, which are likely to occur more often during periods of heightened volatility.

Circuit breakers and the role of financial market supervisors

The AFM's role in this respect first of all involves supervising the implementation of circuit breakers by every trading venue. To that end, the AFM can also assess the design of a circuit breaker. For instance, it is important to know when a circuit breaker will intervene, whether trading will then be paused and how trading in the specific instrument will be resumed. In addition, we may examine the calibration of the circuit

Figure 2. Circuit Breakers in numbers: historical data on triggering of circuit breakers on Euronext Amsterdam for shares included in AEX & AMX from January 2021 until March 2023 in relation to CBOE Volatility Index (VIX).



breaker in more detail. This involves considering questions such as whether the trading venue appropriately weighed up the importance of the orderly functioning of the market against the unimpeded functioning of the market. Trading venues are required to use a predefined, statistically supported methodology when calibrating their circuit breakers. This is also an element that may be assessed by the AFM. This involves ascertaining whether the trading venue considered relevant factors, such as historical price developments, in setting the thresholds of a circuit breaker. Where necessary, the AFM will steer trading venues towards adjusting the design of circuit breakers or their calibration. The AFM has broad powers to take enforcement measures, which can and will be used to ensure trading venues' compliance with rules and regulations in this regard.

Discretionary powers to manually halt trading

The examples given above differ from a situation where a trading venue (on its own initiative or on the instructions of competent authorities) decides to manually pause or suspend trading. Trading venues have their own responsibility to ensure fair and orderly markets. If this can no longer be ensured, their rulebook gives trading venues discretionary powers to halt trading. A trading venue may decide to do so when the sound (technical) operation of the market can no longer be ensured. As described in more detail below, the AFM has the authority to issue an instruction to suspend trading if this is necessary for the protection of the interests of the investors in this financial instrument or the orderly trading thereof.⁵ For instance, the AFM may consider the suspension of trading in case of information asymmetry within the market.

⁵ Section 1:77d(1) of the Dutch Financial Supervision Act.

Further regulation regarding energy-related commodity derivatives (2023)

Prices on the European gas markets were highly volatile in 2022. In response to this development, further requirements have been drafted for venues on which energy-related commodity derivatives are traded. As of 31 January 2023, those trading venues are required to have in place mechanisms to manage intra-day price volatility to prevent excessive price movements within a trading day. This requirement has been further detailed in Article 15 of Council Regulation (EU) 2022/2576.⁶

In short, trading venues are expected to have implemented circuit breakers which set an upper and lower price boundary. The reference price used by this mechanism should be renewed at regular intervals. This will result in the price boundaries being renewed during the trading day. Furthermore, trading venues are to make public the features of the mechanism implemented in light of the above requirement. In terms of compliance with the mentioned requirements, trading venues are allowed to integrate this mechanism into their existing circuit breakers already implemented in light of rules and regulations that entered into force earlier or to add an additional mechanism.

The competent authority is expected to monitor the implementation of meaningful intra-day volatility management mechanisms. Furthermore, the competent authority is to share quarterly reports to ESMA on the implementation of this mechanism by trading venues they supervise. ESMA will coordinate and monitor the implementation of the intra-day volatility management mechanisms. In addition, ESMA submitted a report to the European Commission evaluating the efficiency of these mechanisms on 30 June 2023.⁷

⁶ Council Regulation (EU) 2022/2576 of 19 December 2022 enhancing solidarity through better coordination of gas purchases, reliable price benchmarks and exchanges of gas across borders.

⁷ https://www.esma.europa.eu/sites/default/files/2023-06/ESMA70-156-6509_Final_Report_Intra-day_Volatility_Management_Mechanism.pdf

02 Suspension of trading on the instruction of the competent authority

In addition to the trading safeguards applied by trading venues, competent authorities have the power to instruct a trading venue to suspend trading in a financial instrument. The AFM can do so if this is necessary to protect the interests of the investors in a financial instrument or orderly trading in this instrument. In most cases, regulators instruct trading venues to suspend trading when there appears to be an information asymmetry within the broader market. If the information relates to an issuer of a financial instrument, this could qualify as inside information that must be published by the issuer in accordance with the provisions in the Market Abuse Regulation (MAR).⁸ The most important provision in the MAR is that relevant inside information is to be made public in a manner which enables fast access to and complete, correct and timely assessment of the information by the public. The AFM is responsible for supervising the issuer's compliance with this obligation. By suspending trading, the regulator prevents that investors make decisions based on information asymmetry.

