Trend Monitor 2020

10 October 2019

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AFM

01
Introduction

In the AFM Trend Monitor, the AFM identifies important trends and related risks in the financial sector. The Trend Monitor offers context, detail and explains the links between relevant subjects of supervision. Identifying and understanding changes in the sector contributes to an effective, forward-looking and preventive approach to supervision. We thus fulfil the AFM's mission to promote fair and transparent financial markets and contribute to sustainable financial prosperity.

The 2020 Trend Monitor describes the development of five major trends and risk drivers that are important in our supervision. These are: digitalisation, macroeconomic developments, changes in European and other regulation, political uncertainty and the transition to a sustainable economy and society.

In addition, we examine three specific subjects. This year, these are: 'vulnerability relating to interest-only mortgages', 'the IBOR transition', and the 'increasing digitalisation of retail financial services'. These subjects arise from three general themes that are important for the AFM's supervision. Respectively, these are: 'vulnerabilities in the financial position of households', 'the stability of capital markets post-Brexit' and 'digitalisation'. The subsequent editions of the Trend Monitor will look at these themes, on each occasion from a different perspective. In our further discussion, we outline emerging dilemmas and other issues, and suggest the direction of potential solutions where possible. Some of these are to be addressed by the sector itself, while others require greater supervisory attention.

The early identification and understanding of changes

Agenda 2020

The Trend Monitor will contribute to defining the supervisory priorities of the AFM. The practical implications of these trends and risks for the supervisory activities of the AFM will be detailed in the Agenda 2020, which will be published in early 2020. This will also outline our new multi-year strategy for 2020-2022.

02

Summary and review

2.1 Summary

Trends and risk drivers

- Digitalisation of the financial sector. The use of data is driving innovation in the financial sector. The existing institutions are still dominant and are working with fintech parties. The big techs are also entering the market. External parties such as software developers are taking on an increasingly important role in the provision of financial services. The threat from cyber-attacks is serious, underlining the importance of cyber security measures.

- Macroeconomic developments. Interest rates are and are expected to remain at historically low levels. This poses a current risk for the financial sector, for instance regarding the profitability of banks and life insurers. Low interest rates can also have negative effects in the form of increasing risks of excessive borrowing and an unbalanced search for yield.

- Changes to European and other regulation. A great deal of new regulation which will materially affect the financial sector is on the way, among other things ensuing from the revision of the pension system and the role of the AFM in the formulation of recovery plans for central counterparties (CCPs) and insurers. In addition, regulation arising from the desire to create a capital markets union could boost the European capital market, which would benefit consumers and businesses.

- Political uncertainty. Brexit continues to be a major cause of uncertainty in the financial markets. Previously identified risks, such as access to CCPs and UK broker-dealers, have now been mostly addressed. However, a number of other risks, including event risk, risks in the retail market and supervisory arbitrage, are still present. Outside Europe, the continuing trade tensions between the United States and China are the main source of increased political uncertainty. In combination with the macroeconomic developments, this means that the capital markets continue to be exposed to a turn in sentiment.

- Transition to a sustainable economy and society. Climate change is increasingly impacting the economy and the financial sector. Demand for and supply of sustainable investments are growing rapidly. For the AFM, the most important issue is still the availability and quality of information in the entire chain of sustainable finance, also with respect to combating risks such as 'greenwashing'.

Interest-only mortgages

Interest-only mortgages offer benefits to consumers, but they also entail risks. Many interest-only mortgages expire around 2035, when they will have to be repaid or refinanced. For many households, the expiry of the interest-only mortgage will coincide with retirement and loss of entitlement to deduction of mortgage interest from income tax. This may make it difficult to arrange a new mortgage. If the home is sold, there is a risk of a residual debt, although this probably concerns only a small group of consumers. This risk is closely linked to the development of the value of the property. Consumers can reduce this risk by accumulating additional capital and engaging in a timely discussion with their mortgage provider regarding the best solution for them.

The IBOR transition

The most commonly used interest-rate benchmarks in the eurozone, EONIA and EURIBOR, will be adjusted or replaced to satisfy the requirements of the European Benchmark Directive. An alternative to EONIA has been found in the form of the Euro Short Term Rate (€STR). The manager of EURIBOR has now adjusted this benchmark so that it can be continued. An estimated EUR 150,000 billion in financial contracts currently refer to EONIA or EURIBOR, and these contracts will have to be amended. This considerable transition involves financial, operational and legal risks and may, given the scale of the transition, ultimately entail systemic risks as well. Financial institutions have to prepare adequately for this transition in good time. It is important here that consumers and small business customers are informed correctly and that the products for these customers are amended carefully.

Digitalisation of retail financial services

The purchase of a financial product is more and more often a digital experience. In principle, this is an improvement in the provision of financial services. It is now easier to purchase a financial product, the service provision is more personal and there are new possibilities for keeping in contact with customers. There are also risks, for example that the increasing ease with which financial products can be purchased and personalised can lead to products that are not suitable for consumers. The ability to fine-tune the targeting of consumers and play on biases in decision-making has a major role. These risks are particularly evident on the fringes of the regulated financial sector, for example with products such as cryptos and binary options. Innovation is also happening with respect to obtaining data on customers, making things more convenient for both customers and providers. But there is still room for improvement, especially with respect to the obtaining of qualitative information, such as risk appetite. The AFM is monitoring developments and states its expectations for the market in various policy publications.

2.2 Review of the 2019 Trend Monitor

Last year saw the first edition of the Trend Monitor. A brief review:
The AFM has prepared for a hard Brexit, but Brexit continues to be a major source of uncertainty in the financial markets. The previous edition of the Trend Monitor was still based on the potential for a hard Brexit at the end of March 2019. This deadline has now been moved to 31 October 2019 and it is still not certain that an agreement will be reached by this date. Nevertheless, various parties have applied for and received a licence to operate in the Netherlands. These parties are now subject to our ongoing supervision. The AFM is moreover still taking account of the possibility of an inflow of financial institutions shortly before the deadline. Previously identified risks such as access to the financial infrastructure in the UK have largely been addressed as part of the preparations for a hard Brexit. The AFM continues to focus on mitigating the remaining risks as far as possible; see section 3.4 for further details.

Increasing attention to digitalisation in financial supervision. The 2019 Trend Monitor looked at the digital developments in the financial sector and the associated risks. Among others, these risks involve the use of customer data, cyber criminality, the arrival of players new to the sector and possible digital ways of exerting influence. Since then, the AFM has issued advice on the regulation of crypto activities, PSD2 parties have become subject to our supervision, studies have been made of the use of artificial intelligence in the insurance sector and the AFM has further formulated its supervision of processes and systems in the context of operational and IT risks. A further study has been made of continuing digitalisation in the retail sector, as described in chapter 6.

Sustainability is now an integral element of supervision, with the availability and quality of information as the key items of attention. The 2019 Trend Monitor explained how sustainability is affecting the financial sector in several areas. This includes the increase of both the supply of and demand for sustainable investments, and the role of non-financial information in financial reporting. In this context, the AFM has among other things studied the sustainability strategies of Dutch financial institutions. This shows that engagement (encouraging businesses to behave sustainably) is the most common strategy, rather than exclusion of unsustainable investments, for instance. In addition, the AFM is researching the market for green bonds and the risks involved in this market. The most important issue for the AFM with respect to sustainability is still the availability and quality of information, partly with respect to combating risks such as ‘greenwashing’. See also section 3.5.

03

Trends

This section looks in turn at five key trends and risk drivers, and the resulting points of attention for the AFM. These are: digitalisation in the financial sector, macroeconomic developments, changes in (European) regulation, political uncertainty and the transition to a sustainable economy and society.

3.1 Digitalisation of the financial sector

Collection and use of data

The increasingly extensive and advanced methods of collecting, processing and using data is currently the driving force behind innovation in the financial sector. The automation of data collection is beginning to develop a significant dynamic. For instance, the automatic collection of income data from mortgage applications, the electronic exchange of the valuation report and the standardised exchange of data between chain parties are important and substantial innovations. A similar development is happening in asset management, with processes such as the intake of new customers becoming automated. Tools are being developed for this that can, for example, register customers and determine their risk appetite automatically. Insurers are already using internal data, and in the next three years expect to increase their usage of (among other things) data on payment behaviour, data from the Chamber of Commerce or UWV and IoT data (AFM/DNB, 2019).

Existing players and big techs

Existing players are still the dominant players in the market. The collaboration between existing financial institutions and fintechs has so far been mostly complementary and cooperative, and not especially competitive and disruptive (FSB, 2019a). Most start-ups do not have the necessary scale to secure a market position, and the costs of compliance form a barrier to access (see for instance Buchak et al, 2017; CPB, 2016). This makes it difficult for new parties to gain a footing on their own, and they are thus working with existing institutions.[1] There are of course variations in each sector. For example, fintech players apparently have been able to secure an independent market position in payment services and mortgage provision to first-time buyers.

The big techs seem to moving into the regulated financial market. The big techs already hold a strong position in the financial value chain. Their advertising platforms are important in the distribution of financial products and their cloud solutions are dominant. We also note that big techs are entering regulated financial services in emerging markets, mainly in Asia. They usually start with payment services, and then move into lending and insurance (BIS, 2019). This development was not yet visible in Europe, but this seems to have changed with Facebook's announcement of the Libra (see Box 1). There is still much uncertainty as to what the Libra is and how it should be qualified from a legal point of view, but this is confirmation of the fact that the big techs see opportunities in financial services both in and outside emerging markets.

Box 1 Libra

The Libra is an initiative for a global digital currency and financial infrastructure designed by Facebook. The Libra represents a digital currency that will be supported by infrastructure in a type of blockchain constructed by Facebook that will be mostly separate from the existing financial infrastructure. The currency's value will apparently have to be stabilised by means of a reserve fund. Facebook hopes to make it possible and attractive to pay for products and services with this digital currency. Facebook aims to reach people across the entire world with this initiative, including people with no access to a bank account in the current financial system, known as the 'unbanked' and 'underbanked'.

The Facebook initiative has led to much international debate. There is much uncertainty as to the ultimate form in which the Libra would work, and the legal obligations that will be associated with this. What is clear is that the Libra has the potential to reach a wide public rapidly through its implementation in commonly used applications such as Facebook and Whatsapp. Large-scale global adoption could therefore have far-reaching consequences for the financial sector. The AFM and DNB are monitoring the developments of this initiative closely, together with other national and international supervisors. Besides the consequences from the perspective of financial regulation, the aspects relating to competition are also receiving close national and international attention from the supervisory authorities.

[1] Banks and insurers are looking after financial start-ups, FD, 2018

Digitalisation of the capital market

The capital market is also becoming increasingly automated. Automated electronic trading in financial instruments is increasing, and currently accounts for more than 50% of total trading.[2] No recent figures are available for Europe, but the proportion appears to be lower here (DB, 2016; ESMA, 2014). The wider trend is that more instruments can be traded automatically. This trading in shares is ahead of the trading in bonds.[3] The major benefit of electronic trading is lower cost, less fragmentation of liquidity and better access for more parties (for asset managers as well as traditional broker-dealers). In principle, this is a positive development for the market. Increasing electronic trading in combination with the arrival of trading platforms in the Netherlands also involves risks, however. These concern the management of operational and IT risks at the trading platforms, the control of trading algorithms in volatile markets and supervision of market abuse in very rapidly moving and internationally spread markets.

