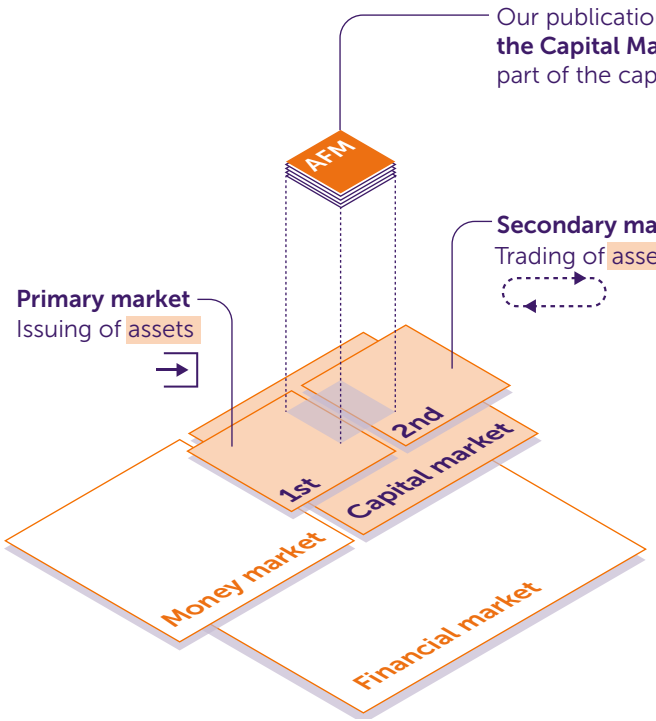


State of the Capital Markets 2022 in 30 visuals

AFM

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About

Why this publication?
The State of the Capital Markets is a publication from the Dutch Authority for the Financial Markets (AFM). This publication is our way of sharing with the market our observations on important developments in the capital markets. These observations are partly based on the unique data set provided to us by market participants. These data reports are important to us, as we use them on a daily basis to monitor markets, detect risks and investigate possible offences.

The AFM has the ambition to become **a leading data-driven supervision authority**. This means that we are developing the capacity to analyse large quantities of electronic data to support staff in supervising capital markets. In order to do this effectively, we need, amongst other things, the ability to process and verify the quality of this data. Realising this ambition is a challenge and a work in progress. Our data position is not yet flawless, nor is our ability to automate the processing and analysis of large data sets. We will continue to work hard on this strategic priority in the years to come. We expect our progress to be reflected in future AFM publications.

For whom is this publication intended?
This publication is intended for a wide audience. It is most relevant to professional market participants, journalists, and interested retail investors and students. This publication is more technical than most AFM publications.

What can you expect?
The State of the Capital Markets consists of a series of graphs depicting various aspects of the equity, fixed income and commodity markets. We offer observations for each graph. These observations are concise and meant to be as objective as possible. The graphs cover part of the capital markets. With our selection of graphs, we try to balance the international nature of these markets with a specific Dutch regulatory perspective. First, we introduce the main messages. We then briefly explain the importance of capital markets, the role of the AFM and our supervisory priorities. Next, we discuss the state of the equity, fixed income and commodity markets. Finally, we provide explanatory information on methodology, data sources and margins of error.

Main messages

The State of the Capital Markets provides **a long-term view on market developments**. The observations reflect AFM's role and our perspective on capital markets.

In equity markets we observe ...
... That trading and market making has been automated to a large extent (graph 7), which appears to be related to the narrower bid-ask spreads in secondary markets. Facilities for straight-through processing of client orders and direct electronic access have increased competition in the provision of liquidity and lower trading costs 3. But the emergence of competing digital marketplaces 6 has not resulted in more depth in pre-trade transparent systems 4. This raises questions about the use of pre-trade data in reference price systems and the quality of execution in some of the bilateral models that trade on reference prices.

In fixed income markets we observe ...
... That bank loans are still the preferred means of finance 13 but that public markets are becoming increasingly competitive 14, further reducing dependence on bank finance. Secondary trading on multilateral trading venues is growing slowly whilst bilateral trading is increasingly done with SIs 15. Markets for securities financing, with their large interbank trading volumes, have become more transparent 18. The obligation to clear contracts with a central counterparty has increased standardisation in fixed income derivative markets and related transparency in line with policy goals 20. But the full potential of modern technology and the more efficient trading methods employed in equity markets has not yet been achieved 16.

In commodity derivative markets we observe ...
... That growing uncertainty on the supply side of the energy commodity markets has translated into more volatile prices 23 24. This has contributed to a surge in margin requirements for entities who are active in energy commodity trading 25. Financial intermediaries have an important role on the derivative markets as liquidity providers 26. The ratio between financial and non-financial market participants has not changed fundamentally since the market turmoil started. The majority of TTF gas futures are traded on ICE Endex 29. These derivatives are increasingly traded on public venues at the expense of bilateral trading 30.

Capital markets and the AFM

Capital markets help finance the economy and reduce financial risks
Capital markets bring together savings and investments and facilitate the price formation process. Money needed to build a new factory (for example) can be raised through bank loans or by issuing securities in the form of equity or debt. Securities are designed to allow investors to retrieve invested funds from a third party and sell them in a secondary market (e.g., a stock market). This ability to exit before maturity reduces the risk for investors and in turn lowers the cost of raising capital for the primary issuer.

Ensuring a **competitive and multilateral price formation process** in secondary markets is a critical function of trading venues. Sometimes market participants need other instruments that allow them to transfer specific financial risks. For this purpose, credit derivatives or equity options can be used to transfer a specific credit or market risk. Commodity derivative markets allow producers to sell their future produce and lock in prices. This way, **derivatives markets can reduce overall risk** and support investments in the real economy.

Capital markets are highly regulated
There are several reasons for this. First, it is in the interest of the public that capital markets function in an orderly manner given their vital importance to the economy. Capital markets comprise a complex European system that processes a huge number of orders, trades and money flows every day. Second, the orderly functioning of capital markets cannot be taken for granted. Markets may fail. Not all interests are aligned. Fair and efficient capital market competition cannot be presupposed and requires standards for transparency and non-discriminatory access. Third, because capital markets benefit from economies of scale and scope, regulators strive towards a European level playing field by setting European regulations. Fourth, capital markets are seen as a mechanism to help reach other important policy goals, such as the green transition of the European economy.

Capital markets are closely supervised
In line with its regulatory obligations, the AFM monitors and provides guidance on fair and efficient markets. Due to Brexit, many financial firms chose to relocate their service provision to mainland Europe, including the Netherlands. As a result, the role and responsibilities of the AFM in supervising capital markets have increased. The AFM works closely together with other national competent authorities and European authorities such as ESMA (the European Securities and Markets Authority), as capital markets are increasingly regulated at the European level.

Our objective is that equity, fixed income and commodity markets remain **fair and transparent, stable and resilient**, and with appropriate safeguards for retail investors. The AFM focuses, amongst other things, on preventing market abuse by monitoring timely disclosure of information, safeguarding a competitive market structure in the digital transition, and ensuring the operational resilience of critical infrastructure.

Priorities in the near future

The AFM has set multiple supervisory priorities for the years to come. Below we highlight three of them. Success will require, amongst other things, effective international cooperation. We will also need to continue developing our data-driven supervisory capabilities. **Data quality** is critical to this.

1. Data quality
Transparency is central to and a prerequisite for the efficient functioning of capital markets. Trade data, for example, is important to investors when making investment decisions. It is also an essential source of information for the AFM, as it feeds into and determines the direction of our supervisory activities. Capital markets generate enormous amounts of data. New European regulations about measuring sustainability and the ethical impact of investments will further increase the amount of data being generated. In order to be useful, data needs to be complete, correct and timely. The AFM monitors closely whether firms comply with data quality reporting requirements and disclosure obligations. The AFM also favours the introduction of the consolidated tape, a central bundling of trade data. Currently, European capital markets are quite fragmented with dozens of exchanges and (bilateral) trading venues. This fragmentation limits the centralised availability of trade data and reference prices. This reduces efficiency. The consolidated tape addresses this inefficiency.

2. Market manipulation
Ensuring fair markets remains one of the key priorities for the AFM. Our role in Europe has become more important since Brexit and the relocation of trading venues to Amsterdam. Our surveillance of secondary market trading is organised along three lines of defence. The first line consists of brokers and investment firms that execute trades on behalf of clients. These firms have a responsibility regarding the detection of market abuse and are subject to the obligation to report suspicious transactions or orders (STORs) to the AFM. As pointed out in our recent **Market Watch**, the obligation to submit STORs is a focal point for the AFM in the area of market abuse supervision. The second line of defence consists of trading venues' own surveillance system to prevent, detect and report suspicious trading behaviour. The AFM expects venues to take this responsibility very seriously. As a third line of defence, the AFM conducts market abuse supervision through its own surveillance mechanism. This is based on data-driven algorithm-based detection, resulting in various alerts which are used in combination with the STORs for further analysis and possible follow-up investigations. We are increasingly shifting our attention towards the detection and enforcement of multi-asset cross-market manipulation.

3. Resilience
Capital markets have been quite robust this year. In these times of exceptional circumstances and uncertainty, markets have withstood shocks from the rapid rise of inflation, high energy prices and geopolitical events. Notwithstanding this apparent robustness, the AFM and other supervisory authorities remain vigilant and continue to closely monitor the **resilience of critical market infrastructure**. Outages and other such systemic failures are rare, but their impact could be very significant. For example, in October 2020 Euronext encountered technical issues that temporarily resulted in the halting of trading and failure to end trading with the closing auction. The outage had spillover effects affecting other markets. This was largely due to reference prices becoming unavailable. A flash crash is another manifestation that highlights the interconnectedness of markets. New regulations offer the AFM and other European supervisory authorities more authority to monitor and enforce the operational resilience of firms (Digital Operational Resilience Act).