Market surveillance

An important element of the surveillance activities of the AFM is related to the timely publication of inside information. Compliance with the obligations regarding the publication of inside information is essential for the price formation process. As mentioned above, the AFM has the power to issue an instruction to suspend trading. Any decision by the AFM to suspend trading is only made after careful consideration, as the use of this power has a significant impact on the trading process and using it unnecessarily could harm the interest of investors.

The AFM's market surveillance team monitors all sorts of news sources, including social media, in relation to financial instruments whose issuers have the obligation to inform the market about relevant inside information in accordance with the disclosure requirements for inside information.⁹ In case of rumours, remarkable

price changes and/or other significant events, the supervision team contacts issuers to assess whether they are still in a position to comply with all relevant inside information regulations. In some cases, this leads to the AFM issuing an instruction to the trading venue to suspend trading in a financial instrument.

The AFM's market surveillance team also contacts issuers in other situations where the market surveillance team has additional questions, such as in relation to a press release by a particular issuer. On average, this results in several informal supervisory actions each month. These actions have proved to be very effective but are generally not visible to the broader public. Vice versa, the AFM market surveillance team can also be contacted by issuers if they have any questions about the publication of inside information.

Suspension of trading

If the AFM decides to suspend trading in a financial instrument, a swift procedure is applied to ensure that trading in that instrument is halted. The AFM will instruct the relevant trading venue to halt trading in the related instrument as soon as possible. Subsequently, the AFM will instruct other trading venues within its jurisdiction to also suspend trading if that particular instrument is also traded on that trading venue. In addition, the AFM will publish a press release informing the market of the trade suspension. In parallel, an information mechanism will be used to promptly inform all the other national competent authorities (NCAs) in the EU. If the instrument is traded on a trading venue within their jurisdiction, pursuant to MiFID II the other NCAs are likewise required to suspend trading in that financial instrument and to inform the trading venues within their jurisdiction. However, where the suspension of trading could cause significant damage to the investors' interests or to the orderly functioning of the market, the relevant competent authority can decide not to follow the decision of the competent authority that initiated the suspension of trading.

⁸ Regulation (EU) No 596/2014 (Market Abuse Regulation, MAR).

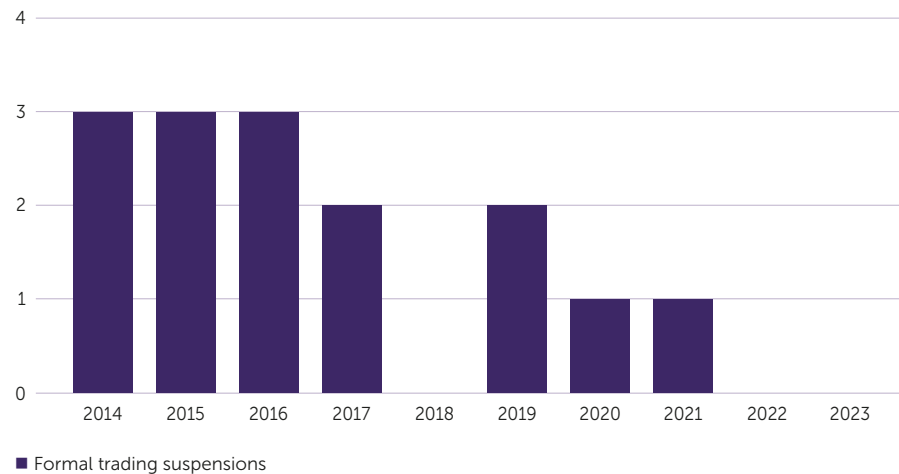
⁹ The requirements for public disclosure of inside information are set out in Article 17 of the MAR. Issuers may delay the publication of inside information provided that all of the following conditions are met: there is a legitimate interest for the delay, the delay is not likely to mislead the public, and the issuer is able to ensure the confidentiality of the inside information.



A decision to formally suspend trading in a specific instrument is rarely taken, as due consideration is given in the decision-making process to the possibility of significant damage to investors' interests or to the orderly functioning of the market. As indicated before, the AFM aims to be proactive and to resolve information asymmetries by means of informal measures. Consequently, the number of formal suspensions of trading on the AFM's instruction is limited. From January 2014 until June 2023, trading was suspended on the AFM's instruction 15 times (see Figure 3 below).