The role of external suppliers

External parties such as software developers have an important role in the provision of financial services. Financial institutions use external suppliers for data, software, IT management and cloud storage. Examples include the use of advisory software, investment and pension-related software and cloud providers. These suppliers are somewhat distanced from supervision, while the financial institution involved may not have sufficient control over the outsourced service. It is important that the institution has control of the service it provides, also if parts of this are outsourced to third parties, and that it is aware of the risks that may arise. The AFM devotes attention to this in its supervision.

Cyber incidents

The threat of cyber-attacks is as high as ever and the number of cyber incidents seems to be rising, which underlines the importance of cyber security measures. Losses due to phishing at Internet banks has almost quadrupled in the past year to € 3.81 million. According to the Dutch Banking Association, this is partly because phishing attacks can now be more refined, more personally targeted and more large-scale (NVB, 2018). Another indication of the importance of cyber security is that the number of reported data leaks is rising rapidly. The number of data leaks in the financial sector is second only to the healthcare sector. In the vast majority of cases (86%), this is because personal information is sent to the wrong recipient (Dutch Personal Data Authority, 2019). Incidents involving penetration of systems are relatively rare (less than 1%). This underlines the importance of an adequate information security policy at financial institutions. The AFM supervises operational and IT risks, and has formulated principles for information security in which it explains what it expects of financial institutions in the field of information security.

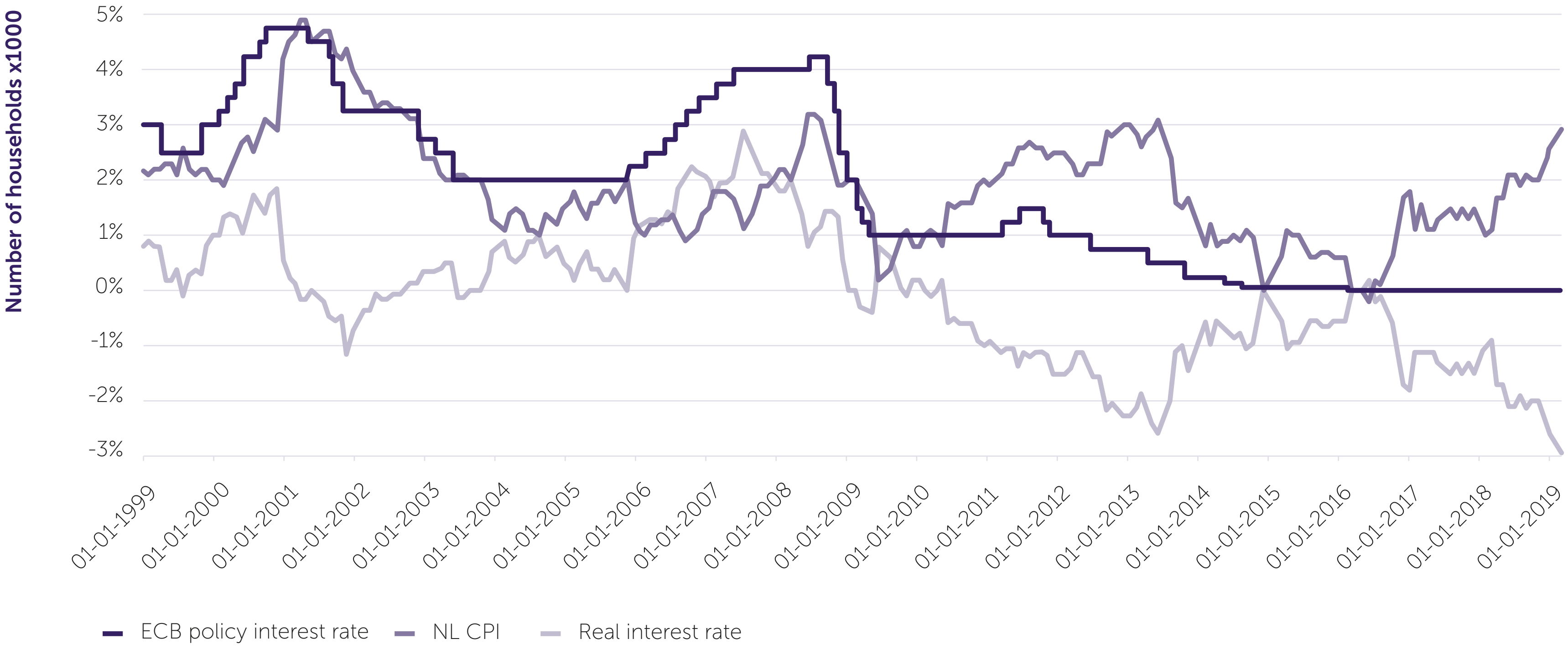
[2] How high-frequency trading hit a speed bump, FT, 2018
[3] Digitisation shakes up corporate bond market, Economist, 2017

3.2 Macroeconomic developments: the low interest-rate environment

Interest rates in Europe are still at historically low levels. The ECB's nominal policy interest rate is 0% and the real interest rate has been negative since 2010 (Figure 1). Partly due to the improving economy and an increase in VAT, inflation in the Netherlands rose to 2.8% in August 2019. In combination with the unchanged nominal interest rate, the real interest rate has therefore fallen further, and is now at its lowest level since the introduction of the euro. Inflation is expected to decline again when the temporary effects of the VAT increase subside, and the real interest rate will increase slightly.

Figure 1

The real interest rate has fallen further as a result of the rise in inflation



Source: ECB and CBS Statline; processed by the AFM.

After reaching a peak last year, the economy looks to be returning to a slower growth rate, meaning that interest rates are not expected to rise for the time being. The rate of growth in Europe has slowed slightly in 2019, especially in Germany. Growth in the eurozone has slowed from 1.9% to 1.2% (EC, 2019). Since growth is slowing and inflation is still below target, interest rates are expected to remain at the current extremely low levels for now.[4] Growth has slowed in the Netherlands as well, from 2.6% in 2018 to 1.8% in 2019. Due to international developments, forecasts for 2020 have been downwardly adjusted to 1.5% (CPB, 2019). The growth rate in the Netherlands was thus slightly higher than in the eurozone as a whole in 2019, and will be in line with the eurozone average in 2020.

The continuing low level of interest rates means that the risks for the financial sector are still current. Low interest rates can reduce the interest margin and therefore the profitability of the banks (CPB, 2016; ESRB, 2016). Pension funds and insurers are having to deal with higher valuations of their future liabilities, as a result of which consumers cannot accrue as much capital in their pension and insurance products. A number of pension funds look as though they will be forced to reduce pensions despite good investment results, because the returns have not been enough to compensate for the increase in the liabilities.[5] There are also ongoing concerns regarding excessive borrowing. The low level of interest rates makes it possible to take on larger amounts of debt, although there are statutory limits with respect to mortgages. Total household debt in the Netherlands has been rising for some years in absolute terms after stagnating in the aftermath of the crisis, but is declining as a percentage of GDP (CBS, 2019).

Due to the low level of interest rates, the 'search for yield' is also a relevant issue for the AFM's supervision. Since the Dutch economy seems to be slightly ahead of the eurozone average, there is a risk that the European policy interest rate is too low for the Netherlands. This can lead to rising house prices, excessive borrowing and a search for yield by investors. House prices have been increasing at a rapid rate for some years (CPB, 2019). Although this may offer some relief to homeowners with interest-only mortgages, low interest rates also make it more difficult to accumulate additional capital in case of a shortfall. Last year also featured a bubble in the crypto markets, in which the search for yield played an important role (AFM, 2018). Although the bubble also largely burst again last year, there is still supply of cryptos, initial coin offerings (ICOs) and securities token offerings (STOs), as a result of which the AFM continues to monitor this market.

The low interest rate leads to a search for returns

[4] See among others monetary policy decisions, ECB, 2019
[5] Pension reductions are more likely, despite great returns, FD, 2019

3.3 Changes to European and other regulation

Much new regulation is in preparation that will affect the financial sector. Although there is no new regulatory process of the scale of MiFID II to deal with, there are regulatory initiatives and reforms in various areas that collectively will ultimately have a material impact. One of the larger changes concerns the IBOR transition, the transition to alternative reference interest rates (see chapter 4). In addition, the Netherlands, Germany and France want to give a new boost to the capital markets union, while at national level there is the debate on the reform of the pensions system. These initiatives could potentially have a very great effect on the AFM's supervision. It is notable that a large part of the imminent regulation is coming from Europe. Convergence of supervision and consistent implementation of previously agreed regulation is thus a key focus of attention for both ESMA and the European Member States.

Box 2 Capital markets union

The aim of the capital markets union is to reduce dependence in Europe on bank finance and to develop and integrate the capital markets. Under the aegis of the capital markets union, the European Commission has prepared a large number of new European laws in recent years. With the objective of 'Jobs, Growth & Investment', the European Commission's plans for a Capital Markets Union (CMU) formed the framework for a series of initiatives for the regulation and supervision of the financial markets. Agreement has now been reached on many of the legislative proposals in the European Commission's capital markets union action plan of 2015, but much of the legislation still has to be implemented by the Member States. Partly because of this, there has been only limited progress in the integration of the capital markets, and the EU is still lagging behind the US in this respect (CEPS, 2019). The Netherlands is currently working with France and Germany on recommendations for the new European Commission to further strengthen the European capital markets.[6]

Regulation that benefits the efficiency, liquidity and accessibility of finance between European Member States is in the interests of European consumers and businesses. Further development of the capital markets union can provide more choice for businesses looking for finance. The further integration of the capital markets can increase market efficiency and enable better diversification of risks. In particular, measures should lead to demonstrably positive effects for European consumers and SMEs. MiFID II has further strengthened the rules for the operation of these markets and transparency in these

[6] See https://www.rijksoverheid.nl/documenten/kamerstukken/2019/05/16/kamerbrief-werkgroep-kapitaalmarktenunie

markets. As well as transparency in price formation, liquidity and accessibility are essential. Policy that imposes new limitations is therefore not desirable, such as the initiative of the Commission and several Member States for introducing a tax on financial transactions.[7] Another example concerns the current discussion of capital requirements for market makers, in which a balance has to be found between the risks associated with these activities and the important role of these parties in bringing supply and demand in the financial market together in an efficient fashion. If this balance is not found, this will affect the liquidity of markets and lead to additional costs, some of which will be passed on to the end investors.

It is also very important that the European capital markets continue to be accessible and attractive for investments from outside the EU. The current trade conflicts and their effect on global economic growth illustrate this point very effectively. The relationship between the European capital markets and the rest of the world is essential and has become even more important with Brexit. In order to attract foreign investment, the European capital markets must be accessible to players from third countries such as asset managers and market makers, and market fragmentation must be limited as far as possible.

The current system of European passports, on the basis of which financial products and services can be offered across borders, has to be adjusted in order to improve action against cross-border abuses. The European passports are an important feature of the internal market and crucial for the success of the CMU. Currently, there are many ill-intentioned providers offering their services from countries with more lenient supervisory regimes. Consumers in other Member States are being misled and disadvantaged as a result. The supervisory authorities in the Member States concerned are not able to act against this effectively since these providers are subject to supervision in their home countries. For properly functioning cross-border capital markets, it is essential that retail and other investors can enter these markets with confidence. So there needs to be an adequate solution to the issue of European passports, for example by assigning ESMA a central coordinating role.

The AFM supports the further strengthening of consumer supervision in countries where this supervision is less developed. It is also important to ensure that harmonisation of European regulation does not harm the protection enjoyed by Dutch consumers. There is a danger that while consumer protection throughout the European Union will improve on average, this will weaken in Member States with an already high degree of protection such as the Netherlands. This must be avoided.

