# Trend Monitor 2023

Publication: 3 November 2022

AFM

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# Introduction

**The Trend Monitor lists important trends and related risks in the financial sector.** The Trend Monitor offers context, detail and explains the links between relevant subjects of supervision. Early identification and understanding of changes in the sector contributes to a risk-driven, forward-looking and preventive approach to supervision, thus fulfilling the AFM's mission to promote fair and transparent financial markets and contribute to sustainable financial prosperity. Section 1 deals with developments in areas such as the macroeconomy, sustainability and digitalisation. Based on these identified trends, we describe the key issues in our supervision and indicate potential solutions where we can. The risk maps for the four areas of the AFM's supervision (section 2) show the key risks in each area of supervision and how they interact with the trends in section 1. This edition then devotes special attention to developments in the gas futures market and the market for sustainable investment (sections 3 and 4).

## Trends

**The geopolitical and macroeconomic situation has changed radically since the last edition of the Trend Monitor.** At the start of 2022, there was generally cautious optimism as a result of the approaching end of the pandemic and the related lockdowns, now the feeling is one of permanent crisis.The decisive turning point was Russia's invasion of Ukraine, which contributed to energy prices rising to unimaginable levels and inflation – which was already in an uptrend before the invasion – reaching record levels. Higher energy prices and higher prices for numerous other goods and services are severely affecting households (through a loss of purchasing power) and businesses (in terms of production and transport costs).

**The looming economic outlook as a result of this radically changed situation has two aspects and is moreover highly uncertain.** The Dutch economy has continued to grow, more strongly than expected, even after Russia's invasion of Ukraine. There are still many job vacancies, with continued tightness in the labour market and continued low unemployment as a consequence. Consumer confidence is low, partly due to the high level of inflation. Consumer spending on the other hand is still strong, partly due to pent-up demand following the lockdowns. As a result of these lockdowns, many households have accrued large savings in recent years and thus have strong reserves. The general expectation is that the Dutch economy will continue to grow in 2023, but at a clearly slower rate than in recent years. Estimates from institutions such as the CPB (Netherlands Bureau for Economic Policy Analysis) are qualified by significant uncertainties regarding the economy, especially the development of energy prices.[1]

**The effects of this on households and businesses also vary visibly.** The extent to which high inflation and energy prices lead to severe problems depends on numerous individual factors, such as the remaining term of a fixed-price energy contract, whether homes are fitted with solar panels and/or are properly insulated. There are thus households that will experience relatively few consequences, but also households that will face a direct threat to their livelihoods? ('eating or heating'). The picture for businesses is also varied. Companies that have succeeded in passing on higher costs to their customers are managing to maintain or even increase their profitability. Other companies that are less able to pass on costs are getting into difficulties. Meanwhile, the government is implementing large support packages to reduce the effects of high energy prices and high inflation. One important measure that will support household purchasing power is the introduction of a price cap for energy. It is a challenge to deploy this support where it is most needed. If these (generic) support measures reach mainly households and businesses not in immediate need, this could lead to additional spending that will push inflation even higher.

1 'Macro-economische Verkenning 2023', CPB, September 2022.

**Interest rates are beginning to rise after more than 10 years of steady decline.** The central banks are raising their policy interest rates in large steps in response to high inflation. The direct effects of higher interest rates are so far limited. Interest rates for mortgages and consumer credit are rising, but because these have long maturities and mostly fixed rates, higher interest rates affect only new loans and a small proportion of mortgages for which the fixed rate period is expiring. The consequences are more immediately visible for the pension funds, as the rise in interest rates is the most important factor in the recovery of their funding ratios. The indirect consequences of higher interest rates and the underlying cause – inflation – are significantly greater. This has led to falling equity prices, and following this, even bigger falls in more risky assets, such as cryptocurrencies, the technology sector and SPACs. Less focus on the search for yield, as a result of higher interest rates, is strengthening the capital markets.

**So far, the financial markets have withstood the geopolitical and economic turbulence in good shape.** The system for professional market participants was significantly strengthened after the financial crisis, with measures relating to risk management and larger capital buffers to prevent a crisis of such severity happening again. This appears to have been successful. But there are still items requiring attention, such as the current challenges in the gas futures market, which is analysed in detail in section 3 of this Trend Monitor. For households, the sudden deterioration in purchasing power emphasises the benefit of various protective measures for consumers, such as the lending standards that limit the amount of consumer and mortgage credit that can be arranged. But the vulnerability of specific groups of households will be a challenge in the coming time. Financial services providers in particular will have to devote extra attention to their duty of care.

**In addition to these radical changes, long-term transitions and trends continue to have an impact.** The importance of the transition to a sustainable society is becoming increasingly obvious. Climate change and the related extreme weather conditions, and the nitrogen issue here in the Netherlands, are already having significant effects. Much of our supervisory attention focuses on encouraging transparency with regard to the impact that businesses have on their environment and how the financial sector can play its part in facilitating funding for companies and projects that contribute to increased sustainability. A key issue here is improving the quality of reporting by companies on sustainability risks and performance. The increase in attention to sustainability has increased the popularity of sustainable investment. The number of investment products offered with this in mind is growing. But how these investments contribute to the sustainability transition is not always made clear to consumers. An in-depth analysis of this issue is presented in section 4 of the Trend Monitor. Digitalisation and platform-sharing are causing major changes in the way in which financial products and services are offered and purchased. This increasing dependence on digital systems, coupled with the trend to outsource digital business processes, leads to vulnerabilities in the financial sector. New European legislation and regulation is aimed at influencing the direction of various digital developments and addressing potential risks. For example, the Digital Operational Resilience Act (DORA) aims to strengthen the digital resilience of companies and the Markets in CryptoAssets Regulation (MiCAR) is a first step in the regulation of crypto-assets. The trend of internationalisation means that the financial markets are becoming increasingly international in nature. Besides the positive effects of an increase in the offering and greater diversity among providers, the cross-border nature of the financial markets creates cross-border risks that are increasingly difficult to address adequately at a national level. In response to this, we see a move towards further internationalisation of supervision and supervisory convergence.

## Risks

**The risk maps give an overview of the key risks in each area of our supervision.** They show how the changing environment affects specific risks. There are risk maps for each of the AFM's four areas of supervision: financial services, capital markets, asset management, and reporting and audit firms. Certain risks in each supervisory area are explained in more detail below, but for the full overview, please refer to section 2.

**Financial services.** The pensions transition is the most obvious notable development in financial services. The system change is complex, and will have significant consequences for millions of households. The transition will moreover involve significant and irreversible decisions around the retirement date, and also during the period of employment. Careful guidance will thus become even more important. We are also mindful of the extent to which high inflation and the associated rise in interest rates could increase the risk of excessive borrowing. The risk map also cites items of attention relating to easy access to risky products such as cryptocurrencies, the pressure on the quality of service that could result from the trend of consolidation in the financial services sector and consumers in vulnerable situations that may be tempted to go for less appropriate or even illegal financial services.

**Capital markets.** The capital markets are affected by the unrest and uncertainty in the financial markets as a result of macroeconomic conditions, geopolitical tensions and climate change. This may disrupt the orderly functioning of markets. Far-reaching digitalisation also places high demands on a controlled business operation at institutions active in the capital markets. We accordingly are devoting attention to the operational digital resilience of institutions. This involves preventing interruptions and failures, the use of AI and maintaining adequate cyber security. Market dynamics and complicated regulation also contribute to concentration in the trading chain as a result of what is known as the 'winner takes all' effect. The dependency of a limited number of institutions makes markets less robust.

**Asset management.** In the supervisory area of asset management, one area of attention is the strategic repositioning of parties and the delegation of activities. This affects the strategy of asset managers and could put pressure on maintaining a controlled and ethical business operation. We also note that technological developments and digitalisation are changing the business operation of asset managers and the asset management chain, and we particularly emphasise the risk that the asset management sector is still not sufficiently resilient in the face of cyber incidents. The important role of asset management parties in the sustainability transition is another issue requiring our attention. It is thus important that asset managers integrate sustainability in their business operations, that they manage the risks of the sustainability transition and are transparent towards investors as to how sustainability features in their policy. In view of the high volatility in the capital markets, we devote extra attention to liquidity risk in the asset management sector, as this could affect the financial stability of the system.

**Reporting and audit firms.** Digitalisation and sustainability are changing the nature of audited companies and creating new material risks. This is changing the requirements for reporting and auditing, with the risk being that these changes are not adequately implemented. Additionally, sustainability reporting issues and economic conditions give rise to increased risks of fraud and discontinuity. The audit firms are also changing as a result of digitalisation, which involves new risks in relation to controls. There is also an important change in the supervision: the transfer of executive supervision of the regular licence holders segment to the AFM. We are thus working on gaining more insight into integrity risks in this segment.

## Agenda 2023

**The Trend Monitor contributes to defining the supervisory priorities of the AFM.** The practical implications of these trends and risks for our supervisory activities will be detailed in the Agenda 2023, to be published in early 2023.

01

# Trends

Each year, the AFM conducts an environmental analysis of trends that affect the way in which it carries out its supervision. This section describes these major trends in (1) the macro-economy, (2) sustainability, (3) digitalisation, (4) internationalisation, and (5) financial criminality and integrity. The final paragraph looks at developments in the supervisory landscape.

## 1.1 Macroeconomic climate

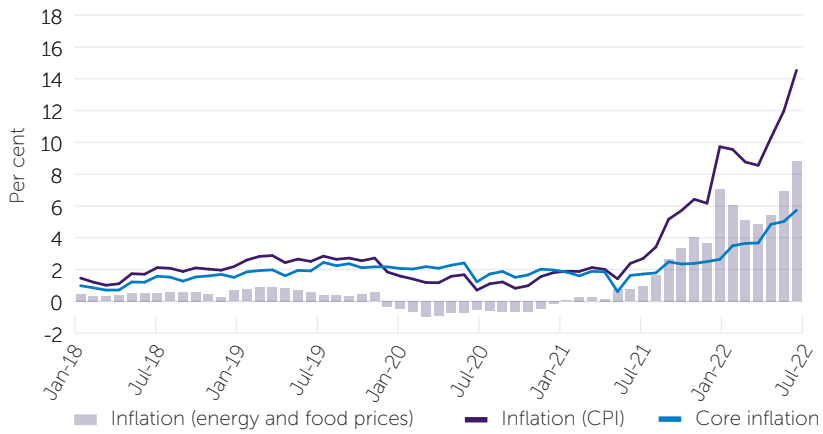
**The economic outlook in the Netherlands has worsened as a result of higher inflation and increasing pressure on economic growth.** The severe contraction resulting from the corona pandemic was followed by a strong economic recovery in 2021. The tide was already turning at the end of 2021 as a result of rising inflation, partly due to supply side friction (including the shortage of chips) and pent-up consumer spending following the end of the lockdowns. This supply side friction has worsened since the beginning of the year due to Russia's invasion of Ukraine. The sanctions imposed by Europe on Russia and the closure of factories in Ukraine brought many production processes to a halt and disrupted trade flows, especially in the energy and commodities markets. This has led to very sharp price rises, including energy and commodity prices, further disrupting production processes. In the Netherlands, the effect of this is seen in high inflation, which has been in a more or less continuous uptrend since August (see figure 1). Inflation in September hit 14.5%, the highest figure ever recorded by Statistics Netherlands (CBS). These supply disruptions and rising inflation have led to downward adjustments to GDP forecasts. The effect of higher inflation is so far not especially visible in the growth figures of the Dutch economy, but this is expected to become more visible towards the end of 2022 and early 2023.

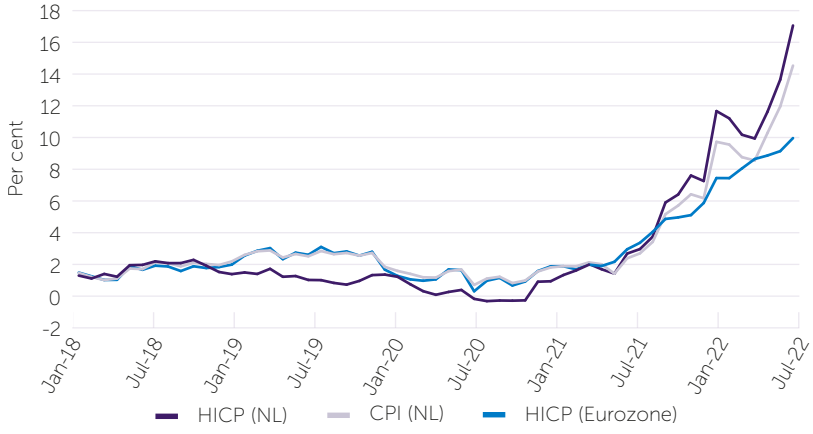
**High inflation means that Dutch households have less purchasing power, which has an unequal effect on the various income groups.** Since the rise in inflation is mainly due to higher energy and commodity prices that affect the prices of almost all products, the purchasing power of Dutch households will decline unless there is a rise in wages. The CPB (the Netherlands Bureau for Economic Policy Analysis) estimates that the CLA pay rise at companies in 2023 will amount to 3.7%.[1] While this is higher than in previous years, it will not be enough to offset the loss of purchasing power in 2022 – the CPB expects purchasing power to decline by 6.8% for a median household. In its Budget Memorandum for 2023, the government has thus announced some (temporary) measures aimed at increasing purchasing power in 2023 by more than 3% for a median household. The extent to which households will face a loss of purchasing power therefore depends, among other things, on the volume of their energy use, and this will to some extent be determined by the energy efficiency of their homes. Households on low income will continue to be vulnerable, as they spend a relatively larger proportion of their income on basic requirements (such as food and energy) and they mostly have lower financial reserves. This increases the likelihood of financial stress for this group, which could lead to less sensible financial decisions, such as an accumulation of consumer credit and the use of alternative payment methods such as private lease and *buy-now-pay-later*.

**Geopolitical tensions and the worsened macroeconomic conditions significantly affect consumer confidence in the economy.** Consumer confidence has declined sharply this year and has reached new historical low levels. Consumer confidence is currently fluctuating around 50. Consumers are saying that they have very little confidence in either the economy or their own situation (see figure 2). Nevertheless, consumer spending is still at a high level.[2] One explanation for this is that households have built up more savings during the pandemic. The current tightness in the labour market, and the resulting high level of job security, is also playing a part. Furthermore, high energy prices are not yet affecting every household's finances. We expect an increasing number of households to feel the effects of high inflation in the course of the year, and that they will reduce their spending. Another important factor here is the extent to which wages will rise along with inflation.

1 'Macro-economische Verkenning 2023', CPB, September 2022.
2 'Consumptie huishoudens groeit met ruim 6 procent in juli', CBS, September 2022.

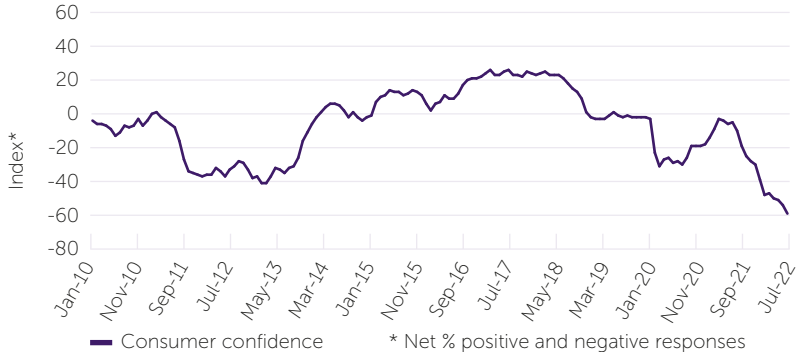
Figure 1. Left: Strong rise in Dutch inflation (CPI), mainly due to high energy prices. Right: Eurozone inflation also rises, but not as sharply as in the Netherlands.[3]

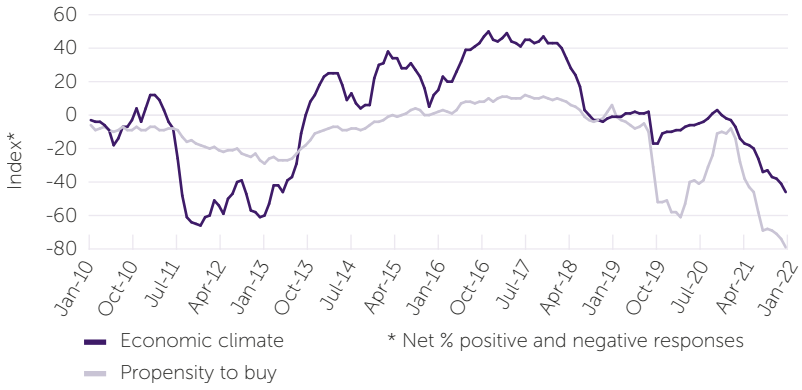



Source: CBS, Eurostat, Macrobond.

Figure 2. Left: Sharp decline in consumer confidence. Right: Sharp decline also in components of consumer confidence – propensity to buy and economic climate.




Source: CBS, Eurostat, Macrobond.

[3] HICP: Harmonised Index of Consumer Prices. This is the European measure for inflation.

### Rising interest rates

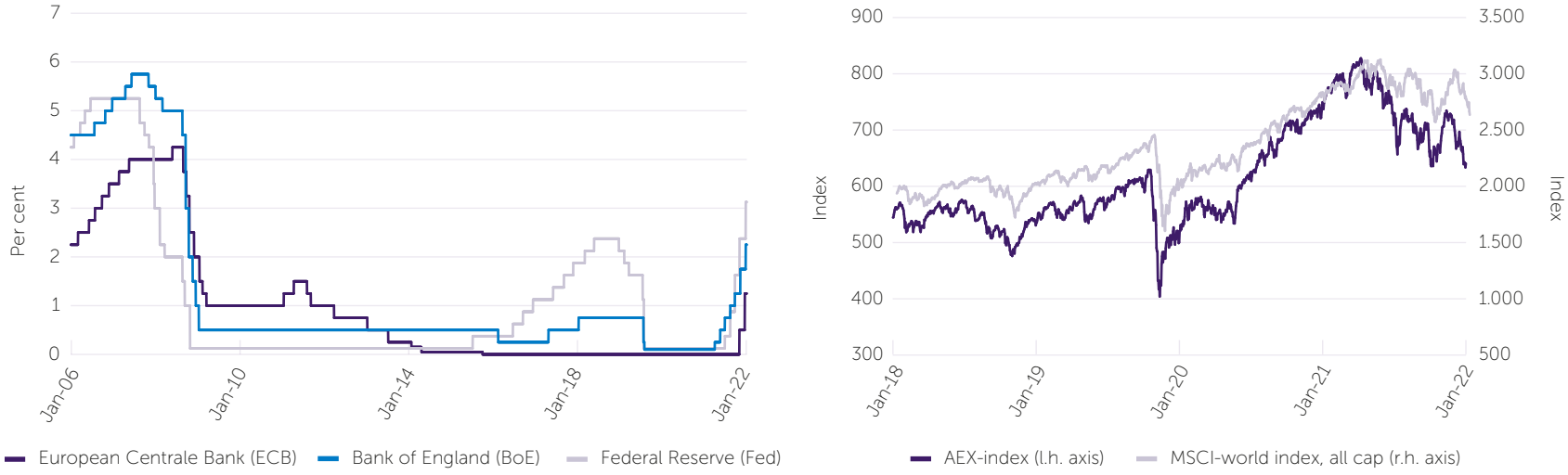
**After a lengthy period of steadily decline to very low levels, nominal and real capital market and policy interest rates have now been rising for some time.** The direct effects of higher interest rates are so far limited. On the other hand, the indirect consequences of higher interest rates and the underlying cause – inflation – are significantly greater. For the AFM, items of attention in relation to these developments would appear to concern mainly the increased payment risks on consumer credit, the reallocation of pension assets and margin calls on derivatives portfolios. Figure 7 shows an overview of the items of attention relating to higher interest rates from the perspective of the AFM's supervision.

**For central banks, continued high inflation is a reason to increase policy interest rates.** Several central banks, including the European Central Bank (ECB), the Federal Reserve (Fed) and the Bank of England have the objective of maintaining price stability. They target an inflation rate of 2% in the medium term. In this way, monetary policy should make the best possible contribution to economic growth and employment. Now that inflation has risen far beyond the 2% target, the extremely accommodative monetary policy pursued by the central banks for a number of years is under pressure. The Fed and the Bank of England already started to tighten monetary policy at the beginning of 2022 by hiking policy interest rates. Now that inflation in the eurozone is continuing, the ECB decided this summer to start to tighten its monetary policy by stopping the increase in its bond purchase programme and increasing its policy interest rate (see figure 3, left). Meanwhile, the policy interest rate has moved above 0% and an 8-year period of negative policy interest rates has come to an end. The central banks are expected to continue raising policy interest rates in the coming period, with the aim of cooling down the economy and bringing inflation back to the target level of 2%.

**The rise in interest rates will help to repair imbalances in the financial sector that built up during the long period of low rates and bring about more robust market conditions.** The long period of low interest rates in past years caused increasing pressure on the solidity of financial institutions such as banks, life and non-life insurers and pension funds. Low interest rates also led to very loose financial conditions and investors and financial institutions embarked upon a search for yield. This search for yield was particularly responsible for many imbalances in the financial sector, as underlying risks were systematically underestimated. This led to huge rises in equity prices and other asset valuations, the rise of risky assets such as SPACs and cryptocurrencies and an overheated housing market, with the accompanying pressure on mortgage lending standards. The normalisation of interest rates is leading to a revaluation of risk, as can be seen for example in the fall in house prices that has recently started and the less recent decline in equity and cryptocurrency valuations (see figure 3, right).[4] In addition, pressure on the revenue models of banks and life insurers will ease and pension fund funding ratios will recover relatively soon. This makes these financial institutions more financially resilient (see also figure 7). It is however important to note that real interest rates – the nominal rate adjusted for inflation – is declining due to the recent rise in inflation. This softens the impact of the rise in nominal interest rates.

[4] The other side of the coin is that the assets of businesses and households are affected, see also: 'Huishoudens lijden opnieuw grote verliezen op aandelen', DNB, September 2022.

Figure 3. Left: Central banks are raising policy interest rates. Right: Visible decline in equity valuations since the peak at year-end 2021.




Source: ECB, Fed, BoE, Euronext, MSCI, Macrobond.