Equity markets

Equity markets

What are equity markets?
Equity markets are a meeting point for sellers and buyers of shares. They are marketplaces for raising capital and provide investment opportunities.

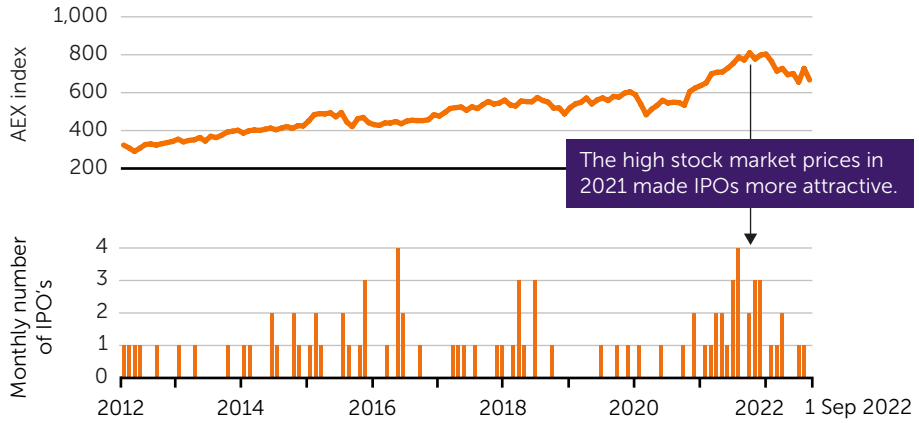
Shares are issued in the **primary market**, where a distinction can be made between private placements and public listings. Investors can invest in equity directly by being invited to private placements, including through private equity funds, whilst investments in listed shares can be made through trading venues. Companies can get listed by issuing shares for the first time in an initial public offering (IPO). These are mostly facilitated by banks providing underwriting and administrative arrangements.

Once shares are listed, the trading venue facilitates a **secondary market** in which shares can be traded, as well as a broad range of derivatives, such as futures and options. Public equity markets are an essential part of a well-functioning market economy and provide both issuers and investors lucrative opportunities to raise and invest capital. Secondary markets provide **liquidity** and promote efficient **price discovery**.

Equity markets are a global business. Trading venues compete with each other and with alternatives to the public market, such as private equity. Investors have multiple platforms to choose from when investing in or trading shares. Historically, Euronext Amsterdam is the main equity market in the Netherlands. Its most well-known index is the AEX, which tracks the 25 largest and most frequently traded companies. Brexit has resulted in more platforms being listed in the Netherlands.

Equity markets can be characterised as largely electronic, highly dynamic, international, super-fast and data-rich markets. The AFM has adapted and intensified its supervisory approach to reflect this challenging environment. The following graphs give an indication of the development of equity markets in terms of funding, volatility, trading, liquidity and market abuse.

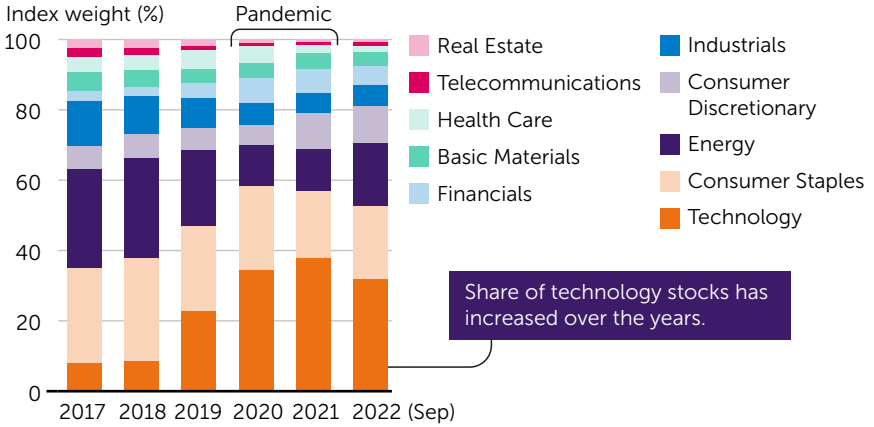
Equity markets



Source: Euronext, Bloomberg

1. Raising capital through IPOs

This graph shows the monthly number of initial public offerings (IPOs) in Amsterdam over the past ten years (bottom) and the value of the AEX index (top). In general, companies can raise capital via equity or debt. One of the primary ways to raise equity is on the stock market (via IPOs). In 2021 the number of IPOs increased significantly. IPO attractiveness increases with high stock market prices and decreases with uncertainty. The high stock market prices in 2021 therefore made IPOs more attractive, as they allowed companies to raise more funds at lower costs. The emergence of Special Purpose Acquisition Companies (SPACs) also played a role in the high number of IPOs. SPACs are empty shell companies used to raise capital with a view to taking over another company. Arranging the IPO of a company through a SPAC is cheaper and less time-consuming than a regular IPO (for more information, see: AFM Marketwatch 5).

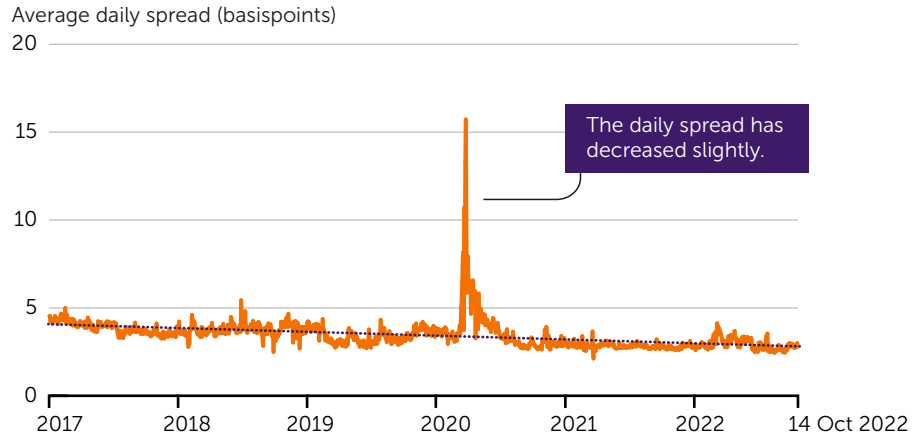


Source: Bloomberg

2. Composition AEX index

This graph shows the composition of the Amsterdam Exchange Index (AEX), which is made up of the 25 shares with the largest market capitalisation on the Amsterdam Stock Exchange. Over the past years the index has shifted away from energy and consumer staples shares towards technology. From 2017 until 2021, the percentage of technology shares in the AEX increased from 8% to 38%. The higher weight of technology shares may impact the performance of the index. The AEX recovered quickly during the coronavirus pandemic in 2020. In 2021 it even reached record highs despite strict lockdown measures negatively impacting economic growth. However, there were large differences in performance between shares within the AEX. Financials and energy shares were impacted by the pandemic, whereas technology shares performed extremely well, as they were less impacted by lockdown measures.

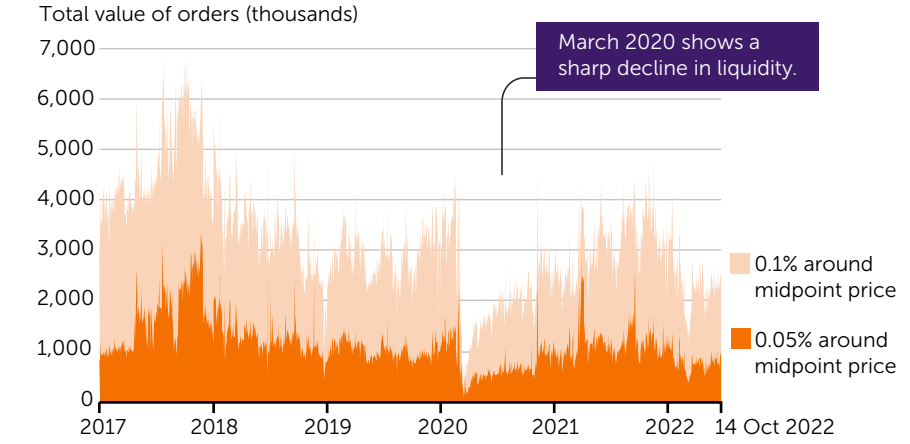
Equity markets



Source: AFM Orderbook Euronext

3. Average spread

This graph shows the development of the average bid-ask spread of four representative blue chips in the AEX over a period of five years. The spread is shown in basis points of the value of the shares. Apart from the spike during the "Covid crash" in March 2020, the average spread was relatively stable. However, there was a decrease in the most recent period compared to 2017/2018. This means that the spread on an average became tighter in the most recent period. The decrease of the spread may be the result of high frequency trading firms in the order book, which are competing to be "first" in the order book. This results in a tight market in relatively stable market circumstances. A tight spread may reduce trading cost, but is not necessarily a guarantee for liquidity, as shown in the next graph.