Capital markets play an important role in the sustainability transition. For investors in green products, it is important that they have access to sufficient and reliable information on the risks associated with sustainability. The development of standards for what may be described as 'sustainable' will reduce the risks of 'greenwashing' (the improper use of the term 'sustainable'). Investors will then be more inclined to invest in sustainable products. This will not only lead to new funding opportunities for sustainable initiatives, it will also lead to new and reliable investment opportunities.

[7] https://ec.europa.eu/taxation_customs/taxation-financial-sector_en

Reform of the pensions system

The Cabinet and the employer and employee representative organisations reached an agreement in principle on the reform of the pensions system on 5 June 2019.[8] The renewal of the pensions system should make the system more robust in the face of long-lasting low interest rates, the ageing population and the increasing number of the self-employed. For the AFM, the changes to the second pillar are particularly important, since the AFM's supervision concerns the communication relating to these pension products. The agreement still has to be further developed, but the direction of the agreement addresses the issues that the AFM considers to be important. The AFM also sees the planned additional options as a positive development. As with any optional feature, the AFM is, however, aware of the fact that more options and flexibility allow scheme members to make choices that may not be in their best interest. The safeguards that will be built into this legislation are therefore highly important. The AFM will continue to engage in the further development and implementation of the agreement and the changes to its supervision that this will entail.

Other regulation

The AFM will be partly responsible for formulating recovery plans for central counterparties (CCPs) and insurers. Work is currently in progress on a directive for CCPs that will regulate recovery and settlement. The European Parliament still has to approve this directive. The AFM and DNB are responsible for formulating recovery plans for CCPs. Recovery and resolution legislation for insurers has also been in effect since 1 January, in which the AFM plays a part. The aim of the legislation is to protect the interests of policyholders as far as possible when an insurer gets into financial difficulties. DNB has been appointed as the resolution authority (as it is for banks and CCPs) and takes the lead in the implementation of the resolution legislation. The AFM will be involved in the possible suspension of securities trading during recovery and resolution, will continue to be responsible for the timely publication of information to investors and will supervise the provision of correct information to customers during the far-reaching intervention that may be involved in recovery and resolution.

[8] See https://www.rijksoverheid.nl/ministeries/ministerie-van-sociale-zaken-en-werkgelegenheid/documenten/kamerstukken/2019/06/05/kamerbrief-principeakkoord-vernieuwing-pensioenstelsel

3.4 Political uncertainty

Brexit remains a major source of uncertainty for the financial markets. There is still no agreement in the UK regarding its exit from the European Union. The final deadline for a hard Brexit is currently 31 October 2019 (Figure 2). Should the UK reach an exit agreement before 31 October, Brexit could take place earlier than this date. In this case, however, the transition period would last until the end of 2020, with all European legislation remaining in force in the UK until then. A new temporary postponement is also still one of the possibilities.

Figure 2: De brexit-tijdlijn

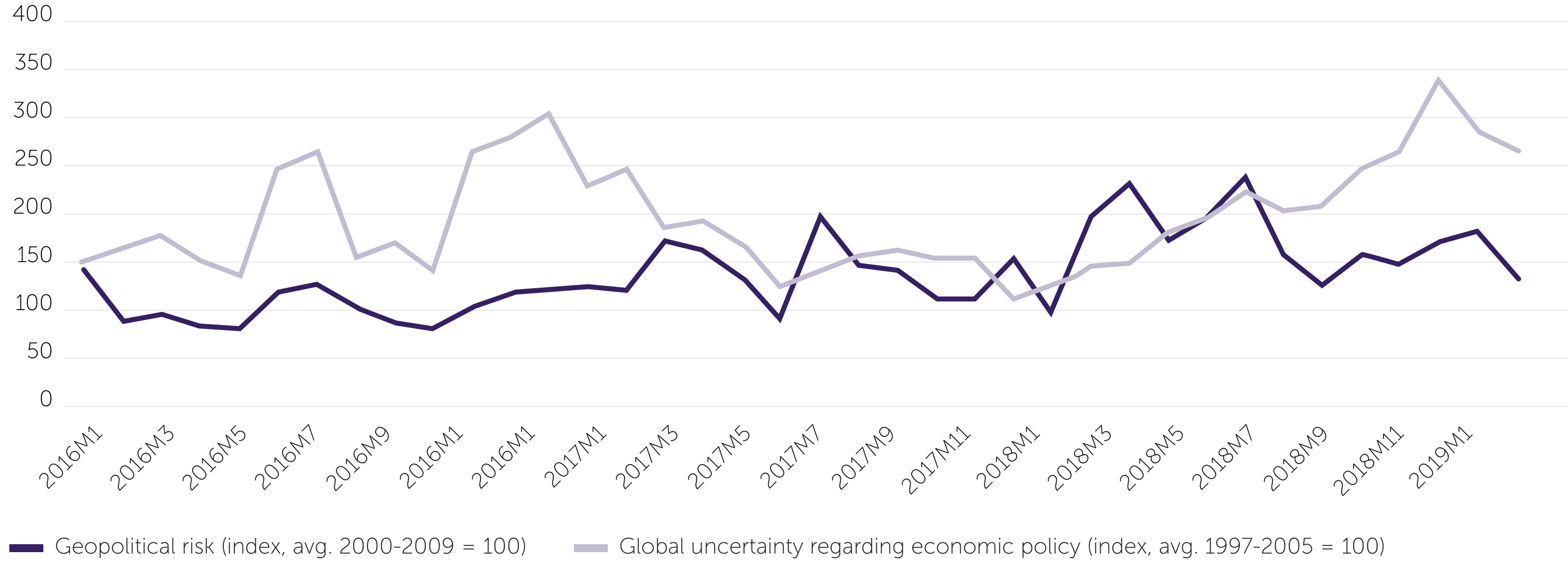
Previously identified risks, such as access to CCPs and UK broker-dealers, have now been mostly addressed. One important uncertainty concerned access to central counterparties (CCPs) from the UK to the European market. CCPs located in the UK play an important part in the European capital market, with a share of more than 95% in the market for European interest-rate swaps, for instance. Many market parties considered that the loss of access to CCPs was one of the largest Brexit-related risks. ESMA has now stated that in the event of a hard Brexit, these CCPs would continue to have access to the European market, as a result of which this risk has been reduced. Another major risk was the fact that Dutch parties have entered into numerous contracts with British financial parties. While these contracts would not become invalid as a result of Brexit, life cycle events could no longer be effected. In response, market parties have been busy repapering contracts to a European counterparty. In addition, if there is a hard Brexit, the UK will be added to Section 10 of the Exemption Regulation in the Financial Supervision Act, allowing these parties to continue to operate, meaning that this risk has also been reduced.

However, a number of other risks, including event risk, risks in the retail market and supervisory arbitrage, are still present. The first risk is event risk; a hard Brexit could entail volatility in the financial markets. The exact effects are hard to predict, but a decline in the British pound and volatility in the stock markets would seem to be likely. This could affect financial institutions with exposure to this development and lead to liquidity problems. It could also put pressure on the trading infrastructure. A second risk is that British banks and insurers could lose their access to the European retail market. Retail customers using these services could for instance not be able to pay premiums or make claims on their policies. Although the AFM does not have exact figures for this market, we believe that many Dutch customers purchasing services from British institutions have done so through an intermediary. The AFM has brought this risk to the attention of financial services providers and urged them to consider whether they need to make changes for these customers. 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.

Besides Brexit, political uncertainty has increased worldwide. Political-economic tensions are high (Figure 3), most of all the continuing trade tensions between the US and China and between the US and the EU, the outcome of which is uncertain. Tense relations with Iran, and between China and Hong Kong are other contributing factors. An escalation of these tensions will involve economic consequences that will affect the financial markets.

The combination of less rosy economic growth prospects and increased political uncertainty is making the capital markets sensitive to any turn in sentiment. A global economic growth slowdown will affect the financial soundness of governments, businesses and households, and therefore also the financial markets. An economic downturn in combination of a global tightening of funding opportunities would directly affect corporate earnings and increase the pressure on aggressively financed (i.e., highly leveraged) non-financial businesses and households to meet their obligations. As a result, businesses will try to reduce their costs of labour and capital, with lower investment and employment as a result. This could eventually cause disruption in the financial markets if share prices fall and defaults on outstanding debt increase. The financial markets are especially exposed to this because in their search for yield, market parties have moved into higher-risk investments such as low quality high-yield bonds and leveraged loans with lenient covenants (in other words, with low requirements for the borrower).

Figure 3: High level of uncertainty with respect to policy



Source: IMF, 2019

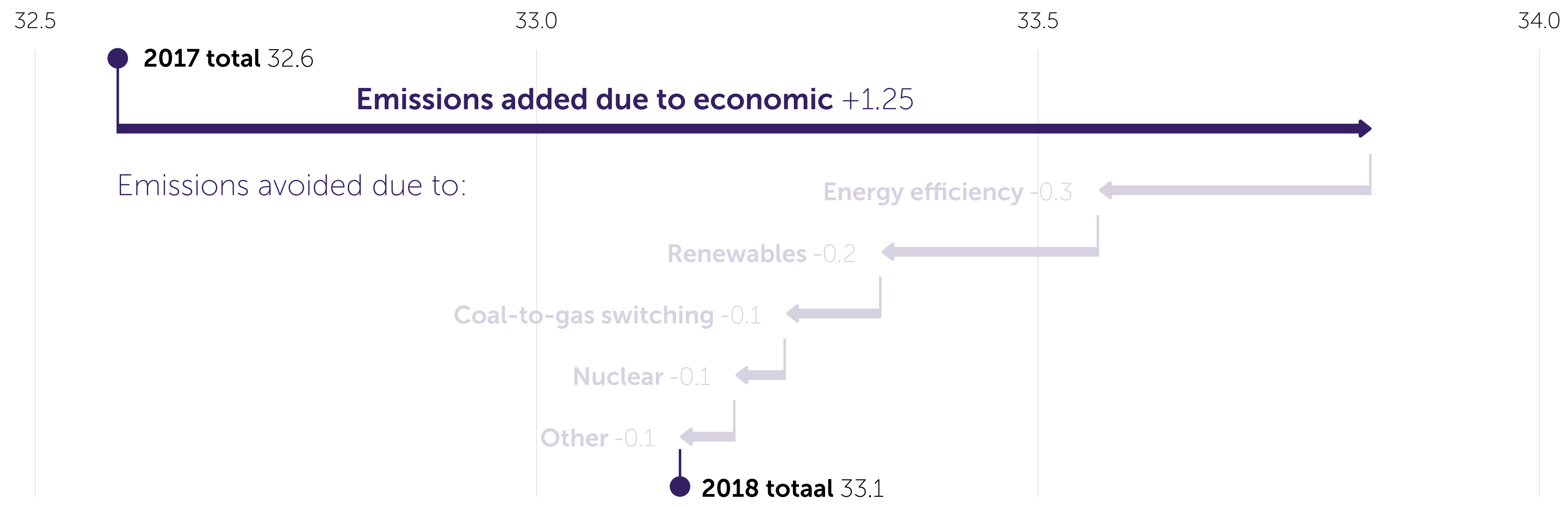
3.5 Transition to a sustainable economy and society

Climate change remains an urgent problem and is increasingly affecting the economy and the financial sector. The top 5 global risks in the Global Risks Report of the World Economic Forum (WEF) this year includes as many as three sustainability-related risks: extreme weather conditions, absence of mitigation of and adaptation to climate change, and natural disasters (WEF, 2019). As a result of economic growth, global energy-related CO2 emissions have increased further despite CO2-reducing measures (Figure 4).