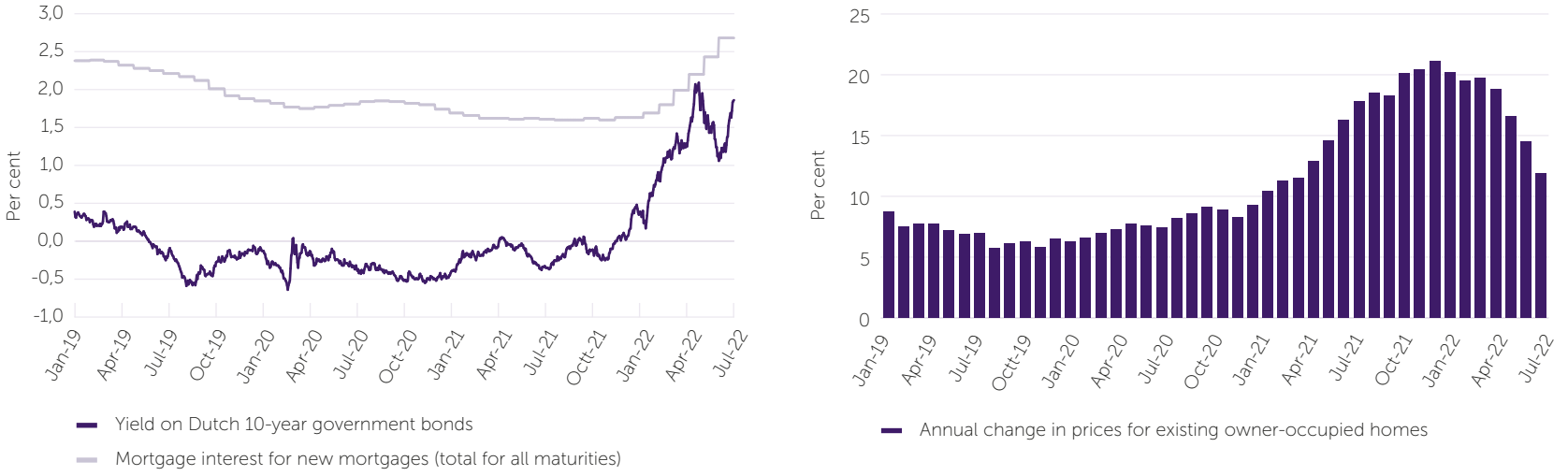
**The rise in interest rates in the past months has led to higher pension fund funding ratios, and possibly indexation of pension entitlements, but in most cases this will not be enough to compensate pension scheme members for the high rate of inflation.** Higher interest rates have a positive effect on pension fund funding ratios because the value of their liabilities declines. On the other hand, the value of pension fund investment portfolios declines when interest rates rise and equity prices fall. This affects funding ratios. If the percentage decline in nominal liabilities is greater than the loss of value in the investment portfolio, the funding ratio will rise on balance. If a pension fund's average funding ratio over the past 12 months is above 105%, the pension entitlements can be (fully or partially) indexed. Due to temporary regulation, this threshold is lower in 2022 and other conditions for indexation have also been eased. Indexation will be welcomed by pension scheme members after a lengthy period in which this compensation was not possible, even though this will not be enough to fully compensate for the recent rise in inflation in many cases. In the light of the imminent transition of the pensions system, this extra indexation will however mean that there will be less freely available pension capital for things such as compensation for the abolition of the average pension contribution system or additions to the solidarity or risk-sharing reserve. This will lead to reallocation. This ambiguity emphasises the importance of balanced communication on pensions in the current system and in the transition phase. For the scheme members, pension funds need to communicate clearly, transparently, personally and in good time on matters such as pension capital and the approaching transition.

**Rising interest rates will probably lead to reduced pressure on the housing market in due course. The rise in capital market interest rates is affecting other rates such as mortgage rates (see figure 4, left).** Whereas the average interest rate on a 20-year mortgage was around 1.8% at the end of 2021, by

mid-October of 2022 it was above 4%.[5] For several months now, the rise in mortgage rates has led to a flattening of price increases in the housing market[6] see figure 4, right), and recently, there has even been a decline. A sizeable fall in house prices is not expected to occur, also because supply is not sufficient to meet demand. Secondly, higher mortgage rates impact house prices after a delay. We saw this during the financial crisis, when mortgage rates rose sharply in 2008 but the sharpest fall in house prices did not happen until 2012 and 2013, when a low point was reached.[7]

Higher mortgage rates will moreover not affect many existing homeowners as they have fixed their rate for a longer period. The rise in rates will affect first-time buyers in the housing market, as the maximum they can borrow (LTI) has declined. The higher mortgage rate will also mean that interest-only mortgages will be less attractive, as the interest on this type of mortgage is not tax-deductible. We therefore expect to see a decline in the number of new interest-only mortgages compared to redemption mortgages, for which the payments are tax-deductible.[8]

Figure 4. Left: Higher interest rates for Dutch government bonds and mortgages. Right: Price increases in the housing market flatten out.




Source: CBS, Macrobond.

[5] The real interest rate is negative due to the high level of inflation. This means it is still attractive to borrow extensively, and one could expect house prices to decline significantly only once the interest rate is higher than inflation rate.

[6] 'Prijsstijging koopwoningen vlakt in augustus verder af', CBS, September 2022.

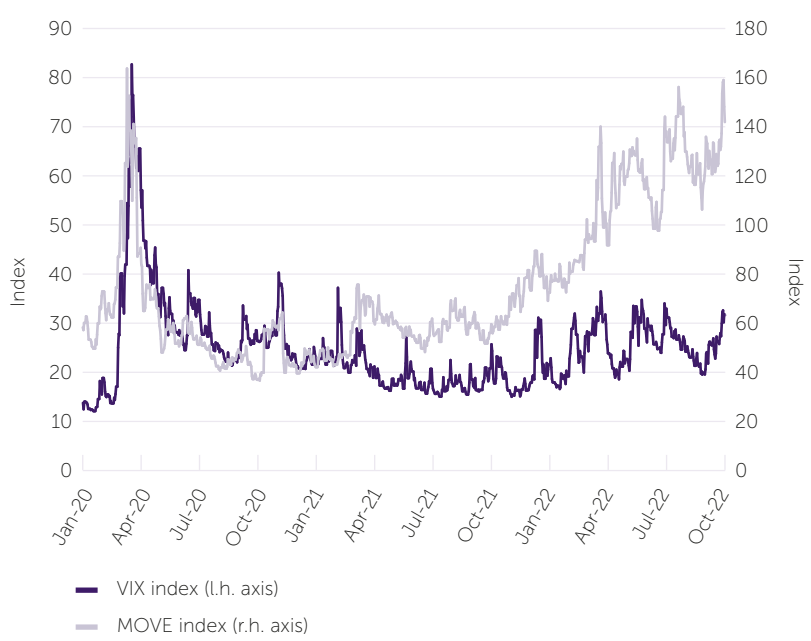
[7] 'Verkoopprijzen bestaande koopwoningen', CBS StatLine.

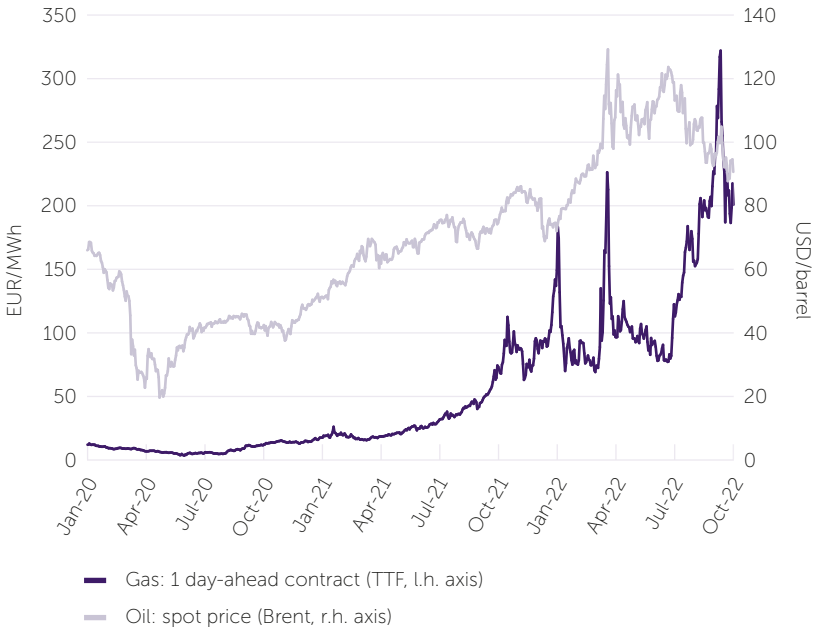
[8] The Van Bruggen Consultancy Group notes a decline in the number of interest-only mortgages arranged compared to redemption mortgages between February and August 2022. See: 'Aflossingsvrije hypotheek op retour door hoge rente', Van Bruggen Adviesgroep, August 2022.

**While the increase in the policy interest rate has little effect on the interest rates for consumer credit, the underlying reason for the rise in rates – high inflation – does have a second-order effect on consumer credit.** These days, the market for consumer credit features mainly non-revolving credit at a fixed rate of interest. These consumers will therefore not be suddenly faced with higher interest costs. But high inflation can lead to additional risks in the consumer credit market. Firstly, demand for consumer credit will rise if households can no longer make do as a result of increased fixed costs, for example due to higher energy bills. Moreover, there is a risk that the lending standards for consumer credit at the time a loan is arranged will no longer correspond to what consumers can afford to pay. Inflation means that costs will rise, and this will only be reflected in the lending standards after a delay. Therefore, there is currently a higher risk of excessive borrowing. A second risk is that consumers with a current credit may have difficulty in paying off these loan(s). Thirdly, there is the potential risk of a waterbed effect: fewer options for a normal consumer credit may lead to an increase in demand for services such as buy-now-pay-later (BNPL). The AFM sees this as a less than optimal financial decision, as it offers only a deferral of payment and can encourage consumers to spend more than they can afford.

**The changing macroeconomic environment is causing higher volatility in the capital markets, however these markets are currently still functioning effectively.** The European equity markets have recovered relatively quickly from the low in March 2022, but volatility is still slightly higher than average due to the continuing economic uncertainty (see figure 5 left). Price volatility is particularly high for technology stocks and stocks in cyclical sectors such as European banks. Expectations of potential interest-rate increases by the central banks are discounted by the equity markets and lead to lower stock valuations. Growth stocks are particularly subject to lower valuations, since a higher (expected) interest rate means that a higher discount rate has to be applied to future profits. Volatility is also relatively high in the bond markets (see figure 5 left). Bond yields are rising due to higher actual and expected inflation and rising policy rates, but there is also downward pressure on yields due to recent fears of a recession. In addition, the capital markets have been affected by very volatile energy and commodity prices this year (see figure 5, right). Market participants usually use derivatives to hedge these price movements. In the energy market (including gas), secondary trading and price-setting occur mainly in derivatives. Market participants trading in derivatives have to post collateral, known as margin. The greater the movement, the more margin is needed. When large price movements occur, traders may be called on to post more margin (in cash) than they have available, possibly leading to liquidity problems. Extremely volatile price movements in the past period have put severe pressure on the energy sector, with several foreign energy parties experiencing liquidity problems and governments being forced to intervene. So far, the gas futures market in the Netherlands has continued to function adequately (see also our in-depth analysis of the gas futures market in section 3). To prevent market stress and ensure that the market can continue to function properly in future, it is important that market participants and financial supervisors are alert to the potential consequences of high volatility and take the necessary measures to ensure that the market continues to function effectively.

Figure 5. Left: Volatility indices for equities and bonds in the US (the VIX and MOVE index respectively) are showing a higher than average volatility. Right: The turbulent development of gas and oil prices.




Source: CBOE, ICE BofA, ICE, Macrobond.

**The prices of cryptocurrencies and stablecoins are reacting strongly to rising interest rates and the uncertain macroeconomic environment, highlighting the risks that may arise if cryptocurrencies become more interwoven with the traditional system.** The crypto market has also been affected by the volatile and uncertain macroeconomic situation. For example, the stablecoin TerraUSD crashed in May of this year, which led to a wave of panic selling and downward pressure on other crypto prices, including Bitcoin. The price of Bitcoin fell further in mid-June, due to severe liquidity problems at the crypto bank Celsius, which froze USD 12 billion of credit balances (see figure 6). The speculative and volatile nature of the crypto market is becoming increasingly obvious, and the ECB has warned that this could also pose risks for the economy as a whole. These risks are connected to the developments in which cryptocurrencies become more interwoven with the traditional financial system. This for example concerns institutional investors that include crypto assets in their investment portfolios.[9] A recent study by ESMA shows that the total conversion value

[9] 'Financial Stability Review', ECB, May 2022.

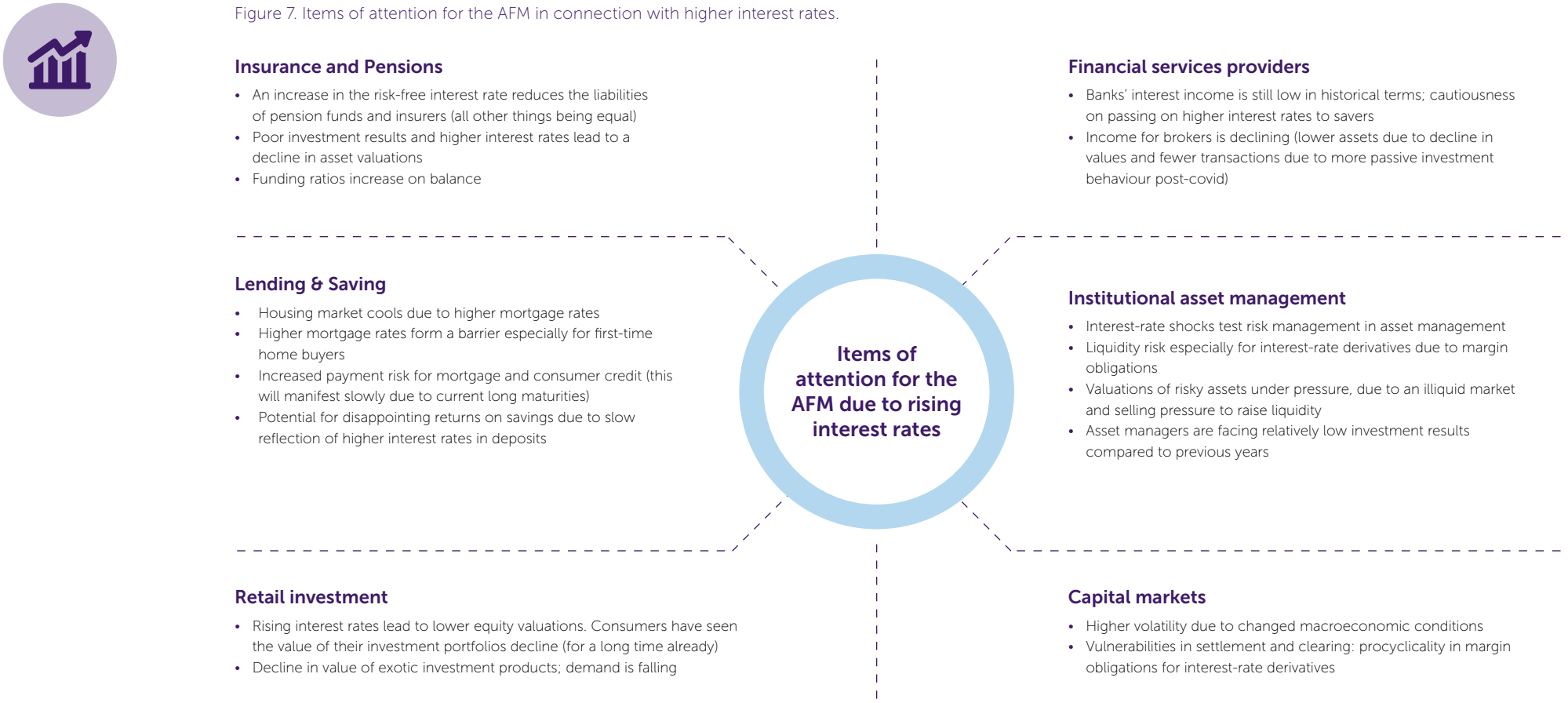
of crypto assets is currently still low, and that the interrelationships with traditional markets are still limited. This could however change in the future if the crypto markets grow, and this is therefore a development that needs to be properly monitored.[10] Further details of the channels through which cryptocurrencies could affect the stability of the system are presented in section 1.3.

Figure 6. Valuations of the crypto currencies Bitcoin and Ethereum sharply lower than the peak at year-end 2021.


Source: CoinGecko, CME Group, Macrobond.

[10] 'Crypto-assets and their risks for financial stability', ESMA, October 2022.

Figure 7. Items of attention for the AFM in connection with higher interest rates.




*Overall trends...*

- Household purchasing power impacted by the rise in interest rates due to higher inflation
- Higher volatility in the capital markets due to rise in interest rates and uncertain macroeconomic situation
- Pension fund funding ratios are increasing, but inflation reduces the value of pension capital to be allocated

*... lead to three thematic implications for the AFM's supervision*

- Increase in payment risk on credit
- Potential liquidity problems at managers of derivatives portfolios
- Importance of clear, timely and transparent communication on reallocation of pension assets

## 1.2 Sustainability

**Sustainability is a prominent on the social agenda and requires society to make radical decisions.** This concerns the realisation of climate and environmental objectives (Environment), social objectives (Social) and objectives relating to good governance (Governance), collectively known as ESG. Governments have signed up to international agreements on climate objectives in the Paris Agreement. The sixth IPCC report[11] published in April 2022 however shows that the Paris objectives are out of sight. Failure to reach these objectives means that the risks of climate change, such as physical damage as a result of extreme weather, rising sea levels, drought, etc. will increase further. The effort to achieve sustainability will face society with radical choices, as illustrated by the intense debate on the reduction of nitrogen emissions in the Netherlands. Efforts to reduce the $CO_2$ intensity of our economy will involve costs for businesses and citizens and pressure government finances.[12] On the other hand, if we do not take sufficiently radical action, we will have to prepare for a future in which natural disasters and extreme weather conditions related to climate change will become more commonplace, with severe economic damage as a consequence.

**Uncertainties around the supply of gas and high energy prices are affecting the sustainability transition.** With their effort to reduce dependence on Russian gas, European countries are embarking on an acceleration of the transition to sustainable sources of energy. At the same time, we are seeing a trend in which countries are reverting to more polluting fossil fuels such as coal, which could on the other hand delay the energy transition.

Either an unexpected acceleration or a delay could mean a more intermittent energy transition, which could among other things lead to revaluation of investments in the fossil fuel sector. High energy prices are making energy-saving measures and sustainable forms of heating more urgent for households (for example, better insulation).[13] The government wants to increase the financing options for making homes more sustainable.[14] While we support the effort to improve the sustainability of the housing stock, achieving this needs to include safeguards for the financial well-being of households and debt that they take on has to be responsible.

### Influence on the financial sector

**Climate-related risks pose risks for the financial sector.** Financial institutions may be affected by physical risks, whereby climate change causes damage to the environment in which we live, such as the increasing probability of natural disasters such as floods, drought and wildfires. There are also transition risks, which refer to losses due to increasing regulation and sustainability standards from the government or a change in consumer preferences.[15] Physical and transition risks will be reflected in the market value of investments, the creditworthiness of funded businesses and the liabilities of insurers. The increasing damage from natural disasters raises important issues, especially for the insurance sector. This could for instance lead to changes in cover and premiums, and also that some forms of climate-related damage may become uninsurable for consumers and businesses.[16]

11 'Sixth Assessment Report', IPCC, 2022.
12 See for example: 'Policy Brief 21-20: Climate policy is macroeconomic policy, and the implications will be significant', PIIE, August 2021.
13 A study by DNB shows that the total investment needed to make buildings in the Netherlands free of natural gas could be close to € 200 billion. Homeowners will need to invest an average of nearly € 24,000 to make their homes natural gas free. See: 'Financiering voor de verduurzaming van de woningvoorraad', DNB, February, 2022.
14 'Duurzaam wonen voor iedereen', Central Government, June 2022.
15 Definition taken from 'Toezicht in beeld', DNB, December 2021.
16 See 'De invloed van klimaatverandering op schadeverzekeringen', AFM, October 2021.

**The financial sector has an important role to play in funding the sustainability transition.** Making the economy sustainable will involve a huge need for funding.[17] In the energy sector alone, an estimated annual commitment of €1,600 and €3,800 billion will be needed worldwide to meet the 1.50C target in the Paris Agreement. Financial institutions have an important role in the mobilisation of capital for sustainable investment by governments, companies and households and contribute to improving the sustainability of businesses by encouraging aspects of sustainability in their business operation. There is strong public pressure on financial firms as a result of their role in the transition, and this is becoming less a matter of choice.[18] We are also seeing that the sustainability agenda is expanding. Besides the effort to reach climate and social goals, objectives relating to biodiversity are also gaining importance, partly as a result of an international biodiversity agreement that is currently in preparation.[19]

**The increasing importance of sustainability is reflected in the offerings and policy of financial institutions.** Firstly, there are now more financial products with sustainability features on offer, aiming to meet the growing demand for sustainable finance. A significant example of this can be seen in the increasing range of sustainable investment products (see also further in this section). Additionally, Dutch financial institutions have entered into sustainability commitments in relation to the national climate agreement in recent years, reflecting increased urgency in the sector in relation to the climate issue.[20] Finally, we are also seeing actual changes in investment behaviour, for instance by the pension funds. Prompted partly by sustainability aspirations on the part of their scheme members, the ABP and PME pension funds have decided to no longer invest in fossil fuels.

### Sustainability information

**Better information on sustainability risks and performance by companies and of financial products is needed.** The extent to which the sustainability risks and performance of investments are visible and verifiable is a major challenge for the sustainable finance market. Although significant progress is being made towards a standard definition, sustainability is not a well-defined concept. As a result, sustainability risks and performance in publications such as annual reports of financial and other companies or investor information relating to financial products are not yet disclosed in a uniform manner. This makes it difficult for investors to assess how sustainable their investment is. The lack of reliable and comparable information raises the risk of 'greenwashing' (the unjustified labelling of products as 'sustainable'). Improving the provision of information is a central issue in the AFM's supervision of sustainability, with the way in which assurance is given, and the source of this assurance, as important items of attention.[21]

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17 The IPCC warns that from an international perspective, the funding flows are not sufficient to achieve the Paris goals. This applies in particular to the funding for climate adaptation. According to the report, global financial flows for climate mitigation need to be 3 to 6 times larger and for adaptation up to 10 times larger than they are now (although the estimates for adaptation are less exact, it is clear that funding needs to increase significantly). See: 'Sixth Assessment Report', IPCC, 2022.

18 One illustration of this is that Friends of the Earth Netherlands – following its successful case against Shell – is hinting at legal proceedings against a number of large financial firms to compel them to implement a climate policy.

19 'Een natuur-positieve Nederlandse financiële sector', Sustainable Finance Lab, February 2022.

20 'Het Klimaatcommitment van de financiële sector – Eerste voortgangsrapportage', Central Government, October 2021.

21 'AFM en duurzaamheid', AFM, June 2020.

**New (European) legislation sets requirements for provision of information on sustainability.** The route map for this is the Sustainable Finance Strategy of the European Commission.[22] Among other things, the new regulation concerns disclosure by financial institutions (the SFDR already in effect), a common taxonomy that clarifies which activities are classified as sustainable and rules for sustainability benchmarks. In addition, there are changes to existing regulations such as MiFID, UCITS and AIFMD relating to sustainability obligations with regard to the provision of financial services. Also, with its revision of the Non-Financial Reporting Directive (NFRD), the European Commission is working on further refinement of the non-financial reporting requirements. The proposal for new regulation in this area, the Corporate Sustainability Reporting Directive (CSRD), was published in April 2021.[23] The CSRD expands the scope of the NFRD by making the nonfinancial transparency requirements mandatory for other types of company. The CSRD also states that a uniform reporting standard will be formulated in Europe that will clearly define how nonfinancial information has to be reported. Also, the reporting requirements will be expanded and assurance from third parties for nonfinancial disclosures will be made mandatory.[24]

### Sustainable investment

**How investments contribute to the sustainability transition is not always made clear to consumers.** The market for sustainable investment is growing along with the increased attention to this issue. With this development, 'greenwashing' is becoming an increasing concern for supervisors. There is a risk that financial institutions will raise incorrect expectations in relation to sustainable investing. Research by the AFM shows that investments presented as 'sustainable' use different interpretations of the term.[25] This can mean that consumers have great expectations of their investment's contribution to the sustainability transition, while not all such products can fulfil these aspirations. The huge interest from consumers in sustainable products has moreover not escaped the notice of malicious providers. Section 4 presents a detailed study of the market for sustainable investing, and items of attention we have identified in this market.

### The $CO_2$-markets

**Adequate pricing of externalities is important for facilitating the transition to a sustainable economy.** For the realisation of climate targets, this comes down to the pricing of greenhouse gas emissions, in particular $CO_2$. Businesses, consumers and investors will then automatically include the full effect of emissions in their decisions. Producers will look for cleaner production methods, consumers will purchase the less polluting option, and investors will see less advantage in relatively polluting companies. It will also mean that businesses for which the proceeds of their production do not outweigh the social cost will discontinue their activities.[26] Proposals for better emissions pricing thus have a central role in the climate policy of the European Commission.[27] As part of what is known as the Green Deal, the European Commission wishes to increase the number of sectors that have to pay for $CO_2$ emission rights through the European emissions trading system (ETS). The Commission also wishes to issue fewer emission rights, so that they become scarcer and therefore more expensive. Through its supervision of the market for $CO_2$ emission rights derivatives (ICE Endex), the AFM wants to contribute to correct price formation for $CO_2$.