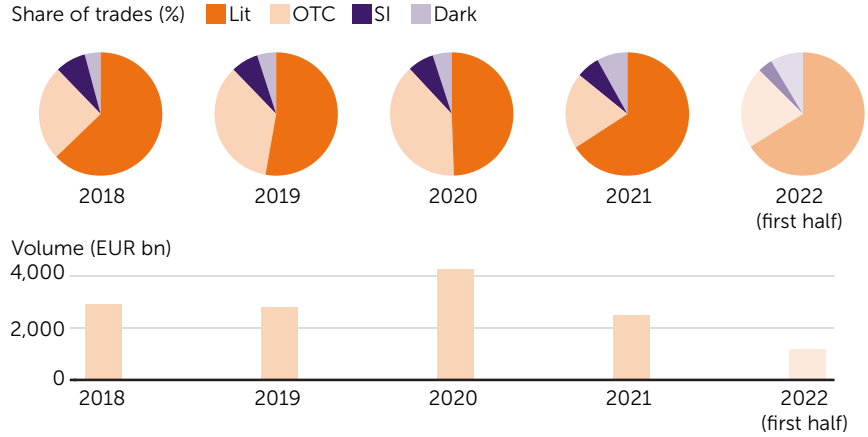


Source: AFM Orderbook Euronext

4. Depth of order book

This graph shows the development of the depth of the order book for the same blue-chip stocks over the same period. In addition to the bid-ask spread (spread between the best bid and offer), market liquidity can be measured by the depth of the order book, which is the value of buy and sell orders for a particular stock that can be executed without causing a significant price movement. In March 2020, there was a sharp decline in liquidity. Since then, the first layer of the order book has improved, but the depth of the order book is not yet at pre-Covid levels. The more liquid the market, the more volume can be executed at a given time for a given price without moving that price. Market liquidity, or market depth, gives an indication of the efficiency of the market. When looking at both graph 3 and 4, we see that the spread has tightened in the past five years, but the depth of the order book on the regulated market has decreased.

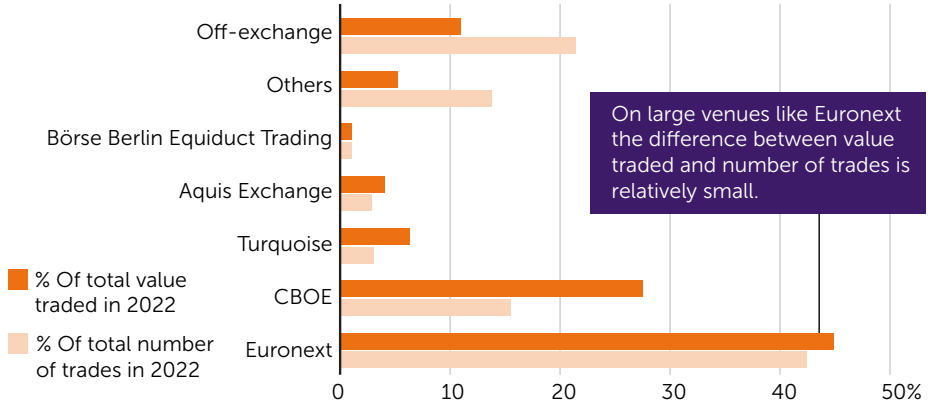
Equity markets



Source: AFM TRS data

5. Dark vs. lit trade

This graph shows the relative number of Dutch shares that are traded either through a lit or dark orderbook. 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- 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 lies between 60% and 70%. The share of trading qualifying as over-the-counter (OTC) includes a large number of transfers between execution brokers and ultimate beneficial owners, which are reported as off-venue transactions. As a result of the great market volatility in March 2020, the traded volume was very high in that year. This graph includes the UK.

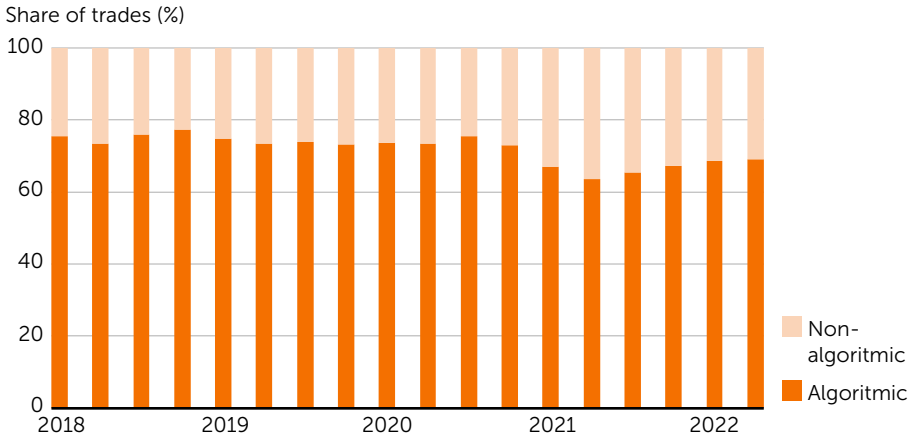


Source: AFM TRS data

6. Trading venues

This graph shows the reported transactions in Dutch shares on different trading venues from Q1 2022 until Q3 2022. It demonstrates the concentration of stock trading on a few large venues, especially on Euronext. The graph makes a distinction between the number of transactions and the value traded. It shows that a relatively large proportion 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 benchmark for larger bilateral transactions conducted through Systematic Internalisers (SIs) and other alternative trading venues.

Equity markets

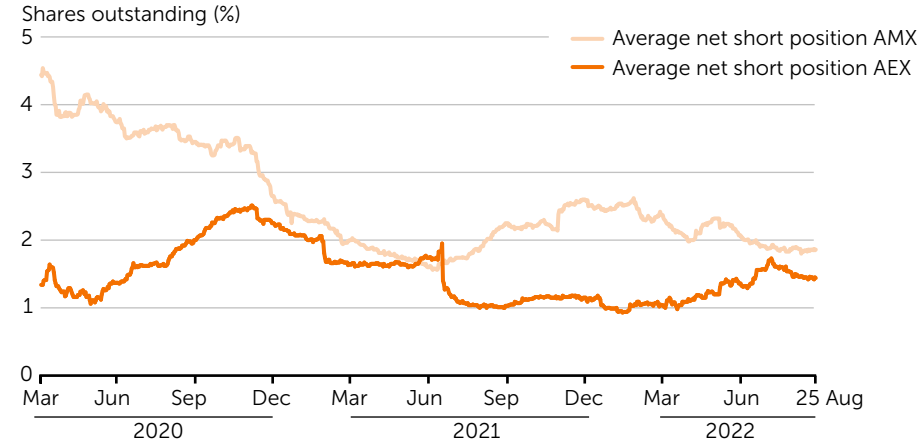


Source: AFM TRS data

7. Algorithmic vs manual trading

This graph shows the division of manual and algorithmic equity trading on the regulated market in the Netherlands. It shows that in recent years the percentage of algorithmic trading was around 75%. In early 2021, the percentage of manual trading increased, probably because of the increased retail trading activity.

It is important to make a distinction between algorithmic proprietary trading and the execution of client orders. Many trading firms use algorithms for their trading activities. These algorithms are programmed to execute trading strategies based on a range of predefined parameters. Many broker firms also use algorithms to execute client orders. These algorithms are programmed to split up the original order to limit the impact on the market price.

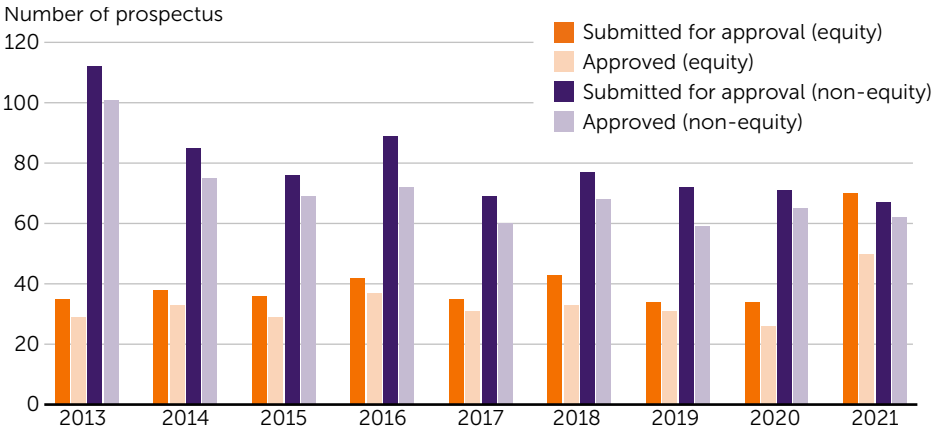


Source: AFM registers

8. Short selling

This graph shows the average net short position in AEX and AMX stock. It shows net short positions larger than 0.2% (positions between 0.2% and 0.5% are not displayed on the AFM website). The average net short position in the AEX has been relatively stable in recent years. The fluctuation of the average short position in AMX stock is mainly due to a few shares with were highly impacted by the Covid pandemic. Short selling is an investment strategy that speculates on declining share prices. Investors sell shares that they have borrowed, aiming to buy them back later at lower price. In regular times, short selling contributes to the orderly functioning of markets by providing liquidity. However, there is a debate about whether in times of market stress short selling worsens market liquidity and should therefore be limited (for more information, see: AFM Market Watch 1).