The financial sector is increasingly affected by these risks. A study by DNB shows that the Dutch financial sector has invested EUR 97 billion in businesses active in areas with an extreme lack of water and EUR 56 billion in businesses that depend on the supply of the most critical commodities (DNB, 2019). The financial sector also plays a major role in the funding of the transition to a sustainable economy and society.

Figure 4: Global CO_2 emissions have increased, despite saving measures

Change in global energy-related emissions, 2017-18 Gt CO²



Source: IEA, 2019

Sustainable investing is growing. The issuance of sustainable bonds, whether green or social (or a combination of the two), is steadily increasing. Total issuance in the rest of 2019 is expected to amount to between USD 222 billion and USD 285 billion (Table 1). Green bonds are issued mainly by financial institutions, but the proportion of government bonds is also rising (Figure 5), as shown by the issue of a Dutch green government bond in 2019.[9] Retail investors are also showing increased interest in sustainable investing (Eurosif, 2018). Sustainable investments are thus gaining ground in the market as a whole (GSI Alliance, 2019).

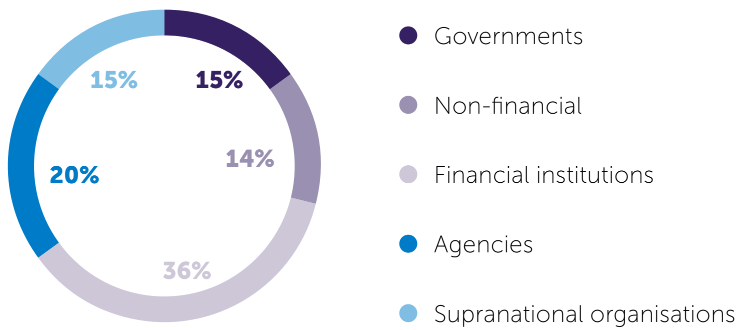
Table 1: The market for sustainable investments is growing rapidly

(USD mld)	2018	Q1 2018	Q1 2019
Green bonds	182	36	50
Social bonds	12	2	6
Sustainable bonds (mix)	14	5	7
Totaal	**208**	**43**	**64**

Source: ICMA, 2019

Figure 5 Green bonds issued mainly by financial institutions

Outstanding green bonds per sector



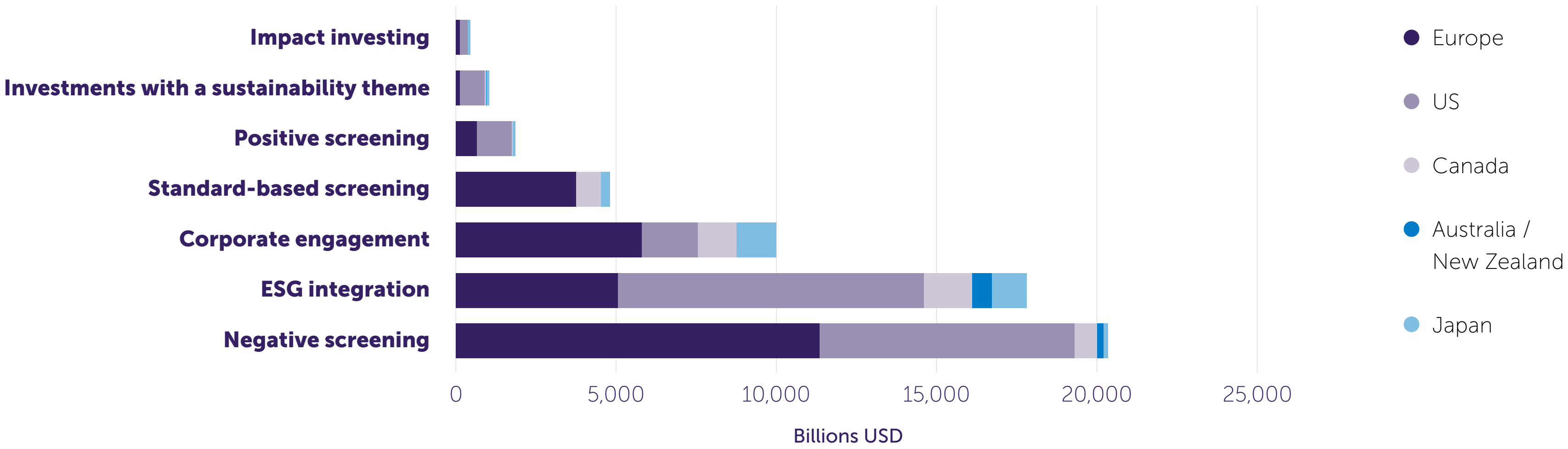
Source: ESMA, 2019

10 https://www.dsta.nl/onderwerpen/groene-obligaties/documenten/publicaties/2019/05/23/kamerbrief-resultaten-groene-obligatie

There are new strategies for sustainable investing. In Europe, the exclusion of investments in businesses with a negative ESG (environmental, social, governance) profile is the most common sustainability strategy (Figure 6), followed by ESG integration (the integration of sustainability factors in the investment process) and engagement (urging businesses to behave sustainably). ESG integration and engagement appear to be equally popular in Europe, and in practice often go hand in hand. The last significant strategy is standard-based screening, involving the consideration of whether investments meet recognised standards such as the OECD Guidelines for Multinational Enterprises, the UN Global Compact and the UN Guiding Principles on Business and Human Rights. Engagement appears to be the most popular strategy among asset managers in the Netherlands.

Figure 6 Exclusion of businesses with a negative ESG profile is the most common sustainability strategy

Sustainable investments per strategy and region



Source: GSI alliance, 2019

The risks associated with sustainable investing, including greenwashing and abuse, require supervisory attention. There are concerns regarding a 'green bubble', because demand for sustainable projects is exceeding supply. Businesses may be tempted to greenwash their projects: in other words, present projects as sustainable when this is not the case. There is hard work ongoing in the market to improve the use of standards and reporting on the sustainable impact of loans in order to bring the market for sustainable bonds to a higher level. The theme of sustainability is also attracting a variety of parties who are trying to abuse investors or set up unfair earnings models. This not only involves direct losses for consumers, it damages the reputation of the market for sustainable investments as a whole. The AFM accordingly applies its supervision in this area and acts against parties attempting to abuse investors.

The most important issue for the AFM is the availability and quality of information in the entire chain of sustainable finance. The availability and quality of information are crucial preconditions for responsible forms of sustainable finance. The integration of sustainability in daily operations, however, continues to be a challenge for the financial sector. Research by the AFM shows that a lack of information is a significant barrier to effective sustainable investing and to the monitoring of the results of investment strategies. In addition, there is not enough (standardised) non-financial information on listed companies available to investors (AFM, 2018). External verification of reporting on sustainability factors (for instance, by an auditor) is also still in its infancy. The absence of a generally accepted definition of sustainability means that it is still difficult to demonstrate or measure the contribution of a financial product to the sustainability transition. The AFM accordingly directs its supervision at establishing that sustainability is diligently and transparently implemented in the sectors under its supervision.

> The demand for sustainable projects exceeds the supply

04

Interest-only mortgages

4.1 Introduction

Interest-only mortgages are popular in the Netherlands. Many interest-only mortgages were concluded in the past, partly as a result of tax regulation that made these mortgages an attractive option. Among other things, this has led to Dutch households having among the highest levels of mortgage debt in Europe (OESO, 2019; EMF, 2018). The popularity of interest-only mortgages has now declined, partly due to changes in regulation as a result of which new interest-only mortgages are no longer eligible for deduction of mortgage interest from income tax.

Although interest-only mortgages offer benefits for consumers, they may also involve risk. Interest-only mortgages offer consumers flexibility, for instance by offering the possibility of accumulating capital not solely in the property. However, interest-only mortgages also involve risks, especially if there is no capital accumulation. Interest-only mortgages also have to be repaid or refinanced at the end of their term. There needs to be sufficient capital, or income in the latter case, available for this. This may not be the case for all consumers. The sooner consumers become aware of this and act accordingly, the more able they will be to avoid financial problems due to their mortgage.

It is important that mortgage providers and consumers take action in good time to avoid problems at the end of the term. Preventing problems with interest-only mortgages requires a long view. Many interest-only mortgages will mature around 15 to 20 years from now. At the same time, consumers and financial institutions that have provided these mortgages need to take action as soon as possible. Mortgage providers have an active duty of care with respect to the mortgages they provide. They can look for a suitable solution together with their customers, to the extent this is necessary. The AFM is carrying out an inventory of the risks with other stakeholders, including DNB and the Ministry of Finance, and calls for attention to this issue.

4.2 A data-driven analysis of the problem

For the figures on interest-only mortgages, we use data on individual households. These are known as the Loan-Level Data (LLD) of DNB, which are data for each separate part of the mortgage (microdata). Through the LLD, DNB requests administrative data on mortgages from 10 mortgage providers: 6 banks and 4 insurers. The LLD covers approximately 2.8 million homes with approximately the same number of households. The LLD is thus estimated to cover 80% of the total Dutch mortgage market (DNB, 2015).

Box 3 Key features Loan-Level Data

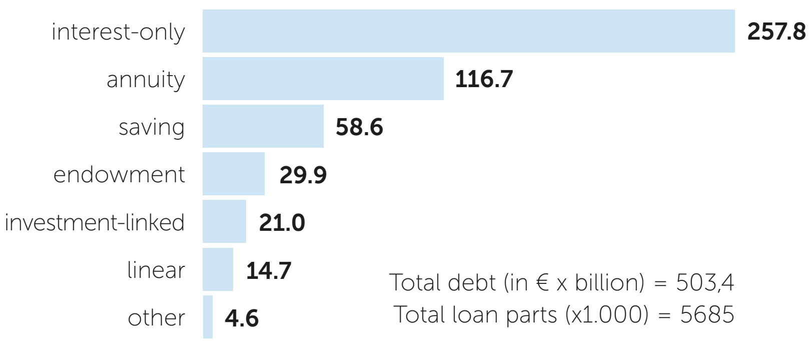
- 2.837 million households
- 2.842 million residential mortgages
- 5.685 million loan portions
- €503 billion outstanding debt
- 10 mortgage providers
- ±80% of the mortgage market
- 2012 Q4 till 2018 Q4

4.3 A large proportion of the current mortgages are interest-only

Interest-only mortgages make up approximately half of the Dutch mortgage debt, involving around €260 billion. This concerns all loan portions that are interest-only.[10] A further 4% (€21 billion at year-end 2018) of the total mortgage volume consists of investment-linked mortgages (Figure 7). Our analysis focuses on mortgages for which repayment on the maturity date is not guaranteed, in other words interest-only and investment-linked mortgages,[11] hereinafter referred to collectively as 'IO mortgages'.

Figure 7: Repayment is not guaranteed for more than 55% of the outstanding mortgage debt

Mortgage type
Current mortgage debt in billion €

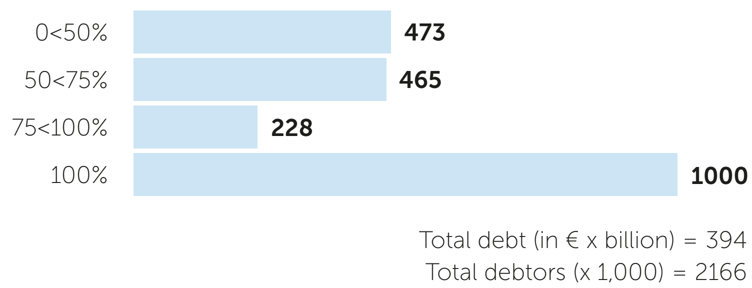


Source: DNB LLD (2018Q4, N=2.84 million mortgages); All mortgage types; Calculations by the AFM.