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22 'Strategy for financing the transition to a sustainable economy', European Commission, July 2021. This strategy is an extension of the EU Action Plan for Financing Sustainable Growth launched in 2018.

23 'Voorstel CSRD', European Commission, April 2021. Agreement on the CSRD between the European Parliament and the European Council was reached in mid-2022. The sets of reporting standards (formulated by the European Financial Reporting Group) should be ready in 2023. These will have to be applied for the first time in management reports on the 2023 financial year.

24 'AFM argues for greater clarity and practicability of international standards for sustainability reporting', AFM, August 2022.

25 'De retailmarkt voor duurzaam fondsbeleggen', AFM, April 2022.

26 'De financiering van transitie', DNB, 2021.

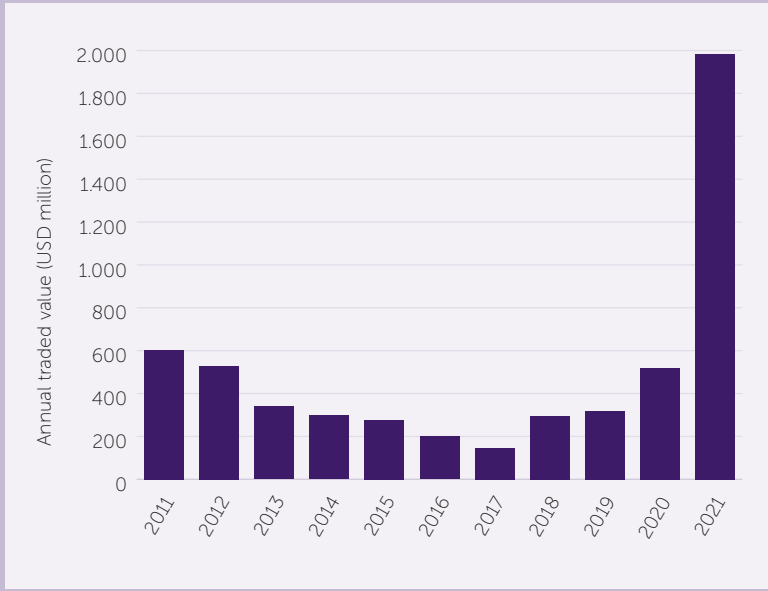
27 Among other things, the European Commission wishes to increase the number of sectors that have to pay for $CO_2$ emission rights through the European emissions trading system (ETS). The number of emission rights issued will also have to be reduced, so that they become scarcer and therefore more expensive.

**Encouraged by 'net zero' pledges, new markets for voluntary carbon offset are being created.** One of the challenges posed by the objectives in the Paris Climate Treaty is that not all $CO_2$ emissions are avoidable. In addition, emissions need to be reduced to the point of 'negative emissions' in order achieve the goals. There is also increasing demand from consumers to offset the $CO_2$ emissions of their own purchases, such as plane tickets. To meet this need, businesses make 'net zero' promises, for which voluntary carbon credits are instrumental. Voluntary carbon offset markets have been created for these credits that are separate from the (mandatory) compliance markets such as the European emissions trading system (ETS). While these markets are not subject to supervision by the AFM, there are aspects affecting our supervision that require attention (see Box 1).

### Box 1. Carbon offset markets are developing rapidly

**The central idea behind the voluntary carbon offset markets is that companies can offset their own $CO_2$ emissions against a reduction in emissions or negative emissions by another party**. This trading aims at making funding more accessible for investments that reduce emissions. As a result of its popularity among both businesses and consumers, many initiatives have been created to enable this, and voluntary trading is increasing rapidly (figure 8).[28]

Figure 8. Market for voluntary carbon credits is growing.




Source: Ecosystem Marketplace.[29]

[28] 'State of the Voluntary Carbon Markets 2021', Ecosystem Marketplace, September 2021; 'State and Trends of Carbon Pricing 2022', Wereldbank, May 2022.
[29] 'State of the Voluntary Carbon Markets 2022 Q3', Ecosystem Marketplace, August 2022.

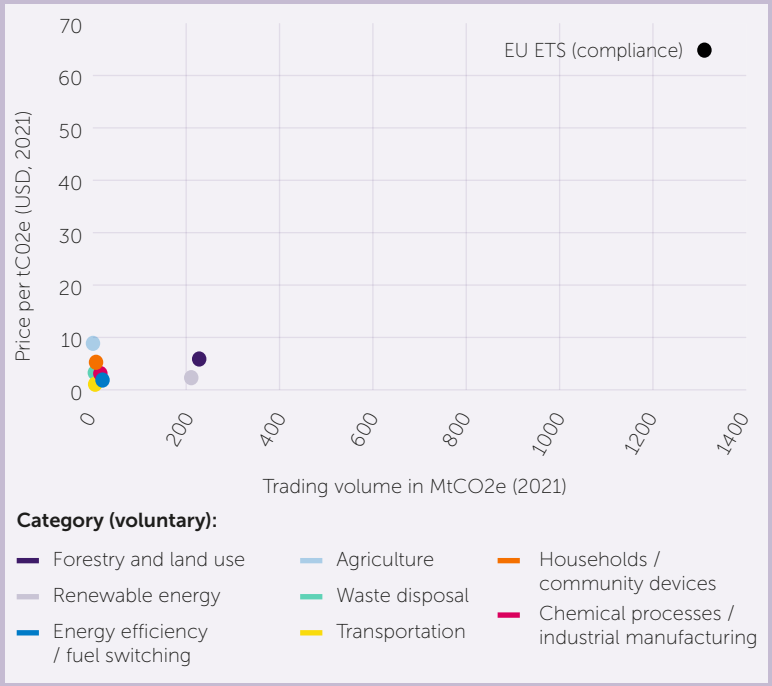
**The voluntary market is separate from the mandatory market.** Firstly, we need to distinguish between these two markets. The *mandatory* market (including EU ETS) obliges companies to obtain sufficient rights for their $CO_2$ emissions. The companies concerned and the emissions subject to this market are established by law and are supervised (in the Netherlands by the Dutch Emissions Authority). These rights may be traded between companies in Europe. The *voluntary* market has no such legal basis, no fixed definition and no official supervision. In most cases, private parties are creating their own market with its own rules as to what counts as a 'carbon credit'. Despite the absence of a common standard, there are private parties offering standards and certification of carbon credits, such as Verra and Gold Standard..

**Voluntary emission rights exist in many different forms.** The various types of emission rights correspond to the type of saving that is achieved. There are several distinctions to be made. There are for example 'avoidance' and 'removal' credits, where the former relates to combating emissions and the latter to capturing $CO_2$ that has already been emitted. A distinction also has to be made on the basis of the sector in which the saving is achieved. Credits relating to afforestation and renewable energy are the most important, and together account for 88% of newly issued rights.[30] The type of project associated with this is for instance the establishment of a forest, preventing a forest being logged or the construction of a renewable power station. Other categories include energy efficiency, agriculture, waste processing and transport.

**Voluntary emission rights however have their issues, including the lack of standards and doubts regarding quality.** The proliferation of voluntary initiatives for $CO_2$ trading has led to various types of credits, a lack of standards, concerns of double counting, insufficient quality checks and a lack of additionality.[31] It is notable for instance that the price of voluntary emission rights is significantly lower than the price in the compliance markets and does not appear to be correlated (figure 9). There are various explanations for this, such as the non-mandatory nature and the difference in nature (as emissions are not priced, they are offset). This however underlines the big difference in the purpose and results of the voluntary market compared to the mandatory market. The lack of standards and low price increases the possibility of greenwashing through the use of voluntary carbon credits. Furthermore, critics are concerned that voluntary (and cheap) carbon credits will make it less necessary for companies to reduce their own emissions; apart from their obligations, companies are more likely to opt for relatively cheap carbon credits instead of actually improving the sustainability of their business operation.[32] The question is thus whether the voluntary markets actually help to mobilise capital for emissions reduction.

30 'State of the Voluntary Carbon Markets 2021', Ecosystem Marketplace, September 2021.
31 'CO2-compensatie is misleidend en 'nattevingerwerk'', Trouw, February 2020; 'Green groups raise concerns over Carney carbon credits plan', Guardian, 2021.
32 'Carbon offsets: a license to pollute or a path to net zero emissions?', Financial Times, 2021.

Figure 9. Price of voluntary rights is significantly lower than the price in the compiance market.




Source: Ecosystem Marketplace[33], EEA[34], ING[35].

**The trade in voluntary emission rights has several interfaces with our supervision.** Firstly, financial institutions are among the largest buyers of voluntary emission rights.[36] This may relate to net zero

Given these concerns, it is important that financial institutions state clearly how they use voluntary emission rights to meet their net zero objective, and that they ensure that their communication on this issue is not incomplete and does not present a misleading impression. The auditor has a role here if claims of this kind are made in a company's management report. Secondly, we are seeing increasing interest from financial institutions for the development of such markets (for example: Rabo Carbon Bank, interest from asset managers in afforestation).[37] Thirdly, some voluntary rights (or derivatives thereof) are traded as financial instruments on regulated platforms that are subject to our supervision. Finally, the further development and standardisation of the voluntary market will involve concerns we also see on regulated platforms, although it would appear to be difficult to arrive at a common standard.[38] It is important that any interaction that may occur with the trade in emission rights derivatives is monitored.

33 'State of the Voluntary Carbon Markets 2022 Q3', Ecosystem Marketplace, August 2022.
34 'EU Emission Trading System (ETS) data viewer', EEA.
35 'Voluntary carbon markets are changing for the better', ING, January 2022.
36 'State of the Voluntary Carbon Markets 2021', Ecosystem Marketplace, September 2021.
37 'Rabo Carbon Bank verkoopt eerste carbon credits op Nederlandse bodem', Rabobank, April 2022.
38 'Carney steps back into advisory role in overhaul of carbon offsets group', Financial Times, 2022.

## 1.3 Digitalisation

**Digitalisation and platformisation are causing fundamental changes in the way financial products and services are offered and purchased.** New technologies and the arrival of new and innovative players are putting pressure on the business models of traditional financial firms. Big Tech and Fintech parties are driving the changes in the sector. As part of the broader trend of platformisation, traditional financial firms are entering into partnerships with these parties. This development can lead to innovation and cost saving, but it can also cause margin pressure and concentration risks.

**Digitalisation provides low-threshold access to advice and products.** Ease of use must remain in balance with the risks that customers are able and willing to bear. There is a range of apps that make it possible to invest using a mobile telephone with a few clicks. The downside of this new convenience is that these continuously available apps in some cases tempt investors to carry out many transactions or take on a lot of risk, for example through 'gamification'. When financial services are offered only in an online environment, this can on the other hand create barriers to access for some consumers. This raises the risk that certain vulnerable groups – older people with limited digital skills, or those with low literacy, that benefit particularly from physical customer contact – are left behind or excluded from access to financial services.

**Data is an increasingly central factor in the business processes of financial firms.** Data collection and processing are important tools for improving service and profitability. But besides these benefits, the increasing usage of data also poses risks. The concerns include ensuring high quality of data, data security and the legitimate and careful handling of personal information. The sharing of financial and other data[39] – known as data mobility – may also involve risks. Data sharing may expose financial consumers to loss of privacy and consumers may be negatively affected by insights derived from their personal data. How data is shared in the financial sector requires the attention of financial supervisors. In this context and together with DNB, we have prepared a discussion document[40] setting out a provisional policy view[41] on data mobility in relation to financial services. This document is written with various policy developments in Europe relating to data mobility in mind. Europe has an ambition to create a single EU data market by 2030. Various Union-wide and sector-specific legislation and regulation is being developed to achieve this.

**Applications using artificial intelligence (AI) may involve risks.** The possibilities offered by AI are also being used more frequently in the financial sector. This is happening in both retail markets and capital markets. The use of AI presents opportunities, because customers can be served more effectively and at lower cost. But the use of AI also involves risks, for instance when it is not clear how an AI model arrives at a particular result. Among other things, the application of AI offers opportunities to offer individual customers a more personalised service. This can be to the benefit of many customers, but it can also mean that certain consumers are discriminated against or excluded from the market on the basis of the algorithm used. It is important that financial institutions have adequate control measures in place to mitigate the risks of algorithm application and that they can explain the results of their AI models. The European AI Regulation under development will provide additional reference points to guide the potentially huge impact of AI on financial services to citizens and businesses in a good direction.

**Dependence on digital systems, coupled with the trend of outsourcing digital business processes, is leading to vulnerabilities.** Since services are increasingly provided in digital form, dependency on IT systems is increasing.

[39] The European Commission is working on expanding the possibilities for the sharing of financial data. Whereas PSD2 only allowed for the sharing of transaction data with third parties, this 'open finance' initiative aims to allow other financial customer data to be shared with third parties (or made accessible to third parties).
[40] 'Datamobiliteit en de financiële sector: hoe te reguleren?', AFM, September 2022.
[41] 'Data Mobility and the Financial Sector', AFM en DNB, September 2022.

The potential consequences of breakdowns in these systems at financial institutions are therefore increasing as well. This is all the more the case because of the trend of outsourcing digital business processes, which also creates concentration risk. The IT used by financial institutions runs almost entirely in the cloud, and these cloud services are available from only a limited number of large providers. If there is a breakdown at a single essential party, this can disrupt service provision in a large proportion of the sector.

**Blockchain technology is facilitating the rise of crypto assets, which may lead to interrelationships with the regular financial system.** The turbulent developments surrounding crypto assets (or cryptocurrencies) raise new risks. In section 1.1, we already noted that the volatile and uncertain macroeconomic situation following the invasion of Ukraine has had a severe impact on the crypto markets. The price of the stablecoin TerraUSD collapsed in May 2022, leading to a wave of panic selling and downward pressure on the prices of other cryptocurrencies such as Bitcoin. Since cryptocurrencies are owned mainly by retail and speculative investors such as hedge funds, they were initially the most affected. If crypto assets become more interwoven with the traditional financial markets, there could be a risk that developments in the crypto markets will also affect the stability of the traditional system.[42] More detail on this is presented in Box 2 on Decentralised Finance (DeFi). A recent study by ESMA (referenced above in section 1.1) concluded that interrelationships with the traditional financial markets are still limited at this point, but that proper monitoring of this development is an important priority for the supervisory authorities.[43]

**New European legislation and regulation is aimed at influencing the direction of various digital developments and addressing potential risks.** There is increased development of more horizontal – meaning across sectors – regulation to control digitalisation at European level. Examples of this are the Digital Markets Act (DMA), the Digital Services Act (DSA) and the Data Governance Act (DGA), as well as the AI Regulation mentioned above. This regulation will affect several sectors – including the financial sector – and will therefore require close cooperation between the sectoral supervisors to coordinate and efficiently structure their supervision. Further details are given below of two regulatory processes that are particularly relevant: the Digital Operations Resilience Act (DORA) – which sets new requirements for the control of IT risks – and the Markets in CryptoAssets Regulation (MiCAR), which is a first step in the regulation of crypto assets.

### Regulation for digital resilience: DORA

**Cyber risks are prevalent in the financial sector.** The heavy reliance on IT means that financial institutions are at risk with respect to digital resilience.[44] Earlier in this section, we noted the increase throughout the sector in the outsourcing of business processes or elements thereof to service providers, including cloud platforms. This dependence on (a few large) service providers means that individual institutions and the sector as a whole are vulnerable to cyber incidents at these 'hubs'. The operational reliability of trading platforms, including resilience to cyber risk, continues to be an important theme in the capital markets. These markets are an attractive target for cyber attacks due to their geopolitical importance. One of the vulnerabilities in the business models of asset managers concerns the use of legacy IT systems. Within financial services, we see that the outsourcing of business processes means that the entire service chain is becoming even more closely interrelated, meaning that incidents at one link in the chain may have far-reaching implications. There is an increased risk of disruption due to the greater number, scale and complexity of cyber incidents.[45]

[42] See for example: 'Assessment of Risks to Financial Stability from Crypto-assets', Financial Stability Board, February 2022.
[43] 'Crypto-assets and their risks for financial stability', ESMA, October 2022.
[44] Since 2021, as part of the TIBER programme, the AFM has carried out advanced red teaming tests in collaboration with large companies subject to its supervision to assist in the control of cyber risk at institutional level.
[45] See for example: 'A Macroprudential Perspective on Cyber Risk', DNB, June 2022.

**The aim of the Digital Operational Resilience Act (DORA) is that market participants should become more digitally resilient.** DORA sets requirements for financial organisations concerning IT incidents, periodic testing of digital resilience and risk management in connection with outsourcing to (critical) third parties. Account is also taken of the scale, risk profile and systemic importance of individual organisations. There already are rules regarding cyber risks in Europe and elsewhere, but these are limited and fragmented. There are thus inconsistencies in legislation and regulation between Member States, and this causes unnecessary expense for the financial sector. With DORA, the EC intends to introduce a single uniform legislative framework. The existing legislation on digital resilience will remain in force. The new regulation will give us additional powers to supervise that IT systems at market parties are properly secured and that IT risks are adequately managed by means of procedures and processes.

### Regulation of cryptocurrencies MiCAR

**The Markets in Crypto-Assets Regulation (MiCAR) will introduce tighter regulation for the crypto markets.** MiCAR aims to ensure that crypto assets are regulated in such a way that the risks for investors and the system are mitigated, or at least made transparent. MiCAR will set obligations for both issuers and service providers. Issuers of cryptocurrencies will have to publish white papers (among other things) and meet capital requirements. Among other things, the requirements for crypto service providers will involve custody of crypto assets on behalf of third parties, the operation of trading platforms and the manner in which advice is offered. MiCAR will also include several transparency requirements. Part of the supervision of compliance with these requirements will be the responsibility of the AFM, with another part supervised by DNB. The ECB will also be given an important role with respect to stablecoins of significant volume.

**MiCAR is a good first step, but is not a panacea for the risks associated with cryptocurrencies.** The huge price fluctuations and losses in the crypto market in recent months show that crypto assets potentially pose significant risks. Regulation of this market is therefore a welcome development. The strict requirements set by MiCAR with respect to transparency means that misleading advertising of cryptocurrencies can be more effectively dealt with. Mandatory registration of crypto asset service providers will also make it easier to see whether parties are operating illegally. MiCAR does not however address all the risks associated with crypto assets in equal measure. For instance, it may be difficult for retail investors to assess how much protection they actually have as a result of MiCAR. The MiFID regime, that applies to other investment categories, is significantly stricter than MiCAR in this respect. Unlike MiFID, MiCAR does not set any requirements for product development and distribution and the requirements relating to advice are lower. With regard to market abuse, MiCAR also does not go as far as existing legislation and regulation in this area. In addition, MiCAR places supervision mainly at the Member State level, while the crypto markets are clearly crossborder in nature.

**Box 2. The advent of Decentralised Finance involves new potential risks and challenges for supervision.**

**Decentralised Finance has the potential to fundamentally change the financial sector.** In the traditional financial system, financial institutions fulfil the role of central intermediaries in the provision of services. With Decentralised Finance (DeFi), these services are provided without a central intermediary, as the use of smart contracts, crypto assets and blockchains – based on what is known as Distributed Ledger Technology (DLT) – enable direct interaction between two parties. DeFi has the potential to change all the facets of financial services provision. Firstly, because DeFi will offer an alternative to traditional products at potentially lower cost, and secondly because it can radically change the infrastructure of the market, as central parties in the chain (such as clearing and settlement institutions) will no longer be needed. DeFi has applications in a wide range of submarkets that are also served by the traditional sector (figure 10).

Figure 10. Examples of DeFi applications.

| Financial service | Decentralised finance | Traditional finance |
|---|---|---|
| Credit | Smart contracts facilitate lending and borrowing. Lenders post their crypto assets into liquidity pools, from which borrowers borrow crypto assets posting other crypto assets as collateral. Interest rates are often determined automatically depending on the demand and supply of liquidity. Largest DeFi protocols: Compound, Aave | Banking |
| Trading | Decentralised exchanges (DEXes) facilitate the trading of crypto assets by matching and executing trades through smart contracts without the involvement of a (centralised) third party. Trading often happens against a liquidity pool. Largest DeFi protocols: Uniswap, Curve | Brokers, stock exchanges, over-the-counter (OTC) markets |
| Payments | Peertopeer transfers of value are facilitated, either directly 'onchain' or via DeFi protocols that facilitate smaller value transfers offchain, before reconciling them in batches back 'onchain'. Largest DeFi protocols: Flexa, Sablier Finance | Cash, credit/ debit, cards, current accounts |
| Insurance | Customers of insurance DeFi protocols buy tokens in exchange for cover against specific digital assetrelated risks, such as cyber attacks and theft. Token holders from within the protocol decide on insurance claims by voting yes/no on payouts. Largest DeFi protocols: Armor, Nexus Mutual | Lloyds of London insurance market, Insurance firms |
| Investment (assets and derivatives) | Protocols replicating asset management functions where crypto assets from users are automatically deposited in these protocols/ pools with the highest yields based on preset risk tolerance. They also include protocols creating crypto asset indices and derivatives, including synthetic assets, options or perpetual futures. Largest DeFi protocols: Yearn Finance, dY dX | Investment funds, investment firms, investment banks |

Source: ECB.[46]

[46] Figure is taken from: 'Decentralised finance – a new unregulated non-bank system?', ECB, July 2022.

**DeFi may bring risks for markets, participants and the stability of the financial system.** As stated above, DeFi can lead to greater efficiency and lower costs as a result of automation and disintermediation. At the same time, DeFi will pose risks for markets and their participants, including excessive volatility and opportunities for market manipulation. There are also risks relating to governance, as it will not be clear in advance which entity can be called to account if things go wrong.[47] Greater interest in crypto assets by institutional investors, in combination with the prominent role of stablecoins in DeFi protocols, could mean that the traditional and decentralised financial markets become more closely interrelated. Among others, both the ECB and the FSB[48] Greater interest in crypto assets by institutional investors, in combination with the prominent role of stablecoins in DeFi protocols, could mean that the traditional and decentralised financial markets become more closely interrelated. Among others, both the ECB and the FSB.

**The advent of DeFi poses challenges for supervisors.** It requires moving beyond conventional supervision, in which a central intermediary institution is the starting point. There will be no such obvious starting point with DeFi: the feature of decentralised systems is that there is usually no legal entity that a supervisor can call to account. Furthermore, compliance with regulation on matters such as DeFi protocols will be hindered as they have no clearly defined geographical origin but do have a global reach. This will make it difficult for supervisory authorities to establish whether activities fall under their jurisdiction. The speed and ease with which providers of decentralised financial services can change location in response to enforcement actions by the authorities will pose an additional challenge. Innovative methods will have to be developed to achieve some form of regulation and supervision. With some DeFi applications, one can see whether there is after all a certain degree of centralisation that can be identified, such as the holders of governance tokens or an identifiable group of protocol developers.[49] Options for embedded regulation can also be explored, with regulatory requirements embedded in the DeFi technology itself.[50]

47 'Why Decentralised Finance (DeFi) Matters and the Policy Implications', OECD, January 2022.
48 'Assessment of Risks to Financial Stability from Crypto-assets', Financial Stability Board, February 2022.
49 'Decentralized Finance (DeFi) Policy-Maker Toolkit', World Economic Forum, June 2022.
50 'Decentralised finance – a new unregulated non-bank system?', ECB, July 2022.

