Trend Monitor 2021

3 November 2020

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AFM

Foreword

The coronavirus was not foreseen in the last edition of our Trend Monitor. We also did not foresee a scenario in which the economy would contract by 9 per cent in one quarter. To be honest: if we had published a Trend Monitor twenty years ago, it is extremely unlikely that there would have been any hint of today's negative yields on Dutch government securities or that house prices would fall rapidly by an average of 30 per cent, as happened in 2008–2013. This calls for an appropriate degree of humility regarding the findings presented in this edition.

The Trend Monitor 2021 consists mainly of an overview of several reasonably clear-cut trends that will affect the financial sector and our supervision in the coming years. The previously mentioned low interest rate is the most influential of these trends. This is putting pressure on the profitability of banks and insurers, is leading to necessary changes to the pension system, is reflected in rising house prices and in general is creating a search for yield that entails risks in the form of an excessively high valuation of risky assets and the emergence of ill-intentioned investment providers making unrealistic promises. Another trend concerns ongoing digitisation, and with this the increasingly close ties between traditional financial institutions and businesses whose earnings model has been built primarily around data processing. This is closely linked to the further internationalisation of financial services, as well as the rising societal awareness of sustainability that is increasingly affecting activities in the financial sector.

These are foreseeable developments for which both the sector and its supervisory authority can prepare. The Trend Monitor hopes to contribute to this preparation by looking at the potential consequences of these developments.

As an aside, the developments that could not be foreseen would seem mainly to intensify the situation that already exists. They do not occur in a vacuum, but mostly accelerate what is already happening by breaking down barriers in the established order. The coronavirus pandemic would appear not only to have delayed any possible return to a higher interest rate for a couple of years, but also to be accelerating the pace of digitisation (due to increased working and consumption from home) and offering governments opportunities to make new agreements with respect to sustainability in rescued sectors. Furthermore, the coronavirus pandemic has once again exposed the vulnerability of global production chains, which could intensify the trend towards a more regional organisation of these chains that may have been initiated for protectionist motives. In the longer term, this could also have consequences for today's highly internationalised financial markets. In all these cases, it is quite conceivable that a solid preparation for those trends that were foreseen would have helped us prepare better for some of the effects of the coronavirus crisis.

The coronavirus crisis has reminded us that resilience (of the system, of financial institutions, of households) cannot be taken for granted. The highly abrupt collapse in demand and production, such as we have seen as a result of the coronavirus pandemic, was (and still is) a test of the resilience of the system. Supported by timely and large-scale interventions by governments and central banks, the capital markets have so far continued to operate effectively. In addition, the Dutch government has supported the real economy with its Tozo and NOW schemes, as a result of which the numbers of business failures and job losses have so far not been as large as they might have been otherwise. The eagerness of financial institutions to be part of the solution rather than part of the problem in this crisis, including by granting deferrals of payment to businesses and households in financial difficulties, has helped as well. Nevertheless, the question of whether a financial and business disaster has actually been prevented or only temporarily pushed to the background remains open.

At the time of writing, a second wave has just begun, which will further increase the pressure on vulnerable businesses and households. There is also the possibility of an extra setback in the form of a hard Brexit at the end of the year. The debate over how long 'temporary' support and leniency measures should last is intensifying, partly because it is still uncertain whether the coronavirus will be a temporary disruption or a more long-term phenomenon. In a study published earlier this year, we showed that a large group of households, especially the self-employed and flexible workers, had very limited individual financial buffers to cope with a loss of income. Despite the fact that the strong social security safety net in the Netherlands and good access to healthcare safeguard a high degree of collective resilience, a great deal of flexibility will be required in the short term for people working in sectors such as culture, tourism and hospitality, all of whose activities may have to be scaled back for a longer period.

In the longer term, we may have to deal with a higher incidence of epidemics as a result of our increasing travel and because people and animals are living more closely together. In this sense, another coronavirus or other pandemic is not unforeseeable, although the timing and intensity of such a pandemic remains uncertain. This supports the notion that resilience needs to be built into the system, even if this comes at the expense of other objectives worth striving for.

One practical example of organising resilience concerns the standards for obtaining a mortgage. A mortgage is a loan that enables people to finance the biggest purchase they will make in their lives, leading to years of interest and repayment obligations. It may be very tempting to obtain finance for the ideal home by less than ideal means. The lending standards are safeguards intended to prevent people getting into too much debt. Society and the government have an understandable concern for the needs of first-time buyers, as well as the promotion of sustainability and educational opportunities. These are aims that one can sympathise with. However, any easing of the lending standards will entail a greater likelihood that unexpected setbacks will lead to financial concerns that could overwhelm households. This edition of the Trend Monitor contains a separate chapter on this issue.

The AFM has set itself the goal of strengthening financial resilience and thereby achieving greater and more sustainable financial well-being in the Netherlands. The Trend Monitor addresses a number of themes where there is work to be done, some in the short term and some in the longer term. Although the forest may not always be visible for the trees, we will attempt to identify a few ways forward. We look forward to discussing with you where these will lead.

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01

Introduction

In the Trend Monitor, the AFM identifies important trends and related risks in the financial sector. The Trend Monitor offers context as well as detail and explains the links between relevant supervision issues. An early identification and understanding of changes in the sector contribute to an effective, 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.

The Trend Monitor addresses developments in the macroeconomy, politics, regulation, digitisation and sustainability. This edition also devotes special attention to the coronavirus crisis. Three issues receive additional attention: 'responsible mortgage lending, 'competition between exchanges and trading platforms in a single

European capital market' and 'the effects of data usage on the structure of the financial market'. We describe the key challenges with regard to our supervisory responsibilities and indicate potential solutions where we can. Some of these are to be addressed by the sector itself, while others require greater supervisory attention.

Agenda 2021

The Trend Monitor contributes to defining the supervisory priorities of the AFM. The practical implications of these trends and risks for the AFM's supervisory activities will be detailed in the Agenda 2021, which will be published in early 2021.

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Summary

Chapter 3. Trends

Macroeconomic developments. As a result of the coronavirus pandemic, the Dutch economy is experiencing a period of unprecedented contraction that is accompanied by rising unemployment. The prospects of an economic recovery will depend mainly on the further development of the pandemic, but there is a significant chance that the coronavirus crisis will cause lasting economic harm and have long-lasting effects on the labour market. The crisis is testing the financial resilience of financial institutions and households alike. Combined with the effects of the ongoing low interest rate, this economic headwind is increasing the pressure on the profitability and solvency of financial institutions, with the risk that institutions will focus less on their customers' best interests. Households may face a sudden fall in income and thus encounter difficulties

meeting payment obligations. The self-employed and workers on flexible employment contracts form a particularly vulnerable group. Moreover, the ongoing low interest rate is prompting investors and financial institutions to take higher risks in their search for yield.

Geopolitical developments. At the time of writing this Trend Monitor, a hard Brexit remains a risk to the stability of the markets. Due to the way that Brexit is developing, it is difficult to assess which part of the trade in financial instruments will eventually relocate to the Netherlands. At the global level, multilateral cooperation between countries is under pressure, with more nationally oriented and protectionist policies coming into favour. This finds expression, among other things, in long-running trade disputes.

Developments in legislation and regulation. As a result of the pension agreement reached in 2020, 'guaranteed pension rights' will no longer be accrued. Furthermore, pensions will depend more directly on investment results. New policies with respect to digitisation and sustainability have a prominent place in the European legislation and regulation agenda.

Digitisation of the financial sector. Within the financial sector, we are seeing an increase in the availability and usage of data. The ability to links these data to artificial intelligence and other technology has led to the emergence of new earnings models. The policy-driven move towards open banking, and in the future towards open finance, is contributing further to this development. These developments are bringing more new players into the financial sector, including the 'big techs'. Another global trend is that both established and new market participants are investing in blockchain technology, which potentially offers smarter and more efficient ways of processing transactions and storing data.

Transition to a sustainable economy and society. The market for sustainable financial products and investments is growing. The main challenge concerns the availability and quality of the information provided on sustainability risks and performance. This is the information on which investors have to base their investment decisions. New European legislation is being drafted that will set requirements for this provision of information. This is expected to improve the availability, reliability and comparability of sustainability information.

Chapter 4. Responsible mortgage lending

Households that take out a mortgage are protected against residual debt risks and payment risks by a limit on the maximum mortgage loan amount. Several trends increase the risk of households in practice taking on higher mortgage loan commitments in certain situations than advisable. Firstly, there is a conflict between the aim of preventing excessive borrowing and other policy objectives, such as making the housing market more sustainable and improving the opportunities for first-time buyers in the housing market. Secondly, some households have existing payment obligations that, for various reasons, may possibly not be taken into account, or not fully taken into account, by lenders when determining the maximum financing burden on a mortgage application. Student loans are an example of this. Both these trends are points of attention for the AFM. In 2021, the AFM will research the situations in which these trends pose risks for consumers and the implications thereof. The potential vulnerability of first-time buyers in the current economic environment requires special attention.

Chapter 5. Competition between exchanges and trading platforms in a single European capital market

The underlying vision for European policy with respect to securities trading is that trading platforms should compete effectively with each other without this negatively affecting liquidity or pricing. As a result of Brexit, several large trading platforms have chosen to relocate to the Netherlands, making policy developments in the area of trading infrastructure even more relevant for the AFM's supervision than before. European policymakers are currently working on a revision of the securities trading directive (Markets in Financial Instruments Directive, or MiFID II). With regard to share markets, the AFM considers that one of the important considerations in this revision should be to level the playing field between trading platforms and systemic internalisers. The AFM also argues that post-trade trading information from all platforms should be available in real time. Furthermore, there is the question of whether additional regulation is needed with respect to the costs of market data. With regard to bond markets, the AFM believes it is important to look closely at which transparency requirements are appropriate. If requirements get in the way of market liquidity, they could have a negative effect on pricing and liquidity. In addition, policymakers and supervisory authorities need to consider how they can contribute to the standardisation of bonds. Over time, standardisation will help create a more liquid European bond market that is attractive to private-sector issuers of bonds and bond investors.

Chapter 6. The effects of data usage on the structure of the financial market

The use of data is becoming an increasingly important production factor in the financial sector. Financial market parties are increasingly using customer data to obtain greater insight into and anticipate consumer behaviour. The potential for this 'data capitalisation' is increasing due to European regulation designed to make financial data more accessible for third parties. This development is changing both the way in which financial institutions organise themselves and the market structure in which these businesses operate. The quantity and diversity of new partnerships could lead to greater unbundling of services and introduce new dependencies between market parties. This involves new operational risks. While the increase in data usage can offer benefits to consumers, it can also lead to data being used against their interests, for instance in the form of personalised product pricing. Accordingly, the AFM seeks to engage in dialogue with the market on how data techniques can best be applied in the interests of consumers. The increase in the processing of personal financial data means that closer cooperation between financial and data protection supervisory authorities is needed. While initial steps have been taken at the national level (between the Dutch Data Protection Authority, DNB and the AFM), the AFM notes that finding an appropriate form of cooperation is proving to be a challenge.

03

Trends

Each year, the AFM conducts an environmental analysis of trends that affect the way in which it carries out its supervision. This chapter describes these important trends in the areas of (1) the macroeconomy, (2) geopolitics, (3) regulation, (4) digitisation and (5) sustainability, and lists the resultant points for attention for the AFM in its supervision.

3.1 Macroeconomic developments: the coronavirus crisis and the ongoing low interest rate

The Dutch economy is going through an unprecedented contraction due to the coronavirus pandemic. The coronavirus pandemic and the ensuing lockdown measures have led to a severe economic downturn around the world. The Dutch economy was not spared. According to Statistics Netherlands (*Centraal Bureau voor de Statistiek*, CBS), GDP fell by 8.5 per cent in the second quarter of 2020 compared to the previous quarter. The CBS has never before measured a contraction on this scale. More than half of the decline in GDP in the second quarter was due to a sharp decline in household consumption. However, the contraction in the Netherlands was less severe than the average in the eurozone and also less than in neighbouring countries such as Germany, the United Kingdom and Belgium.

How the pandemic develops will determine the prospects for economic recovery and unemployment. The Macroeconomic Outlook 2021 from the Netherlands Bureau for Economic Policy Analysis (*Centraal Planbureau*, CPB) – which in its base estimate assumes that further widespread contact restrictions will not be necessary – forecasts an economic contraction of 5.0 per cent in 2020, followed by 3.5 per cent growth in 2021. Unemployment will rise towards 6 per cent in 2021. How the pandemic develops will determine the prospects for economic recovery. To reflect this uncertainty, the CPB has also included a scenario in which new widespread contact restrictions are imposed. In this scenario, the economy will contract in 2021 as well and unemployment will rise to 8.5 per cent.

It is likely that the coronavirus crisis will cause lasting damage to the economy and have a long-term effect on the labour market. On the basis of trends before the crisis, the CPB believes that the coronavirus crisis will cause GDP to be lower than previously expected for a long period, or even permanently[1]. The coronavirus crisis will also continue to have a significant effect on the labour market in the coming years (in the medium term). Unemployment will rise sharply and people who lose their jobs will need to find jobs elsewhere or leave the labour market altogether. The less well-educated will be at greater risk of losing their jobs, since more of them work on flexible contracts. In addition, demand for labour may change as the various sectors are affected differently. Some trends may slow, for example the growth in international trade, while others could accelerate, such as automation, robotisation and digitisation.

The impact of the coronavirus crisis on the AFM's supervision

The infrastructure of the capital market has so far continued to operate efficiently and has proved to be robust. In the first phase of the crisis, asset prices in the financial markets fell sharply and volatility increased markedly (Figure 1). The financial markets have since rallied on the back of interventions by central banks and governments. Share prices have recovered and volatility has waned, although it is still higher than before the crisis. However, the strong rally in share prices is in stark contrast to the more negative economic developments. We are seeing an uncoupling between share prices and the real economy around the world. This means there is a risk that negative developments regarding the pandemic could put the operation of the financial markets under renewed pressure, leading to disorderly market corrections.[2]

1 CPB (2020), 'Blijvende economische schade van de coronacrisis' (Permanent economic damage of the coronavirus crisis).
2 ESMA (2020), 'Trends, Risks and Vulnerabilities Report', September.

Figure 1 High volatility in the share markets this spring due to the coronavirus pandemic

Volatility indicator trends for the S&P500 (VIX), the Eurostoxx50 (VSTOXXX) and the AEX (VEAX)

Source: Investing.com. Processed by the AFM.

The Dutch asset management sector has come through the turbulence in good shape, partly due to the implementation of extraordinary liquidity instruments. The sector has taken measures such as suspending or deferring payment for the repurchase of participating interests during the turbulent period. In spite of this, the uncertainty surrounding the economic situation means there are still a number of lingering risks, such as a rapid downward valuation of corporate bonds and declines in the value of real estate and other illiquid assets. Renewed market turbulence could also lead to higher margin requirements for outstanding derivatives, causing 'fire sales'[3] in illiquid markets. It remains important that fund managers prepare for this and implement the right liquidity instruments in good time.

In combination with the ongoing low interest rate, the coronavirus crisis is putting severe pressure on the financial resilience of financial institutions and households alike. The economic downturn is exacerbating the underlying structural weaknesses in the economy, many of which are related to the ongoing low interest rate. This low interest rate environment has been a powerful driver of developments in the financial sector for years, and the interest rate has fallen further during this period. As an example, the yield on Dutch long-term government loans has been negative since last year. The interest on new residential mortgages in the Netherlands is currently less than 2 per cent. The nominal interest on savings is now close to 0 per cent.[4] Based on an annual rate of inflation of around 1.5 per cent, this means that the real interest rate is negative on both loans and savings. The effects of this ongoing low interest rate on the financial markets, financial institutions and households is explained in Box 1.

The coronavirus crisis is putting severe pressure on the financial resilience of financial institutions and households

[3] A forced sale of assets, usually at much lower prices. Institutions are forced into such a position when they need cash immediately, for example to meet margin requirements.
[4] Since March 2016, the ECB has used a refinancing rate for banks of 0 per cent. The interest rate on the deposit facility – which allows banks to place surplus funds with the ECB – was already lowered to 0 per cent in 2012. The interest rate on the deposit facility has been negative since 2014, standing at -0.5 per cent in September 2019.

Box 1 The low interest rate environment

The ongoing low interest rate is prompting investors and financial institutions to take higher risks in their search for yield.[5] Among other things, this has led to high valuations for shares and corporate bonds. Less solvent companies have also been able to raise cheap credit, causing a gradual decline in the credit quality in the system. We have seen a decline in the credit quality of newly issued corporate bonds worldwide since 2012, mainly due to the explosive growth of BBB-rated debt instruments. There has also been a worldwide growth in issues of leveraged loans linked to more lenient conditions (indicating higher risk).

The low interest rate negatively affects the profitability and solvency of financial institutions. The lower interest rate and the declining difference between long and short-term interest rates (the flattening of the yield curve) directly affect the business model of banks. As a result of the decreasing interest rate, Dutch pension funds are seeing the value of their future liabilities rise, leading to significant pressure on coverage ratios. The introduction of the new pension system in 2026 will see the removal of the 'guaranteed' pension rights that exist in the current system. Pensions will become variable and the amount of pension benefits will fluctuate more directly in line with returns on the financial markets. Since the ongoing low interest rate means lower investment results for pension funds, this will also negatively affect the amount of pension benefits (both in the old and the new pension system). This is particularly relevant for the future pensions of younger generations.[6] Lastly, Dutch life insurers are becoming increasingly vulnerable in this low interest rate environment as a result of the increase in the valuation of their long-term liabilities.

Pressure on the business models of financial institutions means there is a risk that institutions will focus less on their customers' best interests. This may be the case if financial institutions try to compensate for declining yields by increasing the costs they pass on to consumers or making product conditions less advantageous.

There are as yet no clear indications of increasingly risky behaviour by Dutch households in the low interest rate environment. Despite the increase in house prices, there has been little or no growth in the aggregate level of mortgage debt. We also note that Dutch people appear to be making less use of consumer credit. In spite of the low interest on savings, the savings balance is actually growing. Dutch households also appear to have limited exposure to more risky investment alternatives. The search for yield is therefore a factor mainly in the institutional segment, less so for households. There is, however, a risk of excessive borrowing. Households are increasingly borrowing the maximum amount based on the statutory mortgage lending standard for the purchase of a house (see chapter 4).