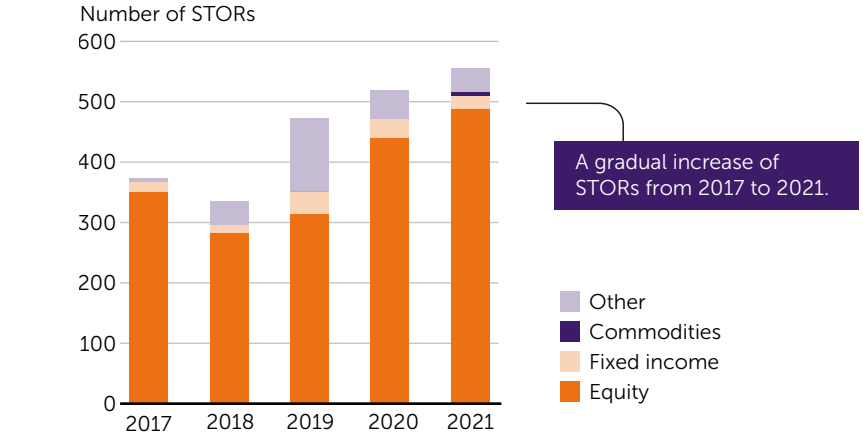
Equity markets



Source: AFM registers

9. Prospectus

This graph shows the number of (equity and other) prospectus submitted for approval since 2013. A prospectus is a document with important information about the company for potential investors and is required when issuing shares. Not all submitted prospectuses lead to an issue of shares. For a variety of reasons, a prospectus may be withdrawn, postponed or simply not approved. As shown, the number of submissions has been stable over the past ten years. 2021 was an exceptional year with a doubling of the number of submitted prospectuses. Also exceptional is the number of non-approved prospectuses in the same year. 2021 was characterised by very high share valuations. This makes raising capital by issuing shares more attractive, which led to an increased activity on the capital markets. Again, the emergence of SPACs also plays a role here.



Source: AFM registers

10. STORs

This graph shows the number of suspicious transaction and order reports (STORs) reported to the AFM by firms and individuals. Market participants are 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. There are three possible explanations for this rise: (1) The total number of transactions and orders has increased. The higher volume, partly due to Brexit, has resulted in an increase in STORs. (2) In addition, the alertness and willingness of firms to report suspicious transactions has improved. The AFM has been insistent about the importance of reporting suspicious transactions. This is an important part of the supervisory strategy. (3) The increase in STORs could also be explained by a worsening of the underlying market abuse problem. We have, however, no evidence that this is the case.



Fixed Income markets

Fixed income markets

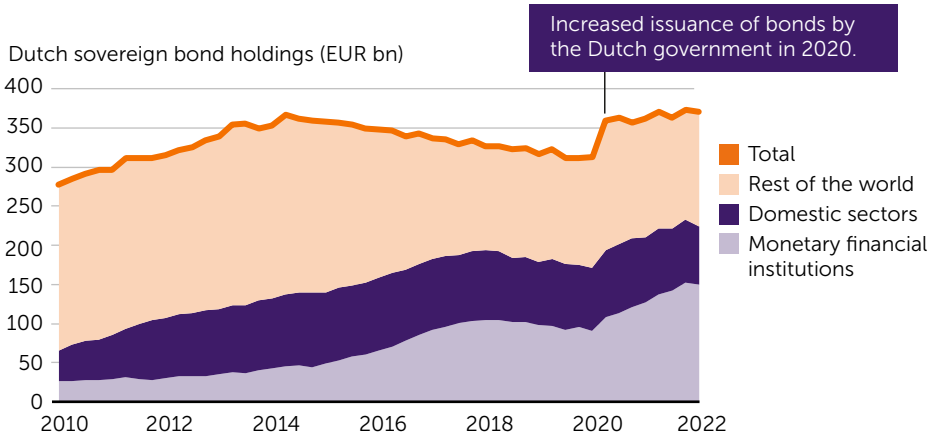
What are fixed income markets?
Fixed income is the largest of the three asset classes and vital to any well-functioning market economy. Fixed income securities, also known as debt securities, can take the form of **bank loans or financial instruments**, such as bonds and other promissory notes. Fixed income securities play a central role in the funding and cash management of corporates, households and government institutions. The vast size of the market has resulted in a broad diversity of specialist financial services, such as advice on the investment outlook and the valuation of risk premiums.

The market where bank loans and new financial instruments are created and issued is defined as the **primary market**. Financial instruments differ from bank loans in the sense that they are structured to increase liquidity in the **secondary market**. The ability to sell the instrument in the secondary market makes it possible for investors to withdraw their money before maturity, should they wish to do so. This makes holding fixed income securities more attractive and often translates into lower costs. Compared to equities, the market in fixed income securities is characterised by limited participation of retail investors. Typical actors on these markets are large financial institutions like banks, pension funds, insurers, investment funds and central banks. Trading in fixed income markets was long done by phone, which limited transparency, but is increasingly conducted using digital systems and the internet.

Since Brexit, the majority of the trading venues that facilitate the trade in European fixed income securities and derivates are located in the Netherlands. The AFM aims to promote **fair and transparent markets** that enable both savers and investors to conduct transactions against competitive prices.

The following graphs below give an indication of the development of fixed income markets in terms of prices, volumes, volatility and margins, participants, positions and market abuse.

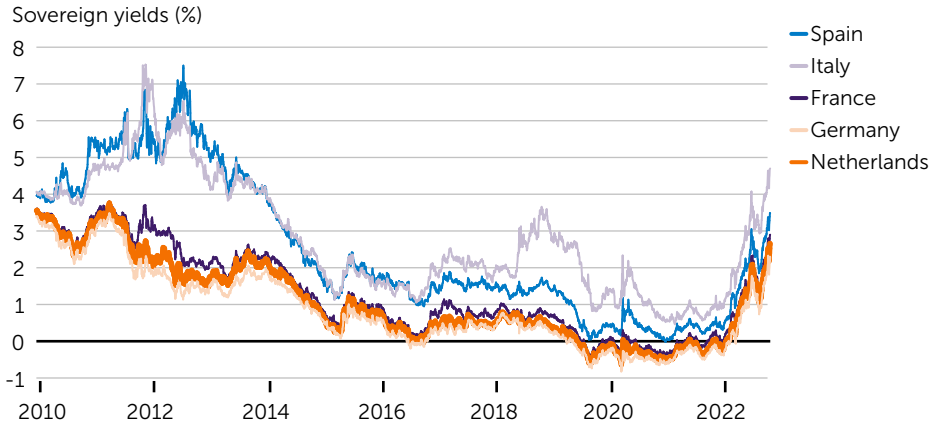
Fixed income markets



Source: derived from CBS data

11. Dutch government bond holdings

This graph shows the value of Dutch government bond holdings and the amount held by monetary and financial institutions compared to other sectors during the period 2010-2022. The spike in 2020 reflects the increased issuance of bonds by the Dutch government to finance the costs of its support measures taken in response to the Covid pandemic. The share of government debt held by monetary financial institutions increased significantly from around 9% in 2010 to 40% in 2022. This is mainly due to the quantitative easing programmes (PSPP and PEPP) implemented by monetary authorities to support the real economy. By buying up government bonds, the ECB reduced yields and therefore the cost of finance for governments. Quantitative easing has been terminated due to changed economic conditions and the rise of inflation.

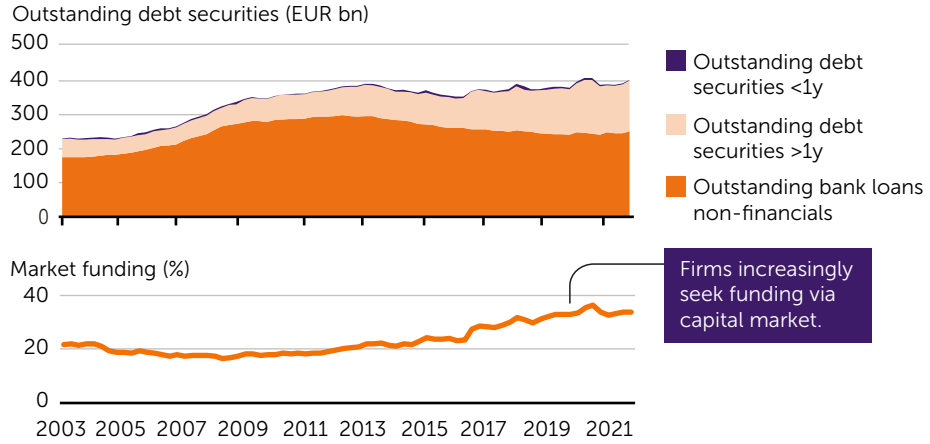


Source: Macrobond

12. Interest rates on government bonds

This graph shows the costs associated with issuing government bonds in the EU. The cost of borrowing has been low, even negative for some countries, until recently. Changed economic conditions have increased the cost of future borrowing for the Dutch government. At the beginning of the year, a 10-year Dutch government bond yielded 0%. The Dutch government did not pay interest on 10-year bonds issued at that moment. Six months later, this rate had increased to 1.6%.
For some EU countries, yields increased faster. The spread between Italian and German 10-year government bonds increased from 137 basis points to around 190 basis points this year. Widening spreads in the eurozone threaten financial stability, as some countries may find it more difficult to refinance their debt.