## 1.4 Internationalisation

**The provision of financial services is becoming increasingly international, and thus involves cross-border issues and risks.** The growing internal market operation within the European Economic Area is supporting the increasingly international character of the market for financial services. This, in combination with digitalisation, makes it easier for providers to offer financial products across national borders. The number of foreign financial services providers offering services in the Netherlands by means of a European passport is steadily increasing. An increase in the supply and diversity of providers can be beneficial to clients and society in general, but there are also malicious providers that intentionally use a less regulated environment (outside the Netherlands) to make money at the expense of investors. They use digital platforms and social media to reach new target groups with little investment experience across national borders. In many cases, this involves investments with very high risk, of which the provider makes little or no mention. These providers also frequently have aggressive ways of doing business. Last year, we saw an increase in signals from people who may have been misled in relation to investment in cryptocurrencies and international currency trading.[51]

### The emergence of neo-brokers

**Internationalisation and digitalisation in investment services is leading to the emergence of what are known as 'neo-brokers'.** These are firms offering easy access to investment services, often completely digital, and heavily driven by technology. The benefit of these easy-access services can be that more consumers with sufficient financial resources can get access to investing. Research by the AFM shows that there is a significant group of consumers who do possess such financial resources, but do not invest.[52] It is thus important that the brokers concerned act in the interests of their clients.

**These cross-border operating firms mostly have a revenue model featuring low margins and high volumes.** So creation of scale is crucial. This is one of the reasons why they often operate across borders in multiple countries. To attract and retain customers, they usually profile themselves as 'zero commission' or 'free of charge'. This does not however mean that there will be no costs for the customers. We have studied the revenue models of these neo-brokers in order to gain a better understanding of the incentives and risks involved. We also looked at the guidance used in the online choice architecture at a number of neo-brokers. Our exploratory study showed that in most cases not all types of transaction are free of commission, and also not with respect to all types of instrument. Small fees are charged for this. These firms also pass on foreign exchange costs. This could create an incentive to get customers to carry out (more) transactions by means of various influencing techniques, such as social influence, emails and notifications in the app. These brokers also have other sources of income besides direct income from customers.If they execute orders themselves, they may for instance earn spreads (the difference between the bid and the offer price). If they offer their own leveraged products, they may also receive financing charges. In addition, there may be income from securities lending or the offering of securities credit. Foreign neo-brokers may additionally earn income from distribution fees or PFOF (payment for order flow), which involves the sale of their order flows to a particular trading venue or market maker. This issue will be an item of attention for us next year as well, including consultation with the sector.

[51] 'Signalenmonitor voorjaar 2022', AFM, March 2022.
[52] 'Meer Nederlanders zouden kunnen beleggen in plaats van sparen', AFM, March 2022.

### Central provision of information in the capital markets

**The introduction of a consolidated tape is strengthening the central provision of information in fragmented capital markets.** With dozens of national and international exchanges and trading platforms in various countries, the European capital market is highly fragmented.[53] The advantage of this is that trading platforms compete with each other and thus have an incentive to offer new and innovative services and strive to reduce costs. The disadvantage however is that there is no central price formation – this is an issue for instance when the same securities are traded on multiple platforms – which among other things means that it is difficult for investors to check whether transactions they effected are actually at best execution. This is the reason why we argue for the implementation of a consolidated tape – an electronic system with real time post-trade information on transactions, prices and volumes – for equities and bonds, as part of the review of the MiFID/MiFIR regime. A consolidated tape would result in less-fragmented information in the European markets (particularly price information), help create a true internal European market and improve opportunities for monitoring best execution for investors.

### International coordination of supervision

**The increasing degree of cross-border activity is leading to greater coordination of European supervision.** More extensive internationalisation of both capital markets and financial services increasingly means that international cooperation is becoming a necessary precondition for an effective approach to supervisory issues. In order to achieve a more coordinated approach to cross-border issues, the EU has developed mechanisms to improve European supervisory coordination. This development is discussed in more detail in section 1.6.

## 1.5 Integrity and criminal behaviour in the financial sector

**Criminal behaviour harms the integrity of the financial and economic system.** If financial enterprises become involved in or affected by criminal activities, either consciously or otherwise, this can damage confidence in the financial sector. Many illegal activities cannot occur without use of legal services such as transport, storage, licences, housing, and also financial services. These financial services often concern the concealment of the criminal origin of funds: money laundering. Among other things, money laundering enables criminals to use the proceeds of crime to finance new criminal activities. It also makes it possible to use assets acquired through crime to obtain positions in bona fide companies. Money laundering is a manifestation of the broader social problem of undermining, which refers to all forms of crime that blur the boundary between legitimate business, including the financial sector, and the underworld.

**Digitalisation and internationalisation create more opportunities for criminal behaviour.** Technological developments and the internationalisation of the financial markets are allowing many new players to access the financial markets. Criminals are also creative in the use of opportunities presented by technology, digitalisation and cross-border structures. We are seeing this for example in the increasing reach of foreign malicious providers of investment products (see also section 1.4). Malicious activities of this kind have a significant impact on (groups of) victims who suffer losses as a result.

[53] As a result of Brexit, many new capital markets firms have relocated to the Netherlands, including large trading platforms, proprietary traders, benchmark providers and investment firms. This has increased the importance of Amsterdam as a trading centre and the scale of the AFM's supervision in Europe (see also: 'Trendzicht 2022', AFM, November 2021).

### The gatekeeper function

**Financial institutions have a gatekeeping role.** Financial firms have an important function in the prevention of money laundering, financing of terrorism and other forms of criminal behaviour. They have a gatekeeping role in preventing criminals from bringing illegal assets into the financial system or using the financial system for their illegal activities. For these gatekeepers, adequate control of integrity risks is important to prevent involvement in criminal conduct, such as tax or other fraud or corruption. In view of this gatekeeping and monitoring role, it is important that companies subject to supervision comply with relevant legislation and regulation.[54] The continuing political and social attention to the issue of money laundering and terrorism financing places additional pressure on this gatekeeping role. The sanctions[55] imposed as a result of Russia's invasion of Ukraine have further increased this pressure. An assessment by the Financial Action Task Force (FATF) shows that the Netherlands has made significant progress in dealing with money laundering and terrorism financing in recent years. The FATF sees national collaboration and coordination at both policy and operational levels as a key element in this approach. Another positive point raised concerns the good cooperation with private parties and the nonprofit sector.[56]

### Information position of the AFM and cooperation with chain partners

**The AFM strives to improve its information position and cooperation with chain partners.** We continue to focus on supervision of the prevention of money laundering and terrorism financing and compliance with the Sanctions Act. At European level, we are working with our partners on strengthening this supervision and promoting supervisory convergence. We are moreover strengthening our information position with respect to criminal behaviour. Good information is essential for accurate analysis of risks and detection of patterns, so that we are able to set the right priorities for dealing with financial criminality. In addition, cooperation with our chain partners continues to be highly important. Both nationally and internationally, financial criminality can only be dealt with by joining forces. At national level, the cooperation in the Financial Expertise Centre (FEC) continues to be relevant for good exchange of information and increasing synergy in dealing with criminal behaviour in the financial sector. One example of this is a project aimed at increasing knowledge at the FEC partners and market parties of money laundering through Dutch investment firms and collective investment schemes.[57]

## 1.6 The supervisory landscape

### The internationalisation of supervision

**Greater coordination of supervision in Europe is leading to more European influence on the priorities of national supervisory authorities.** The financial markets are increasingly operating across borders, and this applies to both the capital markets, which have always been internationally linked, and the provision of financial services and the consumer markets (see section 1.4). First of all, this is driven by the potential offered by digitalisation, and

[54] The AFM conducts its supervision on the basis of the Dutch Financial Supervision Act (Wet op het financieel toezicht, or Wft), the Dutch Sanctions Act (Sanctiewet 1977, or Sw), the Dutch Money Laundering and Terrorist Financing (Prevention) Act (Wet ter voorkoming van witwassen en financieren van terrorisme, or Wwft) and the Dutch Money Laundering and Terrorist Financing (Prevention) Act for the BES (Wet ter voorkoming van witwassen en financieren van terrorisme BES, or Wwft BES). Under the Dutch Audit Firms (Supervision) Act (Wet toezicht accountantsorganisaties, or Wta), the AFM also supervises integrity at audit firms.

[55] Under the Sanctions Act 1977, the AFM is charged with supervision of compliance with sanctions regulations in relation to financial transactions. Collective investment schemes and investment firms are subject to the AFM's supervision. Parties must avoid acting in contravention of sanctions regulations. Acting in contravention of sanctions regulations is an economic crime and therefore a punishable offence. Given the situation in Ukraine, the sanctions regime has been amended by the European Union (EU) with respect to restrictive measures relating to actions that undermine or threaten the territorial integrity, sovereignty and independence of Ukraine.

[56] 'FATF beoordeelt Nederland positief in evaluatie aanpak witwassen', Central Government, August 2022.

[57] 'FEC jaarplan 2022', FEC, 2022.

secondly by the increasing harmonisation of regulation.This means that supervisory issues and solutions are also becoming more international. However, supervision of the financial markets is still mainly organised on a national basis. To address cross-border problems more effectively and with greater coordination, the EU has developed mechanisms within sectoral regulations in which powers will be shared between national supervisors (the 'home' supervisor as the licensing authority and the 'host' supervisor in the country in which a product or service is provided). The priorities of national supervisors are thus increasingly subject to influence at European level. At ESMA level and elsewhere, we strive to promote greater supervisory convergence, which essentially aims to ensure that the same outcomes from supervision can be expected throughout the European Union, regardless of where an institution is located.

**The European Commission (EC) is implementing priorities in its policy agenda with new regulation.** Some of these priorities affect the financial sector and the AFM's supervision, including far-reaching new regulation with respect to sustainability (see section 1.2) and digitalisation (see section 1.3). An overview of the European regulatory processes most relevant to us can be found in Box 3. Through its input to European umbrella supervisory organs such as ESMA, EIOPA and EBA, the AFM actively works to protect Dutch (supervisory) interests in the European discussions of this wide range of new regulation.

### Pensions supervision

**The new pensions system is expected to come into force on 1 July 2023.** The Bill on the future of pensions is currently up for debate in the House of Representatives. The secondary regulation was put up for consultation by the Ministry of Social Affairs and Employment (SZW) in April 2022. In August, we shared our supervisory assessment with SZW in which certain relevant themes were considered again, such as the importance of good provision of information to scheme members on the personal consequences of the transition and the conversion. For us, the new pensions system means an expansion of our role as conduct supervisor.

Among other things, due to the supervision of the risk preference survey that pension providers will have to hold among their scheme members, the obligation for providers to publish a communication plan on their websites prior to conversion of the pensions and the new statutory standards for guidance, complaints procedures and the confirmation of the details of the scheme. To be able to adequately accommodate these new supervisory duties, we have requested the Ministries of Finance and SZW for an expansion of our capacity that has been approved by the Ministers, and on which the House has been informed. Changes are currently ongoing at the AFM to prepare for this new responsibility. Part of this concerns cooperation during the transition with DNB to strengthen certain overlapping elements of supervision. The two supervisory authorities are harmonising their planning and activities, each on the basis of its own mandate, to ensure an efficient and timely transition. Lastly, we are consulting with the sector to identify areas where further guidance is needed from us.

### Supervision of audit firms

**The supervision of the more than 260 audit firms holding a regular licence (AO's-RV) was transferred to the AFM on 1 January 2022.** This year, the main item was getting to understand this segment of the sector, the gathering of data and gaining experience with a new methodology for risk-based supervision of audit firms. The audit sector is in a process of change, just like the supervision sector. Several reports, including from the AFM, have noted that the audit sector features negative incentives that are an obstacle to the safeguarding of the high quality of statutory audits. Various recommendations have thus been put forward for strengthening the reporting chain and thereby permanently improving the quality of statutory audits. Some of these recommendations have been included in a bill put up for consultation in mid-2021 and that is expected to come into force in 2024.

**Box 3: Overview of key European regulatory developments**

At the time of writing this Trend Monitor, there are several European regulatory processes ongoing at Level 1 that could have an impact on the AFM and/or market participants. The most important of these processes are described in this box. Some of them have also been mentioned in other sections of this Trend Monitor.

- **DORA** (Digital Operational Resilience Act) is a European regulation with the primary objective of mitigating systemic risk and the consequent risks for consumers and investors. DORA sets uniform requirements for financial institutions in relation to (among others) ICT risk management, ICTrelated incident reports, the management of ICT risk in relation to outsourcing to third parties and includes a European oversight framework for critical thirdparty providers (CTPPs) such as Amazon and Google. DORA will apply to institutions subject to European regulation. It will therefore apply to trading platforms, central counterparties, credit institutions, investment firms and collective investment schemes.

- **MiCAR.** In July 2022, agreement was reached on the Markets in CryptoAssets Regulation (MiCAR), that will come into force around 2024 and will involve changes. The introduction of MiCAR will mean that some crypto assets will be subject to supervision. The regulation sets rules for certain issues of cryptocurrencies or tokens and the provision of crypto services, to the extent that these are not already subject to other regulation such as MiFID II. A crypto or token that qualifies as a financial instrument will thus continue to be subject to MiFID II and not MiCAR. Cryptocurrencies, tokens and derivative products may have various financial functions. The qualification of a product and the regulation it is subject to will have to be determined case by case.

- **Amendment of MiFID/MiFIR.** The proposal for the revision of MiFIR concerns mainly the rules for trading in financial instruments and transparency provisions relating to this trade (MiFIR). There will be almost no amendment of MiFID. The proposal includes enabling a consolidated tape and a ban on Payment For Order Flow. The main impact on the AFM's supervision will probably be in the supervision of the data quality supplied by the future consolidated tape providers. The negotiations in Brussels are ongoing.

- **SFDR.** The Sustainable Finance Disclosure Regulation (SFDR) has been in force since 2021. Its aim is to provide investors with greater insight into sustainability risks and to improve the comparability of financial products with respect to sustainability. It also aims to combat greenwashing, when institutions profile themselves as more sustainable than actually is the case. It is thus important that we have a uniform definition of what is sustainable, so that market parties and products will be comparable. An EU Taxonomy is being developed for this, part of which has been in force since the beginning of 2022. There is still an intense political debate ongoing on issues such as whether nuclear energy and gas should be considered to be sustainable.

- **CSDR.** The Central Securities Depositories Regulation: the European Commission published its proposal for amendment of the CSDR on 16 March 2022. The CSDR includes rules for harmonised supervision of central securities depositories. The negotiations in Brussels are ongoing.

- **CSRD.** To strengthen transparency in relation to sustainability and other nonfinancial issues, the European Commission published a legislative proposal for revising the NonFinancial Reporting Directive (NFRD) on 21 April 2021, including the choice of a new name for this directive: the Corporate Sustainability Reporting

Directive (CSRD). The CSRD expands the scope of the NFRD by making the nonfinancial transparency requirements mandatory for more types of companies. The CSRD also states that a uniform reporting standard will be formulated in Europe that will clearly define how nonfinancial information has to be reported. The negotiations in Brussels are ongoing.

- **CSDDD** (Corporate Sustainability Due Diligence Directive). This proposal aims to make international corporate social responsibility by large European companies mandatory and thus mitigate problems in relation to human rights, employment rights and the environment in their global value chains. It is expected that the Member States will have to have implemented the CSDDD by 2025.

- **ESAP** (European Single Access Point). This concerns an amendment of 16 directives and 21 regulations, on the basis of which financial and nonfinancial information of companies (such as annual reports and prospectuses, information on financial instruments and sustainability information), in particular SMEs (small and medium-sized enterprises), will be made more visible to investors via central databases, thus facilitating access to (cross-border) funding in the capital markets. The tripartite negotiations will begin in the second half of 2022.

- **AML/CFT** (AntiMoney Laundering/Combating the Financing of Terrorism). In July 2021, the European Commission published a package of legislative proposals relating to money laundering and combating the financing of terrorism.One of these proposals concerns the creation of a new agency, the Authority for Anti-Money Laundering and Countering the Financing of Terrorism, or AMLA. The European Commission foresees that the AMLA will be incorporated in 2023, that it will be fully staffed by the end of 2025, and that it will start to exercise its supervision from the beginning of 2026. There is an agreement regarding the incorporation of the AMLA. Negotiations on the AMLR/AMLD are ongoing.

- **AIFMD/UCITS**. The AIFM directive will be revised. Some of the provisions in the UCITS directive will be revised to bring them in line with the changes to the AIFMD. Both directives set rules for investment funds (AIMFD for professional investors and UCITS for retail investors). The revision of the AIFMD will remain limited to the issues of delegation, liquidity management, supervisory reporting, custody and loan origination by AIFMD funds. The negotiations are ongoing.

- **ELTIF** (European Longterm Investment Fund). The ELTIF regulation is a European framework/label for AIFMD funds that invest in specific (sustainable) longterm investments. AIFs that meet the conditions of the ELTIF regulation are permitted to use the ELTIF label. The changes concern the strict fund rules (including lower barriers to retail investors) and expanding the scope of the assets and investments in which an ELTIF is permitted to invest. The negotiations are ongoing.

- **Retail Investment Strategy**. This strategy is cited as a priority by the European Commission. It has not yet been published. Publication is expected in the first half of 2023. Among other things, the AFM focuses on the following issues: 1. the importance of the online choice architecture, 2. a general ban on commissions for investment products and services and 3. more effective cooperation in and convergence of supervision. This will be a highly sensitive issue politically.

- **CCD.** The Consumer Credit Directive (CCD) will be revised. Increasing digitalisation requires modernisation and strengthening

of consumer protection at European level. The issues to be considered will include expanding the scope to cover currently unregulated forms of credit such as 'buynowpaylater' products, clearer precontractual information and an obligation to protect consumers against excessive charges. The negotiations are ongoing.

- **Artificial Intelligence (AI) Regulation.** The European Commission has launched a proposal for a legal framework for reliable AI. The proposal is based on the values and fundamental rights of the EU, and aims to give people and other users the confidence to embrace AI-based solutions and encourage businesses to develop these solutions. The AI framework will apply to cases involving use of high-risk applications as defined in the regulation. The AFM could itself be affected by the regulation as a result of its use of certain AIapplications, but institutions subject to the AFM's supervision may also be affected, such as those using AI for their credit scoring. Negotiations on this new framework are currently ongoing in Brussels.

02

# Risk maps

**The AFM is a risk-based supervisor.** Risk is a central theme in our thoughts and actions. A risk is a set of developments, circumstances and behaviour in the market that could lead to an undesirable outcome. In other words, an outcome that could harm or damage our mission. Risk-based supervision is one of the ways in which we have organised our supervision, in addition to initial supervision and ongoing supervision.

**The risk maps are a means of translating developments in the AFM's external environment into specific risks for its supervision,** and thus give an overview of the key risks in each area of our supervision. The actual implications of these risks for our supervision are described in the annual plans prepared by our supervisory divisions, and subsequently propagated into our 2023 Agenda. The annual plans and Agenda will also go into greater detail regarding ongoing and initial supervision. The risk maps are a snapshot, and are not intended to give an exhaustive overview of all risks. They represent the main risks as we see them at this time, but they will of course evolve, as the environment in which the financial sector and the AFM operate is continually changing

**The risk descriptions include the various elements of the risk in question – developments, causes and undesirable outcomes.** Each risk is also assigned a summarising key word. The 'drivers' and the 'materiality' of the risk are stated in separate columns:

- Drivers are the principal developments and causes, and are linked to the environmental analysis presented in section 1.

- Materiality describes the scale of the risk. Four levels are distinguished: very high (●), high (●), increased (●) and low (●). The direction of the arrow indicates the expectation that the risk is increasing (↗), is stable (→) or decreasing (↘).

**Many of the developments described may also lead to desirable outcomes.** The risk maps focus on undesirable outcomes. As a supervisor, this is of course what we are most interested in. However, many of the developments described may indeed lead to desirable outcomes. The pensions transition is aimed at achieving a more future-proof pensions system, with more room for personal wishes. Digitalisation is making it easier and quicker to arrange financial affairs. By investing more, in principle households are increasing their potential for accumulating larger financial assets over time. The addition of non-financial information in annual reports and ESG indicators in prospectuses means that these documents now provide greater insight. We are aware of this, and in our supervisory approach we always strive to avoid unnecessarily burying the positive elements of a development in our efforts to address the negative aspects.

## 2.1 Risk map for financial services

*The AFM is committed to promoting fair and transparent financial markets. As an independent market conduct authority, we contribute to a sustainable financial system and prosperity in the Netherlands. In the market for financial services, this means that our role is more protective than in the capital markets. Many consumers find it difficult to make financial decisions, such as buying a house or saving for later on. Poor decisions – such as entering into a long or unsuitable contract, or failing to conclude a suitable contract, borrowing too much or taking no action – have very negative consequences for the financial well-being of households.*

### The macroeconomic climate

**High inflation, and the ensuing high interest rates, affect the financial well-being of households in various ways.** High inflation will be most visible in declining purchasing power for virtually everyone, and will be especially harmful for vulnerable consumers (see also section 1.1). Declining purchasing power means that there will be an increase in arrears on credit obligations and potentially more expensive alternatives, such as lease products and Buy-Now-Pay-Later will become even more popular. In the long term, this will further increase the financial pressure on these people, in spite of smoothing measures from the government and gradually rising wages. The situation is deteriorating as a result of higher interest rates, with rates for short-term

loans already rising and an increase in mortgage rates to come following a future interest-rate reset. The longer inflation (and thus interest rates) remains high, the more severe the consequences will be for the financial position of many consumers. Higher interest rates are affecting the development of house prices. A lengthy decline in house prices could have a significant effect on many households.

### Pensions

**The pensions transition is complex, and will have significant consequences.** The transition to new contribution schemes will place more risk and uncertainty on scheme members. The point of view of the scheme members must therefore not be ignored in the formulation of the new pensions system. This applies to the creation of the new scheme, in which account has to be taken of the risk that members are willing and able to bear, the transition itself and the final conversion of the pensions. If individual scheme members are not given sufficient and timely information on the implications of the transfer to the new system for them personally and their pension savings, there is a risk of unrealistic expectations and ultimately loss of support and confidence.

**The quality of the guidance will be more important than ever in the new system.** Scheme members will have the option of taking up to 10% of their pension capital as a lump sum when they retire. In addition, more scheme members will have to choose between less or more risky investment mixes, and whether to take a fixed or variable benefit. These decisions are complicated, and should not be taken lightly. Once made, choices are irrevocable, and indeed may significantly affect the pension income. Proper guidance is thus essential.

**Another item of attention in the preparation for the transition concerns the quality of pension fund administrations and the implications of this for the communication.** Administrations that are not corrected in time will cause errors in the conversion of pensions. Having to identify and remedy errors post-conversion will be a very expensive and difficult process. We are moreover receiving signals of incorrect information being provided to scheme members, as a result of which unrealistic expectations regarding the amount of pension are being raised.

### Sustainability

**Sustainability is a prominent item on the political agenda, and there is undeniably a public desire for the financial markets to also make progress on the sustainability transition.** This is reflected in the large amount of new sustainability regulation aimed at the services provided by financial firms. The regulation focuses mainly on improving transparency with respect to sustainability risks and impact, and the availability of products that reflect the wishes of customers in relation to sustainability. We are also seeing a strong incentive in the market to meet these wishes. There is clearly a push towards sustainable products happening, and numerous financial institutions now feature sustainability in the profile they present.

**Greenwashing is an issue in the context of sustainable financial products.** There are firms that trade on a perception of sustainability, without their proposition making any actual sustainability improvement. This is a risk for example with investment products. Issues relating to definition and transparency on the supply side and a 'green bias' on the demand side are also contributing factors.

**The sustainability transition will also affect the financial resilience of consumers.** Consumers are exposed to risks relating to sustainability, such as negative value shocks in their investments as a result of climate change and tighter environmental regulation. Insurers are faced with rising claims as a result of extreme weather. Two risks for consumers that should not be underestimated originate from the increasing extent to which climate risks are becoming uninsurable and the possibility of problem debt for homeowners as a result of climate damage or the cost of necessary sustainability improvements to their homes.