5 See CPB (2020), *Risicorapportage Financiële Markten 2020* (Financial Markets Risk Report), June.
6 See CPB (2020), *Lage rente en de toekomst van pensioenen* (Low interest rates and the future of pensions), August.

The coronavirus crisis is putting further pressure on the financial position of pension funds and insurers. The volatility in returns on financial assets due to the coronavirus crisis, in combination with the ongoing low interest rate, is putting further pressure on pension fund coverage ratios and the earning capacity of both life and non-life insurers. Compensation schemes by the government have largely prevented the termination of pension accruals and insurances for scheme members. Moreover, on the basis of the half-yearly reports, the impact of the coronavirus crisis on the results of insurers seems to be limited so far. Nonetheless, the AFM wishes to stress that pension funds and life and non-life insurers must clearly inform their customers regarding the consequences for their products in the event of poor results.

Households may have problems meeting payment obligations due to loss of income. The large-scale support from the government has meant that problems for households in making payments on their loans have so far been relatively limited. The affordability of mortgages could certainly be affected negatively by the coronavirus-induced recession. The effects of the coronavirus crisis on the housing market are not yet visible, possibly due to structural factors such as low interest rates and the shortage of homes. Nonetheless, DNB is forecasting a fall in house prices in 2021 and 2022 of 2.1 and 3.7 per cent respectively [7] This prospect makes it more likely that we will see households running into problems with payments and residual debt. Lenders will have to prepare themselves to help their customers find a viable solution for deferred payments. So far, 20,000 homeowners with a mortgage have been granted a deferral of payment by their bank. This means that a deferral of payment has been granted for 1.3 per cent of the total outstanding mortgage debt.[8] For new mortgages and consumer credit, lenders need to devote extra attention to the robustness of household income, both now and in the future. We need to avoid a situation in which today's solutions become tomorrow's problems.

The self-employed and workers on flexible employment contracts form a vulnerable group. Flexible workers appear to have been hard hit by the coronavirus crisis. Firstly, this is because many flexible workers are employed in sectors that have largely ground to a halt during the coronavirus crisis, such as hospitality. Secondly, workers on flexible or temporary employment contracts in the worst-affected sectors have relatively low cash reserves. Before the crisis, they were already spending a relatively large amount of their income on fixed and essential expenses[9]. The self-employed are also very exposed to loss of income. A recent stress test by the AFM and the CPB shows that without income support such as the Tozo scheme, 87,000 households cannot survive a loss of income for more than six months[10]. The findings of these studies stress the need for households to have sufficient cash reserves. Future policy in this area should ideally be targeted at specific vulnerable groups and take account of the causes of their vulnerability.

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[7] DNB (2020), 'Economische Ontwikkelingen en Vooruitzichten, nummer 19' (Economic Developments and Outlook).
[8] DNB (2020), Overzicht Financiële Stabiliteit (Overview of Financial Stability, OFS), September.
[9] AFM (2020), 'Korte termijn financiële weerbaarheid van huishoudens' (Short-term financial resilience of households).
[10] CPB and AFM (2020), 'Stresstest huishoudens' (Stresstest households).

3.2 Geopolitical developments

Brexit

A hard Brexit could lead to increased volatility in the financial markets, loss of market access and investment losses. The awkward progress of the negotiations means it is increasingly less likely that the deadline for an orderly Brexit of 31 December 2020 will be met. The Brexit-related risks we identified last year in the Trend Monitor for event risk, risks in the retail market and supervisory arbitrage continue to require our full attention. What is known as event risk has increased as a result of the coronavirus outbreak, as the Brexit will most likely take place in a situation where financial conditions are already vulnerable. A decline of the British pound and further unrest in the equity markets are likely to occur. This could affect financial institutions with exposure to this development and lead to liquidity problems. Increased volatility could also put pressure on the trading infrastructure. Another risk with a hard Brexit is that financial institutions located in the United Kingdom, including brokers, will lose their access to the European retail market from 2021. In addition, if there is no trade agreement, institutions with sizeable investments in the United Kingdom could face heavy losses. The direct investments of the Dutch financial sector in the UK amount to approximately 4% of total investments. Pension funds are the biggest investors in the UK. Their direct investments amount to 5.1% of their total investments[11]. This stresses the importance of good preparation by the financial sector. Finally, there is a risk of supervisory arbitrage and fragmentation of European supervision. This is a risk for the longer term, and the AFM continues to work at European level to prevent this as far as possible.

Due to Brexit, new parties are looking to relocate to the Netherlands to ensure they have access to the European market. The AFM has received several licence applications from newcomers in recent years, involving both trading platforms and financial services providers. As of 30 September 2020, the AFM had granted a total of 54 licences with a further 10 applications pending. As a result of brexit, a total of eight trading platforms and related capital market parties have come to the Netherlands. This represents a major expansion of the financial ecosystem in the Netherlands. One notable effect is that, despite the fact there is as yet no reason to transfer trading from the United Kingdom to Dutch platforms, trading volume has visibly increased on Brexit platforms that have been located in the Netherlands since last year. If no agreement is concluded between the European Union and the UK, it is possible that a large proportion of European platform trading in financial instruments will move to the Netherlands.

Rising unilateralism

At the global level, multilateral cooperation between countries is under pressure, with more nationally oriented and protectionist policies coming into favour. Even before the coronavirus crisis, the World Economic Forum referred to an 'unsettled world': alliances and multilateral cooperation once taken for granted are coming under pressure because more and more countries and world leaders are prioritising their own interests and political agendas. The reduction of trade restrictions and the encouragement of cross-border investments, once seen as a basis for economic growth, are increasingly disappearing to the background in favour of protectionist policies. This finds expression, among other things, in long-running trade disputes between the US and China and between the US and the EU, which have had a dampening effect on world trade. Now that the coronavirus pandemic has exposed the vulnerability of global supply chains, the current crisis could provide a further incentive to organise value and production chains on a more regional basis. Should this trend continue, it could also have consequences for the (currently highly internationally-oriented) financial markets and on cross-border supervision of these markets in the longer term.

[11] DNB (2019), 'Overzicht Financiële Stabiliteit, najaar 2019' (Financial Stability Report, Autumn 2019).

3.3 Regulation

The Netherlands: review of the pension system

Under the pension agreement, all pensions will become defined contribution schemes. This will mean more options, but also less certain results for scheme members. In the new system, pensions will become more directly dependent on investment results and there will be no further accrual of 'guaranteed pension rights'. Pension will become variable and will fluctuate more in line with economic conditions. The new system will make pensions more personal and more transparent, and will more closely reflect developments in the labour market. Pension providers have to change their pension schemes by 1 January 2026. A temporary statutory transition framework will provide assistance for a careful and balanced transition. Part of this is a legally mandatory communication plan, which aims to ensure that scheme members are informed of the personal consequences of the transition to a new pension in a timely manner. The AFM will supervise these communication plans, which have to be submitted by 1 July 2024.

The AFM considers it important that a pension scheme is appropriate for the member population and that members are adequately protected. This is important precisely because participation by scheme members is legally mandatory. During the formulation of the pension agreement, the AFM stressed that it is important for pensions to be explainable and called for attention to strengthening the duty of care with respect to guidance by the pension providers on the available choices. Good guidance on the available choices can limit the risks. One important risk identified by the AFM concerns the potential negative effects of a combination of choices. Another important risk is the potential for undesirable influence in the manner in which choices are presented (the choice environment). During the legislative process, the AFM also calls for attention to supervising the definition of the risk appetite of scheme members (or groups thereof) and the link between this risk appetite and the formulation of the pension scheme. Lastly, the AFM calls for attention to establishing that the scenario figures shown to individual scheme members in the pension communication are correct. The AFM continues to be actively involved in the further development of the legislative process with the aim of limiting the risks for scheme members and stressing that pension schemes must be explainable to them.

Europe

New regulations for the financing of sustainability. The EU Action Plan for Financing Sustainable Growth, launched in 2018, forms the basis for new European regulations that assign a greater role to the financial sector in the realisation of ecological and social goals. The action plan[12] includes rules governing information disclosure by financial institutions, 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 II, UCITS and AIFMD relating to sustainability obligations with regard to the provision of financial services. In the light of these new regulations, the AFM published a position paper titled *AFM en duurzaamheid* (The AFM and sustainability) at the end of June. This paper outlines the AFM's expectations of market parties with respect to sustainability and how the AFM intends to formulate its supervision in this area. On the basis of this position paper, the AFM will engage in dialogue with the sector on how the sector should prepare itself for the new regulations. In addition, the European Commission is researching opportunities to tighten the non-financial reporting requirements for insurers, banks and listed companies further. Earlier this year, the European Commission opened a consultation on the revision of the Non-Financial Reporting Directive (NFRD).[13]

12 Building on this action plan, the European Commission has launched a consultation for a new sustainable finance strategy, known as the Sustainable Finance Action Plan 2.0.
13 For the AFM's response to the consultation, see https://www.afm.nl/nl-nl/nieuws/2020/juni/reactie-consultatie-nfrd.

Digital Finance. Last September, the European Commission published its Digital Finance Package, which among other things consists of a Digital Finance Strategy. This includes proposals for the regulation of markets in crypto-assets (MiCa) and for cybersecurity safeguards (Digital Operational Resilience, DORA).[14] The Digital Finance Strategy is intended to make the EU's rules for financial services fit for the digital age. In accordance with the European Commission's broader open data strategy (Digital Single Market), the aim is to promote data sharing within the financial sector and to allow third parties access to these data ('open finance'), while retaining the EU standards for privacy and data protection. In addition, the strategy aims to ensure fair competitive conditions between all financial services providers, whether these are traditional banks or technology companies: same activity, same risks, same rules. As the AFM has been arguing for this last point since the advent of Fintech, it also supports this principle at the EU level. Regarding open finance, the AFM is alert to challenges in relation to consumer protection. With its proposal for the regulation of markets in crypto-assets, the European Commission wishes to facilitate the possibilities for application of blockchain technology in the financial sector, but also to address the risks. The proposed rules affect both issuers of crypto-assets (including stable coins such as Libra) and crypto-assets service providers. With DORA, the European Commission aims to ensure that all parties in the financial system build in the necessary safeguards to limit cyber attacks and other cyber risks. DORA will also introduce a supervisory framework for ICT providers, such as providers of cloud computing services. With regard to both MiCa and DORA, the AFM is committed to effective implementation of this policy in cooperation with other stakeholders.

3.4 Digitisation

The big techs are expanding their financial services operations in Europe. The activities of the big techs (companies such as Google, Facebook, Apple and Amazon) in the financial services sector were initially limited to payments, but are expanding globally into lending, insurance, savings and investment products. Until a few years ago, the big techs were developing their activities in this area mainly in emerging markets, usually beginning with payment services and then moving into lending and insurance[15]. The services offered by the big techs in the Netherlands are so far limited to payment services, such as ApplePay, for which Apple entered into a joint venture with several Dutch banks. At the same time, the partnership between Deutsche Bank and Google shows that big techs are starting to enter other areas in the financial sector as well. As a result of this partnership, Google now has the capability to offer financial services to Europeans. Google will now not only be a supplier of cloud services, it will actively work on what are known as 'next-generation' financial products for Deutsche Bank customers.[16] With their large customer bases, powerful brands and huge financial reserves, it is likely that the big techs will be able rapidly to win themselves a seat at the table in other areas of the financial services sector as well. This means that the banking sector and other financial services providers will face (or are already facing) very strong competition.

Responsible use of artificial intelligence (AI) applications requires attention from market parties and supervisory authorities. The financial sector is increasingly using AI applications. For example, Dutch insurers are experimenting with both proprietary and externally sourced applications[17]. Examples include applications for improved fraud detection in damages

[14] The Digital Finance Package also includes a Retail Payments Strategy, which is not discussed in this document. See https://ec.europa.eu/info/publications/200924-digital-finance-proposals_en.
[15] BIS (2019), 'BigTech and the changing structure of financial intermediation', BIS Working Papers No 779.
[16] https://www.db.com/newsroom_news/2020/deutsche-bank-and-google-to-form-strategic-global-multi-year-partnership-to-drive-a-fundamental-transformation-o-en-11628.htm.
[17] DNB and AFM (2019), 'Artificial Intelligence: an exploratory study'.

claims and predicting customer questions. The AFM expects to see increasing usage of AI in the coming years for setting insurance premiums and customer acceptance when arranging policies. The AFM considers it important that AI is used responsibly, in a way that is in line with the requirements for ethical and controlled business conduct, product development and the duty of care. The aim is to ensure controlled use and transparency, with the customer's interests being given balanced consideration. For instance, this concerns the question of how AI applications for choice environments could encourage consumers to take decisions that are in their interests. The AFM is also seeing an increasing prevalence in other sectors of market parties that have included AI applications in their business processes. In the coming period, the AFM plans to formulate its expectations with respect to the responsible use of AI and at the same time to strengthen its supervision in relation to this technological development.

Growing use of Distributed Ledger Technology (DLT) in the financial sector. Essentially, DLT offers the possibility of smarter and more efficient processing of transactions and data storage through the use of cryptography (see Box 2). As a result of these benefits, the number of tests and use cases in the financial sector is increasing rapidly. For example, the Singapore Stock Exchange recently launched a digital issue platform for Asian and other bonds that works on the basis of DLT and Smart Contracts.[18] The platform offers a fully integrated infrastructure that connects market participants such as issuers, banks, investors, legal advisers, liquidators and depositaries. Information on rights and obligations is recorded immediately and securely at source on the basis of DLT technology. Smart Contracts then initiate processes such as issue flows and coupon and redemption payments. Nearer to home, there is the joint venture between Banque de France and Société Générale for the issue and settlement of a bond denominated in euro-CBDC (Central Bank Digital Currency).[19] The secure tokens for this issue are registered directly in a public blockchain. These examples illustrate how the application of DLT makes it possible to simplify the market infrastructure, accelerate issue and payment processes and strengthen security. Despite these potential benefits, this technology involves risks that, in the opinion of supervisory authorities, cannot yet be sufficiently controlled, nor can the relevant regulatory requirements be met in all cases. Accordingly, the AFM welcomes the development of a pilot regime by the European Commission for DLT applications on trading platforms. Such an EU framework can assist supervisory authorities in permitting experimentation without breaching existing EU regulations (such as MiFID, CSDR, etc.). Experimentation is an important part of the learning process for both supervisory authorities and market parties through which the technology's possibilities and problems can be identified.

18 https://www.sgx.com/fixed-income/listing-debt-securities#Digital
19 https://posttrade360.com/news/technology/sg-issues-all-dlt-bond-using-frances-digital-euro/

Box 2 Distributed Ledger Technology, blockchain and smart contracts

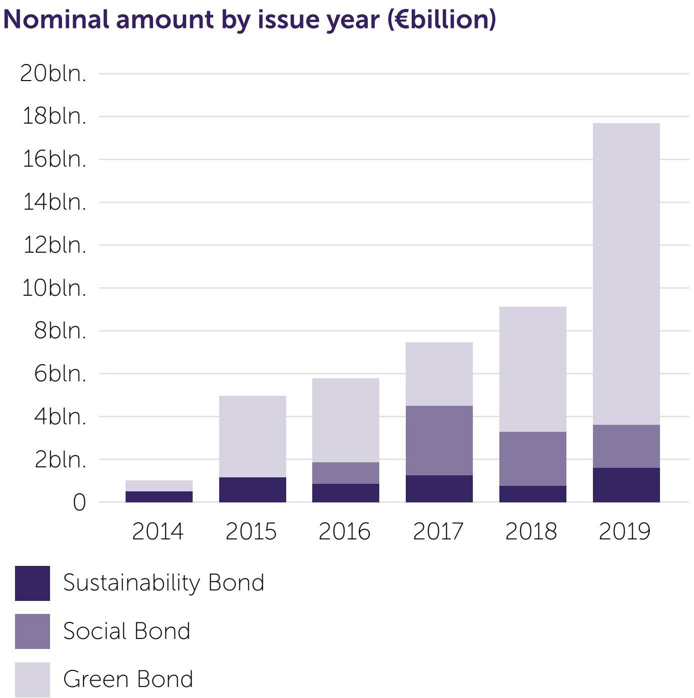
Distributed Ledger Technology (DLT) is a technology whereby data is recorded in a distributed ledger (hereinafter: 'ledger'). The technology thus offers possibilities for the automated recording of ownership, for example of money, real estate or other assets.[20] This is made possible by agreements between several operators who are independent of each other on additions to the ledger on the basis of a consensus mechanism, after which the additions are recorded in time-ordered immutable data files. Additions to the ledger can be read and proposed by the users of the ledger. The data files are secured with cryptography. The best-known type of DLT is known as blockchain. This name comes from the fact that the transactions are combined into a block, so the transactions can be settled and registered automatically. Another application of DLT is in Smart Contracts. These are essentially contractual agreements recorded in computer language.

3.5 Sustainability

The market for the financing of sustainability is growing strongly. Investment inflow into European funds with a sustainability objective was €120 billion in 2019[21], more than double the inflow in 2018.[22] In combination with the increase in value of existing sustainable funds, total assets invested in these funds have grown to €668 billion. The market for sustainable bonds is also growing strongly. The AFM's report 'Sustainable Bonds in the Netherlands', published in April 2020, shows that in 2019 issues of sustainable bonds in the Netherlands doubled compared to 2018, from €9 billion to €18 billion (Figure 2). In addition, the market for sustainable bonds is becoming more diverse. There are now bonds in more risk categories and there is more variety in the issuing sectors than previously[23].

20 https://www.ecb.europa.eu/explainers/tell-me-more/html/distributed_ledger_technology.nl.html
21 https://www.morningstar.nl/nl/news/199269/instroom-in-esg-fondsen-breekt-record-in-2019.aspx
22 Note that due to differences in definitions, there is no universally accepted Figure for the volume of the market for sustainable finance. Figures from other sources may therefore deviate from those quoted. Nonetheless, the figures from various sources all indicate strong growth.
23 IMF (2019), 'Global Financial Stability Report'.