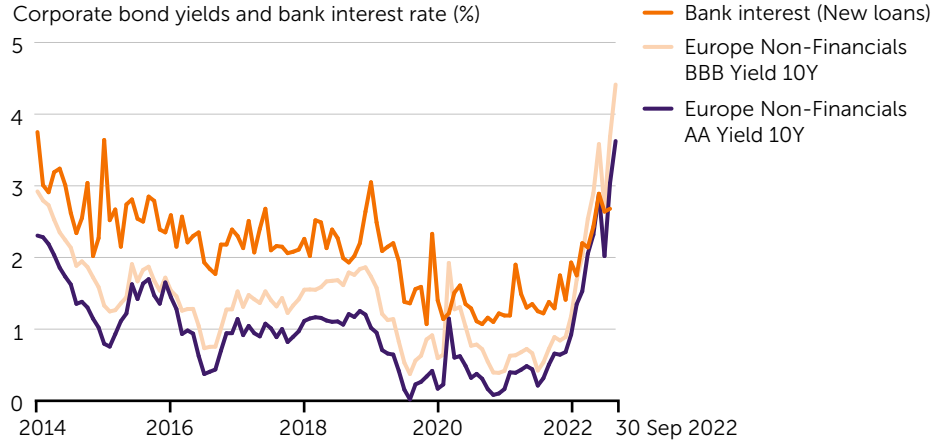
Fixed income markets



Source: derived from DNB data

13. Financing choice: market versus bank

This graph shows the amount of outstanding fixed income securities and bank loans of non-financial firms located in the Netherlands. The bottom graph indicates the market funding ratio (percentage of total funding raised through the capital market). It tells us that firms are increasingly seeking funding via capital market. The market funding ratio increased from around 18% in 2008 to around 37% by the end of 2021. This increase in the market funding ratio is in line with the European Union's ambition for the Capital Markets Union, which is to have an integrated capital market that provides better access to non-bank finance. Having multiple, competitive financing options (capital markets, banking, private equity and crowdfunding) provides real economic benefits because it reduces costs of borrowing and transaction costs, and supports financial stability.

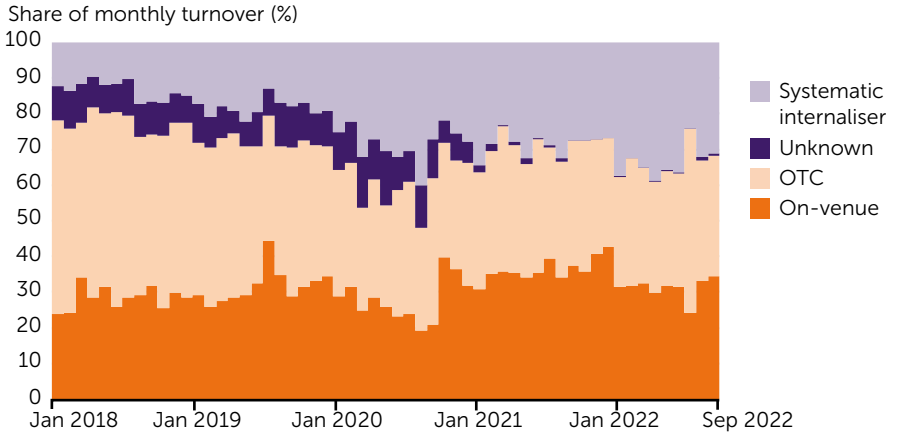


Source: Bloomberg and DNB

14. Cost of finance: market versus bank

This graph shows the cost of finance for firms and distinguishes between bank loans and financial instruments. The cost of finance has risen sharply this year for all companies as a result of changed economic conditions. Companies with a higher risk profile (BBB rating) pay more compared to low-risk companies (AA rating). This difference between the yield and the risk-free interest rate is referred to as the 'credit spread' and reflects the probability of default. The graph shows that the cost of bank finance is generally higher than that of market finance. Banks need a premium on their cost of capital and often require some form of collateral. In return, they offer advantages such as lower transparency-related costs. Also, the availably of market finance is usually more affected by market shocks than bank lending. Therefore, market yields were higher than bank interest rates at the start of the pandemic and the war in Ukraine.

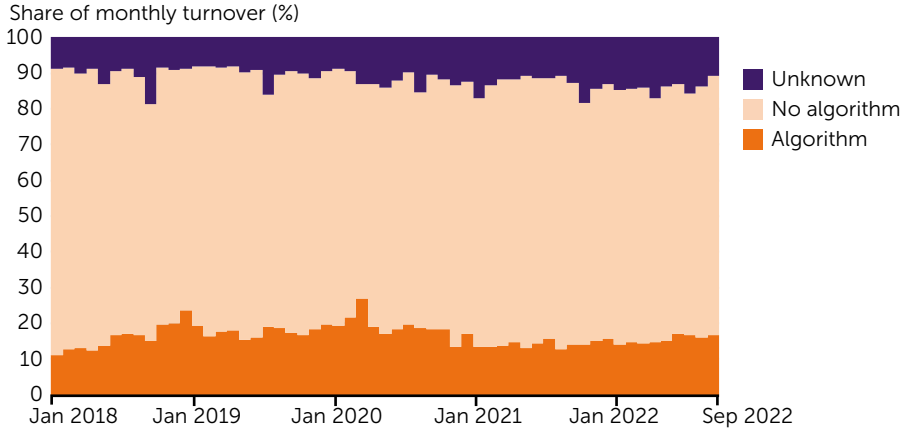
Fixed income markets



Source: AFM TRS data

15. Trading channels

This graph shows the market shares of various platforms as a percentage of total trading of all Dutch bonds in EUR. In 2018, post-financial crisis regulation came into effect that aimed to direct more trading towards transparent trading venues. Reported data suggests that trading on trading venues has increased from 23% to 32% of total market share since 2018. Additionally, the graph suggests that some of the market share shifted towards Systematic Internalisers (SIs) rather than trading venues. Based on reported data, it seems that the market share of SIs has increased over time. The reason for this is not clear, and it might be caused by data quality issues relating to the classification of 'unkown' or the reporting of process trades. Trades conducted through a SI are generally less transparent than on trading venues, especially when it concerns pre-trade transparent systems.

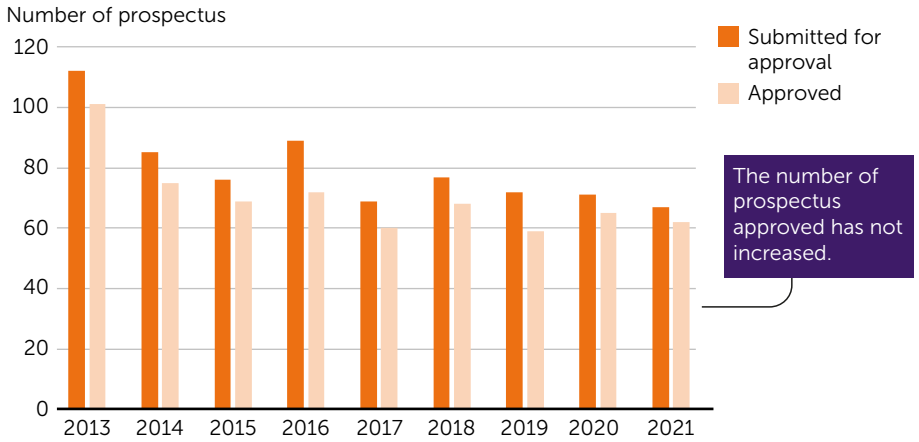


Source: AFM TRS data

16. Algorithmic and manual trading

This graph shows the development of algorithmic trading over time. The ratio of algorithmic to manual trading appears to be rather stable. Algorithmic orders are initiated by an algorithm programmed to conduct trading strategies based on predefined parameters. Currently algorithms are predominately used, for example, by clients (price takers) on what, when and to whom to automate the sending of orders to, and for dealers (price makers) to generate quotes in response to orders. Trades conducted by phone are a small portion of manual trades. Most non-algorithmic trades are conducted on electronic platforms but involve manual confirmation of orders. The use of algorithms can improve liquidity and efficiency of markets. The lack of centralised price formation limits the scope of their use, for example, as a method for the buy-side to automate execution against a quote. Please note that reporting entities apply different interpretations of what constitutes an algorithmic trade, so the percentages shown here may not provide an exact like-for-like comparison.

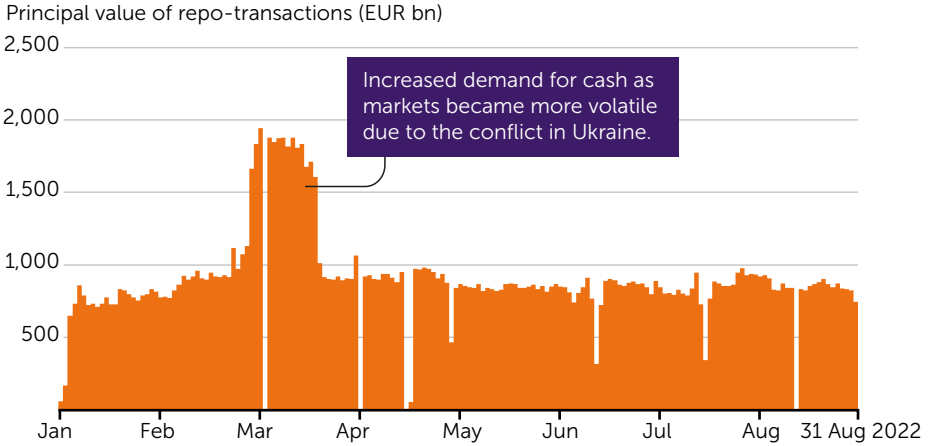
Fixed income markets



Source: AFM registers

17. Non-equity prospectus

This graph shows the number of submitted and approved prospectuses for all non-equity products (mainly bonds and options) in the Netherlands. Companies need to issue a prospectus approved by one of the national competent authorities in the EU/EEA in order to issue fixed income instruments on European markets. A distinction is made between two types of prospectuses: standalone prospectuses and base prospectuses. Multiple bonds can be issued on the basis of a base prospectus. The number of submitted base prospectuses has been stable whereas the number of standalone prospectuses has decreased. Since 2013, corporate debt issuance has increased in relative terms – as evident from graph 13 – and in absolute terms. The number of prospectuses approved has not increased, because a large part of the new fixed income instruments is issued on the basis of a base prospectus.