### Digitalisation

**Easy access and service convenience come at a cost.** Financial decisions have serious consequences for households, and decisions need to be

properly considered. This calls for a critical attitude and reflection. In the digital environment, it is becoming easier to create a frictionless environment in which consumers are motivated by subtle 'nudges'. You can make online purchases at any time of the day, and easily choose to pay later. Or, convinced by success stories from like-minded people and finfluencers, invest on a whim in the hype of the day, such as exotic or crypto-related products. Households can experience the added value of this convenience on a daily basis. But there is also a risk here. It's so convenient that it becomes too easy: the lack of friction means that there is not enough critical reflection, or consumers fail to seek advice and opt for an execution-only service for reasons of cost.

**Not everyone experiences access to financial services as easy or equal.** Our main concern is that some groups of households are not able to find their way, for example due to limited skills (digital illiteracy in combination with a lack of physical branches nearby) or language barriers. In addition, some customers are effectively excluded due to personalised pricing by insurers or banks due to the image of their business sector, because they are too expensive due to Wwft checks. Lack of access due to uninsurability is also occurring as a result of climate change. For instance, insurance against subsidence or flooding is no longer possible, even though this is becoming an increasing problem. These various forms of inaccessibility can make some groups of households more vulnerable.

### Internationalisation

**The international market dynamics do not always lead to outcomes that are in the customer's interests.** The principle behind a European market and international competition is that this contributes to households' financial well-being. This principle however does not always apply in financial services. We see this for example among internationally operating brokers who, in their effort to boost trading volume, offer incentives to retail investors to execute many transactions. They do this by competing fiercely on the basis of zero commission and what appears to be a low-cost service. But high trading volume is certainly not always in the interests of a retail investor. This risk, that competition does not lead to outcomes that are in the customer's interests, makes it important to systematically analyse the extent to which the features of a particular market and the nature of competition within that market contribute to or indeed harm the customer's interests. Digitalisation, together with increasing internationalisation, makes it easier for providers to offer financial products across national borders. Malicious providers, possibly with a European passport from another EU Member State, are increasingly targeting consumers via the internet and apps. The limitations of national supervision in an international market and the resulting weak control over cross-border operators are another factor accommodating these malicious providers. In this context, we strongly support harmonisation of legislation and regulation in Europe.

### Integrity and criminal behaviour in the financial sector

**The circumstances for an increase in investment fraud are present.** Investment fraud that aims to harm households is an example of criminal behaviour. The inflow of new investors and the ability to trade easily online mean that a favourable environment for investment fraud is very much in place.

## Risk map for financial services

| # | Key words | Specific risk | Drivers | Importance |
|---|---|---|---|---|
| 1 | Pensions (transition) | The pensions transition is complex and raises unrealistic expectations regarding the pensions of scheme members because the information is not correct, clear, timely or balanced. The pension scheme does not match the risks that the scheme members are able and willing to bear.<br><br>Errors in pension administrations lead to errors in conversion, both during the transition and when life events occur.<br><br>Due to lack of understanding, households make suboptimal decisions when choosing to take a lump sum payment when they retire, or opt for risky products and/or less reliable providers. | • New legislation | high, increase |
| 2 | Excessive borrowing | Large mortgage or consumer loans make consumers vulnerable in case of a decline in purchasing power, changes in personal circumstances or rising interest rates. Households, small business owners, flexible workers affected by a loss of purchasing power may be tempted to look for alternative sources of funding such as pay-day loans, Buy Now Pay Later and forms of private lease<br><br>Increasing usage of exceptions to the lending standards for mortgages makes households more financially vulnerable. | • High inflation<br>• Rising interest rates | high, unchanged |
| 3 | Turn in the markets | Current prices for equities, bonds and cryptocurrencies are not recovering, meaning low pay-outs for retail investors from investment-linked insurance policies and mortgages, financial losses due to high-risk investment with borrowed money or money that will be needed in the future, and loss of confidence.<br><br>Investment firms limit their effects of loss of revenue by means of aggressive marketing and less attention to their customers' interests. | • Rising interest rates<br>• Supervisory arbitrage<br>• Margin pressure | increased, unchanged |
| 4 | Suboptimal decision behaviour | The choice environment at online investment firms and encouraging messages from finfluencers tempt investors into suboptimal behaviour, such as overtrading and inadequate risk diversification, leading to poor results or highly risky investments, either intentionally or otherwise.<br><br>Households fail to take out insurance for risks that they (or their dependants) are unable to bear (premature death, funeral expenses, occupational disability, job losses, sickness). We see a similar pattern with companies (for example, cyber insurance). | • Digitalisation (gamification, influencers and social media) | high, unchanged |
| 5 | Service convenience | Digitalisation has made many products simple, frictionless and easily accessible, as a result of which customers do not employ sufficient consideration or comparison when making significant financial decisions, such as taking out a loan or investing on an execution-only basis in exotic and/or crypto-related instruments.<br><br>Another aspect of this service convenience is that digitalisation leads to less access for some groups (such as older people, those with low literacy and migrants) with less digital skills. | • Digitalisation | increased, increase |

**LEGENDS**

- very high
- high
- increased
- low

- increase
- unchanged
- decline

## Risk map for financial services

| # | Key words | Specific risk | Drivers | Importance |
|---|---|---|---|---|
| 6 | **Less access to financial products** | Losses due to climate change are increasingly becoming uninsurable, for example flooding, extreme weather and subsidence. The expectations of households do not correspond to this reality.<br><br>Increasing risk selection and the related setting of premiums is making certain risks almost uninsurable.<br><br>Implementation of the Wwft and Sanctions Act is limiting access to financial services for bona fide individuals, organisations and sectors. | • Climate change<br>• Digitalisation (AI/ big data)<br>• Tighter legislation | ● ↗ |
| 7 | **Consolidatie FD-partijen** | Consolidation in the market for financial services is pressuring the quality of the services provided.<br><br>Small independent financial services providers are having difficulty in ensuring the continuity and quality of their services due to competitive pressure, regulation and the need for new investment.<br><br>Consolidated and/or fast-growing financial services providers do not have their control, assurance and compliance in order. Acquisition by investors or private equity is leading to a more limited offering of financial services and cost-cutting on customer contact. | • Margin pressure<br>• Increasing legislative requirements | ● → |
| 8 | **Greenwashing** | Institutions are marketing their products as featuring sustainability, while the underlying activities and investments do not make any contribution to sustainability. | • Sustainability<br>• New legislation | ● ↗ |
| 9 | **Criminal behaviour in investments** | Parties in the investment market that are not subject to (regular) supervision (registered managers, exempt providers, finfluencers) and parties that evade supervision (illegal managers and investment firms) display criminal behaviour and harm investors with misleading investment advice and fraudulent investments. Digitalisation (in the form of apps and cryptocurrencies), internationalisation and increasing interest in investing independently are increasing the offering and reach of these parties towards inexperienced investors. | • Digitalisation<br>• Internationalisering | ● → |
| 10 | **Criminal behaviour in financial services** | The overheating in the housing market, rising inflation and sharply rising energy prices may make consumers more likely to get into difficulties as a result of unsuitable or illegal financial services, such as pay-day loans. These conditions could also prompt consumers in vulnerable situations to look for a solution in mortgage or insurance fraud (with or without the cooperation of a financial services provider). | • Rising interest rates<br>• High inflation | ● ↗ |

**LEGENDS**

- very high
- high
- increased
- low

- increase
- unchanged
- decline

## 2.2 Risk map for capital markets

*Our objectives – promoting fair trading behaviour and transparent and robust capital markets– do not materially change. There is thus continuity in the types of risk that we supervise. These include the risk of market abuse, a failure of critical infrastructure or deficient provision of information by issuing institutions. While our objectives may not change to any significant extent, the wider environment and the capital markets themselves are constantly changing. We see the increase in uncertainty and high volatility as an important new development. In addition, trends of sustainability and digitalisation continue to have an effect on capital markets. There is an increased need for accurate ESG information, and as a supervisor, we are obtaining more tools to monitor the digital operational resilience of institutions. This year, we have identified seven specific risks in our analysis.*

### The macroeconomic climate

**Large price fluctuations can disrupt the orderly functioning of markets.** The capital markets are volatile, due to macroeconomic factors (high inflation, driven mainly by energy prices, tighter monetary policy and rising market interest rates), but also due to geopolitical tensions. This has led to abrupt and sharp movements in the market. The issue is whether the capital markets will continue to be able to adequately absorb these shocks. The effect of these exceptional circumstances and high volatility on the behaviour of market participants and the operation of the infrastructure is difficult to predict. Winter is coming, but it is not clear whether we are on the verge of a lengthy recession or the economy will be able to recover relatively quickly. This makes analysis difficult. We have identified five potential effects of high price volatility:

A. Liquidity providers may withdraw from the market in case of a severe price shock due to risk management considerations. This would have a self-reinforcing effect, as a withdrawal by liquidity providers would increase price volatility.
B. Trading algorithms will not function in a controlled and fair manner in unforeseen market conditions. It is particularly important that algorithms and their controls operate appropriately in conditions of high volatility. Interference between algorithms could lead to undesirable self-reinforcing effects, or herd behaviour.
C. Traders may suffer losses as a result of price movements and then get into liquidity problems due to margin calls. This may force them to close positions at a loss or result in forced sales of other assets. The same applies to nonfinancial businesses (such as energy companies) with less stringent capital requirements and limited access to the money markets.
D. Clearing members may experience problems due to losses by their customers. This could occur because of historically exceptional price movements (underestimation of the risk profile of assets).
E. Issuers may be more cautious in sharing information as a result of the increased uncertainty. This will be to the detriment of the information position of investors, especially in times of unrest.

How large price fluctuations could disrupt the orderly functioning of the gas futures markets is explained in section 3 'The gas futures market'

### Internationalisation and digitalisation

**Dependencies in the trading chain make markets less robust.** The functioning of some markets depends on a few internationally operating institutions. These parties have a crucial role in price formation, trade settlement and the provision of liquidity. We see such concentrations in the stock, repo, gas and carbon derivatives markets. Euronext, CME and ICE Endex have crucial roles with respect to trading and price formation in their respective markets. In addition, there are certain players with a dominant position in the posttrade infrastructure. Depending on the type of instrument concerned, clearing members such as ABN AMRO Clearing and Goldman Sachs account for the majority of trade settlements. Complex and detailed legislation means acting as a clearing member is not an attractive option. Lastly, we see that a number of (smaller) liquidity providers are surrendering their licences or focusing on specific markets, as a result of which only a limited number of market makers remain in certain markets. Operating as a market maker requires high investment (in technology, capital and specialist personnel) in a highly regulated environment. Liquidity is further reduced

by the withdrawal of banks, which are increasingly using less of their scarce capital to take positions and provide liquidity. This is leading to a winner-takes-all dynamic, in which only a few parties will survive.

**Digital operational resilience is becoming an increasingly important issue.** Many advanced information-processing technology businesses are involved in the capital markets. A controlled business operation at these internationally operating institutions is essential for the proper functioning of the market as a whole. The risk is that these market parties will fail to keep up with the requirements set by a rapidly changing and digitalising environment.

**The quality of data needs to improve.** The quality and consistency of data provided by market parties are still inadequate, meaning that investors and supervisors do not have sufficient information on markets, prices and risks. Equal access to high quality information is a precondition for properly functioning markets. Internationalisation, digitalisation and legislation have all contributed to a shift from local physical trading to international electronic trading and additional transparency requirements for market parties. Additionally, the dozens of trading platforms in various countries mean that the European financial market is highly fragmented. This limits the availability of centralised market and price information, weakens the information position of investors and reduces the efficiency of investment decisions. We are therefore a strong proponent of a consolidated tape, which will enable centralised gathering of fragmented trading information. For this, the consistency and quality of the data that market parties supply to supervisors need to improve.

**Stablecoins have turned out to be less stable than their name might suggest.** Digital currencies have gained popularity around the world in recent years. But this year, several well-known stablecoins have been highly volatile, and even unstable. Lack of transparency in relation to cryptocurrencies could pressure the integrity of the crypto market. Cryptocurrencies are generally not covered by the mandates of the supervisory authorities.

### Sustainability, the energy transition and geopolitical tensions

**Incorrect or incomplete ESG information may lead to suboptimal investment decisions.** Institutional and retail investors increasingly need non-financial information on the sustainability profile of issuing institutions. This ESG classification has an influence on capital allocation. Correct and complete information to investors on ESG performance is not a given. The norms are not yet fully defined and are to some extent subjective. Even if issuers comply with regulation, there is still the question of how much this actually says about the sustainability of their performance. In addition, there is an incentive for issuers to present their activities as more sustainable than they actually are (greenwashing). This makes it easier for them to raise funding: they usually have to pay less interest and they present an image of sustainability to investors and consumers. Exaggerating the sustainability of performance, either intentionally or otherwise, creates a gap between perceived and actual sustainability performance. This may lead to inappropriate inclusion in an ESG benchmark and hinders accurate valuation ('stranded assets'). Erosion of confidence in sustainability norms may occur as a negative side-effect of incidents involving greenwashing.

### Integrity and criminal behaviour

**Increased attention to inside information in commodity markets.** The increase in energy prices has put the market for gas derivatives under intense scrutiny. Politicians and policymakers are considering ways to mitigate the impact of higher energy prices on the economy and households. Implementation of regulation may lead to sharp price movements. Insiders will therefore have an information advantage that could strongly influence prices, in this case the price of gas derivatives. Insiders need to be aware of this and exercise due care in this respect. More details of this are presented in section 3.

## Risk map for capital markets

| # | Key words | Specific risk | Drivers | Importance |
|---|---|---|---|---|
| 1 | **Pressure on the orderly functioning of markets** | The sum of all the uncertainties is putting pressure on the orderly functioning of the capital markets. This is leading to exaggerated market reactions, new possibilities for undesirable behaviour, or unexpected inefficiencies. The uncertainties stem from macroeconomic factors (rising inflation and interest rates, supply shocks in the real economy, and tighter monetary policy), associated shocks (cryptocurrencies), geopolitical tensions (Russia, the energy transition), and climate change. So far, the capital markets have remained robust in exceptional circumstances. | • Macroeconomic climate<br>• Geopolitical tensions<br>• Digitalisation<br>• Sustainability and the energy transition | high, increase |
| 2 | **Dependence** | The capital markets are exposed to a failure of a single player in the infrastructure that could bring trading to a halt, hinder price formation or in the worst case, affect the real economy. This market dynamic is leading towards a winner takes all situation, and detailed and complex regulation is raising barriers to accession. As a result, only a few dominant players remain in parts of the market and the trading chain, which makes the markets less robust. | • Digitalisation<br>• Legislation | very high, unchanged |
| 3 | **Digital operational resilience** | A controlled business operation at these market parties will fail to keep up with the requirements set by a rapidly changing and digitalising environment. Many advanced information-processing technology businesses are involved in the capital markets. A controlled business operation at individual institutions is essential for the proper functioning of the market as a whole. There are concerns regarding operational control and resilience in relation to outages, cyber security and the functioning of algorithms. | • Digitalisation<br>• Geopolitical tensions<br>• Legislation | high, increase |
| 4 | **Data quality** | Lack of centralised market and price information weakens the information position of investors and reduces the efficiency of investment decisions. The consistency and quality of the data that market parties supply need to improve. With dozens of trading platforms in various countries, the European financial market is highly fragmented and there is currently not enough availability of centralised market and price information. The AFM is a strong proponent of a consolidated tape. | • Digitalisation<br>• Legislation | high, unchanged |
| 5 | **Cryptocurrencies** | Lack of transparency in relation to some cryptocurrencies (stablecoins) is pressuring the integrity of the crypto market as a whole. A scandal or loss of confidence leading to a 'crypto collapse' would not only mean direct financial losses for crypto investors, such a shock would also have an impact on the conventional financial markets. A shock could lead to destabilisation of the short-term funding markets, to a wider sentimentdriven flight from riskier assets (such as equities) to safe havens (such as bonds or cash), and heavy losses in the settlement of crypto derivatives. | • Digitalisation | increased, unchanged |

**LEGENDS**

- very high
- high
- increased
- low

- increase
- unchanged
- decline

## Risk map for capital markets

| # | Key words | Specific risk | Drivers | Importance |
|---|---|---|---|---|
| 6 | Greenwashing, sustainability | Issuing institutions may intentionally provide incomplete or incorrect ESG information. ESG is becoming an increasingly important consideration for society and investors, creating a greater need for information on an issuer's sustainability performance. These parties may however have an incentive to present their ESG qualifications more favourably than is the case (thus giving a positive signal to society, presenting themselves as attractive for institutional green mandates and reducing the costs of capital), leading to greater information asymmetry between company and investor and potential suboptimal investment decisions. | • Sustainability and the energy transition | ● ↗ |
| 7 | Inside information in the commodity markets | Insiders may have an information advantage with respect to developments that could affect the prices of emission rights or gas derivatives. This information advantage will become more urgent and more sensitive as the commodity markets come under greater scrutiny due to high energy prices as a result of geopolitical tensions and the energy transition. Examples of such an information advantage are: political decision making on how to deal with high energy prices; the inventory of emission rights; or practical information on faster-than-expected supplementation of gas supplies. | • Sustainability and the energy transition<br>• Geopolitical tensions | ● ↗ |

**LEGENDS**

- ● very high
- ● high
- ● increased
- ● low

- ↗ increase
- → unchanged
- ↘ decline

## 2.3 Risk map for asset management

*The AFM's mission with respect to asset management concerns supervision to ensure a robust and agile asset management sector for investors. Our supervision protects investors and consumers who have, directly or indirectly, placed their money with asset managers. Asset managers invest the assets of large Dutch investors, such as pension funds and insurers, and of retail investors, in the capital markets. Our supervision contributes to ensuring that investor interests are safeguarded.*

### Sector-specific developments

**The asset management landscape is changing, forcing individual asset management parties to reposition themselves in order to ensure their continuity.** The changes in this landscape are due to, among other reasons, increased scale and margin pressure, the growth of (online) passive (index) investing, increasing legislation and regulation, and issues related to delegation. Individually, these factors may create opportunities, but in aggregate they are creating a need for individual asset managers to reposition themselves strategically to ensure their continuity. The growth of the asset management sector also means that its importance for financial stability has increased. One of the consequences of this repositioning is a trend towards consolidation. While consolidation may contribute to strengthening the future viability of the market, it will also reduce the number of players in the market. In this respect, this may mean that pension funds, insurers and retail investors will have fewer providers to choose from. While the number of large players with a broad offering is declining, and there is still see room for specialist parties, we see that the middle segment is coming under pressure. Furthermore, we have seen a trend that asset managers focusing on the professional market are (re) orienting towards the fiduciary model and the potential impact of the pensions transition for their fiduciary and other services.

**Outsourcing, if not adequately controlled, can lead to risks in the supply chain and/or in business-critical processes.** Outsourcing is becoming increasingly important in the asset management sector. Besides investment administration and IT, the outsourcing of activities requiring a licence such as portfolio management and asset management is also increasing. Reasons for delegation may include operational complexity, cost savings and/or a focus on differentiating activities. If asset managers outsource activities to third parties, they are still responsible for these activities. As a result, it is important that appropriate agreements and controls are put in place to ensure the delivery of services to customers and investors is not jeopardised. In addition, there is a possibility of concentration risk in cases where multiple asset managers depend on a few third parties for certain activities. Problems at one of these third parties could therefore cause problems at many asset managers. We accordingly monitor the extent of outsourcing in the asset management sector and inform market parties of the risks.[1]

**The new pensions system, for which the transition has to be completed in 2027, will have consequences for the asset management sector.** AAs the supervisor of this sector, we have a specific interest in how asset managers and fiduciary parties are dealing with the pensions transition in areas such as investment policy, risk tolerance, product development, operational (due diligence) procedures and supervisory and other reporting. The procedures and IT systems at asset managers need to be prepared for this. Especially in cases where pension funds choose different methods of conversion and/or how returns are allocated, this could increase the complexity of asset managers' business operations.

[1] See for example the letter sent to the sector on the management of outsourcing risks.

### The macroeconomic climate

**The recent volatile developments of inflation and interest rates is increasing the risk of liquidity problems at asset managers.**The macroeconomic outlook is currently uncertain. Inflation rates are sky-high and interest rates are rising.These developments could lead to an increase in liquidity risks in the asset management sector. Asset managers with large derivatives portfolios may experience liquidity shortages when they are faced with large margin calls in the case of increased volatility in the underlying securities. Openend investment funds could also experience heavy outflow of assets if many investors or a few large investors wish to pull out at the same time due to market stress, for instance. Both these situations could cause liquidity problems if a fund's assets cannot be liquidated fast enough to meet requests for withdrawal and/or margin calls. This risk is most relevant for investment funds that invest in asset classes that are inherently illiquid (such as direct real estate) or in which liquidity will rapidly dry up in volatile market conditions (such as corporate bonds). Firstly, liquidity risk can lead to valuation problems and measures to restrict liquidity. Secondly, liquidity risk has the potential to threaten financial stability, as it can lead to forced asset sales, a transfer of risk to counterparties in derivatives contracts, the drying up of credit intermediation or contagion of other funds and asset classes as a result of a loss of confidence by investors.

### Sustainability

**Financial institutions, including asset managers, play an important role in the sustainability transition.** They mobilise capital for sustainable investment and prioritise sustainability aspects in the operations of the businesses in which they invest. For asset managers, it is important that they integrate sustainability in their business operation and manage the risks of the sustainability transition.

There is additionally an important role for the providers of independent data on the sustainability of investment instruments. Asset managers need to be transparent towards their investors as to how they take account of sustainability. The lack of reliable data for measuring sustainability performance may contribute to greenwashing. It is thus important that we have a uniform definition of what is sustainable, so that market parties and products will be comparable. An EU Taxonomy is being developed for this, part of which has been in force since the beginning of 2022.[2]

### Digitalisation

**Technological developments and digitalisation are changing how asset managers operate their businesses and the entire asset management chain.** Asset managers are increasingly using Artificial Intelligence (AI) and trading algorithms. A number of large players already use AI systems, for both portfolio management and operational matters, including first and second line applications in risk management and compliance. The advantages of AI are high-speed trading and low cost. There are items of attention from a supervisory perspective, such as transparency regarding investment policy, cyber resilience and potential domino effects, for example from cyber incidents that can cause financial instability. Systems need to be better secured and procedures and processes need to be in place to adequately manage risks and their consequences. New legislation (Digital Operational Resilience Act, or DORA) is in preparation, and this will provide a more tangible starting point for our supervision. Timely anticipation of digital developments is essential to ensure that confidence in the sector is maintained.

**There is as yet very little investment in digital assets, such as cryptocurrencies and stablecoins, in the asset management sector.** The main reason for this is that cryptocurrencies fluctuate widely in value and their status is unclear as they are not subject to regulation. Nonetheless, we are seeing a small increase in the number of (mainly) 'light' managers investing in (risky) cryptocurrencies. For us, it is important to keep track of developments at the asset management parties investing in digital assets, as

[2] 'EU taxonomy for sustainable activities', European Commission.

this is a relatively new asset class. This could change the current landscape in the future and influence new and existing players. Furthermore, digital assets form a risk for financial stability if their scale and interrelationship with the traditional financial sector continues to grow.

### Integrity and criminal behaviour in the financial sector

**The combating of money laundering, the financing of terrorism and offences against the Sanctions Act may create a waterbed effect.** Financial institutions have a gatekeeping role in the combating of money laundering, terrorism financing and the provision of services to sanctioned entities. The sanctions imposed as a result of Russia's invasion of Ukraine, in combination with continuing political and public attention to money laundering and the financing of terrorism, are increasing pressure on the performance of this gatekeeping role. Combating unethical and criminal behaviour can create a waterbed effect, as dealing with one channel through which these transactions are effected can lead to greater pressure on other channels. Because of this, there is a possibility that the risk of money laundering will transfer to asset managers as the banks give further prominence to their gatekeeping role. Legislation requires these institutions to properly perform their gatekeeping function, including a systematic assessment of integrity risk and transaction monitoring in accordance with the provisions of the Wwft, Wft and the Sanctions Act.