Figure 2 Issues of sustainable bonds in the Netherlands are growing strongly



Source: AFM

The sustainability performance of financial products still lacks transparency and verifiability for investors. The sustainable finance market faces a number of challenges. Among the most important of these challenges is the extent to which a product or service's sustainability performance is transparent and verifiable for investors. The lack of such information raises the risk of 'greenwashing' (the unjustified description of products as sustainable). For this reason, a great deal of new European and other legislation is being drafted that will set requirements for information disclosure in relation to sustainable products. This legislation will prescribe how financial institutions will have to report on sustainable financial products, both beforehand and afterwards. This new legislation will mean a larger role for the AFM's supervision of information disclosure, in particular in relation to sustainable finance (see paragraph 3.3)

ESG ratings are an important factor when it comes to sustainable investments. Although significant progress is being made towards a standard definition, sustainability is currently not a well-defined concept. While some large companies are indeed obliged to report on sustainability aspects of their business operations on the basis of the Non-Financial Reporting Directive (NFRD), there is no uniform reporting standard in this respect.[24] This means that sustainability performance is not disclosed in a uniform manner, for example in annual reports, making it difficult for investors to assess how sustainable a company truly is. To address this issue, what are known as ESG ratings have come into being. An ESG rating gives information on a company's performance in the areas of the environment, social policy and governance. This is therefore a much wider assessment of a company than its financial performance alone. ESG ratings are usually compiled on the basis of a combination of publicly available information, surveys and assessments by analysts. An important difference with creditworthiness assessments is that a sustainability rating is not restricted to quantifiable observable information: it has to constitute an opinion on

[24] In response to a consultation for the review of the NFRD, the AFM has argued for an international standard for the reporting of non-financial information by large public-interest entities (PIEs). See https://www.afm.nl/nl-nl/nieuws/2020/juni/reactie-consultatie-nfrd.

performance in a broader sense. ESG ratings play a considerable role in the market for sustainable investments. Investment funds and exchange traded funds (ETFs) with a sustainability objective usually pursue an ESG rating, for instance by compiling a fund or index with the companies with the best ESG scores in a sector.

ESG ratings may vary widely depending on the rating agency. One point of attention with respect to ESG ratings is the lack of fixed rules regarding the methodology, governance and reporting requirements to be used by the rating agencies. This means there may be large differences between rating agencies. The correlation between the ESG ratings of the same companies from five different rating agencies ranges from 42% to 73%, with an average of 61%[25]. By comparison, the correlation between traditional credit ratings is normally close to 100%. It is not only that the ratings vary widely from one rating agency to another, there is also no agreement between the rating agencies regarding the extremes of the distribution. In other words, the companies that are rated the best (or the worst) on their ESG performance vary from one rating agency to another. These differences arise from the use of different ESG concepts, measuring methodologies, weights and assessments. The variation in the assessment of companies' ESG performance makes it difficult for investors to compare these ratings, as a result of which investors are still having difficulty obtaining insights into the sustainability performance of these companies.

The AFM believes that the unregulated status of the ESG rating agencies requires attention and supports the introduction of an international standard for non-financial reporting. The AFM sees the lack of relevant, reliable and comparable ESG data as an obstacle to the further embedding of sustainability in the financial sector. Although investors depend on the ESG rating agencies for ESG data to a significant extent, transparency with respect to the sustainability concepts, measuring methodologies, weights and assessments used by these parties to evaluate these data is often lacking. The AFM therefore proposes that these rating agencies should be regulated and subject to supervision, for instance by the European Securities and Markets Authority (ESMA). The AFM also argues that there is a need for an international reporting standard for non-financial reporting. The AFM believes that the European Commission should take the lead on this issue.

[25] Berg, Florian and Kölbel, Julian and Rigobon, Roberto (2020). 'Aggregate Confusion: The Divergence of ESG Ratings'.

Box 3 Financial and economic crime

In recent years, the AFM has intensified its monitoring of the abuse of the financial sector for criminal purposes. One important part of this is the monitoring of money laundering and the financing of terrorism. Pursuant to the Money Laundering and Terrorist Financing (Prevention) Act (*Wet ter voorkoming van witwassen en financieren van terrorisme*, Wwft), the AFM supervises investment firms, collective investment schemes, undertakings for the collective investment in transferable securities (UCITs) and financial services providers, insofar as these act as intermediaries in life insurance. Informing and encouraging companies to accept and fulfil their role as a gatekeeper in the fight against money laundering and the financing of terrorism adequately is central to this effort. In recent years, the AFM has carried out reviews of investment firms and managers of collective investment schemes, including thematic reviews of risk management, transaction monitoring and the notification obligation. Each year, the AFM also sends questionnaires to all the companies subject to its Wwft supervision, with questions regarding the risks of money laundering and the financing of terrorism and compliance with the Wwft. The responses to these questionnaires show that licensees have become increasingly aware of their obligations under the Wwft in recent years. An increasing number of companies state that they carry out an annual assessment of the risks of money laundering and the financing of terrorism and that they have implemented policies to manage these risks. Since 2018, the number of notifications of unusual transactions[26] by AFM licensees has risen strongly: a total of 78 unusual transactions were reported in 2018, 124 in 2019 and there have been 157 reports of unusual transactions so far in 2020. In the future, the AFM will continue to devote attention in its Wwft supervision to how companies carry out their customer due diligence, monitor transactions and report unusual transactions.

The AFM is receiving an increasing number of signals about dubious investments offered by foreign providers. This is shown by our half-yearly signals monitor. Among other things, this concerns signals from consumers about foreign investment platforms with a European license that offer high-risk investments. In most cases, such providers initially contact consumers by telephone. They misleadingly dangle the prospect of high yields, while in reality it is not in their interest for their customers to actually make any money. Many of these signals concern investments in contracts for difference (CfDs). These are complex leveraged products that allow people to speculate that a price will either rise or fall. The losses can be substantial and even exceed the initial investment, in some cases amounting to hundreds of thousands of euros. Since 2019, the number of signals received by the AFM in this respect has increased. From 2015 to the end of 2018, the AFM received around 40 reports from consumers about providers from Cyprus, from where many ill-intentioned providers operate. Since 2019, there have been more than 330 such reports, a multiple. These providers usually have a licence in the European country in which they are located. They can then apply for a European licence, which allows them to offer products in the Netherlands as well. The AFM does not supervise these companies, as this is the responsibility of the licensing supervisory authority. The Cypriot supervisory authority CySEC has recently placed restrictions on several investment firms. Although CySEC also sees investor protection as an important priority for its supervision, such warnings usually come too late and after many consumers have already been caught up in the scam, losing their money. In its signals monitor, the AFM offers tips for recognising how these parties operate and avoiding financial losses.

[26] Notifications to the Financial Intelligence Unit-Netherlands.

04

Responsible mortgage lending

4.1 Introduction

For most home owners, a mortgage loan is the largest financial commitment of a lifetime. A mortgage is a long-term financial commitment with fixed costs in the form of interest and repayments. In order to meet these fixed costs, households need to have sufficient income during the lifetime of the mortgage. Furthermore, the property for which they have taken out a mortgage may decrease in value if house prices fall, resulting in negative equity. In order to prevent problematic mortgage debts, a maximum mortgage

financing burden in relation to income is laid down by law each year for new mortgages. This financing burden standard determines the maximum mortgage loan amount a household can sustain based on income in order to meet the necessary living expenses.

The system ensures that households that take out a mortgage are protected against residual debt risks and payment risks by setting a limit on the maximum mortgage loan amount. The maximum ratio prescribed by law between the mortgage amount and the underlying property value (the 'loan to value', LTV ratio) offers protection against residual debt risk. The law also prescribes the maximum portion of gross income that may be expended on the mortgage payments in a given income situation. This 'loan-to-income' ratio (LTI-ratio) offers households protection against payment risk by assessing their financial capacity when making the mortgage application. Implicit excessive borrowing arises when the approved mortgage loan amount over time unforeseeably no longer reasonably relates to income and other expenditure and financial commitments. Households can be vulnerable when taking out a mortgage, but can also become vulnerable during the mortgage term due to implicit excessive borrowing.

Responsible lending in the housing market relies on robust legal standards for LTI and LTV ratios and on the correct application of those standards by mortgage providers. The lending standards[27] are subject to various legal exemptions to allow consumers to borrow more in certain situations. The lending standards can only effectively reduce the risk of payment problems or residual debt if the possibilities for deviating from them are limited. Against this background, it is essential that mortgage lenders in any event have a complete picture of the income and payment obligations of households and correctly include this information in their assessment of mortgage applications.

Several trends increase the risk of households in practice taking on higher mortgage loan commitments in certain situations than advisable, based on the lending standards. Firstly, there is a growing tension between the objective of combating excessive borrowing and other housing market policy objectives. Examples are the steps being taken to encourage efforts to make the housing stock more sustainable and improve the position of first-time buyers in the housing market. In order to help achieve these objectives, there is legal provision to deviate from the LTI and LTV norms in certain situations. Secondly, some households have existing payment obligations that, for various reasons, may possibly not be taken into account, or not fully taken into account, by lenders when determining the maximum financing burden on a mortgage application. Existing student loan debts are an example. The AFM is alert to both trends. In 2021, the AFM will carry out a study to determine where these trends entail risks for consumers and what the related implications are.

4.2 Mortgage lending standards

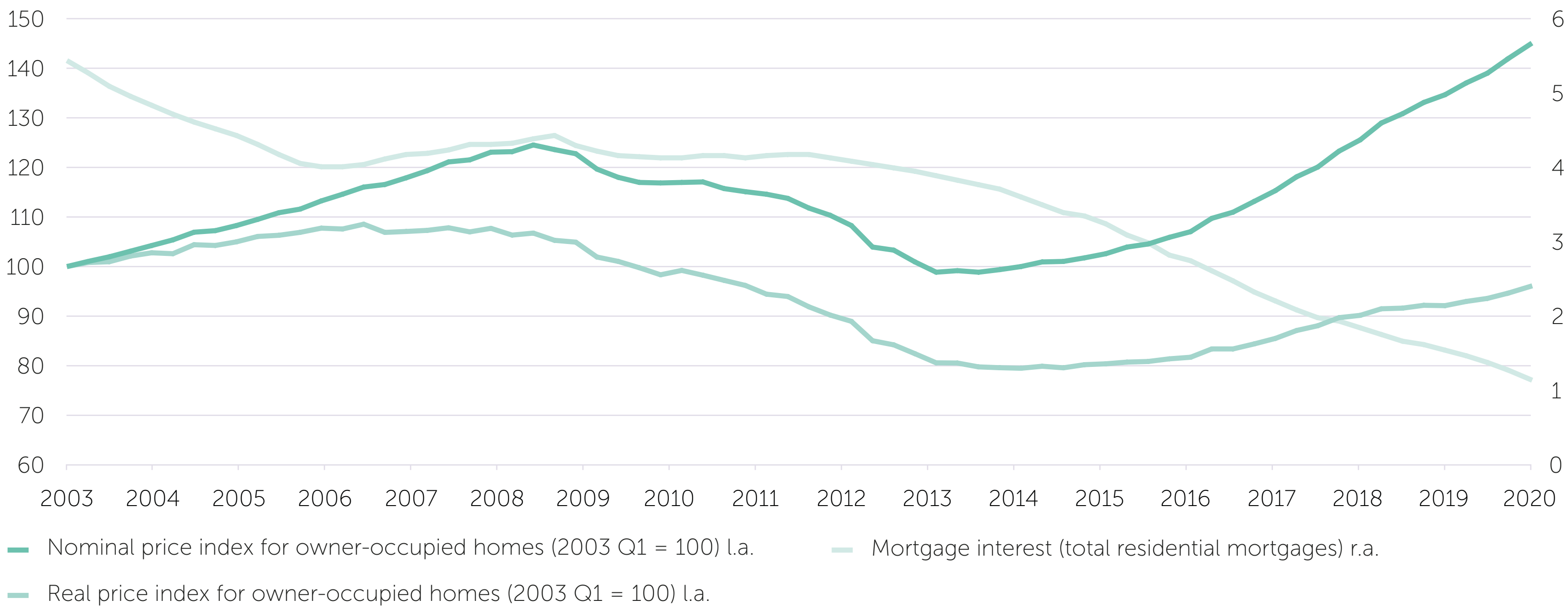
Mortgage lending standards in their current form are relatively new. In contrast to the situation that existed before the previous crisis, the standards for the maximum loan-to-income and loan-to-value ratios are now laid down in law. This was preceded by a gradual process of standardisation. Whereas prior to 2007 there were few uniform rules governing maximum loan limits for mortgages, in that year mortgage lenders incorporated various provisions into the Code of Conduct for Mortgage Loans (*Gedragscode Hypothecaire Financiering*, GHF) with the aim of protecting consumers against excessive borrowing. In 2011, the GHF was tightened up and an LTV limit was introduced, among other things. In 2012, the government decided to progressively reduce the LTV from 105 per cent in

[27] In this section, lending standards refer to the standard pertaining to the loan-to-value (LTV) ratio on the basis of article 5(1) of the Provisional Scheme for Mortgage Lending (*Tijdelijke regeling hypothecair krediet*, Trhk) and the permitted financing burden (LTI) on the basis of article 3(5) of the Trhk. The lending standard is based on the "*current fixed and steady income*" (article 2(1) of the Trhk).

2013 to 100 per cent in 2018. The Provisional Scheme for Mortgage Lending (*Tijdelijke regeling hypothecair krediet*, Trhk) came into force in 2013. The development of the lending standards can be seen as a pendulum that swung towards prudence and protecting consumers in the aftermath of the credit crisis.

The residual debt risk for many Dutch households with a mortgage has decreased since 2014. Following the fall in house prices between 2008 and 2013, the stronger rise from 2014 helped improve the financial situation of many home owners (see Figure 3). This contributed to a gradual decrease of the LTV of households and helped create a buffer against the risk of negative equity. While homeowners are leveraging their equity to trade up, they are at the same time increasingly having to pay more for a new home. Alongside increased house prices, buyers also benefited from increasingly lower interest rates in this period. This also applies to homeowners on the expiry of their fixed-rate period or when refinancing their existing mortgage. Growth in household disposable income outpaced the rise in house prices in the period up to the end of 2014, and this is reflected in a more moderate real growth in house prices over a longer period. The situation has reversed since 2015, incidentally, with house price growth failing to keep pace with the growth in household income.

Figure 3 Development of house prices and home mortgage interest rates

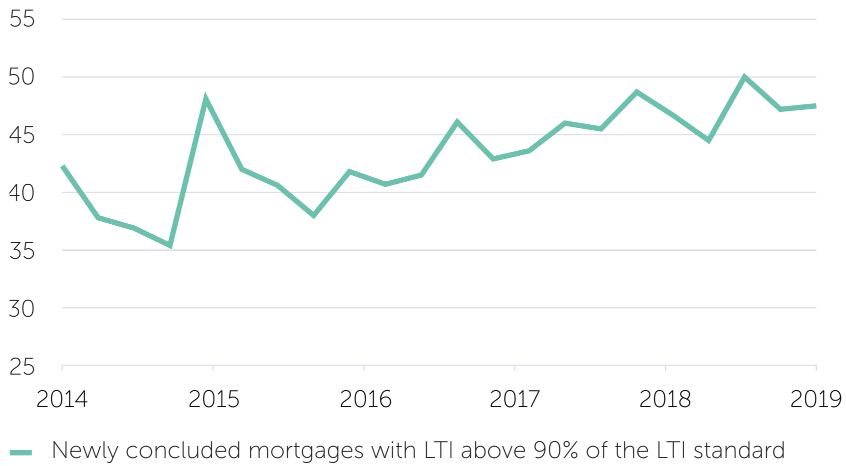


Source: CBS; DNB. Adapted by AFM.

At the same time, the proportion of homebuyers borrowing the maximum amount, or almost the maximum amount, permitted under the financing burden standards (LTI threshold) is increasing. This applies in particular to first-time buyers. They are paying historically high prices for properties without the cushion of home equity, are more likely than average to have non-steady incomes and are still at the beginning of their income careers. The LTI consequently acts as more of a constraint on first-time buyers, limiting their options, than on other home seekers. As a result, buyers are increasingly looking to borrow as close as possible to the LTI threshold. At the start of 2020, more than half of the newly closed mortgages among first-time buyers involved a mortgage amount above 90 per cent of the permitted maximum based on their income. In the case of home movers, the Figure was above 40 per cent. Following an initial decline in mortgages granted above 90 per cent of the permitted maximum amount based on income in 2013, when the LTI ratio was laid down in law, there has been a significant rise since 2014 (Figure 4).[28] For more households, therefore, it is income that determines the constraints of responsible mortgage lending. This makes a larger number of households more vulnerable in case of loss of income.

The system of lending standards is generally robust and is geared towards responsible lending, but does not afford the same level of protection to all types of household. Each year, Nibud, the National Institute for Family Finance Information, identifies how much money households are left with or need to cut back monthly in the case of a maximum mortgage.[29] This is done on the basis of detailed household budgets for different household compositions and with varying incomes. However, the degree of detail with which the sample budgets are prepared for different types of household is not expressed in the lending standards themselves. In the interest of manageability, the calculations are based on a single standard household, consisting of a married couple without children. As a result, the same housing cost ratios apply to households with comparable incomes but significantly different expenditure patterns.