Slightly less than half of the households with an interest-only mortgage have a fully interest-only mortgage. In the other cases (54% of households with an IO mortgage), interest-only loan portions are combined with loan portions for which repayment (either in the interim or at maturity) is guaranteed. For 32% of the households, more than half of the mortgage debt is interest-only, for the other 22% less than half of the debt is interest-only (Figure 8). Households choosing a partly interest-only mortgage usually combine the interest-only loan portion with a savings or endowment mortgage. Assuming a perfect representative sample in the LLD, the number of households in the Netherlands with an IO mortgage is estimated at 2.7 million. We use this number to translate the percentages found in the sample into numbers of population.

Figure 8: Around half of the households with interest-only mortgages have a fully interest-only mortgage

Part of the current mortgage debt is not guaranteed
Debtors x 1.000

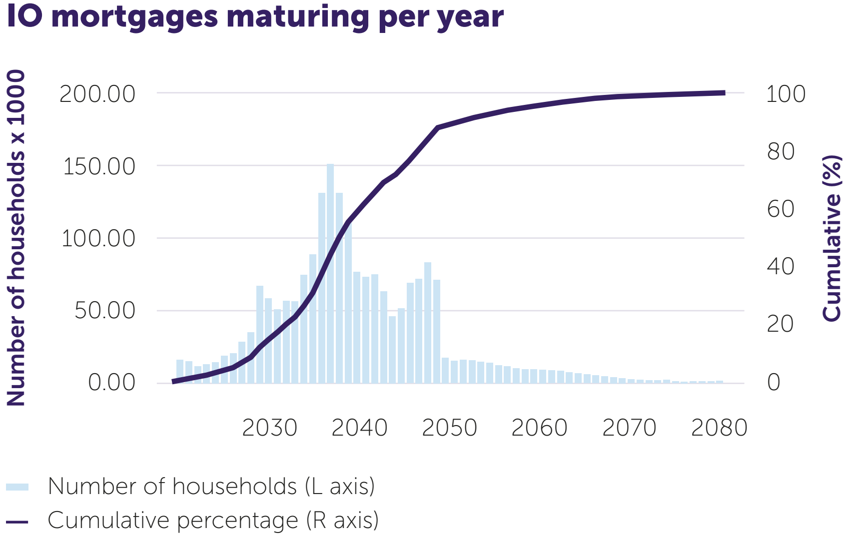


Source: DNB LLD (2018Q4, N=2.17 million mortgages); Only (partly) interest-only mortgages; Calculations by the AFM.

10 A mortgage usually consists of several loan portions, each of which has individual conditions with respect to product type (including AFV mortgages or other mortgage types), interest rate, interest instalment and term to maturity.
11 Although capital is accumulated in an investment-linked mortgage, the amount of this is not certain. Our analysis assumes that no capital accumulation occurs in the linked investment. This means that the risks are overestimated. Given the low proportion of investment-linked mortgages, this does not affect the findings of the analysis.

Most of the current interest-only mortgages will expire around 2035. Approximately 90% of the current IO mortgage debt will mature around 2050 (Figure 9). It is also notable that growth of new interest-only mortgages has clearly slowed. This is due to the change in tax regulation whereby interest-only mortgages are no longer eligible for deduction of mortgage interest. This means that the risks relate mainly to the existing stock of interest-only mortgages. The year in which the interest-only mortgage matures determines the amount of time the household has to avoid financial problems.

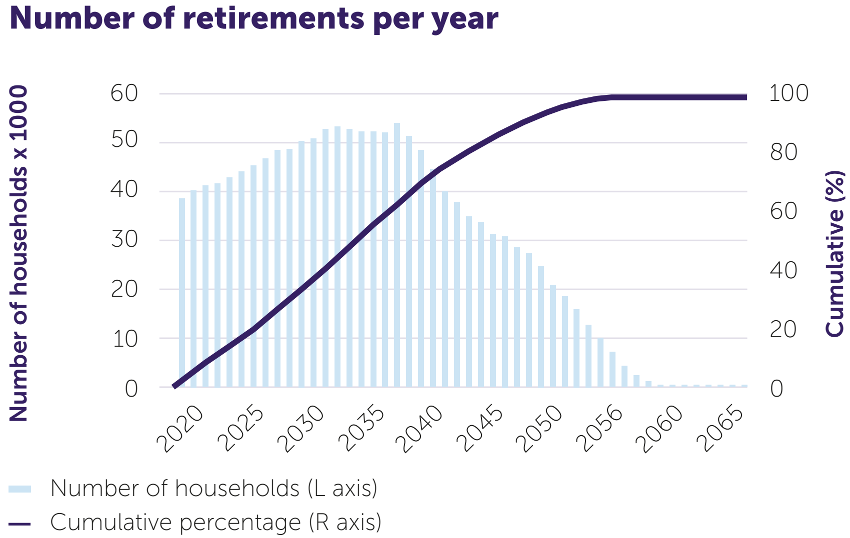
Figure 9: The majority of the interest-only mortgages mature in 2035



Source: DNB LLD (2018Q4, N=2.17 million mortgages); Only (partly) interest-only mortgages; Calculations by the AFM.

The financial position of many households will change during the period that many interest-only mortgages mature. Between now and 2040, 55,000 - 80,000 [12] principal earners in households with an IO mortgage are expected to retire each year (Figure 10). In 2040, almost 80% of them will have reached pensionable age. In most cases, retirement means a lower income. In addition, from 2031 the entitlement to deduct mortgage interest from income tax will end for around 80% of the current IO mortgages, which will mean higher net interest expenses. These two events are decisive for the potential for households to take action: the room to voluntarily repay an IO mortgage will be limited in both time and scale by a decline in the household's disposable income. These events can also mean that households are no longer able to pay their monthly mortgage costs, especially if several such events occur at the same time.

Figure 10: 80% of borrowers with an IO mortgage will retire in the next 20 years



Source: DNB LLD (2018Q4, N=1.9 million mortgages); Only (partly) interest-only mortgages for which year of birth for the borrower is noted; Calculations by the AFM.

[12] The figure shows the 40,000 - 60,000 retirements annually in the LLD sample. Assuming a sample coverage of 80%, this translates to an estimated 55,000 to 80,000 retirements in the whole population.

4.4 Options available to consumers with an interest-only mortgage and the associated risks

For interest-only mortgages as well, the outstanding mortgage debt must in principle be repaid at maturity. To be able to repay, the consumer obviously has to have sufficient (freely disposable) assets to effect repayment, in the form of savings, shares or bonds. Other options include refinancing the mortgage (arranging a new mortgage), or selling the property to repay the outstanding debt. All these options involve uncertainties and therefore risks.

The first option is to refinance the mortgage, or in other words, arrange a new mortgage. In this case, the consumer arranges a new mortgage loan for their outstanding debt. This may be through continuation of the existing mortgage (for instance, with an interest-only mortgage), but another mortgage type or maturity may be chosen (for example, the new mortgage could involve partial (annuity-based) repayments). The mortgage provider will in this case reassess whether the consumer can afford the mortgage costs on the basis of their (expected) income and whether the value of the property is sufficient. The risk here is that the consumer's income at that time is not sufficient to refinance the mortgage. An interest-only mortgage indeed often matures at the same time as the consumer's retirement, so their income declines and they cannot borrow the same amount. The entitlement to deduct mortgage interest will also end around this time, and the consumer may no longer be able to continue an interest-only mortgage or they may only be able to arrange a mortgage with a shorter maturity. All these factors imply higher monthly expenses, as a result of which the consumer may no longer be able to pass the income assessment. Note that any surplus value in the property is not relevant for this income assessment; the mortgage provider considers only whether the consumer's income is sufficient to afford the mortgage costs, taking account of costs relating to other debts such as consumer credit. Another risk is that the value of the property may be too low for the intended mortgage. The rules regarding the ratio of the loan to the property value (known as the LTV ratio[13]) have been tightened, meaning that the property may no longer be eligible for the same mortgage. The same problem may exist if the property has declined in value.

If repayment or refinancing is not possible, the property will have to be sold. The proceeds of the sale can then be used to repay the mortgage. While this may vary due to individual circumstances, there will be consumers who do not wish to undertake such a move when their mortgage matures. On the other hand, downsizing to a smaller property when the mortgage matures may be the right solution for the household's financial situation and part of their financial planning. One risk associated with these cases is that the proceeds of the sale of the property are not enough to repay the mortgage because the property's market value is lower than the mortgage at that time. There will then be a residual debt that will still have to be repaid or refinanced.

Homeowners can mitigate this risk by making voluntary (additional) repayments on their mortgage and/or putting capital aside so they can repay their debt when it matures. If people make additional voluntary repayments during the term of the mortgage, their outstanding debt at maturity will be lower. Savings or other freely disposable assets can also reduce the amount of mortgage to be refinanced when the original mortgage matures. Capital can also be used to avoid or reduce any residual debt. Since the available data do not include any information on the assets of the individual households, the scale of these risks is uncertain. Hence, the extent to which households can mitigate the risks with their capital is not known.

[13] Loan-to-value ratio: the ratio of the amount of the mortgage to the value of the property. An LTV of 100% means that the amount of the mortgage is equal to the value of the property. A lower LTV means that there is surplus value in the property, a higher LTV means a situation of negative equity.

Figure 11: Options at the end of the term of an IO mortgage

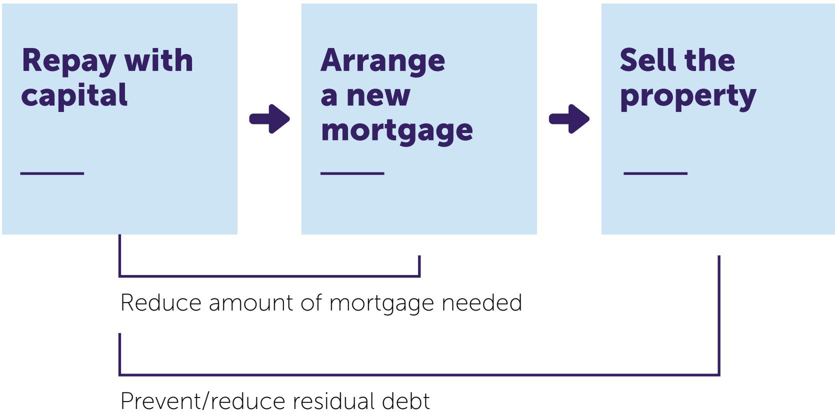
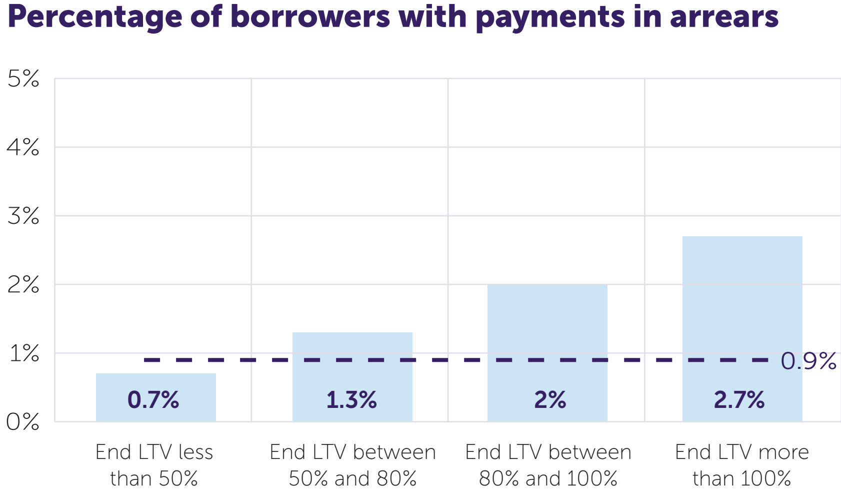


Figure 12: Arrears on mortgage payments are rare, but are more common among households with a higher LTV.