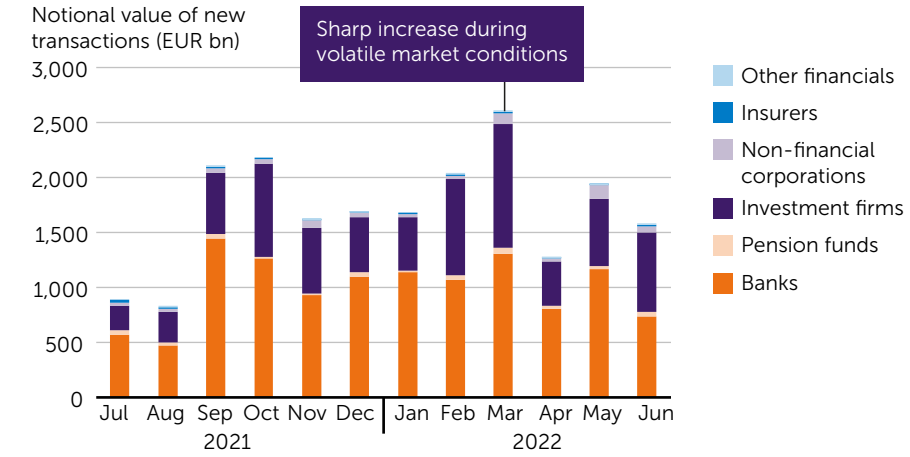


Source: AFM SFTR data

18. Securities financing transactions

This graph shows the EUR volumes of new repurchase agreement (repo) transactions on one large repo platform. Repos are a type of securities financing transactions (SFTs). These are loans that are issued with collateral consisting of fixed income or equity securities. SFTs are structured as a combination of a sale and repurchasing agreement or as fully collateralised loans of securities. Repos are used mostly by large financial institutions for day-to-day management of their liquidity position and this daily use leads to large volumes. The sharp spike in March 2022 was a result of increased demand for cash as markets became more volatile due to the conflict in Ukraine. This also led to higher initial and variation margins, which increased demand for eligible collateral. (for more information, see: AFM Market Watch 7).

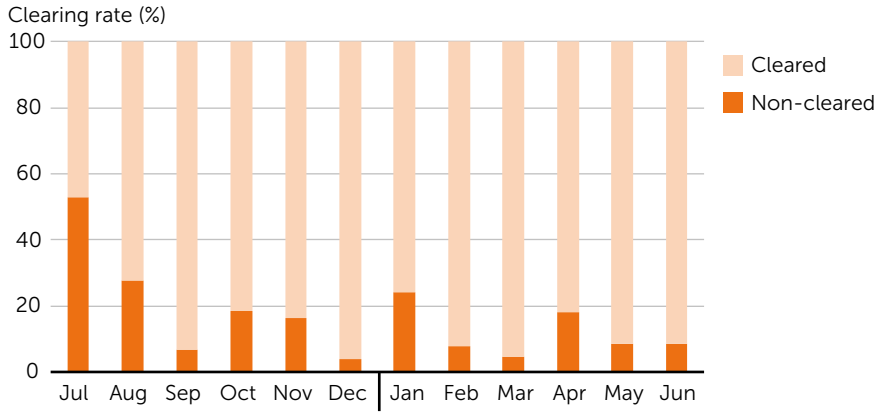
Fixed income markets



Source: AFM EMIR data

19. Interest rate derivative transactions

This graph shows the notional value of transactions in all types of interest rate derivatives per sector. Interest rate derivatives are mostly bought by investment firms, mainly on behalf of pension funds and insurers. A decrease in the relevant market interest rates increases the net present value of their long-term liabilities, so they use interest rate swaps to hedge this risk. Banks often take the opposite position to hedge against rising short term interest rates, which they use to fund their fixed rates lending activity. Banks account for the biggest share of new transactions in terms of notional value because they take positions and often act as intermediaries in derivative transactions. The total notional value of interest rate transactions fluctuates over time. During the market volatility in March 2022, the volume of interest rate derivative transactions also increased sharply.



Source: AFM EMIR data

20. Clearing rate of interest rate derivatives

This graph shows the clearing rate of interest rate derivatives for pension funds, based on the notional value of new transactions. The clearing rate of interest rate derivatives has increased in recent years due to the European Markets and Infrastructure Regulation (EMIR). Since EMIR was adopted in 2012, market participants are obliged to centrally clear certain classes of new interest rate derivative transactions instead of through bilateral contracts. A temporary exemption from this clearing obligation has been made for pension funds, which have large interest rate derivative portfolios to hedge their interest rate risk. This exemption expires next year and will probably not be extended. Pension funds will then have to switch completely from bilateral contracts to transactions through central counterparties. Most new transactions are already centrally cleared, which may indicate that pension funds are preparing to switch to full central clearing of interest rate derivatives.



Commodity markets

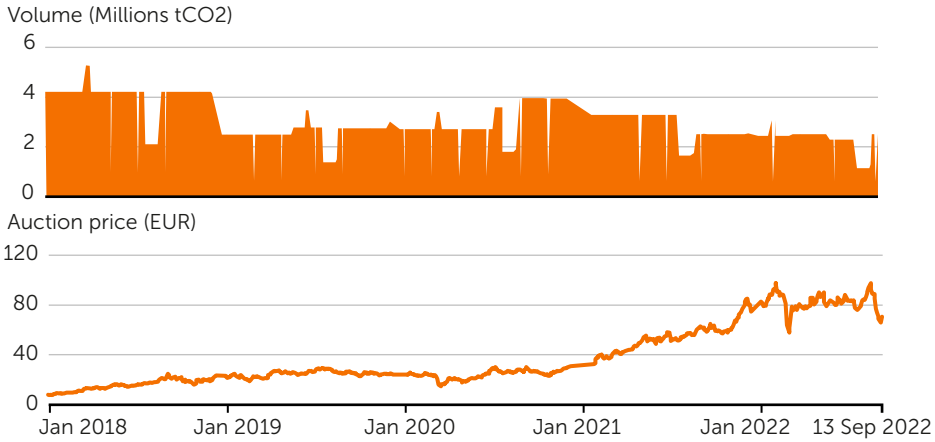
Commodity markets

What are commodity markets?
Commodity markets are places where market participants meet to buy and sell commodity products like oil, gas, grain and emission allowances. Transactions are concluded through **spot transactions** with immediate delivery and through **financial instruments**. The financial instruments used are physically settled future contracts, which can be offset before maturity, and cash settled contracts. These are also used by traders for hedging purposes.

A broad range of entities trade on commodity markets, ranging from manufacturers and producers to proprietary traders and other financials. Commodity producers rely on financial instruments to reduce their exposure to the risk of falling prices. **Banks and other market specialists** intermediate between the supply of producers and the demand of consumers in a price formation process. The dedicated professional operation of commodity markets by independent third parties allows for more transparent and efficient price formation.

Most commodities can be bought or sold on these trading venues, but a large part of the transactions is still concluded **off-exchange**. Trading on trading venues benefits both buyers and sellers, because prices are established in competition and economies of scale are achieved in standardised processing and settlement procedures. The commodity market is a global market which is traditionally **based on the location of delivery**. At the European level, **Amsterdam** is an important trade hub for many energy-related commodities, including for natural gas contracts traded on the Title Transfer Facility (TTF) and European Union emission allowances (EUAs). As such, Dutch commodity markets are a European topic of interest.

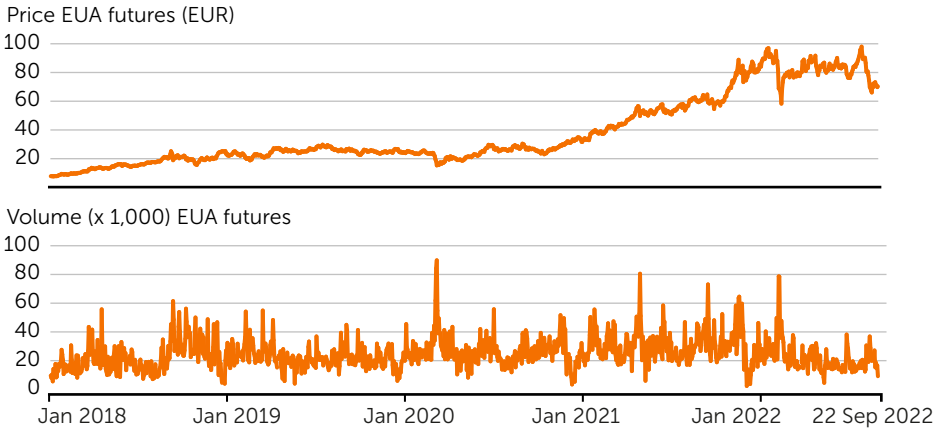
The following graphs give an indication of the development of commodity markets in terms of prices, volumes, volatility and margins, participants, positions and market abuse. The main focus is on developments in the TTF gas market (see Trendzicht 2023).