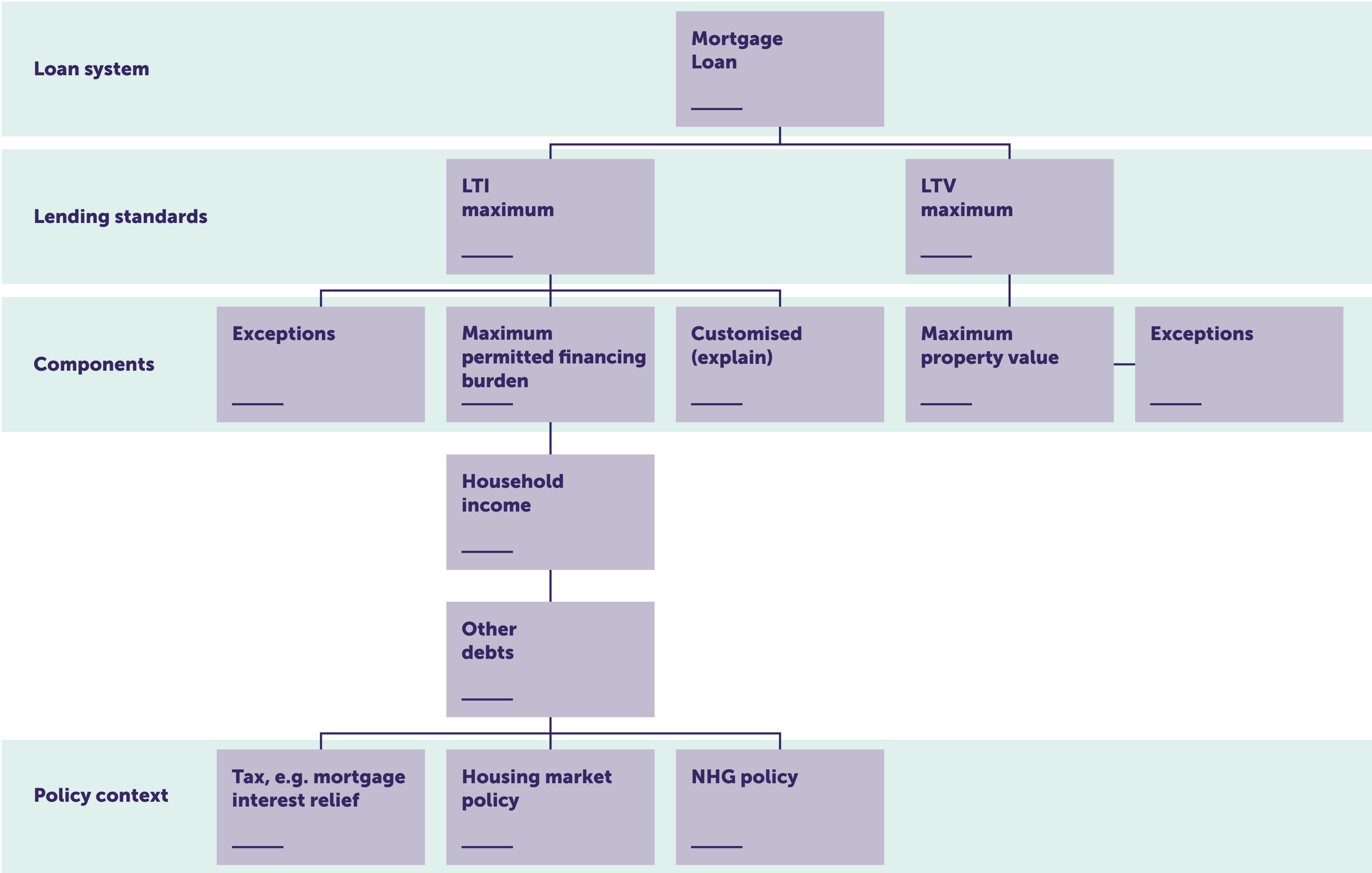
Figure 4 First-time buyers: development of proportion of mortgage originations with LTI above 90 per cent of LTI threshold (as a percentage)



Source: DNB.

[28] DNB (2019), 'Overzicht Financiële Stabiliteit' (Financial Stability Report), Autumn.
[29] Nibud (2019), 'Advies financieringslastnormen 2020' (Advice regarding financing burden standards in 2020), October.

Figure 5 Diagram of mortgage loan system



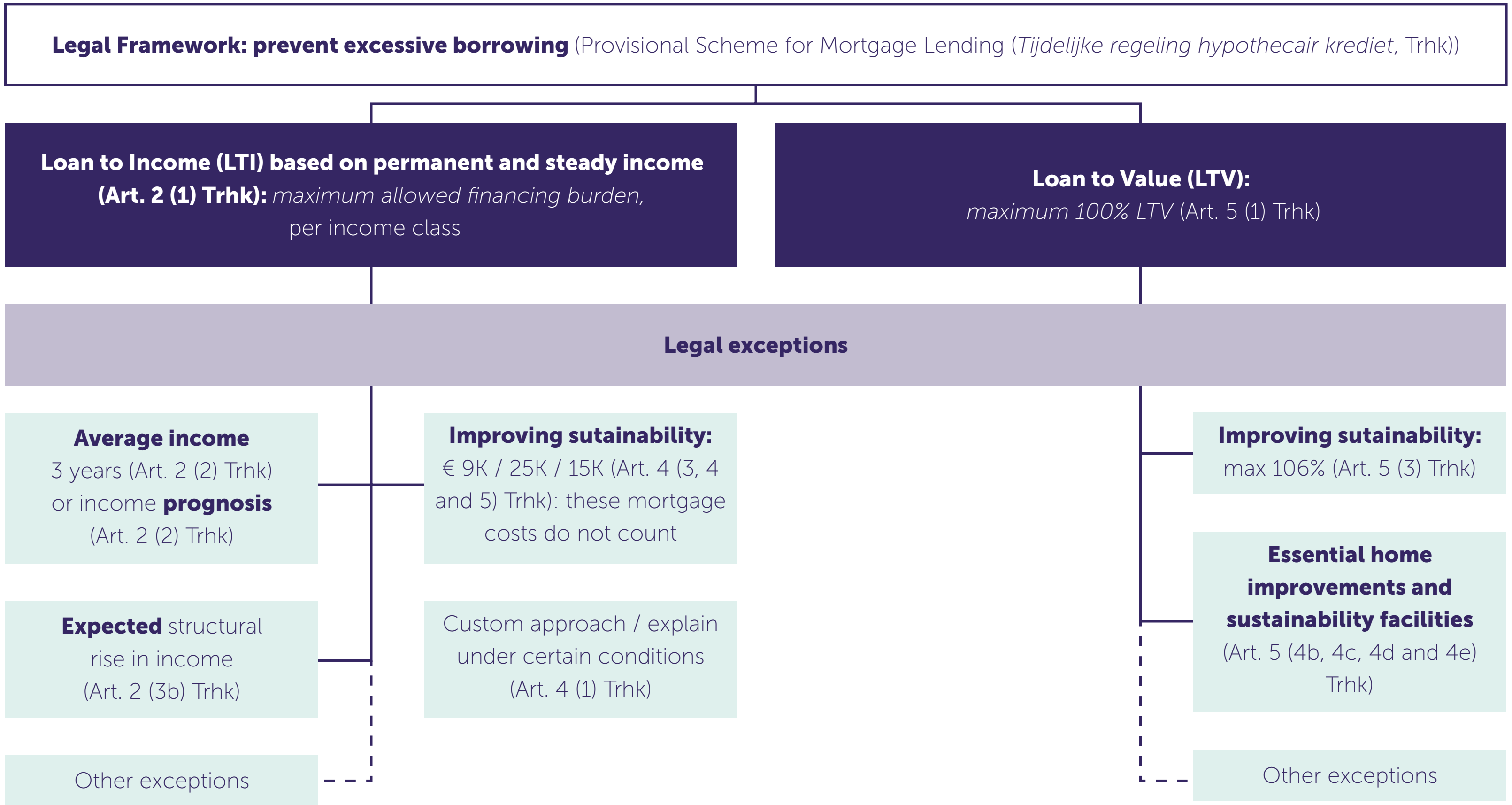
The maximum amount and type of mortgage is determined by government policy, including housing market policy, debt policy and even education policies. The mortgage loan system is thus determined by various policy parameters (see Figure 5). In addition to the capping and subsequent reduction of the LTV, it has been a condition since 2013 that new mortgages must at least be repaid in decreasing or equal instalments in thirty years to qualify for mortgage interest relief. Since August 2011, the maximum interest-only loan portion of new mortgages has been limited under the GHF to 50 per cent of the value of the property. These policy measures ensure a decreasing LTV during the term of the mortgage. This has created additional and effective repayment incentives.[30] At the same time, the weighting factor for allocating the second income has been increased since 2013, from 30 per cent in 2013 to 90 per cent in 2021, on the basis of the most recent proposed amendment of the Trhk. The same amendment also effectively results in a relaxation of the lending standard for mortgage borrowers with a student loan debt, thanks to the lower weighting factor for student loan debts from 2021. The pendulum that swung towards greater prudence in the aftermath of the credit crisis now appears to be moving in the direction of easing. Other policy measures, however, have a dampening effect on residual debt and payment risks for individual households. The National Mortgage Guarantee (*Nationale Hypotheek Garantie*, NHG) provides security against residual debt risk in the event of foreclosure when households are affected by divorce or separation, incapacity or job loss, or the partner's death. The qualifying limit for NHG-backed mortgages, i.e. the maximum purchase price of the property, in 2021 is EUR 325,000. In 2019, roughly 70 per cent of the mortgages granted were issued under the qualifying limit applicable at that time and backed by the NHG scheme.[31]

4.3 Increased influence of policy objectives on mortgage borrowing ability

Within the lending standards of the GHF (until 2013) and the statutory lending standards from 2013, scope has arisen for households to borrow more than would be responsible on the basis of either LTI or LTV norms. The standards for responsible mortgage lending are laid down in law in the Trhk. The Trhk also includes exemption provisions that allow mortgage providers to originate a higher mortgage than is possible under LTI and LTV norms (see Figure 6). This represents a change compared with the situation that existed prior to 2013, when it was mortgage lenders themselves who ultimately decided, on the basis of the GHF, the maximum mortgage amount they were prepared to provide. Now, it is no longer the mortgage lenders but the government that decides what constitutes justifiable grounds for derogating from the standards. As such, the lending standards have, in a sense, become a policy instrument that, albeit prudently, can be used to further other policy objectives in the housing market. The objective of enabling households to finance the purchase or renovation of the home in a responsible manner is the guiding factor. However, secondary objectives, such as speeding up the process of making the stock of owner-occupied homes more sustainable, are playing an increasingly prominent role.

30 CBS (2019), 'Consumptie blijft achter bij economische groei' (Consumption lagging behind economic growth), 19 August.
31 NHG (2020), 'Annual Report 2019'. The customer pays a premium for this scheme, with a one-off charge of 0.7 per cent of the purchase price. This is referred to as suretyship (borgtocht), and is tax-deductible. The customer receives a lower interest rate for this lower credit risk, up to 0.5 percentage points lower than in the case of an 'ordinary' mortgage. The general terms and conditions for NHG mortgages have changed over the years.

Figure 6 Exceptions to the Trhk



The exempted amounts for energy-saving measures have been increased in recent years. In 2013, the Trhk allowed EUR 8,000 to be disregarded for the purposes of determining the cost of financing energy-saving measures or the purchase of a house or other dwelling with energy label A++. The exempt amounts have since been raised to EUR 9,000 for energy-saving measures and EUR 25,000 for a zero net energy (ZNE) house. The Regulation amending mortgage lending rules (Wijzigingsregeling hypothecair krediet) of October 2020 additionally provides that the LTV limit for amounts up to a maximum of EUR 25,000 is excluded from the scope of LTV norms, provided that the National Heating Fund counters the related residual debt risk.

The Trhk only sets standards in respect of lending by mortgage providers, but does not cover (mortgage) lending provided to house buyers by other means. As a result, it is possible that a household in practice is provided with a higher loan amount than would be responsible under the LTI and LTV norms. In pursuit of the policy objective of supporting first-time buyers, many municipalities now offer starter loans to help them get on the property ladder. A starter loan is a mortgage loan that is specifically intended to supplement a regular mortgage loan. When a maximum mortgage is not enough to buy a house (up to a certain value), a starter loan may help to bridge the gap. While this type of loan is available on favourable terms, it does explicitly provide a higher loan than is permitted under the Trhk (and does not provide for any residual debt waiver when the mortgage term ends). In practice, it is plausible to assume that this will result in households being granted a mortgage with monthly payments in excess of what is deemed responsible on the basis of the usual lending standard.

4.4 The role of other debts in relation to the lending standard

Other debts, such as student loan debts, consumer credit and private lease, are not always taken into consideration when determining the financial capacity of households. It is important that mortgage providers can have an accurate picture of a household's financial commitments and income, both now and in the future.

Alongside the fact that student loans weigh less heavily than regular loans in the assessment of the maximum mortgage, it is quite common for a student loan debt not to be mentioned at all when applying for a mortgage. This is mainly due to the lack of effective registration of student loan debts in a way that ensures they are visible to mortgage providers regardless of what is entered on the mortgage application form. A constrictive market provides incentives as well as opportunities for 'strategic behaviour' on the part of mortgage applicants to ask for a higher mortgage loan than would be allowed under the usual mortgage lending standard. There are indications that first-time buyers are using these opportunities to enable them to finance a home purchase: approximately 14 per cent admit to concealing their student loan debt when applying for a mortgage loan.[32] It should be noted that concealing, or not mentioning, a student loan debt can have consequences for the customer if it later comes to light.[33]

Households can also take out consumer credit alongside a mortgage. There is a separate lending standard for consumer credit aimed at preventing excessive borrowing in connection with consumer debts. The AFM has paid very close attention to this market segment in recent years. There is an interaction between mortgage and consumer lending standards. Within the mortgage lending standard, consumer credit has a significant

[32] See AFM (2018), 'Consumentenmonitor hypotheken' (Consumer Monitor mortgages), October. See also FD (2019), 'Bij hypotheekaanvraag verzwijgt 15 per cent van starters studieschuld' (15 per cent of first-time buyers conceal student loan debt when applying for a mortgage), August.
[33] The NHG guarantee scheme, for example, no longer applies. See NRC (2020), 'Een huis kopen met studieschuld' (buying a house with student loan debt), 20 August.

impact on the maximum mortgage amount. Surveys have shown that roughly 15 per cent of households with a mortgage take out consumer credit to help finance payments on the home.[34]

With regard to other financial commitments, the most pressing issue is that the Financial Supervision Act (Wft) does not apply to private lease, despite there being little difference in a practical sense with consumer credit. The legal safeguards that exist to prevent over-indebtedness in the area of consumer credit are absent in the case of private lease. Given the generic product nature, the difference with consumer credit is small. The credit element in the agreement is determined by the conditions under which it may be terminated, and the risk of residual debt can be substantial. As is the case with student loan debts, there is no uniform registration requirement for private lease. There is therefore a possibility that contracts are not included in the assessment, leading in turn to excessive vulnerability.

4.5 Financing options for first-time buyers

Accessibility for first-time buyers to the housing market has worsened in recent years. It is becoming increasingly difficult for young people to find a suitable home. The situation for first-time buyers is constrictive, whether they are looking to buy or rent. There is considerable political and social acceptance of the need to rapidly improve the situation for first-time buyers. In this context, it is often asked why, for instance, aspiring first-time buyers with a high rent should not be able to take out a mortgage for the same monthly sum, even if the resulting mortgage amount exceeds the LTI norm. The political analysis surrounding the issue of first-time buyers is therefore often focused on the mortgage lending standards, which are sometimes portrayed as unnecessarily constrictive.

Young first-time buyers form a sizeable group in the housing market, and hence also in the mortgage market. The average age of first-time buyers has hovered around 30 for several years, with the majority being aged below 35. The proportion of first-time buyer transactions in the housing market trended downwards from 50 per cent in 2013 to 30 per cent in 2019, and involved approximately 70,000 first-time buyers.[35] The most prominent cause of this is the substantial increase in Dutch house prices, with the average price rising since 2013 from EUR 214,000 to EUR 328,000.

The starter loan referred to previously is the most specific facility aimed at improving access to home loans for first-time buyers. Roughly 200 Dutch municipalities now offer starter loans, aimed at bridging the difference between the house price and the maximum mortgage available based on income. This therefore enables first-time buyers to borrow in excess of the standard LTI norm. While house values have shot up, the borrowing capacity for single-income and double-income households earning up to EUR 50,000 has increased less in recent years.[36] Starter loans have been around for a long time: in 2019, there were 25,777 outstanding loans, including 2,256 newly extended loans.[37] Whereas the size–and popularity–of the facility increased each year until 2017, the number of newly extended loans has been declining since 2017. Starter loans are generally accompanied by an NHG mortgage.

[34] See AFM (2020), 'Consumentenmonitor hypotheken' (Consumer Monitor mortgages), Spring.
[35] Kadaster (2020), 'Moeilijke tijden voor koopstarters op de woningmarkt' (Challenging times for first-time buyers in the housing market), 6 May.
[36] Nibud, Advies Financieringslastnormen (Advice regarding financing burden standards) 2016-2017, 2017-2018, 2018-2019. The borrowing ability of these income groups is set to increase by 5,000 euros and 10,000 euros, respectively, in 2020. Nibud (2019), 'Advies financieringslastnormen 2020' (Advice regarding financing burden standards in 2020), October.
[37] SVn (2020), 'Annual Report 2019'.

As part of a customised approach, many recent initiatives are specifically intended to eliminate the 'bottlenecks' for first-time buyers. A recent example of such a custom approach, or 'explain', is the situation in which first-time buyers without a permanent contract or with insufficient salary history can nonetheless get a mortgage based on their predicted earning capacity and employment prospects. Another example is allowing first-time buyers who, according to the standards, do not qualify for a mortgage, but have paid rent for at least two years in excess of the likely gross monthly mortgage payments, to qualify for a loan with a 'rental statement' (huurverklaring). This category is also known as 'long-term renter households' (duurhuurders). On the one hand, this is precisely what the 'explain' facility is intended for. On the other hand, the question is whether very wide and standardised application of this facility does not amount, de facto, to an easing of the norms and standards.

Mortgage payment problems in the Netherlands are relatively limited, and have decreased substantially in recent years. On 1 October 2019, almost 70,000 consumers were at least three months in arrears on their mortgage payments, 12.5 per cent less than one year earlier. At the peak, in 2015, this Figure was roughly 113,000.[38] First-time buyers are no more likely to be in arrears with payments than other groups. The number of payment arrears is even lower in the case of starter loans. At the end of 2019, 215 starter loans were three months or more behind on payments, equivalent to 0.3 per cent of the total number of loans under management. The number of loss claims in connection with NHG mortgages is also very limited. In 2019, NHG received 386 loss claims, compared with 1,021 loss claims received in 2018 and 2,169 in 2017.

The potential vulnerability of first-time buyers in the present economic environment requires attention. Reassessments carried out by SVn (the Dutch Municipal Housing Incentive Fund) in 2019 found that 3 per cent of households with a starter loan only pay, or only partially pay, interest, and that 7 per cent have insufficient financial capacity to pay interest or interest and mortgage repayments.[39] There is sufficient reason to be especially alert to the confluence of economic developments, not least the coronavirus crisis, with the visible divergence between the standard of responsible lending and actual practice. Several observations around market developments imply that, in certain situations, first-time buyers face a higher risk of vulnerability than in previous years. Having other financial obligations plays a role here, as do factors relating to income stability and sufficient cash reserves (see Table 1).

The potential vulnerability of first-time buyers requires attention

[38] BKR (2019), 'Opnieuw flinke afname van huiseigenaren met betalingsachterstand op hun hypotheek' (Sharp decline again in number of homeowners in arrears on their mortgage payments, November.
[39] SVn (2020), 'Annual Report 2019'. This is a slight improvement compared with 2018. The long-term average test results show that the payment capacity of 21 per cent of homeowners after three years remains insufficient to meet their monthly mortgage repayments in full. After six years the Figure is still 12 per cent. Roughly 5 per cent still have insufficient income even after ten years to fully or partially meet their monthly mortgage repayments.