Source: DNB LLD (2018Q4, N=2.17 million mortgages); Only (partly) interest-only mortgages; Calculations by the AFM.

4.5 The scale of the risks depends very much on the circumstances

Affordability risk: limited amount of mortgage payments in arrears

Arrears on mortgage payments in the Netherlands are rare, also for households with an IO mortgage. Arrears on mortgage payments are the most direct indication of affordability risk. At the end of 2018, approximately 77,000 Dutch people (around 2% of households with a mortgage) were in arrears with their mortgage payments (BKR, 2019). This figure includes all mortgage types. Approximately 1% of households with an IO mortgage were in arrears on their mortgage (interest) payments at the end of 2018 (Figure 12). This is estimated at 25,000 households. Arrears on mortgage payments occur relatively most frequently among households with a high mortgage debt compared to the value of their home, rising to 2%-3% in the highest LTV category.

Refinancing risk: a point of attention for consumers about to retire

The maturity of an interest-only mortgage often coincides with retirement, which may make refinancing difficult. The likelihood that a household will be able to refinance (or not) is difficult to predict. Many assumptions are needed for this, among other things regarding the consumer's pension or other income when the mortgage matures. In addition, mortgage providers and customers can arrange the refinancing in various forms, including mortgage type, term and (notional) interest rate. There are nonetheless indications that refinancing risk is the greatest risk for IO mortgages. One important indication is that many consumers have already retired or are close to retirement at the time that their mortgage matures. Table 1 shows that a total of more than 80% of consumers currently with a mortgage have reached the age of entitlement to pension when their mortgage matures (total in column 1). Retirement usually involves lower income, making it more difficult to pass the income assessment.[14] Although the average replacement ratio (the ratio between income after retirement and income before retirement) in the Netherlands is high, this varies widely for different groups (Knoef e.a., 2017). Self-employed people for example usually have a lower replacement ratio (and also a higher outstanding mortgage, see Mastrogiacomo, 2016). This can make it more difficult to refinance a mortgage after retirement.

Most consumers who have already retired when their mortgage matures still have more than 10 years in which to adjust their situation. Table 1 shows the pension status of the consumer when their mortgage matures, and the term that still remains. In the first column, we see that 60.2% of consumers have reached pensionable age at the end of the term, but still have a remaining term to maturity of more than 15 years. In the second column, we see that 6.5% of consumers will have reached pensionable age within 5 years of the end of their mortgage term, and that they currently still have a remaining term to maturity of more than 15 years. A total of more than 70% of consumers with a mortgage that have reached pensionable age at the end of the term still have a remaining term of more than 10 years and therefore still have time to make adjustments.

Table 2: Pension status at end of term, with remaining term

Pension status at end of term

Remaining term	Retired	5 years to retirement	5-10 years to retirement	10-15 years to retirement	More than 15 years to retirement	**Total**
5 years to end of term	2.7%	0.4%	0.2%	0.2%	0.4%	**3.8%**
5-10 years to end of term	7.4%	0.8%	0.5%	0.1%	0.0%	**8.8%**
10-15 years to end of term	10.9%	1.6%	1.0%	0.3%	0.0%	**13.7%**
More than 15 years to end of term	60.2%	6.5%	4.7%	2.1%	0.1%	**73.6%**
Total	**81.2%**	**9.2%**	**6.4%**	**2.7%**	**0.5%**	**100.0%**

Source: DNB LLD (2018Q4, N=1.9 million mortgages); Only (partly) interest-only mortgages; Calculations by the AFM.

[14] The mortgage provider may also steer older consumers to accept a shorter term, meaning that the monthly mortgage payments are higher (due to the repayment component).

Residual debt risk: limited to a small proportion of consumers
A small percentage of households are exposed to a risk of a residual debt. Less than 2% of households have a mortgage debt that is expected to be greater than the value of their home at the end of the mortgage term (Table 3).[15] Three-quarters of them moreover still have a remaining term of more than 15 years on their mortgage. The majority of the current stock of interest-only mortgages have an LTV of less than 50% and still have more than 15 years to go before their IO mortgage matures. The risk of residual debt is therefore restricted to a small proportion of households.

Table 3: LTV ratios classified by remaining term

LTV ratios classified by remaining term

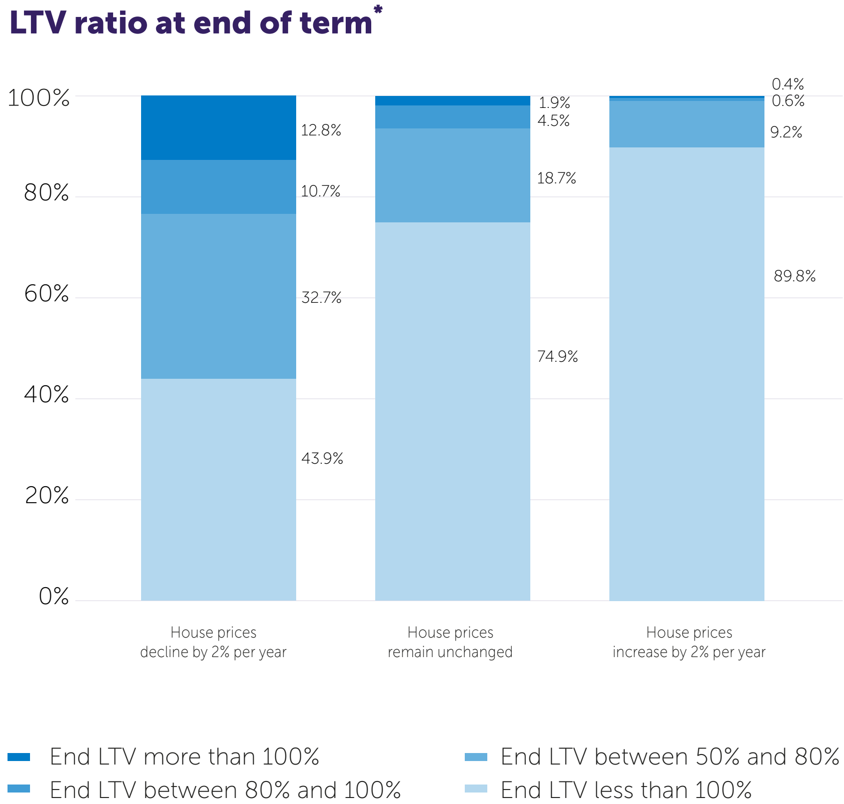
Remaining term	End LTV less than 50%	End LTV between 50% and 80%	End LTV between 80% and 100%	End LTV less than 100%	Total
5 years to end of term	2.8%	0.6%	0.2%	0.2%	**3.7%**
5-10 years to end of term	6.9%	1.1%	0.2%	0.1%	**8.3%**
10-15 years to end of term	10.3%	2.78%	0.7%	0.3%	**14.0%**
More than 15 years to end of term	54.9%	14.3%	3.5%	1.4%	**74.0%**
Total	**74.9%**	**18.7%**	**4.5%**	**1.9%**	**100.0%**

Source: DNB LLD (2018Q4, N=2.17 million mortgages); Only (partly) interest-only mortgages; Calculations by the AFM.

15 Assuming constant property values (in other words: 0% increase in house prices) and no (further) voluntary repayment.

The likelihood of residual debt depends heavily on the development of house prices. Clearly, the value of a property determines what the proceeds of a sale will be. Table 3 assumes 0% growth in house prices between now and the end of the mortgage term. An annual increase or decline in the value of a property can make a big difference in the long term, as shown in Figure 13: a decline in house prices of 2% a year is estimated to lead to 12% of households having an outstanding debt at the end of the mortgage term that is larger than the value of their property. With an annual increase of 2%, this would be only 0.3% of households. The development of property values is moreover subject to large regional variations.

Figure 13: LTV at end of term very dependent on development of house prices



Source: DNB LLD (2018Q4, N=2.17 million mortgages); Only (partly) interest-only mortgages;

* In the pessimistic and optimistic price scenarios, the growth rate is adjusted to the maturity of the (first) interest-only loan portion; Calculations by the AFM.

4.6 Conclusion

Interest-only mortgages could pose risks over time, and refinancing after retirement looks to be the most important risk. A large number of interest-only mortgages mature around 2035, while the principal earner in many households will retire around that time (in 80% of current mortgages, the principal earner will have retired by the end of the mortgage term). This may be associated with a decline in income. Furthermore, many of these households will lose their entitlement to deduct the mortgage interest from tax, meaning that their expenses may increase. This may make it difficult to arrange a new mortgage.

The likelihood of a residual debt applies to a small group of consumers, but is highly dependent on external developments. The problems relating to a potential residual debt affects a small proportion of consumers. The risk of a residual debt is, however, very much affected by the development of the property's value, over which consumers have little influence.

Consumers can reduce risk by accumulating capital. Freely disposable capital can reduce the mortgage needed at the end of the term, or reduce or avoid a residual debt. Another option is to make extra repayments during the term. We do not currently have any information on the freely disposable capital that consumers can use for their mortgages. More and more detailed data on the capital held by households would help in more accurately identifying the groups at risk. The AFM will carry out further research on this issue.

Most consumers still have a long remaining term to maturity, and can consult with their mortgage providers to see whether action is needed. Most consumers still have a long remaining term to maturity, which means they have possibilities for improving the situation. The sooner they act, the more possibilities they will have. Mortgage providers have an active duty of care towards customers with interest-only mortgages. They are responsible for informing the customer, outlining potential courses of action and urging action where this is needed. The AFM is monitoring progress here and offers guidance on how to avoid problems.

Consumers can reduce the risks by building capital

05

The IBOR transition

5.1 Introduction

Interbank Offered Rates (IBORs) are reference interest rates that play an important part in a properly functioning financial system. IBORs are a series of reference interest rates or interest-rate benchmarks with rates that the banks charge each other for credit transactions (Box 4). These rates are widely used as the basis for other financial contracts such as mortgages, derivatives and loans to businesses. The three most important interest-rate benchmarks are currently the London Interbank Offered Rate (LIBOR), the Euro Overnight Index Average (EONIA) and the European Interbank Offered Rate (EURIBOR). The most used interest-rate benchmarks in Europe are EONIA (to which EUR 30,000 billion in instruments is linked) and EURIBOR (to which EUR 120,000 billion in instruments is linked).[16] In other parts of the world (US, UK, JP, CH), this is LIBOR.

The supervision of IBORs focuses on preventing market abuse, especially in the form of benchmark manipulation and unfair rate setting. The potential seriousness of benchmark manipulation was made clear by the LIBOR scandal (2012), which led to a worldwide loss of confidence in benchmarks and seriously damaged the integrity of the global financial markets.[17] Since that time, supervisors and regulators have taken measures to restore confidence in the IBOR benchmarks, among other things by setting requirements for the governance, calculation methodology, data and transparency of interest-rate benchmarks. In addition, interbank lending has now declined to the extent that some IBORs may no longer adequately represent the market to which the benchmark relates. This is being reinforced by the decline in the number of parties that are willing to contribute to IBORs.