Source: derived from EEX data

21. EUA spot market: prices and volumes

This graph shows the development of auction prices and volumes for EUAs on the spot market. These auctions are conducted at the European Energy Exchange (EEX) in Leipzig. EUAs are the allowances allocated to entities in respect of their CO2 emissions. The upward trend in spot prices since Q4 2020 can be explained by cold weather conditions in Europe leading to an increase in energy demand accompanied by inelastic supply conditions in the short term. In addition, changes in the Emissions Trading System (ETS) phases (relating to the establishment of the Market Stability Reserve) contribute to reduced availability. This has led to lower amounts of EUAs being available in the market. Traditionally, higher prices for EUAs are also related to coal and gas prices, as higher gas prices lead to more demand for coal, which implies higher CO2 emissions and thus greater demand for emission allowances.

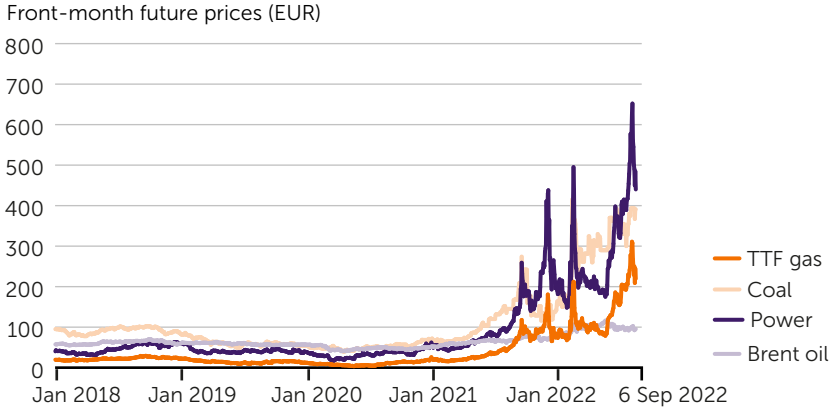


Source: Bloomberg

22. EUA futures market: prices and volumes

This graph shows prices and volumes of EUA futures ('front month ahead', i.e., based on the nearest expiration date). These futures are traded on ICE Endex, a trading venue in the Netherlands. EUA futures are deliverable contracts where open positions are related to the Union Registry, which is the EU's registry for EUAs. In terms of volume, one EUA future equals 1,000 EUAs. Changes in EUA spot prices and futures prices are closely related. In general, commodity spot prices are lower than the relevant future prices, because of the storage and term premiums involved. Unlike other (hard) commodities, such as oil and gas, EUAs are contractual commodities for which no storage capacity is needed. Therefore, with EUAs there is normally less divergence between the prices for futures and the auction prices. The pricing of EUA futures and volumes also reflects the expected future changes on the market for coal and gas and the relationship between these changes and CO2 emission allowances.

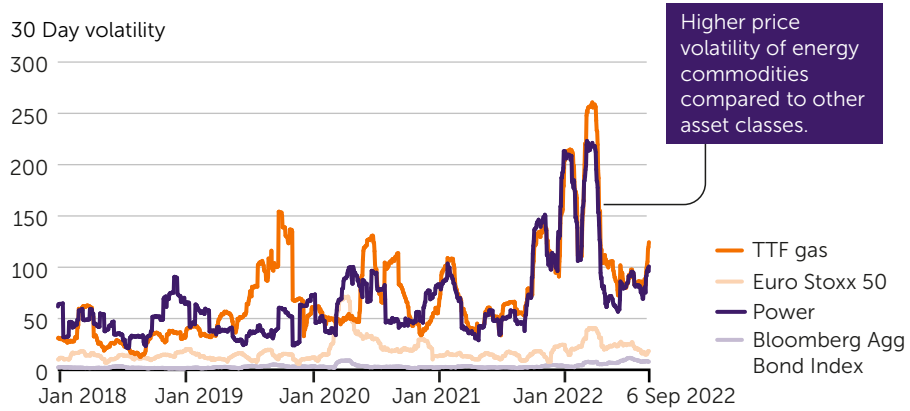
Commodity markets



Source: Bloomberg

23. Energy commodity future prices

This graph shows the changes of several other energy commodity futures prices (front month ahead). There is some level of correlation between the price developments of these commodities. The increase in gas prices is due to the lower supply from Russia combined with a global pessimistic market outlook, which has translated into the TTF gas future price. In addition to a severe reduction of the supply, there has been an increasing demand for gas in Europe, partly due to drought and the accelerated filling of gas storage facilities. Under the merit order mechanism, the electricity price is determined by the production method with the highest marginal costs, which currently is natural gas. The 'month ahead' TTF gas contract traded on ICE Endex serves as a reference price, at least within the European market. This price arises on trading platforms but also affects bilateral OTC transactions.

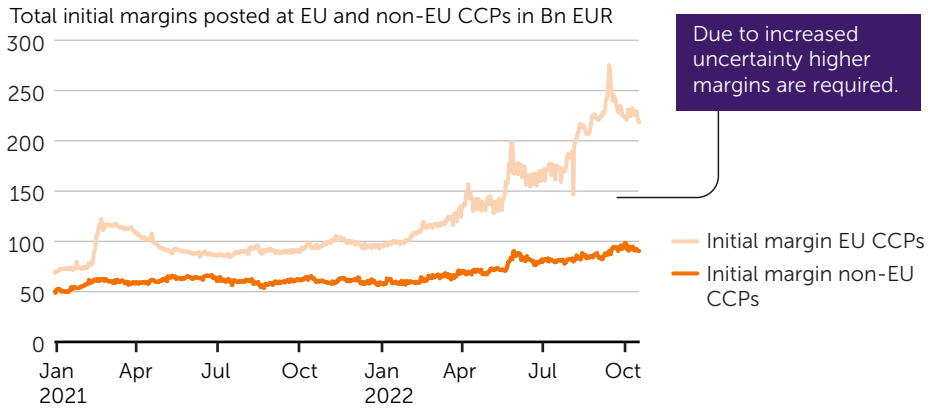


Source: Bloomberg

24. Volatile energy commodity prices

This graph shows the historical price volatility of energy commodity futures (TTF gas and power) compared to the volatility of equity and bond indices (EURO Stoxx 50 and the Bloomberg US Aggregate Bond Index). TTF gas and electricity futures have experienced substantially higher price volatility than the equity and bond indices. The increased uncertainty in the market for TTF gas and power translates directly into higher price volatility. Energy commodity prices are usually more volatile than other assets. This is related to inelastic supply conditions in the short term. More volatile prices make it more difficult for parties to reach contractual agreements, not only with regard to delivery to end-clients, but also on the clearing and settlement of financial transactions, as episodes of extreme volatility contribute to higher margin requirements for commodity trading parties.

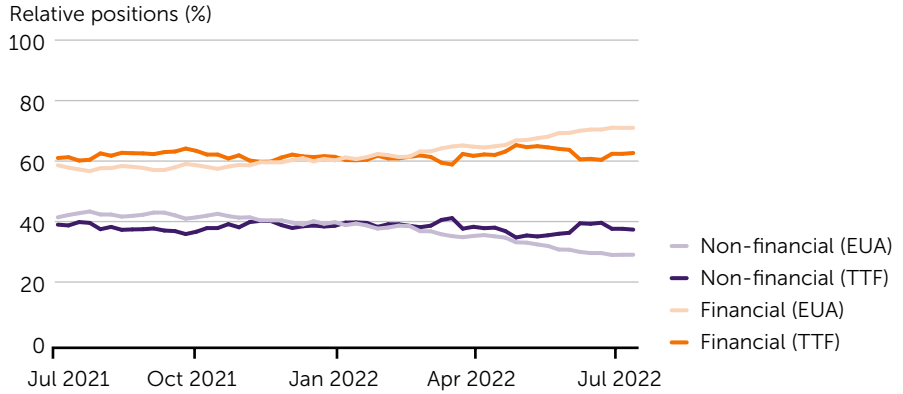
Commodity markets



Source: ESRB EMIR data

25. Development of gas margin requirements

This graph shows the development of margin requirements for centrally cleared commodity products, in this case represented as initial margins posted at EU and non-EU central clearing counterparties (CCPs). Periods of high volatility contribute to higher margin requirements for entities trading in commodities. In the recent periods of increasing uncertainty and related price volatility in European commodity markets, both CCPs and clearing members have been requesting significant higher initial margins. In these kinds of situations, margin calls can lead to substantial liquidity risks, especially for non-financial institutions. This also applies to energy firms, who must deal with highly volatile market conditions, which has a direct effect on their margin requirements. This is one of the reasons why emergency liquidity lines have been provided in several countries.

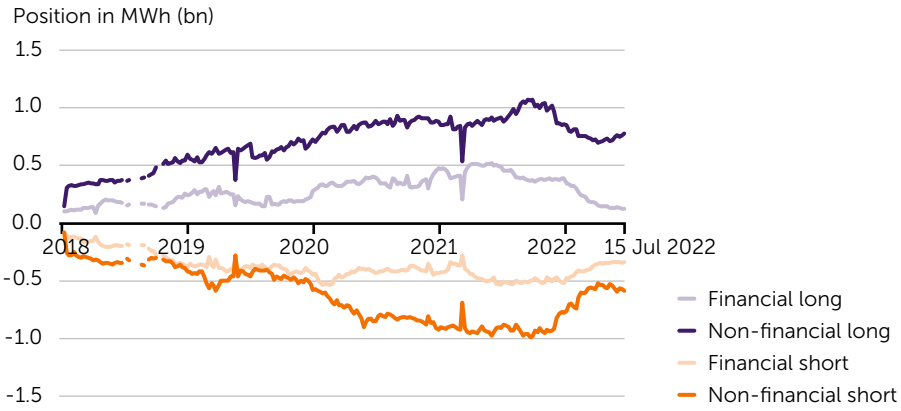


Source: AFM EMIR data

26. Entities holding EUA and TTF futures

This graph shows a breakdown of entities holding a position in TTF and EUA futures by type of entity. It shows that the ratio of financial to non-financial entities has remained quite stable in recent years. Half of the trades conducted in August 2022 was aimed at hedging (the transfer of risk), which is comparable to earlier dates. Related to this, approximately 50% of all TTF futures contracts are held until maturity (end of term), which results in the actual physical supply of gas. Regarding EUA, the market is developing. Traditionally, most trade on this market was conducted by (non-financial) compliance entities, but nowadays financials are increasingly participating. For more information about the gas market in times of turmoil, see our Trendzicht 2023).