Table 1 Developments impacting the financial vulnerability of first-time buyers

Category	Factor	Observations
Other financial commitments	Student loan debt	**First-time buyers increasingly have a student loan debt.** The number of students with a student loan debt has risen since the beginning of 2015 by 388,000, to 1.4 million in 2019. The average student loan debt has also risen, from EUR 12,400 in 2015 to EUR 13,700 in 2019.[40] Student loan debts are not always declared when applying for a mortgage.
	Consumer credit	**On balance, the consumer credit market is shrinking in the Netherlands.** The banking consumer credit market has been progressively shrinking for several years: from EUR 21.3 billion in 2015 to EUR 15 billion in 2019.[41] This shrinkage is attributable to a decline in the categories 'overdraft' and 'continuous credit' However, there has been a growth in consumer credit through non-banking institutions in recent years: from EUR 8.2 billion in 2015 to EUR 10 billion in 2019.[42]
	Lease constructions	**It is plausible to assume that first-time buyers are increasingly bound by lease obligations.** The private lease market in the Netherlands has grown spectacularly in the last six years. In 2019, there were 188,000 outstanding contracts, compared with 36,000 contracts in 2015. 25 per cent of these lease customers are aged under 35.[43] Providers without a quality assurance mark offer private car leases without BKR registration.
Financial capacity	Steady incomes	**Income security for first-time buyers and potential first-time buyers has declined.** This is reflected in the sharp rise in the number of new unemployment benefit claimants since the second half of March this year. Young people in particular have had to turn to unemployment benefit. Of all new unemployment benefit claimants in March and April 2020, 52 per cent were aged below 35, with many on flexible contracts. In March and April 2020, UWV Employee Insurance Agency awarded 24,000 new unemployment benefit claims for 25-35 year olds. The majority are young people who were on flexible contracts before claiming unemployment benefit. Nearly nine in ten 15-35 year old new unemployment benefit claimants were previously on on-call, agency work or temporary contracts. As the employment history of young people is often still limited, they are generally only entitled to unemployment benefit for a short period.[44]
	Cash reserves	**Young households regularly have few cash reserves to cushion against income loss.**[45] This likely also applies to first-time buyers who have to borrow the maximum, or nearly the maximum, mortgage amount.
	Life events	**Roughly half of first-time buyer households are two-income households.** While that mitigates the risk of income loss, the situation is vulnerable to divorce or separation. In the case of NHG-backed mortgages, divorce or separation led to households no longer being able to meet their mortgage costs in roughly half of problem cases in 2017.

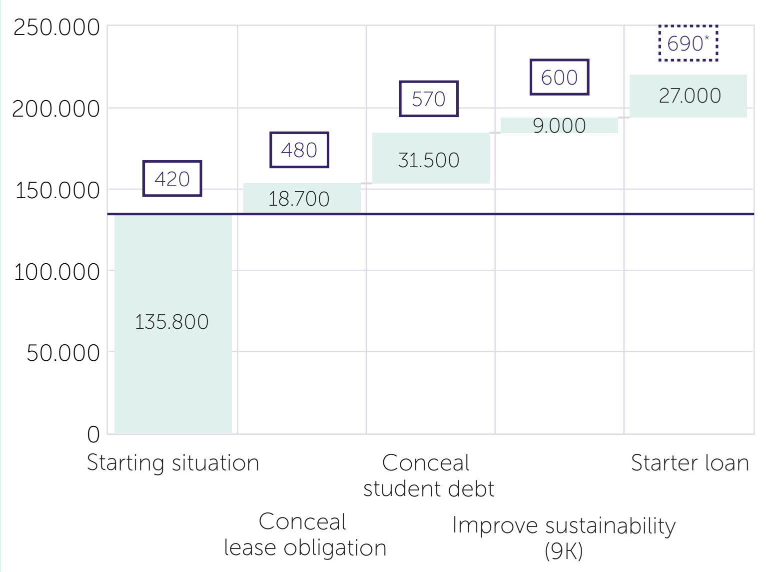
[40] CBS (2019), 'Studenten lenen vaker en meer' (Student borrowing increasing in frequency and amount), October.
[41] DNB, 'Kernindicatoren monetaire statistieken' (Key indicators of monetary statistics).
[42] VFN (2020), 'Annual Report 2019', May.
[43] VNA (2020), 'Autoleasemarkt in cijfers 2019' (Car lease market in figures), April.
[44] ESB (2020), 'Met name jonge flexwerkers in de WW door corona' (Young flex workers at particular risk of losing job due to coronavirus crisis), 18 August.
[45] AFM (2020), 'Korte termijn financiële weerbaarheid van huishoudens' (Short-term financial resilience of households), 9 July.

The question is what effect these observations regarding the lending standard has on the financial vulnerability of first-time buyers. Multiple objectives, which in themselves are entirely logical given the situation, come together here: the wish to make mortgage lending easier to first-time buyers with a student loan debt and at the beginning of a, possibly uncertain, income career, and the desire to encourage efforts to make houses more sustainable. In addition to actual income, their future, and hence uncertain, earning potential may often be taken into consideration for the purpose of determining the maximum mortgage amount. Leaving aside the question of whether a first-time buyer household, at the reference moment of purchase, can borrow more than follows from the LTV and LTI norms, it is important whether the household is sufficiently financially resilient during the term of the mortgage. An overly generous interpretation of the norm at this moment can lead to problems in the future.

The AFM endeavours to develop a better understanding and overview of the developments and associated risks. That means undertaking research into how the lending standards are applied, in order to effectively determine to what extent first-time buyers do actually borrow more than the norm or standard allows, and what that means in terms of financial vulnerability. Box 4 takes the situation of an 'average' first-time buyer to illustrate how the maximum mortgage amount and the accompanying mortgage costs can be influenced. The difference between amounts can be relatively large in connection with individual applications and, combined, the effect can be substantial. In this context, the AFM also wants to gain more better insight into the scale of exceptions and customised solutions that are applied, and to determine to what extent multiple exceptions are applied simultaneously to customers. Policy should enable providers to effectively assess whether the loan they issue is really the best fit for the actual financial obligations and income, and combines sufficient scope for future life events that may occur.

Box 4 Example calculation for maximum mortgage amount

Figure 7 Development of the maximum mortgage amount and the monthly mortgage repayments for an example household (first-time buyer) compared to the LTI norm in different situations.



Source: AFM. The amounts in the Figure are indicative. *) Interest and principal repayments are due throughout the lifetime of the mortgage. No direct interest payments and mortgage repayments are made in the first three years. In addition to the mortgage loan that is repaid in equal instalments, a second loan is taken, out of which interest and principal repayments are met. After three years, the total debt is higher, therefore, than at the beginning. The household should, in principle, start repaying the mortgage after three years, provided that is possible on the basis of the maximum permitted financing burden.

Box 4 Example calculation for maximum mortgage amount (continuation)

- **Starting situation of a household with a maximum mortgage amount.** The starting point in this hypothetical example is a single first-time buyer aged 30, with a gross annual income of 40,000 euro. The first-time buyer has a student loan debt of 14,000 euro, which is average for former students with a student loan, under the old student loan system, and also a monthly lease obligation of 200 euro for a car, with a contractual term of two years. Based on a 10-year fixed mortgage interest rate of 1.25 per cent, this first-time buyer can get a maximum mortgage of 134,800 euro according to the standard. The net monthly mortgage repayments are roughly 420 euro. In this situation, the household borrows the maximum amount that it can just about afford to repay, based on the buyer's income and other financial obligations.

- **Effect of not including other debts in the calculation of the maximum mortgage.** The contract value of the **lease obligation** is 4,800 euro, 65 per cent of which is included in the assessment. If the lease contract is concealed or not established by the provider, the maximum mortgage amount increases by 18,700 euro. The first-time buyer can now get a mortgage of 153,500 euro, with net monthly repayments of 480 euro. If the **student loan debt** is also concealed or not established, the maximum mortgage rises by a further 31,500 euro. The first-time buyer can now get a mortgage of 185,000 euro, with net monthly repayments of 570 euro.

- **Exception for improving sustainability.** If the household takes advantage of the possibility to borrow more for energy-saving measures, the maximum mortgage amount can increase by no more than 9,000 euro. This is the most commonly applied exception in practice for improving the sustainability of a home. The net monthly repayments rise to 600 euro.

- **Starter loan.** If the household wants to buy a house with a purchase price above the maximum mortgage amount, it has the possibility, under certain conditions, to borrow more in order to 'bridge' the difference. The starter loan accompanies an NHG-backed mortgage (below the qualifying limit) and is taken out with a fixed-rate period of at least 15 years. The loan is divided into two components: an annuity component (within the LTI) and a 'combi-loan' (which would be needed to buy above the LTI norm, up to a maximum 100 per cent LTV). The average starter loan is roughly 27,000 euro. No repayments need to be made on both loan components in the first three years, after which a reassessment can be requested. Most households with a starter loan make interest as well as mortgage repayments from the time of reassessment, and repay during the remaining term of 27 years. The monthly repayment amounts in the Figure represent repayment in equal instalments (annuity repayment) for 30 years. In this indicative example, the maximum mortgage amount rises by 27,000 euro to 221,000 euro, which represents net monthly repayments of 690 euro.

4.6 Conclusion

The LTI and LTV norms offer homeowners protection against payment and residual debt problems. Responsible lending to households taking out a mortgage is dependent on the quality of the norms themselves, the extent of derogation from the norms, as well as any other financial obligations that are not clearly identified and understood at the time the norms are applied. The quality of the norms is safeguarded by the legislator, which lays down the maximum financing burden percentages and the maximum loan-to-value ratio annually in the Trhk. Dutch mortgage lending standards are somewhat on the generous side, viewed in an international perspective. Within the EU, the Netherlands has a very generous loan-to-value norm, allowing for mortgages for the full value of the property. The Trhk also sets out the statutory grounds for exception that mortgage lenders may rely on to derogate from the LTI and LTV norms.[46] It is up to mortgage providers to correctly apply the norms, and the exceptions to those norms. To be able to do so, it is important that they have a clear picture of the income situation of households and any other financial obligations.

Two broad trends give rise to the question of how, in practice, mortgage lending relates to the maximum credit levels that are responsible based on the LTI and LTV norms. Firstly, there is an increasing number of legal possibilities for derogating from the LTI and LTV norms. These possibilities are laid down in the Trhk[47] and stem from the need to further certain socio-political objectives in the housing market. It is uncertain, however, whether the benefits of the possibility to borrow more than what is responsible based on income and other financial obligations are necessarily a boon for all households when set off against the increased risk of payment and residual debt problems. Secondly, there are indications of a potential imbalance between the standards and lending which is not effectively taken into account for applying the mortgage criteria. This may arise when it is not a given that information will automatically be obtained on households' financial obligations, such as in the case of student loans or private lease.

Lending to households at a structurally higher level than is considered responsible based on the LTI and LTV norms potentially carries significant risks. Households that borrow the maximum amount on their income inevitably have to reduce their other expenditure to meet their mortgage repayment obligations. There are often limited possibilities to do so, since, in order to afford the maximum mortgage, households will in many cases have already made large cutbacks in their expenditure, as advised by Nibud. This significantly reduces their resilience to setbacks. Setbacks can be very personal, such as divorce or separation or illness. They can also simultaneously affect a larger group, as with job losses brought on by the coronavirus recession, shifting house foundations caused by ground subsidence, or when income fails to keep pace with the rising cost of living. The latter risk already manifests itself among retirees who have faced and/or are expected to face no, or only limited, supplementary pension index adjustments for some time.

It is not yet possible to estimate the extent to which lending to homeowners actually derogates from the norms and standards and whether this leads to increased vulnerability among groups of households with any degree of certainty. This requires further analysis. As outlined above, many of the trends that have been identified appear to affect first-time buyers in particular. Various policy measures have increased the scope for this group to borrow more than the LTI and LTV norms permit. At the same time, first-time buyers are, potentially, more likely to find themselves in situations where mortgage lenders do not include all their financial obligations in the assessment of the responsible maximum financing burden. It seems logical, therefore, to undertake a closer analysis of the

[46] Mortgage providers may also derogate from the LTI norm for well-founded and substantiated reasons.
[47] Or will be laid down in the Trhk, for example weighing student loans less heavily in the assessment of the maximum financing burden.

potential risks for this group first. The AFM will carry out further research on these developments in the coming year, with a focus on households most at risk of excessive borrowing. In order to form a better picture of the risks, we will engage in dialogue on them with providers, government and other stakeholders.

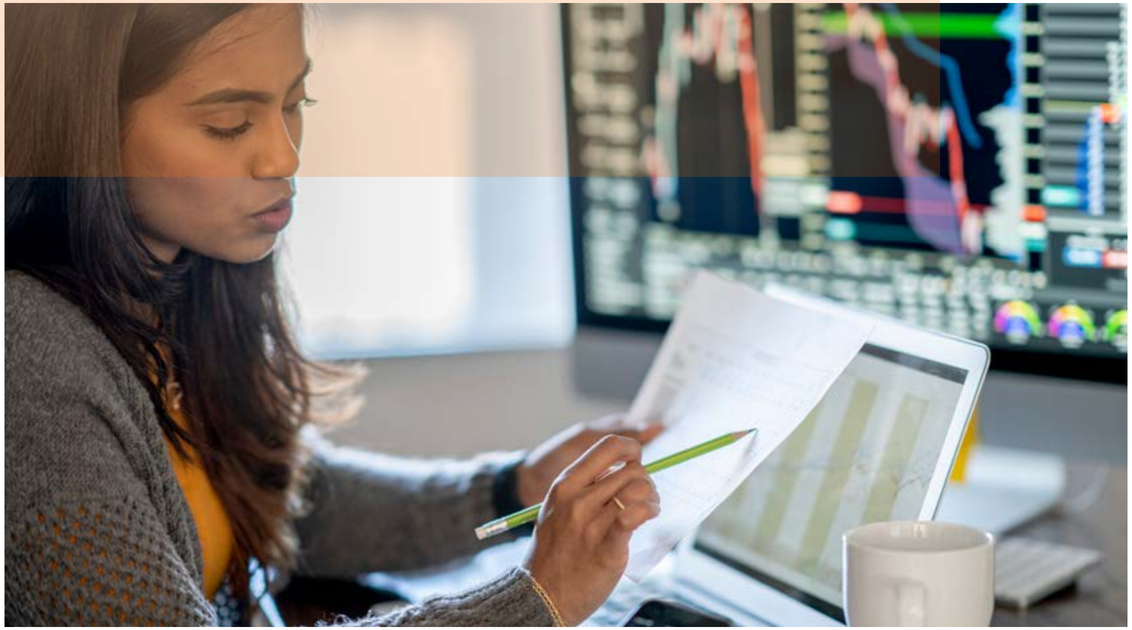
From a policy perspective, there is potential for measures that can help avoid a structural misalignment between lending to homeowners and the maximum borrowing levels that are considered responsible by government, politicians and society. The LTI and LTV norms, for instance, place a limit on the maximum mortgage amount to help prevent households getting into financial difficulties due to their mortgage. It is advisable, firstly, to exercise restraint in using the lending standards as a means of pursuing various objectives, even where they serve a social purpose. While a separate exception permitting borrowing in excess of the LTI norm may be responsible in itself, there is nonetheless a risk that households taking advantage of multiple exceptions can implicitly become overextended. Secondly, policy measures aimed at facilitating access to the housing market for certain groups, in particular first-time buyers, can be brought more in line with the purpose of the LTI and LTV norms. This applies in particular to supplementary credit facilities, such as municipal starter loans, which, at the moment, are explicitly intended to offer this group financing in excess of the LTI norm. There are few benefits for first-time buyers to increasing their borrowing ability.[48] Building sufficient suitable and affordable housing is a more effective solution for improving access to the housing market for first-time buyers. This also ensures this group is spared the dubious advantage of being able to take out increasingly higher loans, with correspondingly higher risks. Finally, it stands to reason that policy should support mortgage lenders in being able to determine effectively whether a particular mortgage may be responsibly granted according to the norms and standards. They should also be able to include all relevant current financial obligations in their judgement. The registration of student loans in the register kept by the Credit Registration Office (BKR) can make a significant contribution in this regard.

> Many of the identified trends appear to affect first-time buyers in particular

[48] DNB (2020), 'Huizenprijs hangt meer samen met financieringsruimte koper dan met woningtekort' (House price defined more by buyer's borrowing capacity than housing shortage).

05

Competition between Stock exchanges and trading platforms within a single European capital market



5.1 Introduction

The acquisition of the Italian stock exchange by Euronext is the latest move in a competition between European exchanges that began roughly twenty years ago. European policymakers are currently reviewing the regulations that these exchanges and other securities traders are required to follow. MiFID II entered into force in 2018. This EU Directive lays down transparency obligations for traders with regard to their securities transactions, for example, and on its introduction sought, among other things, to further the undertaking of such transactions through trading platforms as much as possible. The Directive's effectiveness is currently being evaluated. MiFID II does not stand by itself, however, but is part of a series of European policy initiatives aimed at creating an effective and appropriate market structure for securities transactions.

The vision underpinning European policy is that trading platforms should compete with one another effectively, without this comprising liquidity or pricing. Competition requires multiple platforms, but fragmentation of trading may lead to several different prices being quoted for the same share, with each representing merely a submarket and hence not all the available information. In the light of this contradiction, among other things, combining both objectives appears to be no easy task. This chapter puts the current MiFID II review in a broader perspective and sets out what measures the AFM believes will need to be implemented in the coming period (see also the recent AFM publications on all aspects of MiFID). Brexit has prompted various large trading platforms to set up operations in the Netherlands, either alongside or as a replacement for their UK operation. This increases more than ever the relevance of policy developments in this area for the AFM's supervision. This section looks successively at share and bond trading, since there are substantial differences between the trading structures in both markets.

5.2 The emergence of trading platforms

Although on today's high-tech exchanges, order handling takes place in row upon row of efficiently cooled mainframes, and the classic trading floor has long since been abandoned, they nonetheless perform the same functions. In essence, these functions are threefold. Firstly, stock exchanges set prices. By bringing together supply and demand for securities, an equilibrium price is agreed with high information value. Agreed, since this price reflects the view of all the trading participants regarding the value of a share or bond. Parties not participating in trading will therefore also use this price for valuing securities. A second function of stock exchanges is to provide liquidity. Liquidity can be defined as the possibility to buy and sell securities quickly and at low cost. Exchanges contribute to this by bringing together a large number of traders and potential traders. A third function of exchanges is that they provide the technical infrastructure needed for the trade in and settlement of transactions. On stock markets, roughly 55 per cent of transactions are undertaken through exchanges or trading platforms.[49]. The remainder are undertaken through bilateral trading, outside exchanges or trading platforms. Bilateral trading is still dominant on bond markets at the moment, although multilateral trading platforms are increasingly emerging.