## Risk map for asset management

| # | Key words | Specific risk | Drivers | Importance |
|---|---|---|---|---|
| 1 | **Strategy of market participants** | The changing internal and external environment – involving scale and margin pressure, the rise of (online) passive investing, increasing legislation and regulation and outsourcing issues – is forcing individual asset management parties to reposition themselves strategically to ensure their continuity. These developments, and the consequent strategic repositioning, are pressuring the maintenance of an ethical and controlled business operation at asset managers. | • Digitalisation<br>• The pensions transition<br>• Margin pressure<br>• Outsourcing | high, unchanged |
| 2 | **ESG information provision and risk management** | Current legislation on sustainability allows asset managers to give their own interpretation to their sustainability strategies.<br><br>This is leading to an information asymmetry between provider and customer and creates the possibility of greenwashing. There is also a risk that asset managers do not take account of sustainability aspects in the approach and design of their controlled business operation. | • Sustainability<br>• New legislation | high, increase |
| 3 | **Valuation of assets** | Outliers may occur in the valuation of assets, and as a result, direct or indirect losses can be sustained by the current party, the buyer or the seller. Errors in the calculation of net asset value are more likely to occur (1) in the valuation of illiquid assets (high yield debt, mortgages, corporate bonds, etc.), (2) in illiquid and volatile markets (e.g. due to geopolitical tensions); (3) for stranded assets (such as Russian assets); (4) for commercial real estate (e.g. due to timelag). | • High inflation<br>• Rising interest rates<br>• Geopolitical tensions | increased, increase |
| 4 | **Liquidity** | The recent volatile developments of inflation and interest rates is increasing the risk of liquidity problems at asset managers. Derivatives portfolios may be faced with high margin calls due to increased volatility in the underlying securities, or openend investment funds may have to deal with heavy outflow of capital if many (or a few large) investors wish to exit at the same time, for instance at a time of high market stress. In both cases, the fund will need to have sufficient available liquidity. If the demand for liquidity cannot be met, investors will face losses and there could be a threat to the financial stability of the system. | • High inflation<br>• Rising interest rates<br>• Geopolitical tensions | high, increase |
| 5 | **Cyber resilience** | As entities, asset management parties are exposed to cyber-attacks, especially as remote working is now more common, and they have become increasingly reliant on digital processes. The asset management sector appears to be still inadequately resilient against cyber incidents, also as a result of the use of legacy IT systems. A cyber incident can damage confidence in and the continuity of an asset management party. | • Digitalisation<br>• Outsourcing<br>• Geopolitical tensions | high, increase |

**LEGENDS**

- very high
- high
- increased
- low

- increase
- unchanged
- decline

## Risk map for asset management

| # | Key words | Specific risk | Drivers | Importance |
|---|---|---|---|---|
| 6 | **Outsourcing and concentration in the AM sector** | The outsourcing of activities (portfolio management, (investment) administration, IT) by asset managers has become more common over the years. Asset managers are still responsible for the activities that they delegate. As a result, incidents may cause pressure on the ethical and controlled business operation of asset managers. Outsourcing also leads to concentration risk. This is the case when multiple asset managers depend on a few third parties for certain activities (domino effect). | • Digitalisation<br>• Internationalisation<br>• Margin pressure |   |
| 7 | **AI and investment policy** | The use of algorithms, Artificial Intelligence (AI) and Machine Learning (ML) by asset managers continues to increase. This raises questions regarding transparency regarding investment policy towards investors (black box) and risk management by individual asset managers (data quality and preventing biases). In addition, in extreme cases, errors in algorithms – for instance when large asset managers are involved – can lead to financial instability. | • Digitalisation<br>• Outsourcing |   |
| 8 | **Inadequate performance of gatekeeping function** | Financial institutions have a gatekeeping role in the combating of money laundering, terrorism financing and the provision of services to sanctioned entities. The sanctions imposed as a result of Russia's invasion of Ukraine, in combination with continuing political and public attention to money laundering and the financing of terrorism, are increasing pressure on the performance of this gatekeeping role. Money laundering may occur through investment firms and fund managers, partly because other gatekeepers (such as the banks) have introduced stronger barriers (the waterbed effect). The asset management sector needs to be aware of this issue. | • Geopolitical tensions<br>• Tighter legislation Internationalisation |   |

**LEGENDS**

- very high
- high
- increased
- low

- increase
- unchanged
- decline

## 2.4 Risk map for financial reporting and audit firms

*Relevant and reliable information for end users of reporting and statutory audits is a crucial precondition for fair and transparent financial markets. The AFM accordingly supervises reporting and the auditing of this reporting by audit firms. The operation of this chain is essential for the availability of correct information in the market. An issuing institution reports on its financial and non-financial performance, and the audit firm provides assurance with its audit opinion. If this chain does not operate correctly, this can lead to a lack of information, incorrect information or lack of confidence in this information among end users, who use this information as a basis for their investment decisions. This can lead to poor investment decisions, or in extreme cases, to financial losses due to fraud.*

### Sector-specific developments

**The audit sector and its supervision are in a process of change.** The recent transfer of executive supervision of firms with a regular audit licence[3] to the AFM is a significant aspect of this development.[4] We are just beginning this new supervisory task. The risks identified in the risk map should be viewed in this context.

### The macroeconomic climate

**The withdrawal of government support means that the ability to continue as a going concern requires closer attention.** Relatively few companies filed for bankruptcy during the pandemic. Now that government support has come to an end and the economic cycle also appears to be turning, there is a possibility that companies will fail. This means that continuity risk in reporting and auditing has become more important (see also under integrity and criminal behaviour in the financial sector).

**The audit sector is experiencing tightness in the labour market, and has been dealing with a shortage of personnel even before the tightening seen in the wider labour market.** Further tightness at macroeconomic level is also expected to affect the labour market for accountancy-related professions (in general, so including controllers, bookkeepers, and assistant accountants). Meanwhile, demand for audits is increasing: partly as a result of inflation, more companies are passing the threshold for a statutory audit and the scope of this audit is increasing, for instance with the inclusion of nonfinancial information. Staff shortages may be addressed by means of delegation, which may lead to risks in relation to control.

### Sustainability

**Sustainability is changing the nature of an audited entity, and reporting and auditing has to adjust to this.** Companies are increasingly committing themselves to ESG goals. This also involves new material risks for companies, such as the effects of sustainability policy, for which there is an increasing need for information by end users and which have to be adequately disclosed. Audit firms may not have sufficient knowledge and expertise available in relation to these developments at their clients to adjust their audit approach accordingly.

### Digitalisation

**Digitalisation is changing the nature of an audited entity, and reporting and auditing has to adjust to this.** Organisations are adopting new technologies in their processes, services and products. Besides this increase in automation, there are new business models, more and more processes at organisations are supported by AI and sales are increasingly made through digital channels to meet the demands of the digital society. We are also seeing an increase in the importance of intangible assets (such as intellectual property), which may be more difficult to value in financial terms. This is leading to new kinds of material risk, and a growing need for information by

[3] Audit firms with a regular audit licence are not licensed to audit public interest entities.
[4] See also the note in section 1.6.

end users. It is important that companies adjust their reporting accordingly, and that audit firms have adequate expertise available to design their audit approach appropriately.

**The audit firms are also changing as a result of digitalisation.** Like other sectors, audit firms are using digitalisation in their business operations, both as an instrument for the performance of statutory audits and in their quality control and other internal processes. If the controls are inadequate, the quality of a statutory audit may suffer and there may be operational risks such as cyber incidents.

### Integrity and criminal behaviour in the financial sector

**Fraud and the ability to continue as a going concern are becoming more important items of attention in audits.** Fraud or the inability to continue as a going concern at an audited company that is not identified or stated in a statutory audit may lead to material losses by end uses and a broader loss of confidence in the financial markets. This concerns fraud in the wider sense, and may for instance concern greenwashing besides financial fraud. Increasing internationalisation, the tax conditions in the Netherlands and undermining are increasing fraud and integrity risks at audit clients.

**In addition, integrity incidents at audit firms, such as involvement in corruption or fraud at audit clients or at the audit firm itself will damage confidence in the sector.** This risk is partly due to the favourable tax conditions in the Netherlands, which are attractive for businesses with limited substance and/or greater integrity risks from other countries. We also see that due to this risk, clients with a higher integrity risk will be more likely to be refused by the Big 4 firms and consequently resort to a smaller audit firm, which is less prominent on the AFM's radar at this time. The transfer of executive supervision of the regular audit segment to the AFM will mean increased attention to this issue and the gathering of insight into integrity risks in this segment.

## Risk map for financial reporting and audit firms

| | Key words | Specific risk | Drivers | Importance |
|---|---|---|---|---|
| 1 | **Digitalisation at audited companies** | Digitalisation and technology are changing the nature of companies. Companies are adopting new technologies in their processes, services and products. This also involves new material risks for companies, such as damage from cyber attacks, for which there is an increasing need for information by end users and which have to be adequately disclosed. Audit firms may not have sufficient knowledge and expertise available in relation to these developments at their clients to adjust their audits appropriately. | • Digitalisation | ● ↗ |
| 2 | **Sustainability at audited companies** | Sustainability is changing the nature of companies. Companies are increasingly committing themselves to ESG goals. This also involves new material risks for companies, such as the effects of sustainability policy, for which there is an increasing need for information by end users and which have to be adequately disclosed (including the reporting of non-financial information). Audit firms may not have sufficient knowledge and expertise available in relation to these developments at their clients to adjust their audits appropriately. | • Sustainability | ● ↗ |
| 3 | **Fraud and inability to continue as a going concern at audited companies** | Fraud (in the broad sense, so including money laundering, greenwashing, selective outscoping of NFI, corruption, etc.) or the inability of a company to continue as a going concern that is not detected or stated in a statutory audit may lead to material losses for end users and a broader loss of confidence in the financial market. Increasing internationalisation, the tax conditions in the Netherlands and undermining are increasing integrity risks at audit clients. | • Internationalisation<br>• Undermining | ● ↗ |
| 4 | **Controlled and ethical business conduct at audit firms** | Audit firms may have inadequate controls in relation to the use of technology and data in their business operations, including as an instrument for the performance of statutory audits and their internal processes. This may harm the quality of statutory audits and lead to operational risks, such as cyber incidents and inadequate control of delegation risk. In addition, integrity incidents at audit firms, such as corruption or fraud by the audit firm itself damages confidence in the sector. | • Digitalisation<br>• Delegation | ● → |
| 5 | **Market structure** | The vulnerabilities in the structure of the audit sector may negatively affect the further improvement of the quality of statutory audits. The risk for supervision in the PIE segment is that – given this structure – the improvement in quality that has begun will stagnate as quality is not permanently safeguarded. For the regular audit firm segment, which is now subject to executive supervision by the AFM, the risk for supervision is that the AFM does not have sufficient insight into the quality of statutory audits and the extent to which structural weaknesses are negatively affecting quality. | • Changing supervisory landscape | ● → |

**LEGENDS**

- ● very high
- ● high
- ● increased
- ● low

- ↗ increase
- → unchanged
- ↘ decline

03

# The gas futures market

An analysis of how the gas futures market functions

## 3.1 Introduction

**After years of relatively stable prices, the gas market has seen extraordinary volatility this year.** Gas supplies in Europe have been under severe pressure, due mainly to the war in Ukraine and the sharply reduced supply of Russian gas. The rapid decline in production due to the proposed closure of the gas field in Groningen, one of the largest reserves of natural gas in the world, has also been a factor. Gas, as a relatively clean alternative to more polluting fossil fuels such as coal, has moreover gained an important position in the energy transition, which has increased demand. The price of gas has increased exponentially, especially during the past year. This has far-reaching consequences for everyone. As the supervisor of one of the most important trading venues for gas, the Dutch gas futures market, we are closely monitoring developments in this market. For us, the most important consideration is that the gas futures market continues to function effectively.

**This analysis looks at how the gas futures market functions and the risks in the current situation in more detail.** In paragraph 2, we explain current developments in the gas market. In paragraphs 3 and 4, we discuss the functioning and utility of the gas market and the gas futures market. The risks to the effective functioning of the gas futures market are explained in paragraph 5. Based on our supervisory responsibility, we focus on risks relating to fair trading behaviour, robust markets and financial stability.

**We conclude that the gas futures market is functioning as intended.** Calls for measures in times of turbulence are understandable, but technical measures in the gas futures market are not an alternative to addressing supply and demand in the gas market. The gas futures market benefits most from measures that support efficient price formation and stable liquidity. For example, the prevention or restriction of excessive volatility and strengthening the liquidity position of players in the market. Generic measures such as setting a maximum price at which gas can be traded may have unintended negative effects.

## 3.2 Recent developments

**The price of gas has risen sharply since the beginning of 2021.** The price in January 2021 was around €15. By September 2022, it was roughly 15 times higher. The price peaked at the end of August at around €350 per MWh, see figure 11. The rise in the price of gas began with the reopening of the global economy following the COVID19 lockdowns. After that, tension due to the approaching war in Ukraine and Russia's actual invasion drove gas prices to unprecedented levels. The main cause of higher prices since the beginning of 2022 has been the limited supply of Russian gas. Governments accordingly began to worry whether there would be enough gas to get through the winter. To boost gas supplies faster than usual, governments decided to encourage gas purchases. This had the desired effect, but it also increased the imbalance between supply and demand and drove prices higher.

Figure 11. Volatile rise in the gas price since 2020.


Source: Refinitiv.

**Several energy parties in other countries experienced financial problems because of the price volatility.** For example, the German government had to intervene and nationalise Uniper because of liquidity problems. Although a number of smaller energy suppliers in the Netherlands did go bankrupt as a result of high energy prices, so far none of the large Dutch energy companies have experienced liquidity problems, partly because most of them are part of large international groups. These parties are thus well capitalised and can usually raise short-term funds relatively easily.

**A shortage of gas in the coming winters could cause the most serious social problems.** This risk appears to be under control. The government expects that gas supplies are now sufficient for the coming winter. If extreme circumstances (such as a hard winter, outages at nuclear power stations, sabotage of essential infrastructure) occur and there is not enough gas available, governments will have to impose rationing, for instance by cutting off supply to parts of industry.

**The high gas price is having severe economic effects, prompting governments to act.** Higher energy costs will seriously reduce household purchasing power, weaken the profitability and (international) competitiveness of companies, generally increase inflation, hinder economic growth and lead to rising unemployment. We will thus all become poorer, but not everyone will be equally affected. Acute problems will develop mainly at households that are already in a vulnerable position. The rise in the gas price has been so volatile that the Dutch government has decided to compensate households and set a price ceiling for gas and electricity in 2023. But such measures can also have negative effects. A price ceiling can remove any incentive to make savings. Various other European governments have intervened to alleviate the effects of higher prices in one way or another.

**This raises the question of whether the gas futures market is still functioning effectively in the current turbulent market conditions.** Uncertainty regarding supply and the high gas price has put pressure on the gas futures market. How far has this caused a number of large electricity suppliers to get into acute liquidity problems? Are the required 'buffer conditions' exceeding their objective? Are prices currently artificially high? Is the market still sufficiently diverse? What are the implications of price caps for the operation of the market? What are the consequences of the proposed measures for the functioning of the gas futures market? In this analysis we take a closer look at these questions.

## 3.3 The functioning of the gas market

**The most important gas hub in Western Europe is situated in the Netherlands.** The Netherlands has historically been a major player in the European gas market, and has been a major gas exporter for several decades. In addition, the Netherlands has invested heavily in the gas network since the liberalisation of the gas market in early 2000. The Netherlands can thus function as both an importer and an exporter, and has an open market infrastructure in place. The current network manager, Gasunie, set up the virtual trading platform Title Transfer Facility (TTF) in 2003. Physical gas available in the Dutch gas network is traded on this platform. Futures contracts on this gas are traded on the ICE Endex platform in Amsterdam. Together with the ACM (the Authority for Consumers & Markets), the AFM is responsible for the supervision of these combined gas markets. The AFM supervises futures trading, while the ACM supervises the gas market for deliveries of less than two days. The ACM's supervision focuses mainly on the energy suppliers and the network operators of the energy markets.

### 3.3.1 The physical gas network (GTS)

**Gasunie manages the physical network for gas storage and transport.** The Gas Transport System (GTS) consists of delivery points for gas, such as ports, pipelines, gas fields and gas storage facilities. his network ensures that gas can be supplied to gas users in the Netherlands (such as energy companies) and can be transported abroad through pipelines. Gas can also be temporarily stored in tanks or old gas fields. This network in the Netherlands is relatively extensive, due to the importance of the gas field in Groningen and because the Netherlands aims to function as the gas hub for North-West Europe and has therefore invested in this network.

**Gas from other countries enters the GTS through pipelines and LNG terminals.** To be able to use natural gas via pipelines, the pipelines and the type of gas (high or low calorific) have to be compatible. Not every region is connected via pipelines. In addition to transport through pipelines, it is possible to chill natural gas to the point that it becomes a liquid, and at that point it is possible to ship this liquid natural gas (LNG) anywhere in the world. LNG however requires treatment before it can be injected into the GTS. LNG first has to be vaporised via terminals before it can enter the pipeline network, a process known as regasification. The Netherlands currently has an operational LNG terminal in Rotterdam and a second terminal in the Eemshaven that has been in operation since September. The total regasification capacity in the Netherlands in future, with expansion of the terminal in Rotterdam, will be approximately 24 billion m3 per year. LNG can also reach the Dutch gas network from Zeebrugge in Belgium. By comparison, total usage in the Netherlands in normal times ranges from 38 to 44 billion m3 per year.

### 3.3.2 The gas trading infrastructure (TTF)

**The trading of gas in a network requires the appropriate trading infrastructure.** Gas is usually supplied in bulk and has to be split into smaller units for Dutch industry and other parties. The Title Transfer Facility (TTF) was set up to facilitate the trading and allocation of gas. The TTF functions as the counterparty for the physical delivery of gas, for both suppliers and users, in the GTS. For instance, the Nederlandse Aardolie Maatschappij (Dutch Oil Company) supplies its gas from the Groningen fields to the GTS and is paid for this by the TTF. The TTF then supplies gas to the Dutch energy companies, which pay the TTF. So the TTF is positioned between the supplier and the recipient. The TTF is thus also called the virtual entry or exit point. In combination with standardised contracts, this ensures that a liquid market exists for the supply of gas in the Dutch national and regional network.

**The gas markets are fragmented, and there is no single worldwide price for gas.** There are differences (or spreads) between for instance the European natural gas price (TTF), the US gas benchmark (Henry Hub) and the price of gas in Japan and Korea (JKM), due to different transmission mechanisms (pipelines that are not mutually connected), costs of regasification (LNG) and transport costs. These various gas prices are of course correlated. If gas is particularly cheap in a certain region and there is available capacity, LNG can be prepared for shipping to regions where gas is currently more expensive. Asia is traditionally a competitor in the bidding contest for LNG. The market thus watches the spread between the price for gas in Europe (TTF) and in Asia to determine where ships carrying LNG will be sent. So far there have been no major shortages in Europe, as Europe – partly due to the high price of TTF – has been successful in accessing the global LNG market. This analysis focuses on the wholesale price of gas. There is also a consumer price for gas, which depends on additional costs such as tax and the costs of network management. How a specific consumer market works is also a factor. This is different in every country. In the Netherlands, the ACM supervises the fair operation of the retail market.

## 3.4 The gas futures market

**The gas market has a spot market and a futures market.** In the spot market, parties buy or sell gas with immediate or short-term delivery, up to one day ahead (dayahead contract). The spot market for gas is supervised by the Netherlands Authority for Consumers and Markets (ACM). The TTF gas contracts for delivery in two or more days traded in the Netherlands qualify as financial instruments and are therefore subject to supervision by the AFM. The TTF derivative instruments are futures contracts, under which gas has to be delivered on a future date. This involves large volumes of trading. The underlying value of a standardised front month contract is roughly equivalent to the average amount of gas used by 50 households each year.

**Most of the trading in TTF futures occurs on platforms specifically designed for commodities trading.** The largest platform is the ICE Endex, which is located in the Netherlands. TTF gas is also traded on other markets, such as EEX. It is also possible to trade gas derivatives bilaterally in the OTC market. Last year, on average roughly 80% of all transactions in TTF gas contracts were

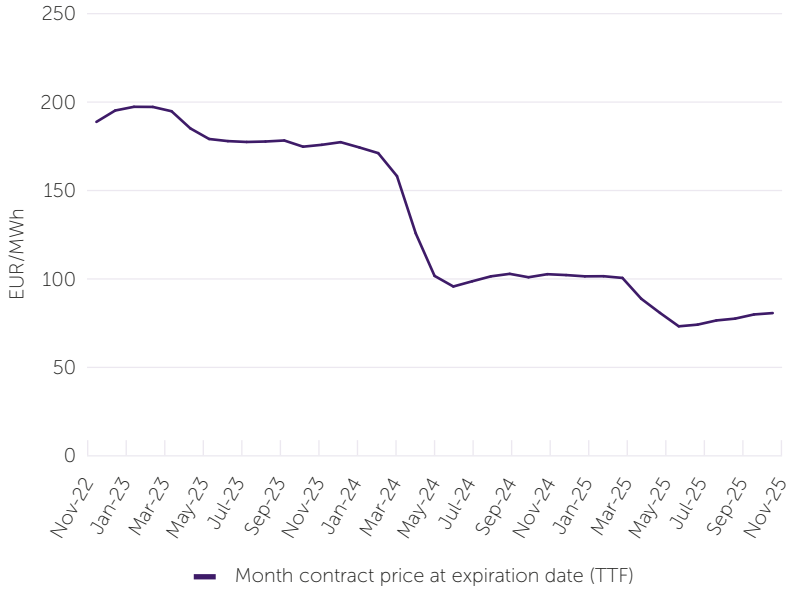
traded on platforms and 20% were traded bilaterally. Since platforms mostly provide a transparent and liquid market and feature less counterparty risk due to central clearing (see paragraph 3.4.2 on the clearing structure), market participants generally prefer to trade on a platform such as ICE Endex. There are currently approximately one million contracts open on ICE Endex.

### 3.4.1 The function of the gas futures market

**Futures markets meet an essential need by enabling participants to hedge risk.** Hedging enables parties to take sensible investment decisions and take on projects that may be too risky without risk mitigation. An important function of the gas futures market is that companies buying or selling gas have the possibility to lock in a future gas price and protect themselves against price fluctuations. These include energy producers and suppliers, which can lock in their sale or purchase prices for a longer period by trading in futures. This also benefits consumers. For example, energy suppliers that enter into fixed contracts with consumers can hedge their obligations in the futures market.

**The futures market contributes to price formation.** The gas futures market in the Netherlands is liquid and has high turnover. It thus gives a lot of information about future spot prices for gas and functions as a reference price for gas in North-West Europe. This means that market participants can get an idea of what is a correct and fair price for gas on the basis of prices in the Dutch gas futures market. The big advantage of the gas futures market is that trading volume is much higher than in the physical gas market, since futures contracts do not have to be delivered immediately.

Figure 12. The market is expecting gas prices to remain high for longer (the forward curve at 30 September 2022).




Source: ICE Endex.

**'The' European gas price is set in Amsterdam, under the supervision of the AFM.** Specifically, the 'front-month' contract – which is traded on ICE Endex – is the price of gas in North-West Europe. This is the next month contract to expire (so in August, the contract that expires on 1 September). This price is the market price on the various trading platforms, but it also affects bilateral (over-the-counter) transactions.

**Efficient price formation in the gas futures market serves the public interest.** As mentioned above, futures trading has an important role in the formation of the gas price. Because parties know what the price of gas will be in the short, medium and long term, important investment decisions can be taken. Liquid futures market help to ensure certainty of supply of gas and reduce volatility in the physical gas market. In addition, the gas futures

market is an important factor in the pricing of sustainability and the energy transition.