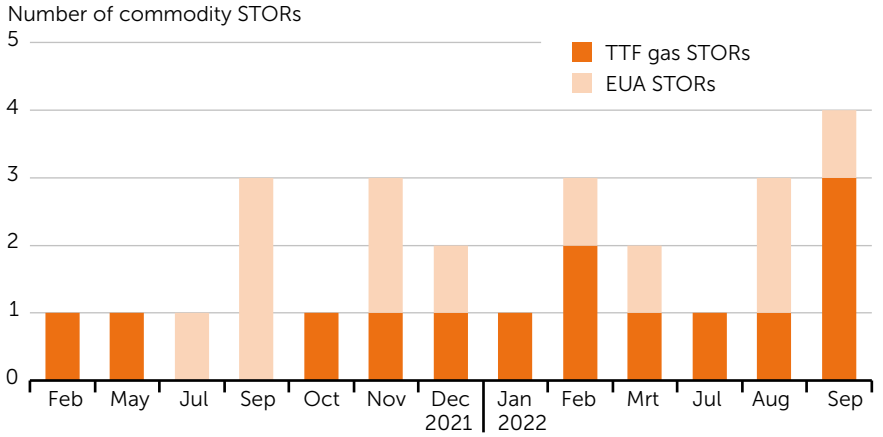
Commodity markets



Source: ESMA, weekly position reports

27. Positions in TTF gas market by sector

This graph shows the development of outstanding short and long positions for financial and non-financial companies in the TTF gas market. The TTF gas market has matured in the four years since the introduction of MiFID II, with a growing number of participants and increased trade activity. Outstanding positions increased since 2018 but have recently decreased. This may possibly be due to the increasing costs of holding a position or due to more uncertainty about the future. Corporates hold larger positions than financials. As of June 2022, 139 parties held 761 million lots in long positions and 590 million lots in short positions on the TTF gas trading platform. On balance, non-financial firms have consistently mostly held long positions, while financials have to a greater extent held short positions.

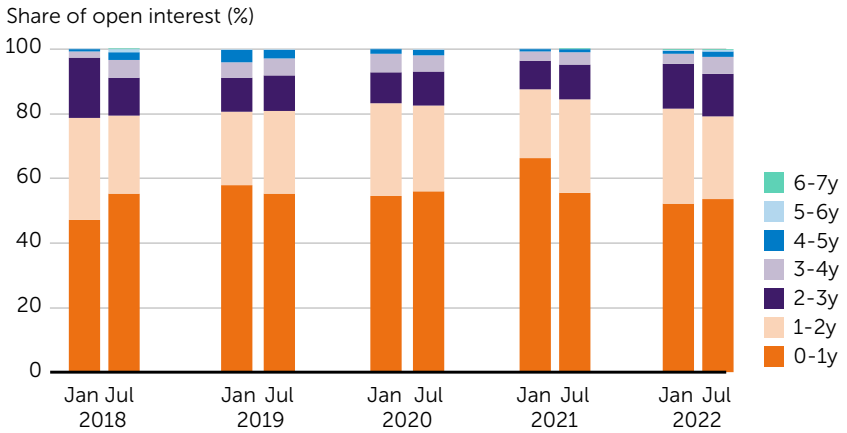


Source: AFM STOR registers

28. Reported commodity STORs

This graph shows the STORs submitted by parties in the commodity market, specifically for orders and transactions on the TTF gas and EUA markets. In a supervised commodity market, market participants play an essential role in detecting and reporting suspicions of market manipulation and insider trading. The STORs shown here were submitted between February 2021 and September 2022. The reported level is still relatively low, which is related to the current stage of maturity of the supervised commodity market. Pursuant to Article 16 of the MAR, AFM will enhance its focus on detecting manipulative behaviour on EUA and other commodities, in addition to other non-equity asset classes. Besides investigating signals received from the market, AFM also monitors signs of market abuse by means of in-house surveillance system.

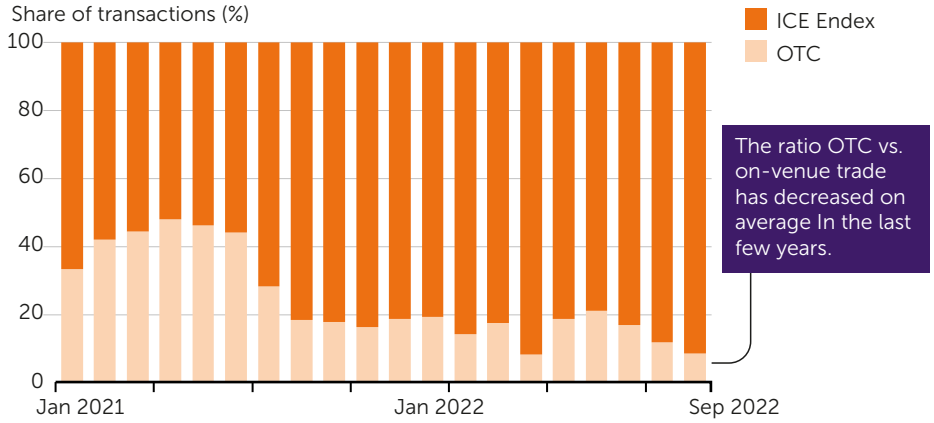
Commodity markets



Source: AFM EMIR data

29. Types of instruments on TTF gas market

This graph shows the distribution of TTF gas future contracts for different maturity dates from January 2018 through to July 2022. In this case, positions have not been settled, which is often referred to as open interest. Although in principle only monthly contracts are traded on the futures market on ICE Endex, many parties trade on the basis of strategies using several monthly contracts. As an example, part could take out a winter contract consisting of six separate contracts from October through to March, or a summer contract consisting of contracts for the other months. Quarterly or annual/multi-year contracts are also traded. But in the end, the buyer receives separate monthly contracts. Given the increasing uncertainty on the TTF market, including in terms of (longer-term) pricing, one would expect to see a decrease in longer positions. But based on this sample, no clear pattern is visible yet.



Source: derived from ICIS and ICE Endex data

30. Transition from OTC to on-venue

This graph shows the ratio of OTC to on-venue transactions for traded TTF gas futures. The majority of TTF gas futures are traded on ICE Endex. Based on this, the ratio of OTC to on-venue trade has on average decreased in recent years. This has several explanations. For example, regulation has contributed to more transparent platform trading and a shift away from OTC, and trading on a platform offers the advantage of lower counterparty risk due to increased liquidity. On the other hand, the costs of trading on a platform are generally higher than for bilateral trade. However, in these uncertain times, parties opt for certainty. In the current times, higher collateral requirements play an important role in entities' decisions on where to trade (and clear). Difficulties related to volatility and higher margin requirements could potentially trigger a shift to more OTC trading.



Sources and data

Sources and data

Scope
Capital markets are quite complex, large and international. When constructing the State of the Capital Markets, decisions were made about the scope of the analysis. Numerous indicators could be constructed that tell a story of capital markets. We decided to limit the number of graphs to thirty, and, whenever possible, to base these graphs on data reported to the AFM. We distinguish three markets: equity, fixed income and commodities. We offer a Dutch regulator's perspective on what are very much European markets. The State of the Capital Markets focuses on trades in Dutch financial instruments aggregated for a specific period. We do not aim to provide a comprehensive coverage of all relevant aspects of capital markets.

Data sources
Some graphs use external data sources, but most are based on self-reported data. The AFM receives transaction, order and position data under the applicable regulations (MiFIR/MiFID, EMIR, SFTR). Please note that reported transactions differ from actual transactions. Each transaction has two participating parties. Most, but not all, entities are obliged to report transactions to the AFM. MiFIR requires the reporting of transactions by Dutch entities, in Dutch instruments or on Dutch trading venues. In this case, 'Dutch' means that the entity is established in the Netherlands. So, all transactions on 'Dutch' trading venues are reported to us twice, once by the selling and once by the buying entity. Therefore, as a rule of the thumb, reported transactions are roughly two times the actual transactions. Graphs are standardised in order to account for double reported values.

Data quality
While we take the greatest possible care when processing data, please beware that not all data quality issues have been resolved. We carefully analyse data sets, omit highly improbable outliers and translate any non-euro values into euros. In general, data from trading venues is more accurate than bilateral trading data. Markets where trading is largely conducted on trading venues, such as the equity, gas and EUA markets, tend to have less data quality issues.

Review
All graphs have been reviewed by subject matter experts. Documented longer-term trends in the graphs are consistent with the AFM's view on market developments.

Other remarks
Given its sensitive nature, any data based on proprietary AFM sources is not made available to external researchers.