5.3 Share trading

Innovations in information and communication technology at the end of the last century ensure competition between stock exchanges. Until the turn of the century, trading activity largely took place on a physical trading floor. Such trading venues have positive network effects: the more buyers and sellers come together, the more the value of the market venue increases. The optimum situation, therefore, was for there to be few venues where trading takes place for each market. This explains why a single national stock market generally existed in Europe and in many countries elsewhere. This market had a monopoly on share trading. In order to prevent this resulting in large surplus profits, stock markets were generally owned by their users, the stock traders. This changed once stock markets recognised that information and communication technology offered new possibilities, such as trading over greater distances between a large number of parties. This new technology potentially enables effective competition between stock exchanges [50], since stock traders being able to choose the stock market they wish to trade on is a condition for competition, and ICT potentially makes this possible.

[49] ESMA, 2020, "Consultation Paper, MiFID II/ MiFIR review report on the transparency regime for equity and equity-like instruments".
[50] IMF, 2002, "Demutualization of securities exchanges: a regulatory perspective" Working Paper by J. Elliott.

Figure 8 Consolidation of European stock exchanges

2000	2020	
Paris Stock Exchange, Amsterdam Stock Exchange, Ireland Stock Exchange, Brussels Stock Exchange, Lissabon Stock Exchange, Oslo Stock Exchange, Italian Stock Exchange	**Euronext**	Stock exchanges
Frankfurt Stock Exchange, Eurex Exchange	**Deutsche Börse**	Stock exchanges
London Stock Exchange	**London Stock Exchange**	Stock exchanges
Stockholm Stock Exchange, Iceland Stock Exchange, Riga Stock Exchange, Copenhagen Stock Exchange, Talinn Stock Exchange, Vilnius Stock Exchange, Helsinki Stock Exchange	**Nasdaq**	Stock exchanges
SIX Switzerland, Spanish Stock Exchange	**SIX**	Stock exchanges
	Turquoise	Trading platforms
	CBOE	Trading platforms

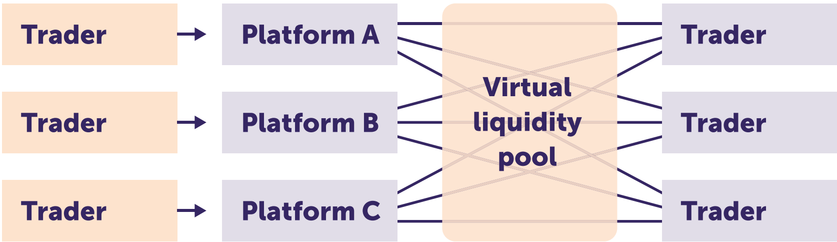
- **Turquoise is part of the LSE Group**
- **CBOE is part of CBOE Global Markets (US based)**

Stock markets change from national monopolists to internationally competing platforms in a two-step process. First, stock markets worldwide modify their organisation structure, transforming themselves into commercial organisations with external shareholders. Governments allow this. A contributory factor in Europe has been the introduction of the Euro, and that consolidation between stock exchanges is consistent with the unification of the capital market. Stock exchanges with external shareholders appear better prepared for merger and takeover battles. Consolidation becomes a fact. Although many stock exchanges retain a national presence, ownership of the European stock exchanges is in the hands of a small group of large parties. In addition, banks and traders are using the possibility created by MiFID I to set up a trading platform (see Box 5) in order to compete with stock exchanges in the area of order handling. Platforms differ from stock exchanges in that they focus solely on trading, and not on the listing of securities. The stock trading platforms with the largest turnover currently are Turquoise and CBOE. As a result of these changes, the European stock exchange landscape now looks completely different to twenty years ago, see Figure 8. The recent takeover battle for the Italian stock exchange, which was eventually acquired by Euronext, illustrates that the large stock exchange organisations are actively competing with one another.

Competition between stock exchanges or trading platforms is at odds with liquidity and pricing, but it is possible to combine both. Although it is uncertain whether policymakers had a clear final result in mind twenty years ago when they allowed stock exchange competition, it is interesting to examine what a good final result would be from an economic perspective. Competition requires multiple stock exchanges or trading platforms to compete with one another. The advantages of this are that they will endeavour to provide their customers with a good and fair service by offering low transaction costs and innovations. In concrete terms, however, platform competition means that buy and sell orders in the same share are matched simultaneously at several locations. Only a subset of the orders is matched on each platform, therefore, and, in principle, that has adverse effects on pricing and liquidity. With regard to pricing, there is a risk that several prices are formed, which by definition do not reflect all the available market information and are therefore suboptimal. Liquidity will also be smaller in each submarket than if all the orders were matched on a single market. However, it is possible to combine competition in a single virtual, shared liquidity pool, guaranteeing optimum pricing and liquidity. For this to happen, several conditions need to be met, see also Figure 9. Firstly, stock traders need to be registered with several stock exchanges where the same share is traded. Secondly, they need to know the bid and ask prices on the different exchanges in advance, so that they can decide which exchange to send an order to. Thirdly, the cost of a stock exchange connection should not be too high. Under these conditions, traders will send their orders to the trading platform with the most favourable share price and trading costs. This gives platforms an incentive to compete with one another. At the same time, a kind of central pool of liquidity is created and all the buy and sell orders are taken into account for the purpose of setting the share price (see Budish et al. 2020[51], for an analysis of the conditions for creating a virtual liquidity pool). If this market structure is indeed created and platforms compete with one another, they will be an attractive trading venue for all potential share transactions. Then it would seem logical for the Over The Counter (OTC) market to reduce in size to the benefit of platform trading. The aim of achieving such a market structure can be seen as a central theme running through European policy in the area of securities trading. In practice, however, things are not so simple.

[51] Budish, E., R. Lee & J. Shim, 2020, "A Theory of Stock Exchange Competition and Innovation: Will the Market Fix the Market?", BFI Working Paper.

Figure 9 Competition between exchanges within a single liquidity pool



In practice, it is not so simple to achieve the ultimate objective of stock exchange competition and the creation of a virtual liquidity pool. For instance, MiFID I demonstrated that the transparency requirements that are imposed on stock exchanges and platforms can also have a deterrent effect. Parties placing large orders, such as institutional investors, may be attracted to the idea of transacting orders behind closed doors, for example in *dark pools* (see Box 5). They will be mindful of the fact that the visibility of a large order will trigger a market reaction to the detriment of the investor placing the order. The existence of *high frequency trading (HFT)* can amplify this effect. High frequency traders contribute to the formation of a single liquidity pool by ensuring, with their super-fast connections to several stock exchanges and through arbitrage trading, the rapid convergence of share prices on different platforms. However, their ability to trade at very high speed and the resulting good information position they enjoy can make it advantageous for other parties to trade at venues where high frequency traders are not present. An unintended consequence of the transparency requirements imposed by MiFID I was that trading grew strongly on platforms with fewer transparency requirements.

Box 5 MiFID I kicks off competitive European market, but has dark side effects

The desire for competition and transparency was clearly expressed in the MiFID I Directive, which entered into force in 2007. A key provision in particular was the abolition of the concentration rule. This required that stocks be traded on the stock exchange where they were issued, with the aim of concentrating liquidity there. The abolition of the concentration rule paved the way for electronic trading platforms that focused on the trading in, but not the listing of, shares. It followed logically that it was also possible for the same share to be traded at several places. In order to encourage liquidity and good pricing, MiFID I also introduced a transparency obligation for stock exchanges and trading platforms with regard to the orders they placed.

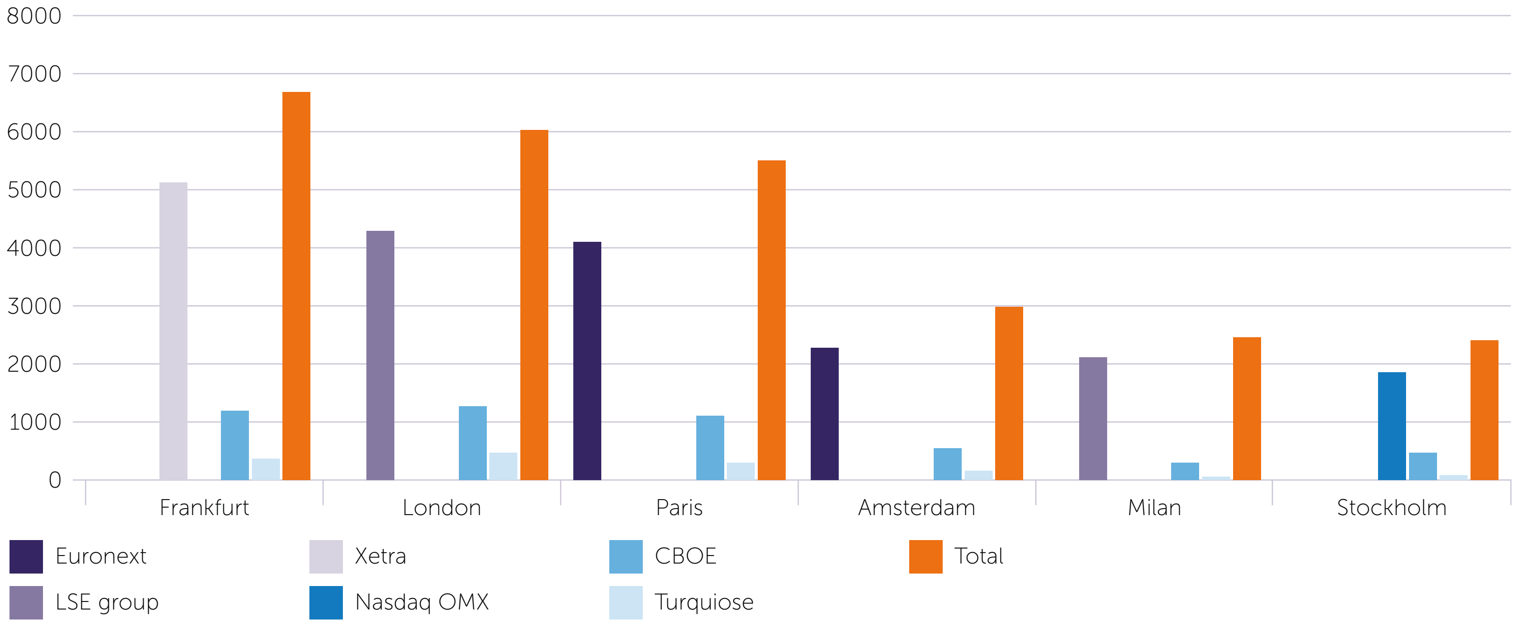
An unintended side effect was the creation of "*dark pools*" by merchant banks. These are trading systems that match supply and demand without prior transparency, and using the prices formed elsewhere. This was made possible by the elimination of the concentration rule. *Dark pools* offered institutional investors, among others, the possibility of making large trades behind closed doors. Demand for dark pool trading was related to the transparency requirements brought in by MiFID I, reinforcing the price effects of large trades, and the emergence of *high frequency trading*. Dark pool trading grew strongly between 2010 and 2015[52].MiFID II ended these *dark pools* by ensuring that the transparency rules also applied to these multilateral platforms of merchant banks.

[52] Petrescu, M. & M. Wedow, 2017, '*Dark pools in European equity markets: Emergence, competition and implications*', ECB Occasional Paper, No. 193.

The growth in 'dark pool trading' has prompted European policymakers to introduce new regulations, MiFID II, aimed, among other things, at channelling share trading to transparent platforms. MiFID I did not lead to the desired shift of trading towards transparent markets. As a result, MiFID II has introduced the *trading obligation* for liquid shares. This requires all shares issued in the EU to be traded through a stock exchange or trading platform. Another measure to improve pricing is the introduction of *pre-trade* transparency. This requires all providers of multilateral trading platforms to publish quotes prior to order handling, thereby also requiring the *dark pools* to meet transparency requirements. It is nonetheless permitted, under certain conditions, to conduct bilateral trades and to report the transaction subsequently on a trading platform. There are also various *waivers* for market parties in respect of the requirement of *pre-trade* transparency, the most important of which is the *waiver* for large transactions, with the aim of making these platforms also attractive for undertaking large trades. The trading platforms now compete in a mature way with established stock exchanges, see Figure 10. The market share of the largest platform, CBOE, is as large in total as that of the three major European stock exchanges, although spread across a larger number of shares. CBOE operates in the EU under a UK licence, as does the second largest platform, Turquoise. Brexit made it necessary for both platforms to be licensed within the EU 27 to ensure they could continue operating in the European market. Last year, therefore, they applied for a licence in the Netherlands, which the AFM issued. To what extent they will make actual use of their establishment in the Netherlands will depend, among other things, on the future relationship between the EU and the UK.

The trading platforms now compete in a mature way with established stock exchanges

Figure 10 Average daily turnover of European stock markets, in EUR million, in Sept 2020.



Source: websites trading platforms / CBOE

MiFID II has made a clear contribution to improving transparency, but has had only limited success in centralising trading on platforms. Initial studies[53] show that there has been no increase in the proportion of trades conducted on trading platforms. Rather, *systemic internalisers* (SIs) are emerging as an alternative. These are banks and other traders that trade for their own account and with clients and departments in the same organisation, although in such a systematic way that they appear to operate similarly to a (bilateral) trading platform. SIs have a market share of roughly 20 per cent across Europe[54].

There are also new developments that were not anticipated at the time MiFID II was drafted. For example, liquidity on platforms has decreased during the day during the past period. One reason is the strong growth of *Exchange Traded Funds (ETFs)*. These are funds that invest in equities, bonds and other assets, and have the appealing characteristic that their shares are tradeable on the stock exchange. This way, ETFs help ensure that less-liquid assets are readily tradeable. As ETFs base their own valuation on the closing price of shares, the trade has shifted in recent years increasingly to the end of the day. Volumes in the closing auction have risen to roughly 40 per cent

[53] Johann, T, T.J. Putnins, S. Sagade & C. Westheide, 2019, "Quasi-Dark Trading: The Effects of Banning Dark Pools in a World of Many Alternatives", SAFE Working Paper No. 253.
[54] ESMA, 2020, "Consultation Paper, MiFID II/ MiFIR review report on the transparency regime for equity and equity-like instruments".

of the daily volume, making this auction attractive also to other parties. This can give rise to a spiral effect, with an increasingly large part of trading moving to the liquid end of day auction.

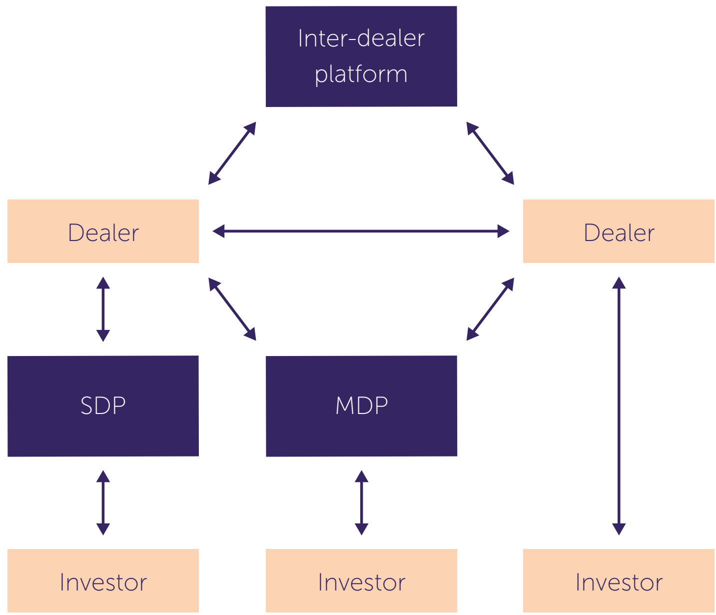
A further development is that exchanges and platforms are generating a growing slice of their income through the sale of business information, including to HFT parties. In 2018, stock exchanges generated between 20 and 50 per cent of their revenue through the sale of data[55]. Traders point out that exchanges and platforms have market power and that the cost of information has increased. The importance of the availability of information for good pricing and encouraging competition between stock exchanges highlights the regulatory role that supervisory authorities need to perform.

5.4 Bond trading

The emergence of platform trading on bond markets

Trading platforms and digital order handling are emerging on the bond markets. Shares entitle their holders to a part of the operating profit and have the same term, equal to the lifetime of the company. As such, shares are mutually convertible, promoting their marketability. Bonds, on the other hand, vary by series, in interest rate and term, restricting their marketability. It is worth noting that there are considerable differences in liquidity, between government and corporate bonds, for instance. As bonds are less readily marketable, they traditionally have a different trading structure to shares. This structure is layered, see Figure 11. Merchant banks act as *market-makers*. They issue quotes to investors, include bonds on their balance sheet on a temporary basis and trade among themselves in the inter-dealer market. This structure contributes to marketability. Given the specific characteristics of bonds, end-investors are less likely to find another end-investor willing to trade in the same bond than in the case of shares, so it is useful if merchant banks are willing to bridge this period by temporarily including a bond on their balance sheet. However, due to a variety of factors, banks are less inclined than in the past to perform this function. Among these factors are the relatively high capital requirements, meaning they must hold a lot of equity in proportion to the yield for performing this 'inventory management' role. In addition, there appears to be less willingness to take risks since the Great Financial Crisis[56]. This retreat has given rise to demand for alternative trading structures, providing an opportunity for bond trading platforms.