**The gas futures market is a meeting place for a wide variety of players.** Generally, we can distinguish four types of participant: gas producers, gas suppliers, end users, and parties that take on risk, invest and provide liquidity. Since these participants have different objectives and pursue different strategies, they can act as counterparty to each other and relevant information is reflected in prices in various ways.

**For transparent price formation and liquidity, it is important that there is a sufficient number and variety of active players.** Obviously, the gas futures market also needs counterparties in the real economy: firstly, players that can deliver gas (gas producers) and secondly players that need gas (energy suppliers). The gas producers wish to hedge against price declines, while the energy suppliers are looking to mitigate upwards price risk. These real-economy counterparties however have to wish to effect a transaction at the same time, a concept known as a 'double coincidence of wants'. Since this is not always the case, financial parties also have an important role in this market.

**The futures markets operate more efficiently if financial parties are involved.** Financial parties are sometimes also referred to as 'speculators'. For some people, this term has a solely negative connotation, but financial parties add liquidity and thereby contribute to the operation of all financial markets, including futures markets. They are willing to take on risk by trading with parties who do not wish to bear risk. They can act as a temporary counterparty and then close their position at a later date, thus providing liquidity and limiting price volatility. It is important that these parties apply various trading strategies and different time horizons. For example, there is a difference between day traders and hedge funds that are pursuing a macroeconomic strategy. Day traders with high-frequency market-making strategies enable low spreads between bid and offer prices and thus potentially lower costs of trading, while global macro hedge funds arbitrage real but temporary imbalances between supply and demand by positioning themselves for lower gas prices in the long term. By providing liquidity across the entire curve, traders can hedge their risk at lower cost. Both these financial parties process relevant information on the gas market in the price and their risk appetite in a different way. In fact, there is no clear distinction to be made between real-economy parties and financial parties. Gas producers or energy suppliers may also operate as speculators, for instance because they expect to be able to buy or sell at a better price at another time. All these parties collectively provide transparent price formation and liquidity.

### 3.4.2 Clearing structure

**Traders in the futures markets are required to provide security in advance and in situations of high volatility by posting margin.** The value of derivatives can rise or fall rapidly as a result of price movements. There is a possibility that a party will no longer be able to meet its obligations, or even go bankrupt. This counterparty risk is avoided by means of central clearing. A Central Counterparty (CCP) prevents direct mutual exposure between market participants by acting as the counterparty for each derivatives transaction executed on a platform. The parties therefore have no obligation to each other, only to the CCP. The risk for this CCP is mitigated by the obligation for trading parties to post initial margin when entering into a contract. Price developments may mean that this initial margin is not sufficient. In such a case, the party concerned is requested to deposit additional cash, known as a margin call (see Box 4). The principle of margins and margin calls ensures that the futures market remains solid, even in times of high volatility. The amount of these obligations, both the initial margin and margin calls, is set daily and calculated by CCP ICE Clear UK, which is supervised by the British central bank, the BoE. The market participants are affiliated to a CCP through clearing members. The CCP asks the clearing members for security, and they pass the request on to a trading party. The clearing members are usually large banks that can provide credit to their customers for meeting a margin call.

**Box 4. An example of how futures market and margin calls work**

How exactly do futures markets and margin calls work? To illustrate this, let us take the example of an energy supplier that needs gas in two months' time for sale to its customers at a fixed price. The current price for gas in two months' time is (let's say) €100 per MWh. To fix this price, the energy supplier will purchase a number of futures contracts at this price. It thus opens what is known as a long position. The counterparty to this transaction takes a short position, and in two months' time will have to deliver the gas at the previously agreed price of €100 per MWh. While the contract gives an entitlement to delivery, either party may also decide not to hold the contract until delivery by closing its position at an earlier date. The result remains the same: if the gas price rises, the energy supplier will have to purchase the gas at a higher price in two months' time, however the loss on this purchase will be covered by the long position in the futures market. This is how a hedge is constructed.

As the futures markets concern contracts and not physical trading, an energy supplier does not have to pay the full amount, only a certain percentage as security for the contract. Known as initial margin, this can be seen as a form of security. For instance, it will be 20% of the total amount and may consist of cash, government paper or other forms of collateral. The collateral will be used if the price of gas falls. In order to prevent a situation in which the energy supplier or any other party is unable to meet its obligations, all contracts are valued daily by a central clearing counterparty (CCP). This involves the transfer of profits and losses from one party to another. This process of daily valuation is called marking to market. The CCP is responsible for all the collateral and thus provides protection against failure by individual market parties.

In the above example, the collateral would have a value of €20. If there is a sharp change in the price that means the collateral falls below a minimum requirement level (known as maintenance margin), it is then no longer sufficient. The energy supplier will then receive a margin call to increase the collateral. If the price of the contract declines by €7 to €93 and the maintenance margin is €15, the value of the remaining collateral (€20 – €7 = €13) is no longer sufficient. The collateral will then have to be increased to €20. The energy supplier will receive a margin call to pay the difference of €7, known as variation margin. If it are not able to pay, the party concerned will have a liquidity problem.

### 3.4.3 The AFM's responsibilities and mission in the gas futures market.

**The AFM's supervision of the gas futures market focuses primarily on integrity, robustness and transparency.** This means that we focus on fair trading behaviour, a robust, secure and stable infrastructure and transparent market operation. We mitigate systemic risks by proactively monitoring traders, their risk management and their trading behaviour. Our supervision is organised in three lines of defence. First of all, traders who execute orders for customers are themselves responsible for preventing market abuse and the signalling and reporting of unusual trading behaviour. Secondly, ICE Endex has a duty to take measures designed to prevent and detect market abuse. Thirdly, the AFM has designed systems for the supervision of market abuse based on market data and market reports. Additionally, the monitoring and limiting of concentration risk is an important element in our supervision, including the possibility of setting position limits.

**The wider public interest of the gas futures market is an essential consideration for the AFM.** Here, the first question is whether the gas futures can still function as intended in times of stress. To answer this question, we look at the two main functions of the gas futures market: transparent price formation and risk mitigation. Liquidity is an essential precondition for these functions to be properly fulfilled. Transparent price formation is not the same thing as a 'good' price. Since high gas prices have serious consequences for households and industry, how prices are established is the most important issue for the AFM. With respect to liquidity as well, liquid markets are not the same as markets in which the highest possible trading volumes take place. But sufficient trading volume is certainly a necessary precondition.

## 3.5 Risks and policy measures

### 3.5.1 The gas futures market in volatile times

**The gas futures market in the Netherlands continues to function adequately, despite the high degree of volatility.** One important indicator is liquidity in the market. Liquidity, and the efficient price formation associated with it, cannot be expressed as a single variable. It means the extent to which assets, in this case gas futures contracts, can be traded with excessively affecting the market price. The indicators of liquidity include; (i) open interest, (ii) the number of active market participants with different strategies, and (iii) trading volume.[1]

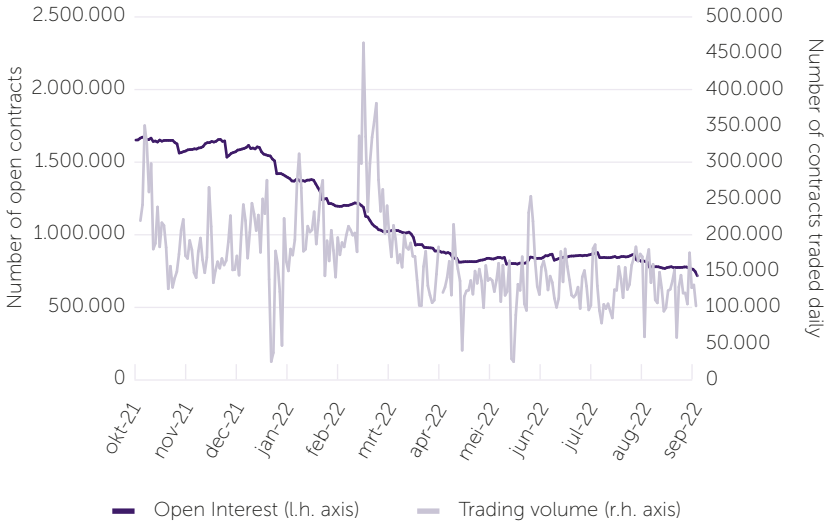
- Open interest is the sum of the number of outstanding contracts or positions. Open interest has halved since the beginning of the war in Ukraine. This is a logical consequence of increased uncertainty in the market. This halving of open interest applies to both contracts expiring in the coming months and contracts for longer maturities. Open interest has however remained constant since then, see figure 13. There has also been no significant change in the concentration of position holders in the past 12 months.
- We see that the number of market participants taking a position and the ratio of financial and nonfinancial parties have remained unchanged, see figure 14. As was the case before the crisis, half of the trading concerns hedging (the covering of risk). Accordingly, around 50% of all TTF futures contracts are held to maturity (expiration), resulting in actual physical delivery of gas. In combination with the decline in open interest, this means on balance that hedging of risk has halved in absolute terms, but is still at a high level.

[1] The figures stated in this paragraph are based on transaction and position data reported to the AFM by market parties themselves. We have measures in place to ensure the accuracy of this data and continually devote attention to improving our data position. The data was up to date on 14 October 2022.

- Daily trading in TTF gas futures contracts, measured by volume, declined by around 30% when the war in Ukraine broke out and has remained constant since then. These contracts are still traded mainly on a trading platform. We have not seen any significant shift to bilateral trading, for example to avoid having to pay the high margin obligations required for trading on a platform.

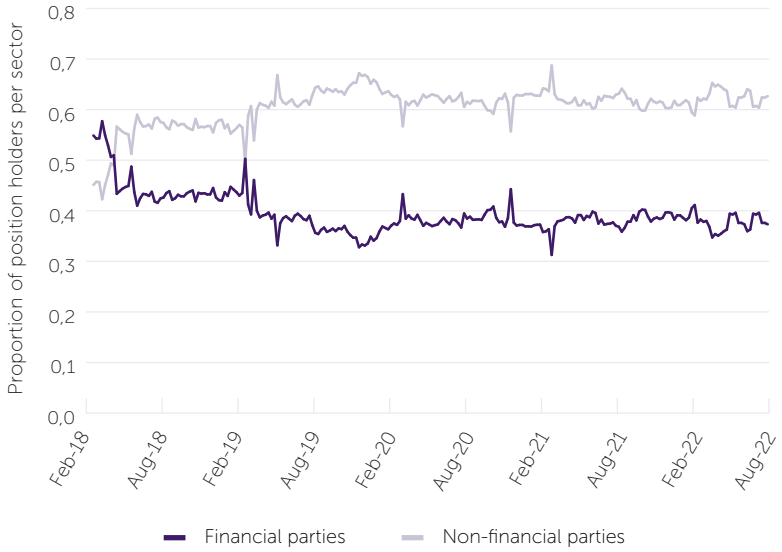
Our conclusion is that the gas futures market has continued to be liquid in both absolute and relative terms. The AFM continues to monitor trading behaviour to keep an eye on the operation of the broader financial ecosystem.

Figure 13. Open interest and trading volume in TTF gas contracts fell after Russia's invasion of Ukraine, and have remained stable since then.




Source: ICE Endex.

Figure 14. The ratio of financial and nonfinancial parties with open positions in TTF derivatives is stable.




Source: AFM EMIR data.

**The AFM has no indications that the integrity of the futures market has been compromised.** Integrity and confidence are essential if markets are to function properly. Market abuse can damage confidence in the integrity of a financial market. The AFM considers trading with inside information and market manipulation to be forms of market abuse. Our supervision of market abuse is based among other things on reports of suspicious transactions, known as suspicious transaction order reports, or STORS. We also monitor the market in real time. On this basis, we have no indications that the integrity of the gas futures market has been compromised since January 2022. This of course does not mean that the integrity of the gas futures market and the underlying gas market cannot be affected by external factors not related to market abuse.

### 3.5.2 Risks for the functioning of the gas futures market

**While high gas prices are a concern from a political perspective, this is not a direct concern from the point of view of supervision of the financial markets, as long as high prices are due to normal market operation.** The AFM assesses developments on the basis of our role and mission. While we are concerned that high energy prices are pressuring long-term prosperity in the Netherlands, our mandate as the supervisor of the gas market is to ensure that the conditions for proper market operation are in place. We see risks to the operation of the market due to (i) acute liquidity problems as a result of margin calls, (ii) illiquid markets meaning that parties cannot hedge risk as effectively, and (iii) the associated potential of this for problems with price formation.

**Margin calls can cause acute liquidity problems for market parties.** Price shocks in the TTF gas market will lead to rapid increases in margin calls, that usually have to be met within one day. The current high volatility means that margins are rising rapidly. Participants have to deposit billions in collateral on a daily basis. Since future income does not qualify as valid collateral, potentially highly profitable companies can get into serious trouble as a result of margin calls. The possibility of high margin calls and the related uncertainty makes it less attractive to take positions and operate in the futures markets.

**Due to the structure of financial settlement, the effect of potential failures on the operation of the financial system is limited.** Bankruptcies of customers of the clearing members – such as Uniper – affect mostly gas users, as users have to then look for a new gas supplier and may only be able to arrange a variable contract in this case. The clearing and settlement system is designed so that the costs of settling open positions in the first instance is for the customer's account. After that, the clearing member is responsible. These are large banks with direct credit lines to the central banks. This limits the likelihood that a clearing member will fail.

The buffer at the central counterparties will only come into play if the clearing member can no longer meet its obligations. The central counterparty will only be threatened if several clearing members are not able to meet their obligations at the same time. The CCPs are required to carry out stress tests and take account of a failure by their two largest clearing members. The bankruptcy of a few customers of the clearing members will thus not threaten the wider functioning of the system. Bailouts are therefore not immediately necessary for reasons of financial stability. These measures can however help gas users and ensure that more parties can continue to trade.

**There is a risk that the markets will dry up due to the increased uncertainty, meaning that market participants can no longer hedge their risk.** Risk mitigation is currently expensive, as high collateral has to be posted with the CCPs. As a result, parties cannot so easily take positions and it is difficult, for instance, for energy suppliers to offer fixed contracts to end users. For the time being, liquidity in the market continues to be adequate (see also 3.5.1), but it is quite possible that more parties will withdraw from the market if high levels of uncertainty and volatility persist. This has a self-reinforcing effect. If the market becomes illiquid, it will become more difficult to take a position, and more parties will withdraw as a result. One possible consequence is that market participants will be fully at the mercy of the spot markets, which among other things will hinder long-term investment.

**Indirectly, this will threaten price formation.** Efficient price formation happens most effectively in liquid markets with as many participants as possible. Declining liquidity and higher margin obligations could compel some participants, such as energy suppliers, to withdraw from the futures market: the costs will simply be too high. This will in turn have a negative effect on liquidity, leading to a vicious circle. Large and illiquid price movements, to the upside or the downside, could damage confidence in the market and undermine the role of the futures market as a liquidity pool.

### 3.5.3 Risks of policy measures in the gas market

**The European Commission has taken several policy measures to mitigate the effects of high energy prices.** Firstly, in relation to reducing the need for electricity, both in general and at peak times. The aim of this is primarily to reduce gas usage. Secondly, a cap has been agreed for the income of electricity producers unaffected by high gas prices, such as wind turbines and nuclear power. The surplus income should be used for reducing high energy costs for consumers. Thirdly, energy producers profiting from high oil and gas prices have been asked to make a solidarity contribution. So far, these measures do not concern direct intervention in the operation of the futures market.

**In addition, measures to directly curb gas prices are being considered and implemented.** Capping prices can be achieved in several ways. For instance, a price ceiling for the consumer price of gas (and electricity) has been introduced in several countries, including the Netherlands. But the sustainability of this approach to price capping is limited. The energy suppliers will after all have to compensated by the government for the difference between their purchase price and the capped consumer price in order to avoid bankruptcies. More far-reaching measures such as capping the wholesale gas price also present serious challenges. This price has to then be set on TTF, and offers to sell may not be made at prices higher than a certain maximum price. The risk here concerns certainty of supply, as in a global market for LNG and other gas, producers will prefer to sell their gas in markets outside Europe where no maximum price applies. A maximum price is only a practical possibility if large players collectively enforce this on a global scale.

**Besides intervention on prices, there is also the possibility of forced restrictions on demand.** We are already seeing some businesses that have ceased production 'voluntarily' as a result of the high price of gas. These are mostly companies competing internationally that are unable to pass the gas price on to their customers. These include businesses in energy-intensive sectors such as greenhouse horticulture, aluminium smelters and the chemicals industry. TThis is already reducing demand. The government may also compel large users to disconnect from their gas supply. This would be a draconian measure with severe consequences for the companies involved and would lead to all sorts of practical questions regarding the speed and method of implementation, prioritisation (which companies would be first), compensation and the duration of the measure. Uncertainty regarding the disconnection of specific companies could also cause volatility in the equity markets. This would increase the risk premium for certain corporate bonds, increasing the cost of funding these businesses. Disconnection would also have direct effects on the gas futures market. Positions would have to be closed and large price movements could lead to new margin obligations. Some parties could have acute liquidity problems and the central clearing system would come under pressure. Predictable and timely communication of policy could remove the worst pitfalls.

**A price ceiling in the gas futures market would be a very severe measure.** Since prices in the gas futures market serve as a reference price for instance for LNG contracts, a price ceiling in the gas futures market would be a way to curb the costs of gas imports. But it is highly likely that such a measure would have more disadvantages than benefits, as it would be at the cost of transparent price formation, liquidity and therefore risk mitigation. Moreover, setting a price ceiling in the gas futures market would very likely lead to a partial halting of trading. The loss of the gas futures market would lead to great uncertainty regarding prices in the future, hinder the efficient allocation of gas and could even cause problems relating to certainty of supply. If there is no longer a reliable price, LNG producers will prefer to avoid western Europe. Market parties will also be more likely to move to bilateral (OTC) trading, which involves a much higher degree of counterparty risk than having one central counterparty (CCP). This increases potential systemic risks. An alternative measure for capping the wholesale price of gas would be to set a price ceiling for gas imports. This would however be highly complex in practice and has the additional disadvantage that efficient allocation of gas to where the need is greatest would also cease.

**A circuit breaker can limit excessive volatility, but will not have any effect on high prices.** Circuit breakers bring about temporary calm, but also feature practical objections. The mechanism whereby trading is temporarily ceased in a highly volatile market is known as a circuit breaker. A market is temporarily suspended when a previously set static or dynamic price limit is reached, with trading resumed after a period ranging from a few seconds to several hours. This mechanism is frequently used in futures markets, and its benefit is that the market is given time to take a breather. Market parties are given time to process new information and adjust their risk management as necessary. The delaying effect of temporary price limits also helps to prevent liquidity problems as a result of sudden margin calls. How narrowly these limits are defined and how long the market is suspended however significantly affects the effectiveness of this mechanism. If too short, there is no impact, and if too long, there will be a reverse effect as market parties will look for alternatives such as OTC trading. In addition, there is of course no transparent price formation or liquidity during the period of suspension. Circuit breakers are a way to address extreme volatility, but they are not a means of addressing high prices.

**Solutions are also being sought for margin calls, which are experienced by some participants as prohibitively high in the current situation.** Uncertainty with respect to liquidity requirements is leading many parties to decide to halt trading. This uncertainty could be partially addressed by (i) the provision of credit lines to gas producers and suppliers, (ii) the acceptance of more asset classes as collateral, or (iii) reducing margins. With this last option, the central banks would have to provide direct security to clearing members or central counterparties. The big problem with these measures is that counterparty risk could be increased to a greater or lesser extent and therefore also systemic risk. It is a matter of weighing manageable liquidity on one hand and an acceptable level of counterparty risk on the other.

**Inside information regarding government measures could lead to a higher risk of market manipulation.** Most of the options for government intervention in the gas futures market or spot market could potentially have drastic consequences. This information could be highly valuable and if used improperly, this would qualify as market abuse. Alertness by the AFM and other (European) supervisory authorities with respect to the gas market is thus essential.

**In conclusion: proper functioning of the gas futures market will be assisted most by supporting and not undermining efficient price formation and stable liquidity.** Such measures are moreover not an alternative to dealing with supply and demand in the gas market. Policy measures may have undesirable effects on certainty of supply, price formation and the possibility of hedging risk. Caution is thus the watchword with respect to possible intervention in the gas futures market. Ultimately, measures in the real economy, such as reducing energy usage and the transition to alternative energy sources, will be the only way to arrive at a sustainable solution for the current turbulence in the gas market.

04

# Impact of sustainable investment

## 4.1 Introduction

**More and more people recognise the urgency of dealing with the climate crisis.** This has undoubtedly been spurred by unusually hot summers and the high frequency of natural disasters related to climate change. However, much still needs to happen for the climate crisis to be addressed. To achieve the climate goals, a large reduction in $CO_2$ emissions is needed and huge investment has to be made in sustainability. Investors, and especially retail investors, increasingly wish to contribute to combating climate change, as well as other social and governance-related issues.

**In the financial markets, the response has been the offering of products to investors that feature sustainability-related objectives.** Currently, more than half of investors in the Netherlands hold such products in their portfolios. The larger institutional investors such as pension funds are also making sustainability an increasingly important aspect in their investment policies, partly due to support for this from their scheme members. The growing role of sustainability in investment policy and the desire of investors to contribute to the sustainability transition needs to be seen in the context of the broader increase in the importance of sustainability in the economy. Sustainability factors are becoming increasingly important in the valuation of companies and the management of risks, even without any explicit aim of encouraging the sustainability transition. The financial market is also responding to this broader development with new products, ESG ratings and the like.

**Research shows that there is still great uncertainty among retail investors as to what sustainable investing can achieve and what it cannot achieve.** Research by the AFM shows for instance that there is still much confusion around the term 'impact' and the mechanisms used to create impact.[1] This uncertainty among retail investors is reinforced by the fact that communication from providers and the associated regulation is still new and under development. There is a risk that the expectations of investors with respect to their sustainable investments will not chime with reality.

**This section looks at the relationship between sustainable finance and the sustainability objectives of retail investors in more detail.** In particular, this section looks at how sustainable investment can lead to impact and the role that this may play in the sustainability transition. We explain that sustainable finance can have an impact through the channels of capital allocation and engagement. Both these channels will be more effective if retail investors, institutional investors and other credit providers steer companies in the same sustainable direction. Retail investors do not appear to be aware of the underlying mechanisms behind sustainable finance strategies. It is therefore important that providers communicate transparently about the objectives of their products and the related implications for impact. Paragraph 2 discusses the role that the financial sector can play in the sustainability transition. Paragraph 3 explains the various ways in which sustainable finance can lead to impact and the conditions needed for this to happen. Paragraph 4 deals with the choices facing retail investors if they wish to invest in sustainability. The final paragraph lists our key conclusions.

[1] 'Duurzame beleggers in kaart', AFM, November 2022.

## 4.2 The role of the financial sector in the sustainability transition

**Sustainability issues exist, among other reasons, because the harmful effects of pollution created in production are not directly experienced by consumers or producers.** Since the entity causing the pollution does not pay for the damage caused, it will not include those costs when determining the optimal level of production or consumption.[2] These negative externalities lead to overconsumption or overproduction of the polluting product and are an example of market failure. This results in negative side-effects for society, such as pollution, and more broadly for animals, nature and future generations.

**Pricing is the primary solution for negative externalities, so that these effects are included in the determination of the level of production and consumption in the real economy.** The emission of $CO_2$ is a classic example of a negative externality. Although this was formerly not included in decisions relating to production and consumption, the pricing of $CO_2$ emissions means that the emission associated with a product is reflected in its price. Businesses, consumers and investors then automatically include the effect of emissions in their decisions. Producers will look for cleaner production methods, consumers will purchase the less polluting option, and investors will see less advantage in relatively polluting companies.