When it has been decided to suspend trading, trading can only resume after the immediate reason for the suspension has been resolved. In general, the suspension can be lifted after the publication of a press release by the relevant issuer which resolves the information asymmetry towards investors.

Figure 3. Total number of formal trading suspensions on the instruction of the AFM during the period from January 2014 until June 2023.

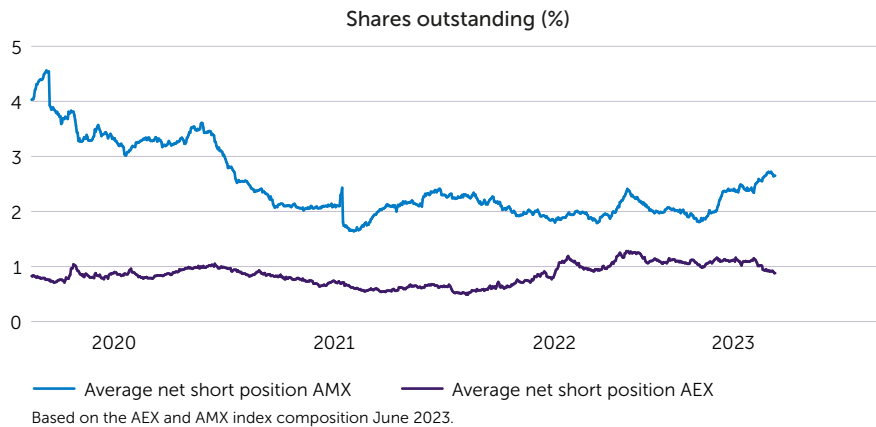


FACTS & FIGURES

This section of the AFM Market Watch provides facts and figures concerning developments in the Dutch financial markets. In this edition, we provide an update on a set of visuals relating to the equity market previously published in the AFM's State of the Capital Markets 2022.¹⁰ This section contains information for the period up to June 2023.

This autumn, the AFM's State of the Capital Markets 2023 will be published. If you would like to be notified about this publication (and about all other latest AFM news), please subscribe [HERE](#) (check the box "Kapitaalmarkten").

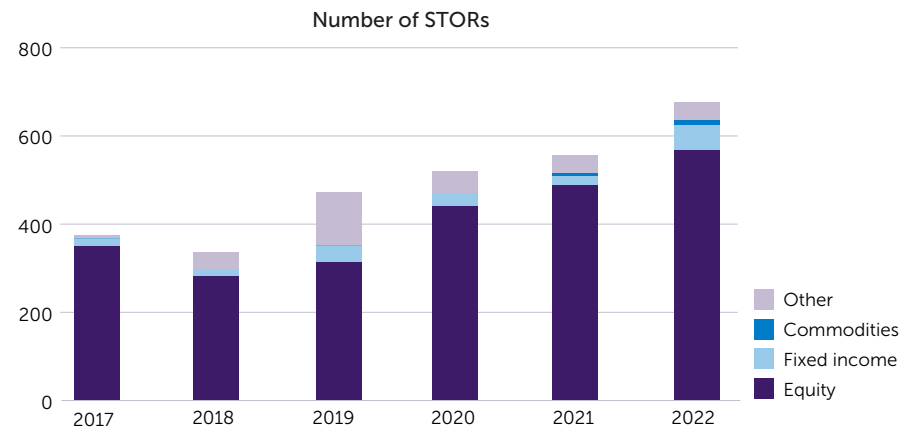
1. Short selling



This graph shows the average net short position in AEX and AMX shares for the period from 1 March 2020 to June 2023. It shows net short positions larger than 0.2% (positions between 0.2% and 0.5% are not published on the AFM website). The average net short position in the AEX and AMX has been relatively stable in recent years.

Short selling is an investment strategy that speculates on share prices falling. Investors sell shares they have borrowed, aiming to buy them back later at lower price. Under normal circumstances, short selling contributes to the orderly functioning of markets by providing liquidity. However, there is a debate about whether short selling worsens market liquidity in periods of market stress should therefore be restricted in such periods (for more information, see [AFM Market Watch 1](#) and [AFM Market Watch 6](#)).