Figure 11 The layered structure of bond markets: inter-dealer and dealer-investor

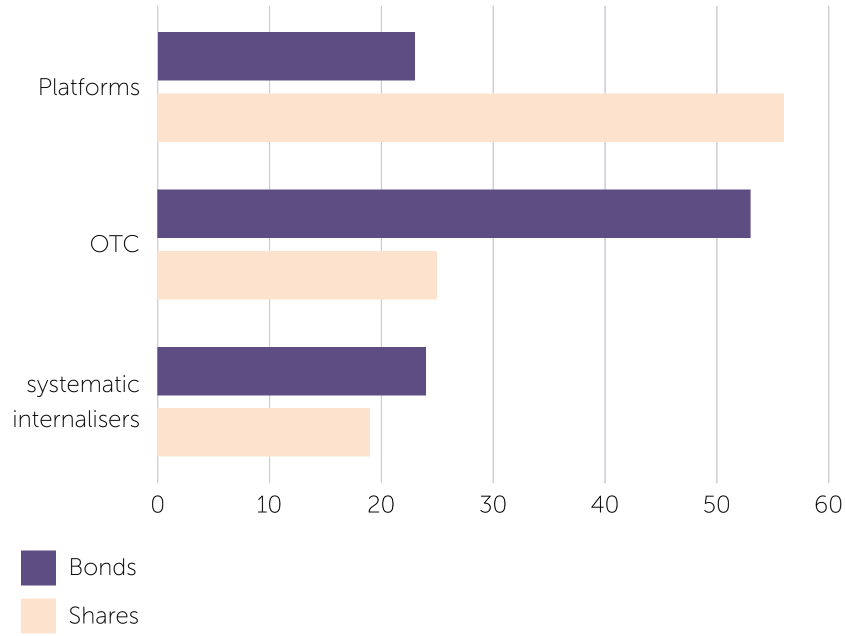


[55] Oxera, 2020, "The design of equity trading markets in Europe", prepared for FESE.
[56] BIS, 2016, "Electronic trading in fixed income markets", report by the Markets Committee.

The emergence of trading platforms improves the market structure of the most liquid bonds. The first virtual marketplaces began to appear in the inter-dealer segment of government bonds, the most liquid part of the bond market, at the end of the 1990s. Their entry pushed down transaction costs and improved price transparency. The quotes of different prospective counterparties could now be seen at a glance on a computer screen. This is significantly more efficient than the bilateral telephone contact that was customary until that point. As a next step, the method of order handling also evolved in the market. The first platforms operated with a Request for Quote (RfQ) system, allowing dealers to choose from among various quotes. Later, this liquid inter-dealer segment also saw the development of order-driven systems, including a central limit order book (CLOB), as is customary on stock markets. Electronic trading has now also become common in the market segment, in which merchant banks trade with investors, and new parties that excel in terms of trading software and IT infrastructure are gradually entering the segment. The single dealer platform (SDP), for instance, automates the relationship between dealer and investor. A more advanced development is the multi-dealer platform (MDP), which enables investors to request quotes quickly and easily from several dealers via the RfQ protocol, see Figure 11. These platforms increase market efficiency, by improving pricing and stimulating competition between *market-makers* (dealer banks). We are now also seeing the emergence of *client-only platforms*, which allow direct trading between end users. This way, the most liquid part of the bond market is gradually developing, step-by-step, towards a trading structure comparable to that of share markets. Roughly one quarter of European bonds are now traded on platforms, see Figure 12.

Figure 12 Platform trading is further developed in the equity market than the bond market

Proportion of trading volume, in 2018 – 2019



Following the example of trading platforms in the share market, several large bond trading platforms operating from the UK have been prompted by Brexit to establish a second operating base in the Netherlands. One of these platforms, CME, operates in the inter-dealer segment, where it works with a central limit order book for government bonds. The other three platforms focus on the market segment in which investors are active, see also Table 2 below. As is the case with stocks, the trading volume generated over these Dutch-based platforms is still limited, although several platforms have opted to develop operations in the Netherlands even in the event a hard Brexit is avoided.

Table 2 Four large European bond trading platforms with an establishment in the Netherlands

Platform	Tradeweb	MarketAxess	Bloomberg	CME Group	
Instrument	• Government bonds • Corporate bonds • Repos	• Government bonds • Corporate bonds • Repos	• Government bonds • Corporate bonds • Repos	• Repos	• Government bonds • Corporate bonds
Market segment	• Multi-dealer • All-to-all Via **RfQ**	• Multi-dealer • All-to-all Via **RfQ**	• Multi-dealer Via **RfQ**	• Multi-dealer Via **RfQ**	• Inter-dealer Via **CLOB**

There are wide variations in marketability in the market for corporate bonds. The relatively safe (*investment-grade*) corporate bonds of large companies mirror government bonds in being relatively liquid and hence suitable for platform trading. Studies also show that these corporate bonds in particular are traded over platforms[57]. Bonds with a lower credit status are rarely traded over platforms, and the lower liquidity in this segment is one reason why trading remains bilateral between investor and merchant bank. Nonetheless, ETFs are increasingly based on corporate bonds (*investment grade* as well as illiquid), improving the liquidity of groups of bonds via this route.

Standardisation of bonds could help improve marketability. Standardising matters such as maturity, issue amount, reference interest rate and prospectus terms and conditions would improve the mutual convertibility of bonds and make it easier for investors to form their judgement. This helps to improve marketability. This way, standardisation would help to eventually create a more liquid European market for bonds, to the benefit of issuers and investors alike. Although there are benefits to companies in this liquid market, they often lack sufficient incentives and possibilities at the individual level to contribute to a market change of this nature. Issuing companies focus firstly on their financing need and the market conditions, before taking account of the needs of investors. At the moment, however, they are often long-term investors, and hence an unlikely source for providing a strong incentive to improve marketability. Banks acting as issuers also do not always have an interest in marketability, since their specialised knowledge is then needed for pricing bonds, for example. Therefore, it is useful if policymakers and supervisory authorities would assess the contribution they might make to standardisation of bonds.

[57] O'Hara, M. & A. Xing, 2019, "The Electronic Evolution of Corporate Bond Dealers", Journal of Financial Economics (JFE).

5.5 The AFM's recommendations in connection with the review of MiFID II

Measures that can contribute to optimum market regulation in the share market

It is clear that while current regulations are a step in the right direction, they have not yet led to the desired end state. The final objective of competing platforms that, thanks to transparency, together contribute to the creation of a liquid market, remains more vision than reality. The AFM therefore believes that additional measures are needed.

- Firstly, it is important to level the playing field further between trading platforms, on the one hand, and SIs, on the other. Transparency regulations are one area where efforts should be focused.

- Secondly, improved aggregation of price information across platforms, SIs and OTC trading contributes to the creation of a single liquid market. The ultimate form of information sharing is a so-called *consolidated tape*, which collates *real-time* total trade and quote information. Such aggregation of trading information is already being used in the US, where an association set up specifically for this purpose (*Consolidated Tape Association*) oversees the collation and dissemination of information from all the registered exchanges, including the largest exchanges in the US. Despite relevant provisions in MiFID II, to date no private party has emerged in Europe that is willing to collate and disseminate a *consolidated tape*. The reasons given are that it involves a complex IT project, with an uncertain business case, and that the data quality is not yet of a sufficient standard. Against this background, ESMA has proposed a set of criteria for a *consolidated tape*. The AFM recommends that *post-trade* quote and trade information be made available in *real time*. However, various significant practical problems still need to be overcome, particularly in view of the prevailing insufficient data quality. It is clear, therefore, that the data quality first needs to be improved.

- Thirdly, the discussion about the cost of data needs to be addressed. The availability of data is essential for efficient market regulation and good pricing. The associated cost should therefore not be too high. At the same time, a trading platform has, by definition, a degree of market power with regard to the data created on the platform. It is therefore debatable whether additional rules are needed for regulating the cost of market data.

- Fourthly, the AFM is in favour of continuing the current policy with regard to transparency *waivers*, and is therefore against the *waiver* restrictions that have been put forward as part of the MiFID review. Trading platforms are attractive not least because it is possible, and permitted, to ensure certain orders are not immediately visible to all parties on the platform. This contributes to the liquidity of platform trading. The AFM nevertheless supports proposals for simplifying complex restrictions, such as the double volume cap. The *double volume cap* places restrictions on trading that is undertaken on non-transparent systems.

- Fifthly, the AFM supports studies into the effectiveness of measures to increase the attractiveness of platforms for institutional and other investors. Various market initiatives have been put forward in this regard. One proposal under consideration is to shorten trading days, with the aim of improving liquidity during opening hours. In addition, various platforms have taken measures, including periodic auctions and slowing down trading speed, which are worth analysing.

The purpose of the recommendations set out above is to work towards inter-trading platform competition in combination with a single liquid market, in which share prices reflect all the trading information.

Measures that support the emergence of platform trading in the bond market

It is useful for policymakers to examine what type of regulation most effectively supports those innovations that improve the operation of bond markets.

- Firstly, it is important to consider carefully what degree of transparency is appropriate to the current development of bond markets. The AFM views the emergence of platforms as a welcome development that contributes to an efficient market. To give proper shape to this ambition, it is important to realise that there are market forces that drive bond trading towards or away from a platform. Lower transaction costs and faster order handling, for example, make platform trading interesting, but can deter transparency in a market that is not yet liquid. This should be taken into account in regulatory steps. If transparency requirements are not in line with market liquidity, they can have a negative effect on pricing and liquidity. As currently applied, MiFID II, which was inspired by share markets, may represent too large a step at once in terms of transparency. This applies in particular to less-illiquid bonds. The AFM nevertheless supports a high degree of transparency in liquid bond markets.

- Secondly, policymakers can help in the standardisation of financial instruments. This improves marketability. There is scope for further standardisation in particular with regard to corporate bonds of parties with high credit ratings. One possibility is greater alignment regarding characteristics in terms of issue amount, reference interest rate, maturity and prospectus terms and conditions, although it remains questionable whether this can be achieved through market forces. It is useful, therefore, to consider whether supervisory authorities and other policymakers have a role here, for example by treating benchmark bonds favourably during approval processes. A trend in the bond markets is the issue of sustainable bonds, and since this a recent phenomenon it is easier to standardise certain ESG criteria now, thereby contributing to marketability.

- Thirdly, policymakers should consider whether current regulations properly cover all relevant parties. New technology makes it possible to divide the trading process up into different steps, for example by multilaterally identifying and matching buying and selling interest, and then qualifying the resulting transaction as bilateral trading. This might facilitate avoiding the cost of regulation that is attached to multilateral trading. It is therefore useful to sharply define the distinction within the current regulatory framework and to prevent the boundaries between multilateral and bilateral trading becoming blurred.

06

Impact of data usage on the financial market structure

6.1 Introduction

In many sectors, including the financial sector, data has become an increasingly important production factor. The generation, processing and use of data are playing a crucial role in the digital transformation of society, or the 'fourth industrial revolution' as it is also called. The financial sector is unmistakably a part of this trend. Alongside social media data, smartphone data and biometric data, financial data is also in high demand. Both traditional financial parties and non-traditional entrants are working to put the increasing possibilities of data usage at the heart of their operating processes, with the aim of improving their services and boosting their profitability.

This development is changing both the way in which financial institutions are organised and the market structure[58] in which they operate. This section looks at the trends, opportunities, challenges and risks associated with increasing data usage. While the emphasis is on the banking sector, various insights nevertheless also apply more broadly to the financial sector. Against this background, this section discusses (1) how the vast amount of available data, the wide range of new technologies and the policy incentives promoting open banking are changing market dynamics, (2) how new competitors are entering the market and forcing traditional players to adjust their business models and strategies, and (3) how the new market dynamics give rise to various–supervisory–challenges, with regard to the approach to dealing with non-traditional entrants, operational risks linked to supervised institutions, appropriate services and personal data protection as well as cooperation between supervisory authorities.

6.2 Data capitalisation: the power of combining data

Data capitalisation in the financial sector sees market parties increasingly using, or aiming to use, customer data to gain a better understanding of consumer behaviour, and respond to it. Companies are therefore working hard on strengthening their data position. The possibilities to do so are growing due to the increasing availability of data, new technological solutions for sharing and combining data and regulatory impetus.

Increasing availability of data

The amount of available data is growing by the day. The growth of the internet, the widespread use of smartphones and other personal devices across the globe and the general tendency to convert virtually everything measurable into digital data (datafication) mean that consumers are leaving an ever-larger digital footprint in the infosphere. They leave traces whenever they post messages or texts about themselves, upload financial information, share social network data, open or register social network data, and so on. Financial market parties also have their own 'capital' in the form of historical customer financial data.

Market parties are looking for ways of enriching their self-generated data with other data. Depending on what the organisation intends to do with data, it looks for ways to access the right data to achieve its defined capitalisation objective, whether it be improving the customer experience, improving existing processes or, in the case of bad intentions, creating a lock-in. Several public data sources are available, or the organisation may choose to purchase data from external parties or extract information from internet websites using software (*web scraping*). It can also rely on the new data created by consumers whenever they search for or visit a website.

58 Market structure refers to the interrelation of companies in a market that impacts their behaviour and their ability to make profits.Market structure is characterised by such factors as the number and size of market participants, barriers to entry and exit, and accessibility of information and technologies to all participants (FSB, 2019).

Technology: accessing, saving and using data

Existing and new technological applications are building blocks for an infrastructure that allows data to be exchanged, saved, analysed and used quickly and efficiently. *Application Programming Interfaces* (APIs) and Cloud services are examples of technical solutions that enable diverse systems to work together, without having to reconFigure entire IT systems. APIs fulfil a bridge function between various market parties that wish to receive data from established financial undertakings, for example. Conversely, financial undertakings leverage APIs to access technology-driven and other services of FinTechs and other market parties. Cloud services offer multiple benefits compared to previous technology, such as on-premise datacentres. By creating geographically spread infrastructures and investing in security, Cloud service providers can help to significantly improve the resilience of individual institutions. They can enable institutions to scale more quickly, operate more flexibly and provide improved automation by lowering initial investment costs and freeing organisations from the intensive renewal cycles of their own infrastructure.

Use of these technical solutions creates various challenges for the sound and controlled operational practices of a supervised institution, however. Market structures may change and the complexity of interdependencies increase, for instance. In other words, while interoperability between heterogenous and other technical systems can yield synergies through the use of APIs and Cloud services, there are general risks involved, including data breaches, malfunctions and incorrect configurations, unauthorised use of customer data, competition risks and cyber risks. A specific problem in the case of Cloud services is that they are provided externally, potentially impacting the ability of institutions and supervisory authorities to assess whether the service is being provided in compliance with legal and regulatory requirements and the risk tolerance of the company concerned. An additional complexity lies in contractual restrictions on access, audit and information rights. These legal restrictions can also reduce the ability of supervisory authorities to effectively access critical data kept by third parties, if necessary. Moreover, shared tasks, when not clearly defined and understood, can give rise to additional risks for controlled operations.

Policy: making data accessible to third parties

Regulations improving the accessibility of data to third parties strengthens the data capitalisation possibilities for companies. The European Commission, for example, launched a data strategy59 in 2020 that is aimed at creating a single market for data, to facilitate increased innovation, promote competition and hence allow for the creation of better products and services. In its *'Digital Finance Strategy'*[60], the Commission has made it clear that its plans also extend to the financial sector. The Commission's objective of facilitating the cross-sectoral flow of data require that data be exchangeable, or that the transparency of the data held by another institution be guaranteed.

***Open Banking*[61] and (potentially) *Open Finance*[62] are phenomena that are expected to increase in the coming years.** *Open finance* refers to the trend for increasing types of financial data to be made accessible to third parties. In essence, it involves a splitting up and reaggregation of financial services

[59] Further information on EU Data Strategy can be found at the European Commission's website: https://ec.europa.eu/digital-single-market/en/policies/building-european-data-economy.

[60] Digital Finance Strategy: https://ec.europa.eu/finance/docs/law/200924-digital-finance-strategy_en.pdf.

[61] Open Banking refers to a new financial ecosystem whose foundation is primarily rooted in interoperability and data-supporting services. In the case of 'closed banking', a customer's payment details and product data are locked in to the institution providing him with this service. 'Open banking' enables customers to allow third parties to access their own transaction data. This allows them to easily carry out banking activities with different providers that act as so-called Account Information Service Providers (AISPs), for instance, while relying on a single online app to collate all the information they need to manage their finances.

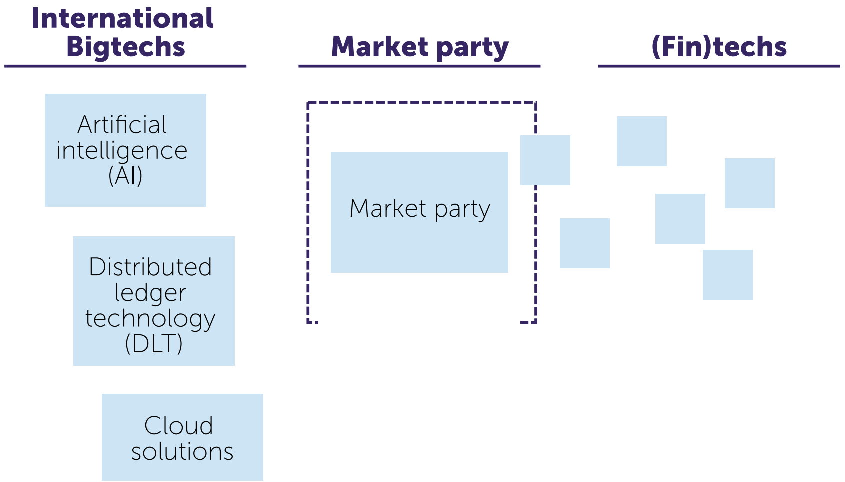
[62] *Open Finance* is a trend referring to the desire by policymakers to facilitate increased financial data sharing with third parties, which is detailed further in the consultation conducted by the European Commission under the title: 'digital finance strategy / fintech action plan'.

so that the services can be used and at the same time offered with added value by third parties, e.g. partners, developers, FinTechs, TechFins, other financial institutions, tech providers or other trusted third parties, subject to certain operational standards.

6.3 Data applications and impact on market structures

Increasing data accessibility, whether facilitated by technology or policy, has direct implications for the prevailing market structure. Market incumbents are implementing new strategies and exploring new forms of cooperation to cope with the resulting competitive pressure. At the same time, non-traditional entrants see their opportunity to acquire or strengthen a position in the chain, possibly outside the regulatory framework (see Figure 13). While these changes are accompanied by new opportunities, there may also be a negative effect on consumers. This section looks at the–potential–impact of increasing data accessibility from the perspective of market incumbents, FinTechs, non-traditional entrants and consumers.