If on 1 January 2022 IBORs do not meet the requirements of the EU Benchmark Regulation (BMR), they may not be used in Europe and will have to be replaced by alternative reference interest rates. As a result of the identified manipulation of interest-rate benchmarks, several international forums have recommended that the current benchmarks should be reformed. Reforms are currently being implemented in various parts of the world, including the United States, the United Kingdom, Switzerland, Japan and the European Union. In the European Union, this has led to the benchmark regulation (BMR), which critical reference interest rates must comply with by 1 January 2022. The interest-rate benchmarks in Europe are thus currently being reformed.

The transition to new reference interest rates involves financial, legal and operational challenges. Existing and new contracts will have to be amended and possibly renegotiated, and IT systems and processes have to be changed. There are also financial risks in the event that an IBOR ceases to exist or a new IBOR is significantly different from the current IBOR.

5.2 The transition to new interest-rate benchmarks

The most important European interest-rate benchmarks EONIA and the (already reformed) EURIBOR are being adjusted to meet the requirements of the BMR. EONIA sets the overnight interbank interest rate, while EURIBOR is based on the interbank rate with terms ranging from one week to one year. The BMR has been in force since 2018, but key benchmarks such as EURIBOR and EONIA have until 2022 to meet the BMR requirements. The European Money Markets Institute (EMMI) – the private benchmark manager of both EONIA and EURIBOR – is working on an alternative for EURIBOR and will cease publication of EONIA in due course. This is happening in cooperation with a private working group (working group on euro risk-free rates, WG RFR) chaired by ING and supported by the ECB. The ECB will manage and publish a replacement for EONIA, to be known as the euro short-term rate (€STR), with effect from 2 October 2019.

EONIA

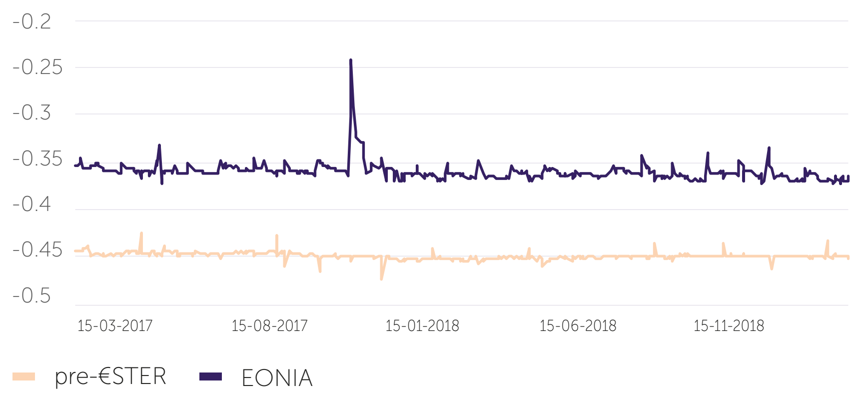
EONIA will be replaced by the euro short-term rate (€STR), a new benchmark composed by the ECB. €STR is an unsecured overnight interest rate for the euro. Like EONIA, it will be derived from the interest rate on short-term loans between banks, but also the deposit interest rate that banks

16 Here we consider only the essential benchmarks of EONIA and EURIBOR, and other benchmarks are left out of consideration.
17 In 2012, it became known that LIBOR interest rates were being manipulated by banks who intentionally issued rates that were higher or lower. See the Wheatly Report of 2012 and Hou et al, 2014.

pay to other capital market parties such as money market funds, insurers and other financial enterprises. Basing the benchmark on transactions with other parties as well as on interbank transactions will provide a sufficient number of transactions to give the benchmark a strong foundation. €STR is therefore more stable than EONIA (Figure 14).

In order to simplify the transition from EONIA to €STR, a fixed spread will be determined to reduce the difference during a transitional period. €STR is approximately 7-9 basis points lower than EONIA. €STR is lower because it is based on the interest rate that banks pay on deposits held by non-bank parties at banks as well as interbank transactions. This interest rate on deposits is lower than the ECB deposit interest rate. The setting of a new EONIA on the basis of €STR plus a spread will mitigate transition problems, even though '€STR + spread' will behave slightly differently compared to EONIA. This "new" EONIA will remain in use until 3 January 2022.

Figure 14: €STR will be structurally lower than EONIA and will be less volatile



ECB, processed by the AFM.

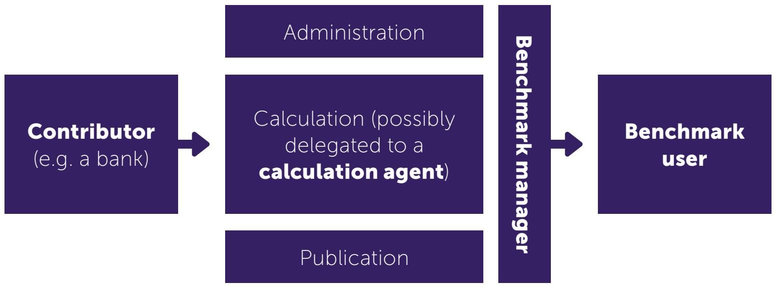
The transition is accompanied by financial, legal and operational challenges

Box 4 What are IBORs and how are they calculated at the moment?

When an index is used as a reference price for a financial product or financial instrument, this involves a benchmark. The index used is calculated using a formula, such as an average of quotes from a number of market parties.

For IBORs, the index is based on the interest rate that the banks charge each other. For EURIBOR, a panel of banks states how much interest it thinks a bank will charge another bank at that time if it was to grant a loan. The banks that sit on this panel provide these data and are the contributors. The banks provide these data to the benchmark manager. The benchmark manager is responsible for the administration, calculation and publication of the benchmark. The actual calculation is usually delegated by the benchmark manager to a benchmark calculator. Ultimately there are parties that use the benchmark, in financial contracts for example. These are the benchmark users.

The calculation process and the parties involved are shown in diagram form below:



Example calculation of the EURIBOR interest-rate benchmark

The EURIBOR benchmark is based on the rate that banks charge each other for credit transactions with terms of 1 week, 1 month, 3, 6 and 12 months. EURIBOR is calculated on the basis of a daily survey of banks, mostly located in the eurozone (and not on actual transactions). The panel currently comprises 18 banks. Based on the input from the banks, the benchmark calculator works out the EURIBOR for the various terms. In this calculation, the highest and lowest 15% of the rates issued are eliminated. An average is then taken of the interest rates remaining. A simplified (theoretical) representation of this is provided below.

Contributor 1	**-0.15**
Contributor 2	**-0.10**
Contributor 3	**-0.10**
Contributor 4	**-0.10**
Contributor 5	**-0.09**
Contributor 6	**-0.08**
Contributor 7	**-0.08**
Contributor 8	**-0.06**
Contributor 9	**-0.05**

EURIBOR = - 0.087

EURIBOR

EURIBOR will be brought into line with the requirements of the Benchmark Regulation. EURIBOR currently has a forward interest-rate term structure, from one week up to one year. The principle of the BMR is that benchmarks should as far as possible be based on actual transactions. It is not really possible to base EURIBOR solely on transactions, due to a lack of liquidity in the unsecured money market for which EURIBOR is currently the reference. EMMI has therefore developed a hybrid model that in principle will be based on actual transactions. If no transactions are available for a specific term or market, the benchmark will be based on transactions that approximate the market and term in question. Quotes or opinions of a contributor may also be used. Under this system, EURIBOR is therefore still based partly on opinions from market parties. Initial assessments of the hybrid EURIBOR indicate that this benchmark will be around 1 to 5 basis points lower than the current EURIBOR (EMMI, 2018). The amended EURIBOR has now been approved by the competent supervisor (the FSMA of Belgium).

This benchmark will be around 1 to 5 basis points below the existing EURIBOR

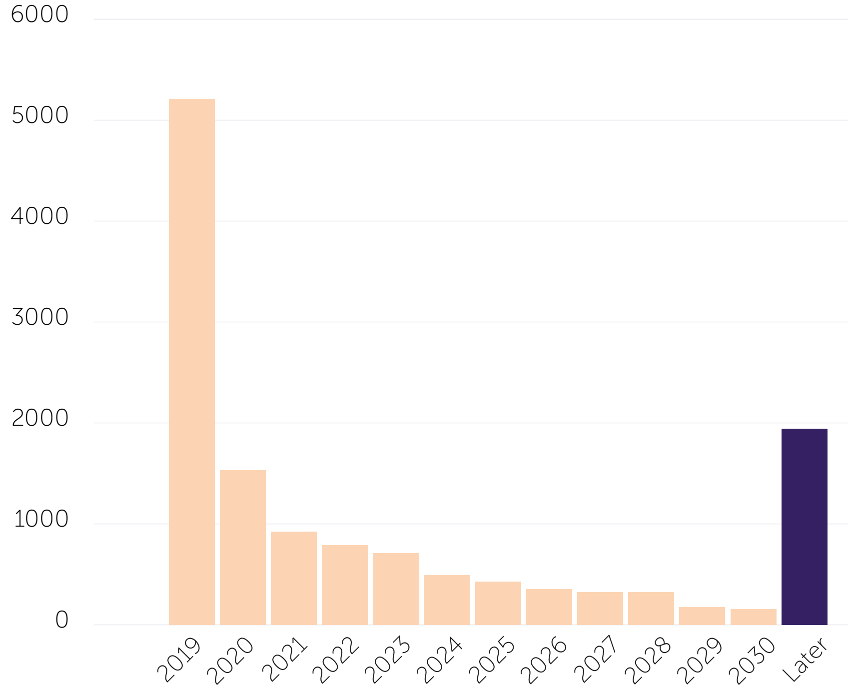
5.3 Use of interest-rate benchmarks in the Netherlands

Financial institutions

Partly because of its large pensions sector, the Netherlands has a large market for interest-rate derivatives that are based on EONIA or EURIBOR. Pension funds use interest-rate derivatives to hedge changes in the value of their liabilities due to interest-rate movements. The notional value of these interest-rate derivatives (the nominal value of the underlying financial instruments) is more than 900 billion euros and the market value is currently approximately 25 billion euros. The insurers have interest-rate derivatives with a notional value of around 475 billion euros in portfolio. They also have an interest in hedging against declining interest rates due to their long-term obligations. Lastly, the banks have a notional exposure to interest-rate derivatives of around 8,500 billion euros, but the market value of these instruments is much lower than for the pension funds. The banks use the interest-rate derivatives market to hedge risks on their mortgage portfolios, but their main activity is as intermediaries. This last point means that they offer interest-rate derivatives to pension funds and other non-bank institutions and hedge the resulting positions in the interbank markets so that they have no position.

Around 40 per cent of the interest-rate derivatives currently concluded will mature after 2021 (Figure 15). This portion of the interest-rate derivatives therefore needs in any case to be converted to a new benchmark. Then there are of course the derivatives that will be concluded in the coming period that will refer to the existing benchmarks.