2. STOR numbers

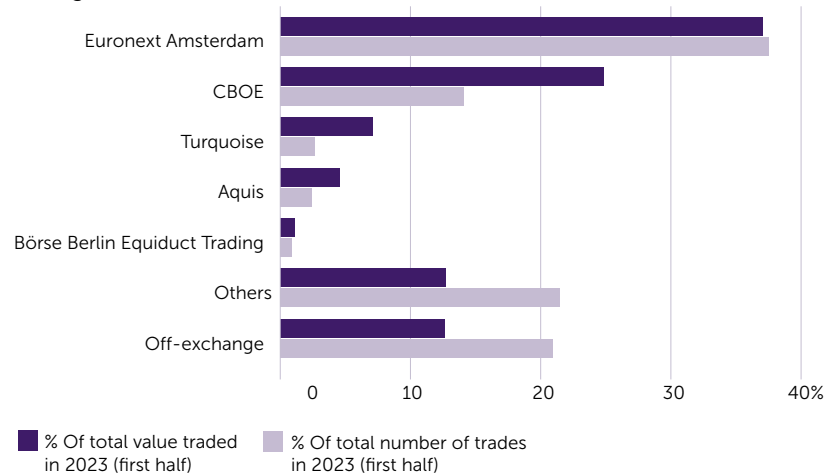


This graph shows the number of suspicious transactions and order reports (STORs) submitted to the AFM. Every market participant is obliged to report suspicions of market abuse. The number of STORs has gradually increased from less than 400 in 2017 to around 550 in 2021. This rising trend continued in 2022. The number of STORs received by the AFM (both from market participants and from other national competent authorities) increased to 677 (+23%) in 2022. The majority of STORs concern suspicions of market abuse relating to equities. A small, but gradually rising number of suspicions relates to fixed-income and commodities trading.

¹⁰ <https://www.afm.nl/en/sector/actueel/2022/november/state-capital-markets>

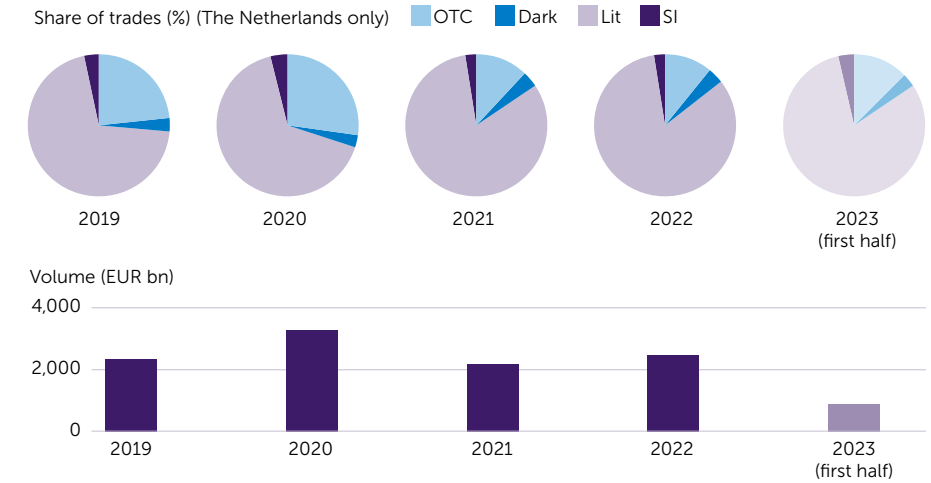
3. Trading venues

This graph shows the number of transactions in Dutch shares on different trading venues during the first half year 2023. It demonstrates that stock trading is concentrated on a few large venues, in particular Euronext. The graph distinguishes between the number of transactions and the value traded. It shows that a relatively large proportion of trading takes place on trading venues. This is due to the role of these platforms in the price formation process and activities of market participants in this process. The trading venues also have a role as a benchmark for larger bilateral transactions conducted through Systematic Internalisers (SIs) and other alternative trading venues.



4. Dark vs lit

This graph shows the relative number of Dutch shares that are traded either through a lit or dark order book. A trade is considered lit if it satisfies certain pre- and post-trade transparency requirements. Dark trades are generally less transparent, but fulfil a crucial role when entities want to conduct certain block trades without affecting market prices significantly. Hence, lit and dark refers to transparency, which is not the same as on-venue and off-venue. The latter refers to the way a trade is conducted, either on a multilateral platform or bilaterally. The share of lit trading has been stable over the years and lies between 70%-80%. The lit percentage was only lower in 2020, the year of Brexit (65%). Off-venue trading, also referred to as over-the-counter (OTC) trading, includes a large number of transfers between execution brokers and ultimate beneficial owners, which are reported as off-venue transactions.





Any questions or comments about this publication?

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