It will also mean that businesses in which the proceeds of production do not outweigh the social costs will discontinue their activities. This is therefore a highly effective and efficient measure, and it will be more expensive to achieve the same result using other policy instruments.[3] There are areas in which pricing will not work as well, such as child labour, as there is no acceptable 'optimal' level in these areas. In such cases, governments can use regulations, prescriptions, taxes or subsidies. Although these instruments are not as efficient as pricing in economic terms, they will make a direct contribution to achieving the intended objectives, as does pricing.[4]

**The financial sector has a supporting role in the sustainability transition.** Unlike interventions in the real economy that directly influence the behaviour of consumers and producers, such as pricing and direct regulation of the energy efficiency of housing, sustainable investors strive to influence the real economy by means of the effects arising from conditions attached to funding. This is an indirect effect, and although it is not an alternative to direct intervention, it can certainly play a supporting role. Paragraph 3 explains the various ways in which sustainable finance can lead to impact and the conditions needed for this in further detail.

2 'The Economics of Welfare', A.C. Pigou, 1920.

3 'Effective Carbon Rates 2021', OESO, 2021.
'Combining Price and Quantity Controls to Mitigate Global Climate Change', W.A. Pizer, 2002.
'Environmental and technology policies for climate mitigation', C. Fisher & R.G. Newell, 2008.
'Carbon pricing in climate policy: seven reasons, complementary instruments, and political economy considerations', A. Baranzini et al, 2017.
'Handbook of Public Economics, Chapter 21 – Taxation and Economic Efficiency', A.J. Auerbach & J.R. Hines, 2002.
'The EU ETS: Eight Years and Counting', A. Denny Ellerman et al, 2014.
'Renewable Energy Incentives and Co2 Abatement in Italy', C. Marcantonini & V. Valero, 2015.

4 'How Much Carbon Pricing is in Countries' Own Interests? The Critical Role of Co-Benefits', I. Parry et al, 2014.
'Economic Instruments for Environmental Regulation', T.H. Tietenberg, 1990.

## 4.3 What is the impact of sustainable finance?

### 4.3.1 What is sustainable finance?

**Sustainable finance focuses on environmental, social and governance objectives.** Sustainable finance refers to financial products that take account of various objectives with respect to environmental, social and governance issues, and is also therefore referred to as ESG finance. Climate change is one of the most urgent and visible of these issues.[5] Many sustainable financial products accordingly relate to this issue. Nonetheless, sustainable financial products may also concern one or more other ESG elements, such as combating child labour or promoting diversity. These objectives are also related to the UN Sustainable Development Goals, as a result of which sustainable finance may strive to achieve a large number of different goals.[6]

**Sustainability can be interpreted by institutions in different ways.** Financial institutions can at the moment offer their own interpretation of sustainability, in terms of both objectives and substance. These interpretations may vary widely due to the wide variety of goals per provider and per product. All providers have to take account of sustainability risks for the financial return of the product (such as the risk of flooding or drought on the value of the fund). In addition, there may be specific sustainable objectives (such as reducing CO2 emissions and waste production). In terms of substance, sustainability is frequently related to (elements of) climate change, but even within this area there are many possible variants (CO2 emissions, use of water and energy, biodiversity, etc.). The interpretation is also frequently based on an ESG rating, which is an average of various environmental, social and governance indicators. One of the challenges here is that it is difficult to make a balanced assessment of all these objectives in cases where they are mutually contradictory. For instance, Tesla is excluded from an ESG index because of concerns about its governance and culture, despite its significant contribution to sustainable transport.[7] Several efforts to arrive at a shared definition are happening, most importantly the taxonomy for ecologically sustainable activities being developed by the EU.

### 4.3.2 What do we mean by the real impact of sustainable finance?

**An impact of sustainable finance is bringing about a change that otherwise would not have happened.** Impact in sustainable investing means that improvements in sustainability are realised as aImpact in sustainable investing means that improvements in sustainability are realised as a result of such investments that otherwise would not have happened.[8] This 'additionality' is what we mean by impact in this context. For example, a sustainable bond does not necessarily have any impact. The money raised with a sustainable bond may be used to construct a wind turbine, but the question is whether that wind turbine would have been constructed without that sustainable bond. The same additionality issue is present at the fund level. A fund may invest in green companies, but the question is whether this brings about changes that otherwise would not have happened.

**In the context of this section, it is important to understand the difference between an alignment strategy and an impact strategy in sustainable finance.** An alignment strategy here means investment in companies that strive to achieve certain sustainability goals or are engaged in activities that score relatively highly in ESG terms so that the ethical preferences of investors are reflected in the features of the investments. Confusingly, most funds that describe themselves as having an impact label use such a strategy.[9] The crucial point is that these companies would potentially achieve these goals or carry out their activities without this investment if they have access to funds from other sources. The investment in itself in this case has

5 'The Global Risks Report 2022', WEF, 2022.
6 'Transforming our world: the 2030 Agenda for Sustainable Development', VN, 2015.
7 'A Broken System Needs Urgent Repairs', Economist, 2022.
8 'Impact investments: a call for (re)orientation', T. Busch et al, 2021.
9 'The Impact of Impact Funds – A Global Analysis of Funds With Impact-Claim', L. Scheitza et al, 2022.

no effect on the outcome. This is however the case with an impact strategy, since here a causal connection can be made between the investment and a particular sustainable outcome.

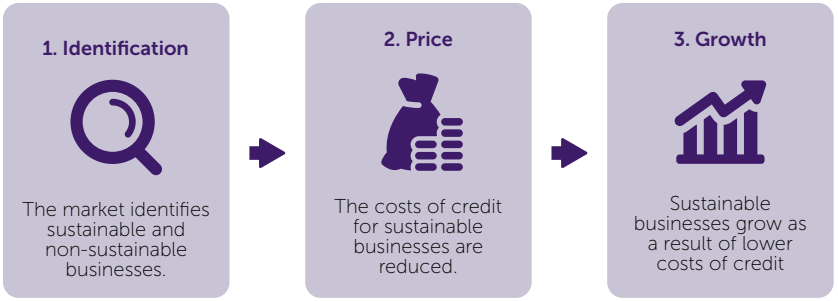
### 4.3.3 How does sustainable finance have an impact?

**Sustainable investors can affect sustainable outcomes through the channels of either capital allocation or engagement.** They can generate impact by investing more in sustainable companies or less in polluting companies (capital allocation), or as shareholders attempting to influence companies to become more sustainable (engagement). There are also several indirect ways in which sustainable finance can have an impact. The most important indirect channel through which impact happens concerns reputation. Consumers and potential employees may for instance avoid a non-sustainable business. This can encourage a non-sustainable business to become more sustainable. While these indirect effects may well play a part, the proportion that can be attributed to sustainable finance is difficult to distinguish from wider social pressure from consumers, interest groups, etc.[10]

### 4.3.4 Impact through capital allocation

**The effectiveness of the capital allocation channel requires proper identification of whether companies are sustainable or not, an effect on the price of capital and an effect on the growth of sustainable businesses.** Three steps are needed for capital allocation to be effective: 1) identification, in which sustainable investors successfully identify environmentally friendly companies; 2) a price effect, so that the costs of credit are reduced by increased demand for such companies and 3) a growth effect, whereby the growth of sustainable companies is increased as a result of lower costs of credit (see figure 15).[11] If there are obstacles in any of these steps, the ultimate impact that an investment can make will be reduced.

Figure 15. Three steps for effectiveness of capital allocation.




*Identification in the capital allocation channel*

**Identification requires that a sufficiently large proportion of the market identifies sustainable and non-sustainable businesses in the same way.** A large enough proportion of the market has to identify sustainable and non-sustainable businesses in a correct and uniform manner to generate a strong enough signal. Much of the regulation is focused on this. There are however several problems with regard to such a unanimous signal from the market. Firstly, companies report on their sustainability performance in various ways. The reporting framework is still in development and needs to become more uniform in future to make it easier to assess companies on their sustainability performance so that price effects will be awarded to the right companies.[12] Secondly there are issues of definition: investors have different interpretations of what is considered sustainable (paragraph 2). The EU taxonomy offers a common starting point for this. The political debate in this context of whether natural gas should be considered sustainable also illustrates the difficulties with regard to a common definition.[13] ESG ratings, with easy to use scores on how sustainable a company is, can also play a

10 'Active Ownership', E. Dimson et al, 2015.
'Can Sustainable Investing Save the World? Reviewing the Mechanisms of Investor Impact', J.F. Kölbel et al, 2020.
11 This argument also works in reverse: identification of nonsustainable businesses, increased funding costs for these businesses, (relative) contraction of these businesses.
12 'AFM pleit voor meer eenduidigheid en uitvoerbaarheid van internationale standaarden voor duurzaamheidsverslaggeving', AFM, 2022.
13 'EU faces down critics over green investment label for gas and nuclear power', FT, 2022.

part in providing a shared principle for which companies can be considered sustainable. However, ESG ratings use different objectives, definitions and methodologies and moreover vary as to which companies are assigned the highest ratings.[14]Greenwashing may also mean that companies are assigned unjustified high ESG ratings, further increasing the problem of identification.[15] Regulation of ESG ratings providers could make ratings more transparent and more reliable.[16]

*Price effect through the capital allocation channel*

**There is so far only moderate evidence for the pricing effect that ESG investing needs to achieve.** The research findings are not unanimous, but there are various studies that show that sustainable investing delivers the same or lower returns compared to non-sustainable investing. A lower return is consistent with a price effect that allows sustainable companies to raise capital at lower cost.[17] The research shows that, given the currently limited proportion of assets invested by sustainable investors, the effect on capital costs is not sufficient to be a material factor.[18] The direct price effect from an individual retail investor is negligible, but this is not the case for large institutional investors.[19] The price effect will increase when the proportion of sustainable investors increases and banks and institutional investors exercise the same pressure. So a significant shift to sustainable investing is needed to achieve a visible effect on pricing.[20] Better documentation and classification could mean that price effects are allocated to the 'right' companies and perhaps become more visible in future. Note however that the price effect is an indirect effect. The price effect initially benefits owners of the shares who can sell their shares or bonds in the secondary market, but also offers more favourable financing conditions for issuers in the primary market.[21]

*Growth effect through the capital allocation channel*

**The additional effect of cheaper finance on sustainable growth of businesses mainly affects businesses that rely on external funding.** For an ultimately positive sustainability effect to be generated by sustainable finance through the capital allocation channel, it is necessary that the business grows as a result of lower capital costs and increases market share. A business will only grow due to cheaper credit if it depends on external funding and has limited access to alternative sources of finance. The effect will therefore be the greatest in cases where funding is a limiting factor.[22] This is mostly the case for small, new companies and businesses operating

14 'Call for a European Regulation for the provision of ESG data, ratings, and related services', AFM & AMF, 2020.
'ESG-ratings leiden niet tot maatschappelijk verantwoorder beleggen', B. van der Kroft & D. Bams, 2022.

15 'Do Financial Advisors Exploit Responsible Investment Preferences?', M. Laudi et al, 2021.

16 'AFM's response to EU consultation on regulation of ESG ratings providers', AFM, 2022.

17 'Dissecting green returns', L. Pastor et al, 2022.
'Do investors care about carbon risk?', P. Bolton & M. Kacperczyk, 2021.
See also Bolton and Kacperczyk (2019) who find evidence that investors require a premium from companies with $CO_2$ emissions and Hong and Kacperczyk (2009) who find that "sin" stocks (i.e., producers of alcohol, tobacco, and gaming) perform better than nonsin stocks. Barber et al. (2021) who find that venture capital funds aiming at social impact have lower performance. Baker et al. (2018) en Zerbib (2019) find that green bonds are priced at a premium and generate lower returns than traditional bonds. Recent study by Van Dijk, Alvis & Krueger (2022) find no price effect. But there are also studies that do find a positive price effect. The difficulty with this kind of research is that sustainable investments often also have different risk profiles (Krueger et al., 2020; Ilhan et al., 2020) and that as a result, it is difficult to adjust for this accurately.

18 'The Impact of Impact Investing', J.B. Berk & J.H. van Binsbergen, 2021.
'Climate Impact Investing', T. de Angelis et al, 2022.

19 'Unpacking the Impact in Impact Investing', P. Brest & K. Born, 2013.

20 'The Impact of Impact Investing', J.B. Berk & J.H. van Binsbergen, 2021.

21 And in the case of derivatives, such as ETFs, there is an additional link between this.

22 'Can Sustainable Investing Save the World? Reviewing the Mechanisms of Investor Impact', J.F. Kölbel et al, 2020.
'The Impact of Impact Investing', J.B. Berk & J.H. van Binsbergen, 2021.
'How Investors Can (and Can't) Create Social Value', P. Brest et al, 2018.

in less mature capital markets. This also applies mainly to investments with a very long horizon or significant tail risks, meaning risks that rarely materialise but have serious negative effects if they do. This applies to a much lesser extent to listed companies, which are the main focus of most retail funds. Other credit providers such as banks can play a significant encouraging role by setting requirements for the credit provision to the companies that they finance, and could perhaps strengthen the effect through the capital market in this way. Macroeconomic conditions also play a part here: if funding becomes more expensive, costs of capital will become a limiting factor for more companies and the impact of sustainable investments will be greater.

### 4.3.5 Impact via engagement

**Engagement can be a successful way to generate impact.** This channel is mainly available to institutional investors. Investors such as those participating in the Climate Action 100+ group ask companies to change their behaviour. This happens both in direct dialogue with the companies concerned and through votes at general meetings of shareholders, for instance on appointments of directors, remuneration policy and specific sustainability-related proposals. Unlike the capital allocation channel, investors here focus on companies where they see substantial room for improvement. These are not necessarily sustainable companies. The issue of conflicting ESG goals is also less problematic, as influence can be brought to bear on specific issues. With this approach, institutional investors have been successful in getting businesses to set emission targets.[23] Furthermore, this channel requires a much lower degree of participation for success than the capital allocation channel.[24] There are, however, certain observations to be made with respect to the real impact of engagement. The effects studied concern the setting of sustainable goals and reporting on these goals by companies. The actual consequences for the environment remain to be seen. In general, the efforts and results of engagement by individual parties, while they may be significant, are difficult to demonstrate to and assess by investors.[25]

[23] 'Can Sustainable Investing Save the World? Reviewing the Mechanisms of Investor Impact', J.F. Kölbel et al, 2020.
'Which Institutional Investors Drive Corporate Sustainability?', M. Ceccarelli et al, 2022.
[24] 'The Impact of Impact Investing', J.B. Berk & J.H. van Binsbergen, 2021.
[25] 'AFM pleit voor meer eenduidigheid en uitvoerbaarheid van internationale standaarden voor duurzaamheidsverslaggeving', AFM, 2022.

## 4.4 Difficulties in the choices for investors wishing to make an impact

**The AFM has studied the motivations and expectations of retail investors, in a study involving over 500 retail investors that invest sustainably.** The study shows that investors have different motivations and expectations with respect to sustainable investing.[26] The study also reveals issues in the decision-making process, as a result of which investors may not succeed in finding a product that corresponds to their motivations.

**Previous international research into the expectations of sustainable investors shows that their underlying motivations fall into three categories.** In a certain sense, the various motivations illustrate the challenges associated with the identification of sustainable companies. The lines between the three motivations are blurred, and an investor may identify with all three to a greater or lesser extent:[27]

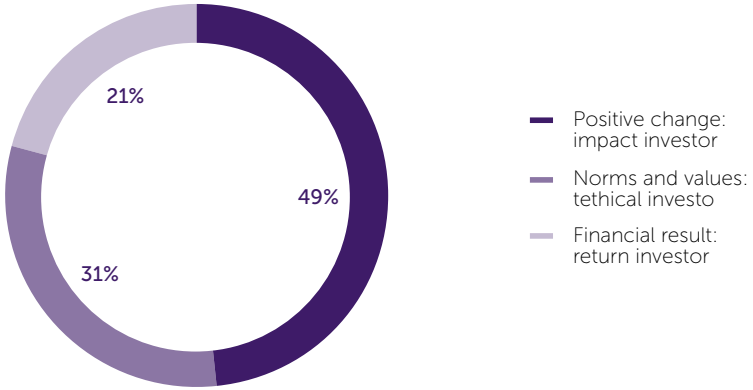
- **Impact**. Investors wish to achieve a positive change with respect to sustainability as a result of their investment. The important point here is the 'additionality' of the investment.
- **Ethical.** Investors wish to invest in companies that reflect their personal norms and values.
- **Return.** Investors see sustainability as a way of achieving a better risk-return ratio.

**Making an impact is usually an important motivation for sustainable investors.** AA study of French and German investors in 2019 showed that making an impact was the most important reason for investing sustainably.[28] A wider study in various European countries carried out in 2021 showed that 46% of consumers (the study was not limited to investors) thought that having an impact was important. This was less than the other motivations in this study (60% said they invested to bring investments in line with norms and values, and 68% said they wished to achieve a better risk-return ratio), but was still substantial.[29] A study involving Dutch members of a pension fund also showed a large majority wished to have an impact by means of an engagement strategy.[30] The common denominator is that impact is an important, and in some studies the most important, reason for investors to choose sustainable investing.

**A new study by the AFM confirms that impact is the most important motivation for investing sustainably.** In our study, nearly half of the sustainable investors (49%) said that having an impact was the most important aim of investing sustainably (see figure 16).[31] Approximately 30% said that 'investing according to personal norms and values' was the most important motivation. Lastly, 20% of the sustainable investors said that they expected to achieve better financial results with sustainable investment, and that this was the main reason for their decision to invest sustainably.

26 'Duurzame beleggers in kaart', AFM, November 2022.
27 'Guidance for assessing client sustainability preferences', 2° Investing Initiative, 2022.
28 'A Large Majority of Retail Clients Want to Invest Sustainably', 2° Investing Initiative, 2020.
29 'What do your clients actually want?', 2° Investing Initiative, 2022.
30 'Get Real! Individuals Prefer More Sustainable Investments', R. Bauer et al, 2021.
31 'Duurzame beleggers in kaart', AFM, November 2022.

Figure 16. Positive change is the most important reason for investing sustainably.




Source: AFM.

**Sustainable investment is associated with various information issues.** Sustainable investment features various information issues that could lead to market failure: lack of clarity regarding an exact interpretation of the term sustainability, a lack of standardised information for investors and lack of information and data on sustainability performance.[32] Much of the new sustainability-related regulation is aimed at addressing these information issues. Processing the quantity and complexity of information may however be a challenge for consumers.[33] Providers can make significant progress on providing clarity to customers on sustainability in their approach.

**Consumers are frequently not in a position to make an appropriate choice with respect to sustainable investing.** The literature shows that there is much confusion among consumers with respect to sustainable investing.[34] Investors are often unable to distinguish between ends and means and mistakenly believe that buying shares in a sustainable company will automatically achieve a sustainability effect. Other limitations concern the limited financial literacy of many consumers, the small amount of time and mental effort they devote to the subject and lack of trust in providers.

**In addition, factors on the provider side may increase confusion among consumers.** Providers stress their investment strategy rather than the investment objective, meaning that investors are unable to determine which product corresponds to their own investment aims. New regulation that requires investment firms to ask investors to state their preferences and obliges providers to include this in their product governance, as well as legislation on transparency, should close this gap. Another point is that products that actually have an impact appear relatively rarely and may also involve a risk profile that is not suitable for most (retail) investors.[35] Furthermore, providers of investments use different interpretations of 'impact'.[36] The term 'impact' seems to be being diluted and is increasingly used interchangeably with 'sustainable', 'ESG' or other related terms

32 'Position paper AFM en Duurzaamheid', AFM, 2020.
33 'Consumer testing pre-contractual and periodic ESG financial product information', AFM, 2020.
34 'A Large Majority of Retail Clients Want to Invest Sustainably', 2° Investing Initiative, 2020.
'Duurzame beleggers in kaart', AFM, november 2022.
35 'Duurzaam retailbeleggen vereist het nodige huiswerk', AFM, 2022.
'Global Sustainable Investment Review 2020', GSIA, 2021.
36 'EU Sustainable Finance & SFDR: making the framework fit for purpose', Eurosif, 2022.
'The Impact of Impact Funds – A Global Analysis of Funds With Impact-Claim', L. Scheitza et al, 2022.

('impactwashing').[37, 38] Lastly, funds that do focus on additionality or 'impact' may not always be able to achieve this claim.[39]

## 4.5 Conclusion

**It is positive that investors wish to make a contribution and have an impact on climate change through sustainable finance.** The urgency of combating extreme climate change is indeed loud and clear. It is a positive development that investors wish to contribute to realising the sustainability objectives through their investments, and that many providers are willing to meet this demand.

**Primary solutions by governments (pricing, prescribing, taxation) are the most effective and efficient solutions for most sustainability objectives.** It is important that investors wishing to have an impact have a good understanding of the actual impact and any limitations that are related with the most common sustainable finance strategies. Effective reduction of $CO_2$ emissions is for example most likely to happen due to pricing of $CO_2$ emissions and direct regulation. Sustainable finance can support these measures, and, under the right conditions, also have a permanent impact. It is thus an element of the policy mix focused on achieving sustainability objectives, firstly by properly valuing the sustainability risks associated with companies and secondly having an impact on the sustainability objectives.

**Sustainable finance can have an impact through the capital allocation channel and the engagement channel.** With capital allocation, there needs to be successful identification of sustainable companies, followed by a price and growth effect. This channel is most effective for companies that otherwise have difficulty in raising financing. This suggests that other credit providers (such as banks) could play a bigger role. In addition, less sustainable companies can be encouraged to become more sustainable through engagement. This however requires investment in less sustainable companies, and demonstrating the actual effects can be a challenge. Both these channels will be more effective if retail investors, institutional investors and other credit providers steer companies in the same sustainable direction.

**Retail investors do not appear to be aware of the underlying mechanisms behind sustainable finance strategies.** They have little knowledge of the channels through which impact ('additionality') can be achieved, and do not sufficiently distinguish between strategies based on 'value alignment' and impact strategies. This increases the risk that sustainable investors will purchase products that are not able to realise the impact they wish to achieve. The communication from providers may contribute to this confusion, as they often focus on investment strategies rather than goals and use different interpretations of 'sustainability' and 'impact'. New regulation on identifying investor preferences and transparency should mitigate this problem. It is important that this regulation is harmonised at European (and where possible, global) level and that uniformity and comparability are encouraged. Regarding how this is formulated, the research confirms that transparency requirements need to begin with the consumer's mental decision-making process, rather than the complexity of the market. Transparency rules on sustainability aim to give insight into the extent to which financial products that purport to invest responsibly also actually have a positive impact on the climate and society. In addition, providers of financial products must clearly explain how they include sustainability risks in the risk management of their investments. For instance, the risk of flooding or that certain companies will suffer losses as a result of the energy transition.

[37] 'Impact investments: a call for (re)orientation', T. Busch et al, 2021.
[38] Additionally, impact funds and SFDR Article 9 appear to have become synonyms, although the SFDR is not intended as a label and does not contain any such definition of 'impact' (Heeb & Walkate 2022). The AFFM has previously questioned the application of the SFDR classification, partly on the basis of the (too) flexible sustainability objectives of these funds (AFM, 2021).
[39] 'The Impact of Impact Funds – A Global Analysis of Funds With Impact-Claim', L. Scheitza et al, 2022.

**It is important that providers communicate transparently about the objectives of their products and the related implications for impact.**
Providers should not make claims that they cannot realise. If they claim to have an impact, providers must be able to substantiate this claim and provide clear evidence. If impact is a potential result of the investment but cannot be substantiated, the claim has to be in line with this. In future, the AFM will give more priority to the ways providers deal with sustainability claims. Moreover, in the context of impact products, providers could perhaps make greater use of the channels that are potentially effective, such as the engagement channel. The providers could also make risky impact products more accessible to the broader retail segment, as long as they are appropriate for this segment.

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