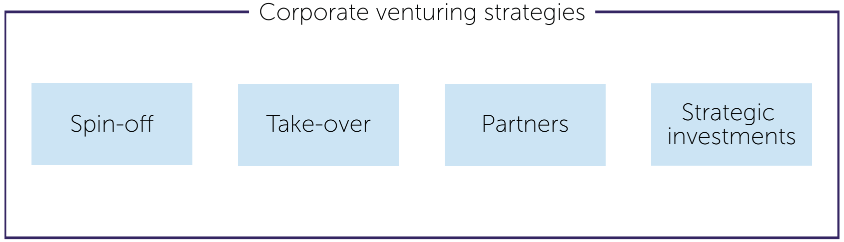
Figure 13 Position of foreign players and fintechs with regard to the regulatory framework



Impact from the perspective of market incumbents

Financial institutions are developing new strategies and looking for more efficient forms of working, with a willingness to embrace the principle of *open finance*. Market incumbents are investing in a variety of ways to increase their market clout. In their willingness to embrace more efficient forms of working, they do not shun operating like a *start-up*. At the same time, various parties are creating specific *'corporate venturing'* departments, with the aim of making investments that can ultimately result in synergies (see Figure 14).

Figure 14 Corporate venturing strategies



These investments enable progress towards a transition from a traditional institution to a platform for financial and non-financial services, built around a specific target group.[63] Forward-looking banks around the world have shown their willingness to embrace platform thinking.

Banking-as-a-service facilitates banking-type services outside the traditional channel owned by the banks. There are opportunities for third parties to move into providing new types of services outside the existing bank portfolio, although still based in part on the bank's customer details, services and infrastructure. In other words, BaaS acts as a digital and distributed model for financial services which pushes the financial services towards apps and other software. The underlying infrastructure is provided by traditional, licensed banks, which are subject to supervision. Although BaaS enables financial institutions to offer their products and services more widely and through other channels, the direct customer relationship is handed to the third party. This may give rise, among other things, to the risk that the financial service or product being provided does not entirely match the third party's activities or that the consumer's needs are not entirely fulfilled, resulting in mutual disappointment.

Box 6 Difference between open banking, BaaS and platform banking
Although open banking and BaaS appear similar, both models serve a different purpose. In the case of open banking, third parties use bank data to build new products. Parties that apply BaaS integrate entire services of a bank into their own products, with the aim of improving the customer experience or customer loyalty, for example. In the case of platform banking, the opposite to BaaS applies, with the bank adding outside services (e.g. FinTechs) to its bank environment.

Apps that offer insight into a family's financial household budget are a typical example of a product built on the basis of open banking. An airline that provides a loan to enable immediate payment of airline tickets at the lowest price can be an example of a BaaS solution. A bank that provides a customer with FinTech services around a bank account does so on the basis of platform thinking.

Impact from the perspective of FinTechs

The relationship between incumbent financial institutions and FinTechs appears largely complementary and cooperative in nature. The alternative scenario in which the disruptive nature of FinTechs results in the entire financial sector being taking over now appears to have been invalidated. FinTechs mostly provide the same services as traditional parties, albeit more efficiently due to technological innovation. FinTechs nonetheless suffer several competitive disadvantages compared to incumbent banks, such as the lack of a customer base of any sizeable scale, information, including soft information, about prospective customers, reputation and brand recognition. In addition, new customer acquisition, among other things, is costly for FinTechs.

[63] See the article by: M. Fenwick & E.P.M. Vermeulen, *'Banking and Regulatory Responses to FinTech Revisited: Building the Sustainable financial Service 'Ecosystems' of Tomorrow'*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3446273.

There are also examples of FinTechs that have managed to secure a strong position in the chain through their own efforts. Various payment service providers stand out domestically, but there are also newcomers in other areas such as investing, banking and insurance, both nationally and internationally. Some of them even have *unicorn*[64] status. If autonomous growth is not feasible, cooperation with traditional parties offers the opportunity to take advantage of the scalability of their services. This cooperation frequently has a positive impact on regulatory compliance. Traditional parties in turn get access to innovative technologies, enabling them to benefit from new products and services, with improved customer experience, for example.[65]

Impact from the perspective of non-traditional entrants

Non-traditional entrants see opportunities for securing a position in the financial chain or expanding their position by responding to the needs of traditional market incumbents or consumers. The digital transformation of financial services has yielded opportunities for tech providers to gain a position in the financial ecosystem. Tech providers initially supported traditional market incumbents in the digital transition by providing them with *back-end* solutions. Several tech providers, the so-called BigTechs, also developed applications specific to the banking sector for consumers that are facilitated via the market incumbents, with payment solutions being an example. The extensive opening of financial data for third parties, driven by PSDII, means that data is now no longer reserved for a single company in a specific sector. This gives rise to the possibility of collecting new data to gain even more detailed insight into individuals or particular groups. Competition in the digital economy is hence increasingly becoming competition between ecosystems, in this case between the traditional financial system and the (big)tech system, which runs primarily on data capitalisation.

BigTechs appear to have all the ingredients to pose a serious competitive threat to the incumbents. Unlike the FinTech startups, BigTechs already have established networks, reputation and trust, large customer bases, strong brands, sizeable profits and seemingly unimpeded access to capital. Furthermore, they can use proprietary customer data from their non-financial activities, such as social media, to tailor their services to customers' preferences. They additionally benefit from having access to the analytical tools and leading edge technologies, including *cloud computing* and artificial intelligence, which enable the processing of customer and transaction data to anticipate customer needs and influence their behaviour. It is for these reasons that BigTechs may pose a significant competitive threat to market incumbents, and they have the capacity to scale up very quickly in providing financial services, in particular where there are network effects, such as in the case of payments, loans and potentially also in insurance. In this respect, cooperation with FinTechs can improve the market incumbents' capacity for dealing with the increasing competition they face.

Impact from the perspective of consumers

In the digital world, consumers leave behind a trail of data, which the financial sector can use to its advantage. Players inside and outside the financial ecosystem gather various insights into consumers, including: their wishes and needs, the willingness to pay for a product, their financial position and risk profile. Transaction data and other financial data are very much in demand, partly because they allow a picture to be built of behavioural patterns and potentially enable them to be predicted.

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[64] 'A unicorn company, or unicorn startup, is a private company with a valuation over $1 billion. A feature of many unicorns is that they grow quickly because they introduce a disruptive technology: the service they provide allows existing powerful companies to be side-stepped. Often, startups are then cheaper or more user-friendly than traditional incumbents. Source: https://www.nomonkeybusiness.eu/unicorns-in-het-bedrijfsleven-wat-zijn-het-precies/.

[65] A study commissioned by the European Commission found that potential threats from PSDII have encouraged a positive response from banks. Results show that only 3% of European banks opt to stop at compliance, while 82% of them want to take advantage of potential strategic synergies. Banks adjust their business activities in particular by, on the one hand, improving traditional services and, on the other, launching non-banking services (Deloitte 2018, p. 126-129).

This can yield consumer benefits in the form of improved and potentially more personalised services. An example is bank and insurance products, where the risk of lending to a consumer can be better understood and hence more accurately priced, which in turn should lead to credit terms that are more tailored to the individual customer. A further example is the pricing of financial products. The increasing availability of detailed information on customers and their behaviour is enabling companies to set their prices more accurately.

Insight from data can also be used to consumers' disadvantage. The optimisation of risk assessments, for example, can in extremis lead to certain groups becoming uninsurable. And while digitalisation can help in making services more accessible and transparent, it can also be used to help conceal certain negative aspects of a product. There is also potential for new ways to be found of leveraging technology to play on human *biases*, such as a limited span of attention. Parties can use this to their benefit when selling consumer credit, for example. Price optimisation is also accompanied by perverse incentives, such as when determining consumers' maximum willingness to pay, which can lead to excessive pricing with regard to a product purchase.

6.4 Points of attention

The increasing digitalisation and datafication[66] of operating processes and practices are creating new operational risks. Technological solutions, largely provided by third parties, are giving a new dimension to operational risks within supervised institutions. Generally, in terms of obligations under the Financial Supervision Act (Wft), these risks come under the sound and controlled operational practices of financial undertakings. The diversity and plurality of cooperative ventures can facilitate greater service unbundling and introduce new dependencies. This makes it difficult to keep IT infrastructures and data management up to date at incumbent financial institutions that have entered into such partnerships. Moreover, these services are generally contractually governed by outsourcing agreements. In a fragmented landscape with various outsourced applications, it can be a challenge to manage these processes and monitor their integrity. It should be noted that outsourcing does not mean that institutions can shed the responsibility that comes with these activities. The challenge, however, is how to bear this responsibility. Furthermore, technical solutions, when not properly applied and securely managed, can lead to increased cyber threats and loss of data.

Market parties can use the data left by consumers for both benign and malignant purposes. While increased data usage can have benefits for the consumer, the same data can also be used against his or her interest. Examples include the personalised pricing of products, aggressive forms of group targeting and other ways of playing on human biases with the aid of large datasets. Although these themes are not new, the growing digitalisation allows for more ingenious ways of pursuing them. This can make them more difficult to recognise for consumers and supervisory authorities. The AFM closely monitors developments and also seeks dialogue with the market about how to ensure that these techniques are used in the consumer's interest.

Increased processing of personal financial data underlines the need for enhanced cooperation between financial and data protection regulators. It is a logical consequence of the increased processing of personal data that there is contact and overlap between financial supervision and data protection supervision. This fact is acknowledged in the Payment Services Directive II (PSDII), which lays a foundation for cooperation. However, the PSDII is focused solely on payment details, which are not the only source for the processing of personal financial data. The progressive move towards 'open finance' reinforces the need for enhanced cooperation. Although the

66 Datafication: The collation of information on just about everything in the world and the conversion of that information into a quantifiable form.

first steps towards cooperation at national level have already been taken (between the Dutch Data Protection Authority, DNB and AFM), the AFM notes that it is a challenge to agree on an appropriate form of cooperation. There is no basis for cooperation in either national or European regulations (save for PSDII). The Digital Finance Strategy recently launched by the European Commission has created momentum for taking the necessary measures in policy to be developed. The AFM invites stakeholders to engage in further dialogue on this matter with the aim of agreeing on a timely response to these policy developments.

The AFM notes and shares the growing concerns regarding the dominant positions of BigTechs. The ECB recently expressed its concerns in its public response[67] to the European Commission public consultation about *digital finance*[68]. The concerns relate, amongst other things, to the Cloud services used by banks. The choice of possible partners is limited to just three players, none of whom is based in Europe (Google, Amazon and Microsoft). A previous study conducted by the FSB into the issue also reached the same conclusions. But the concerns go further than just Cloud services. The strategic partnership between Deutsche Bank and Google, for instance, illustrates the possible interference of BigTechs in the production development process, and we are aware of other steps being taken by BigTechs to explore the possibilities for playing a role in other financial services as well. Despite the fact that the AFM's role in a global matter such as this is limited, and this matter largely relates first and foremost to competition, these developments nevertheless have an impact on the financial sector in Europe (including the Netherlands). For instance, the developments touch on the level playing field of the financial sector, and financial services are impacted. Against this background, the AFM echoes the ECB's call for enhanced cooperation between the various cross-sectoral policymakers and supervisory authorities at national and European level. In addition, the AFM looks forward with interest to the European Commission's policy intentions regarding the 'Digital Finance Act'. It would appear the Commission intends to impose further rules on digital platforms: the proposal is expected next December.

[67] The ESCB's response can be found at: https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.esbceuropeanbankingsupervisionresponsetoeuropeancommissionpublicconsultationdigitalfinancestrategyeuropefintechactionplan2020~b2e6cd0dc4.en.pdf
[68] Further information on the consultation can be found at the European Commission's website: https://ec.europa.eu/info/consultations/finance-2020-digital-finance-strategy_en.

07

Review of the 2020 Trend Monitor

The previous edition of the Trend Monitor examined three specific subjects: interest-only mortgages, the IBOR transition and the digitalisation of retail financial services. In this section, we describe what developments have taken place and the activities undertaken by the AFM.

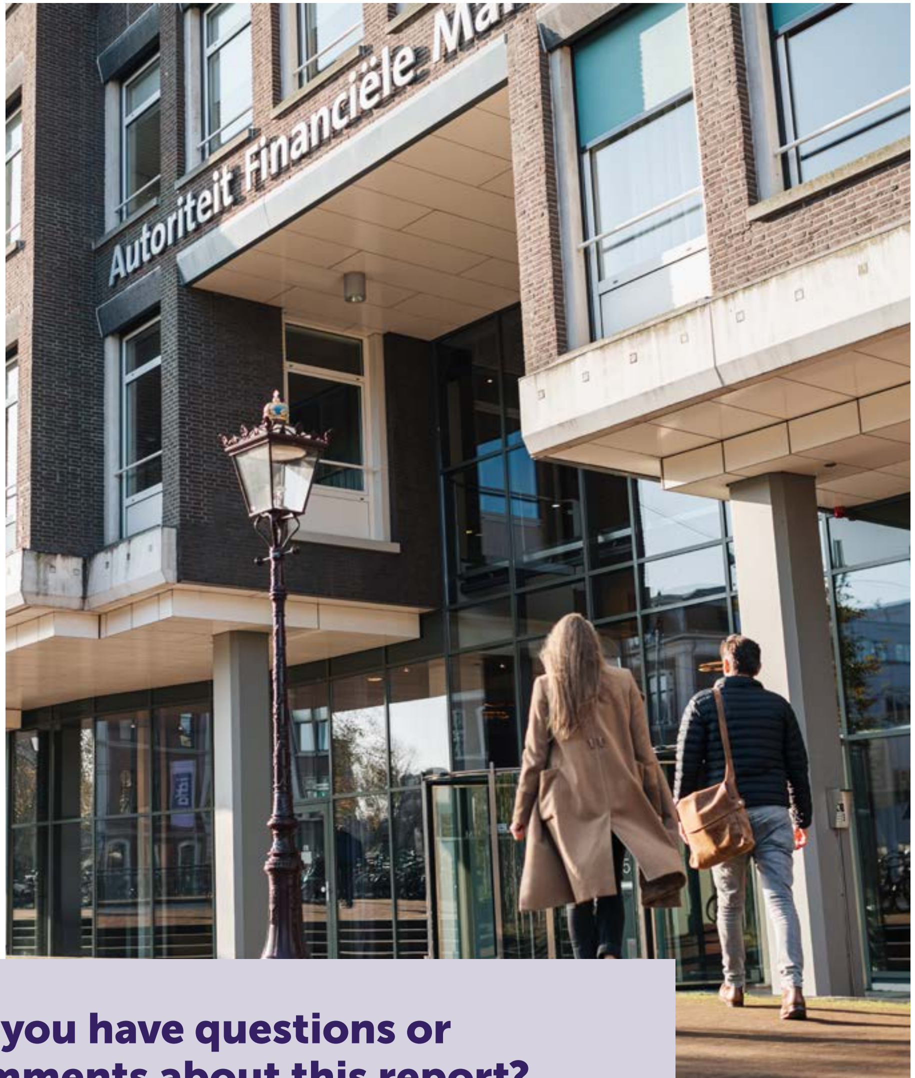
Interest-only mortgages. More than half of the mortgage debt of Dutch homeowners consists of interest-only mortgages. No regular repayments are made on these mortgages. This can lead to problems when the mortgage matures. The AFM's aim is that customers with an interest-only mortgage should be able to continue to live carefree. To do so, they need to be able either to refinance the mortgage or repay the outstanding

mortgage debt in full at maturity[69]. To achieve this aim, it is essential that customers can make an informed choice regarding their interest-only mortgage. This requires that they: (i) have a grasp on their current and future mortgage situation; (ii) receive suggestions for the direction of potential solutions and are urged to take action where necessary; and (ii) continue to be part of a management process now and in the future. Based on these starting points, a pilot phase was successfully completed with the four major banks in 2019. In December 2019, the AFM rolled out its approach to supervision with accompanying goals and expectations across all other mortgage providers. The AFM also organised a seminar in February 2020 to inform providers about its approach to supervision and to encourage them to learn from one another's approach. The AFM is currently examining whether mortgage providers have adopted an approach towards their customers that is consistent with the AFM's goals and expectations. The eventual scale of the problem of interest-only mortgages will depend on economic conditions in the future. Developments in house prices, interest rates, unemployment and pension income are important factors. Many interest-only mortgages will expire between 2035 and 2040. Most households still have time, if needed, to take action and improve their financial situation for the future.

IBOR transition. As a result of the global IBOR transition, existing contracts need to be adjusted to ensure they no longer refer to traditional interest-rate benchmarks. In the eurozone, the transition mainly involves the replacement of EONIA (*Euro Overnight Index Average*) by the risk-free reference interest rate €STR (*Euro Short-Term Rate*). This short-term reference rate is mainly used for interest-rate derivatives and money market instruments. EONIA will be published for the last time on 3 January 2022, and since 2 October 2019 has been calculated as €STR plus 8.5 basis points. EURIBOR, by contrast, has satisfied the requirements of the European Benchmark Directive since July 2019 and will continue for the foreseeable future. The transition from EONIA to €STR is proceeding well from an operational viewpoint. In July 2020, for instance, clearing houses that clear euro-denominated securities changed their *discounting* and *Price Aligned Interest* (PAI) regimes from EONIA to €STR without issues. In terms of liquidity, the adoption of €STR has so far been limited, however. Compared with the rate of adoption of alternative benchmarks in the UK and US, the eurozone is lagging behind. Given the scale of the IBOR transition, it can lead to business and systemic risks. The AFM therefore continues to monitor the IBOR transition closely. As an example, the AFM, together with DNB, recently sent the first in a series of data surveys to market parties with the aim of monitoring the transition. The survey is intended, among other things, to enable both the AFM and DNB to track the progress parties are making in converting contracts. The AFM is also monitoring how financial institutions are communicating the transition and adjustment of contracts to their customers.

Digitalisation of retail financial services. In the 2019 Trend Monitor, the AFM described the opportunities and risks of digitalisation with reference to the decision-making process that consumers go through when purchasing a financial product. The AFM believes that the impact of digitalisation has primarily been positive. However, the AFM also wishes to draw to attention to the risks: these arise in particular from the fact that the increasing ease and the digital possibilities to influence thinking can also lead to consumers purchasing an unsuitable product. The AFM has therefore decided to intensify the supervision of purchasing decision and advisory processes, as well as consumer behaviour. In addition, the AFM has made studies of the use of *artificial intelligence* technology in the insurance sector, and the AFM is in continuous dialogue with market parties about new offline and digital service concepts. Chapter 6 of this edition of the Trend Monitor explores in greater depth how the increasing availability and use of data can influence the provision of services to the consumer.

[69] If customers choose, or have to choose, to redeem their mortgage loan at maturity by selling their house, they will not be left with any residual debt.



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