Figure 15: A significant amount of interest-rate derivatives will mature after 2021



EMIR data, processed by the AFM

Non-financial enterprises

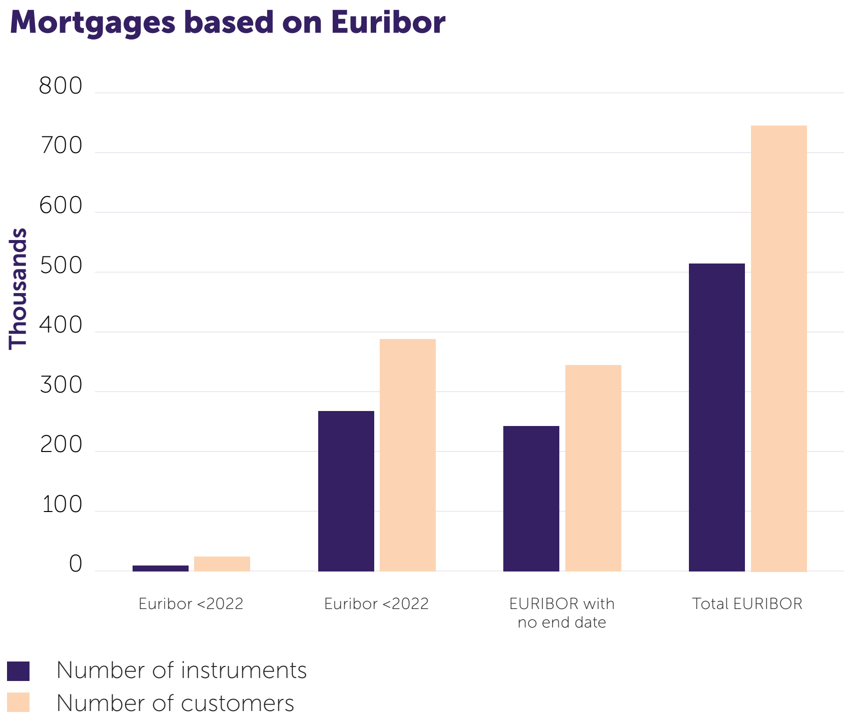
The outstanding debt of small businesses (micro, small and medium-sized businesses) based on an IBOR amounts to approximately 150 billion euros. This involves around 145,000 instruments and roughly 95,000 customers. The majority of the outstanding debt is based on EURIBOR, with a smaller amount denominated in LIBORs.

The majority of the total outstanding business debt based on EURIBOR will mature before 2022. Around 130 billion euros of the approximately 180 billion euros in outstanding debt based on EURIBOR will mature before 2022. There will thus be still around 50 billion euros of outstanding debt based on EURIBOR after 1 January 2022.

Consumers

For consumers, the main issue concerns EURIBOR mortgages, with 30 billion euros of outstanding mortgage debt based on EURIBOR. The vast majority of outstanding mortgage debt in the Netherlands is based on a fixed interest rate. Mortgages with a variable interest rate are in some cases based on EURIBOR. This involves approximately 500,000 mortgages with a total value of around 30 billion (Figure 16). The vast majority of these EURIBOR mortgages will run until after 2021. Only 2 billion euros of the EURIBOR mortgages will mature before 2022.

Figure 16: Over 30 billion of outstanding mortgages are based on EURIBOR



5.4 Risks

The financial sector and its customers are exposed to three types of risk: financial, operational and legal risk. In addition, in view of the scale of use of IBORs, a clustering of risks could ultimately affect financial stability. For this reason, it is important that market parties prepare adequately for the transition to alternative benchmarks.

Financial risk

The financial risk is the greatest if a benchmark ceases to exist and there are no suitable alternatives available. A replacement has already been found for EONIA in the form of €STR. The amended EURIBOR has now been approved, but there is still no benchmark with a term structure that can serve as an alternative.

Financial risks also arise if the original and replacement reference interest rates are not the same. If there is a difference (or spread), this means that in the absence of further agreements, one party will benefit at the expense of the other party. A temporary transition rule, such as changing the original benchmark to a level closer to the replacement, could offer a solution. This would reduce risk at the time of transition and gives the parties additional time to amend contracts.

Operational risk

The operational infrastructure of the financial sector, businesses and (semi-) public institutions will have to be adjusted in good time. This applies for instance to the underlying risk models, valuation models and hedging strategies. For example, all references to EONIA or IBORs will have to be identified and changed. The changes needed are expected to need some time to implement. For financial institutions, changing systems is often a time-consuming process. There is thus a risk that this will not be accomplished in time.

Legal risk

Changing a large number of existing contracts can be onerous in practice. In principle, contracts need to be amended bilaterally if the benchmark changes. In the short term, this mainly concerns derivatives and other contracts referring to EONIA. Contracts also need to include good fall-back options in case a benchmark is removed or changed. This concerns all benchmarks. In the case of derivatives, syndicated loans (loans provided by a group of banks) and securitisations, market parties could possibly use international, generic fall-back options currently in development (such as a model contract) that could replace a large number of contracts at a stroke. For many other financial products that are also designed for less professional parties (including households and SMEs), an international solution will not be appropriate due to national variations. Credit providers will have to engage with their customers directly in this case. The point therefore is that customers of financial institutions should not find themselves wrongfully disadvantaged as a result of the transition to a new benchmark and that they should adequately understand the changes. For financial institutions, this could lead to a risk of claims for damages. There may also be confusion regarding whether a contract has to be amended, and what method should be used for this.

Systemic risk

In view of the value involved in contracts that refer to the various IBORs, and the systems constructed on this basis, problems in the transition to new benchmarks could ultimately involve systemic risks. There is for instance a possibility that confusion regarding the correct reference interest rate could lead to claims between institutions. There is also a risk that markets that refer to the IBORs could dry up in a situation of confusion.

The new and reformed reference interest rates also contain weaknesses. To the extent that interest-rate benchmarks still have to deal with a lack of liquid and deep underlying markets, these may still not be sufficiently robust. The use of these benchmarks in a large market could involve systemic risks.

5.5 Conclusion

Financial institutions are themselves responsible for choosing the right benchmark and the adjustments that are needed for this. The transition to alternative reference interest rates involves serious financial, legal and operational challenges and could ultimately lead to risks for the system as a whole. Dutch market parties accordingly need to prepare in good time by adjusting existing contracts, risk and valuation models and hedging strategies and taking account of the new reference interest rates in new contracts.

The AFM is closely monitoring this process, with particular attention to how the interests of customers are being dealt with. The AFM is consulting with market parties on their approach to the transition to new reference interest rates (AFM, 2019). It is important here that customers need to be informed in a timely fashion and contracts have to be amended in a fair and transparent manner. Given the number of customers that the credit providers have, it would be worthwhile to consider whether generic solutions could help to accelerate the process.

Dutch market parties will have to prepare in time

06

Digitalisation of retail financial services

6.1 Introduction

The ever-continuing expansion of digitalisation is affecting all aspects of financial services provision. More and more forms of financial services provision are expected to move to the digital domain. The previous edition of Trend Monitor looked at this development (AFM, 2018). A number of relevant developments have occurred since then that we will consider in this analysis.

In retail services, much of the customer journey has become digital. Although a personal consultation with a human adviser is still an important part of financial services provision, parts of these services are moving to the digital domain. In the orientation phase, the role of digital marketing is growing. In the closure phase, services are increasingly provided in digital or even fully automated form, such as the collection of customer data. In the after-sales phase as well, ongoing contact with customers has become mostly digital.

The AFM sees this increase in digitalisation as positive, but is aware of the risks. On the one hand, financial services in the digital domain are always available, information and products can be personally adjusted to suit the customer and there is little or no barrier with respect to ongoing contact. This offers convenience, lower cost and the potential for a better connection between demand and supply. On the other hand, increasing digitalisation raises issues from a supervisory perspective, for instance with regard to the ethical use of data, the requesting of information on customers and the presentation of information.

The developments in digitalisation are occurring at a rapid rate, as a result of which the AFM is continually identifying new opportunities and risks. To identify the risks, we consider the various phases of the decision-making process that the consumer goes through when purchasing a financial product, the opportunities presented by digitalisation in the various phases of this process and the risks that this involves.

The AFM sees the advance of digitization as positive, but focuses on the risks

6.2 Digitalisation and the customer journey when taking financial product

When purchasing a financial service, consumers go through a decision-making process involving five phases: recognising a problem, searching for information, assessing alternatives, making a selection, and assessing this decision. We list the key points of attention with respect to the influence of digitalisation in each step in this decision-making process (Figure 17). Please note that the various phases often overlap each other in practice; the classification nevertheless provides a way to better understand the decision-making process.

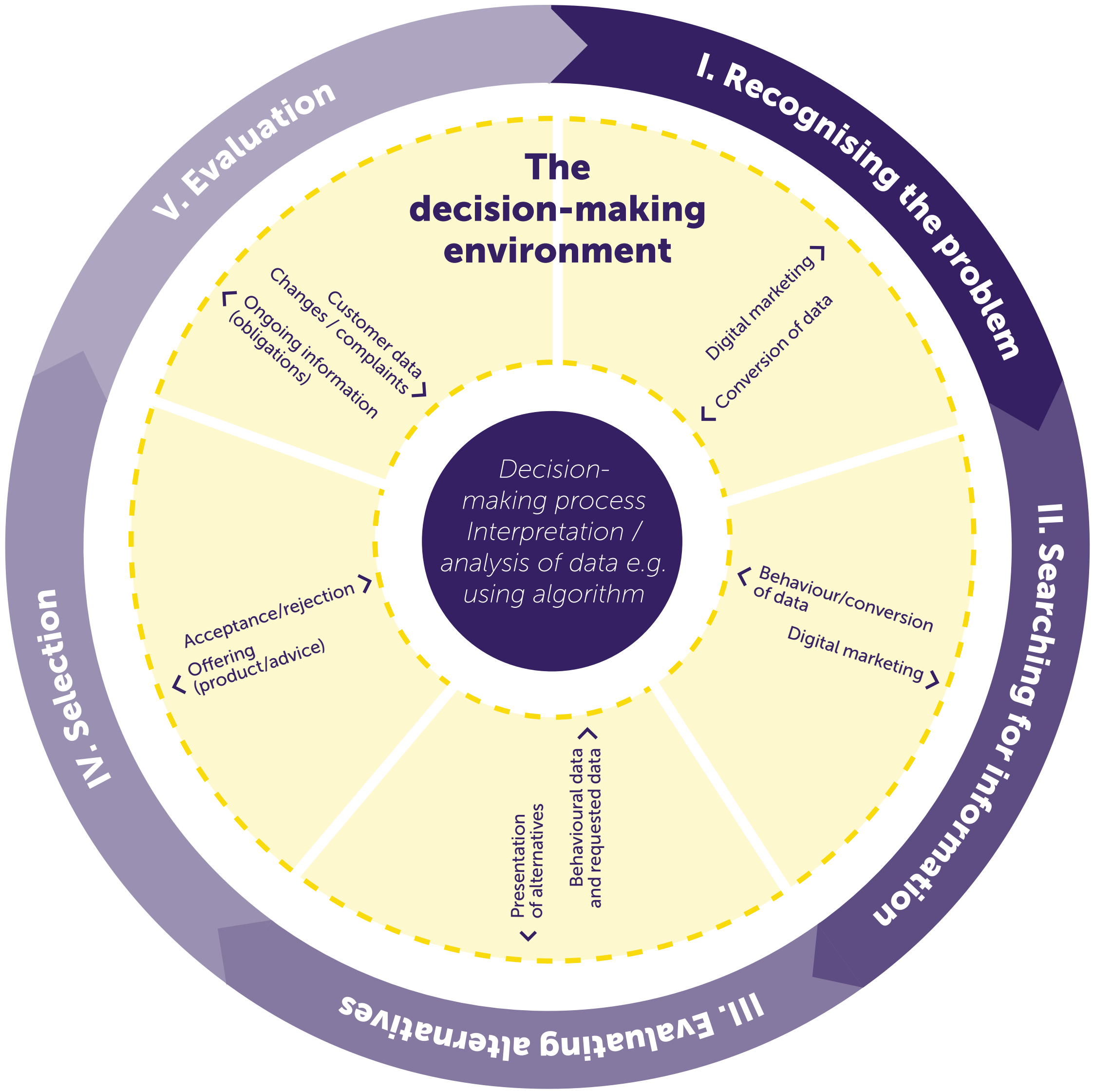


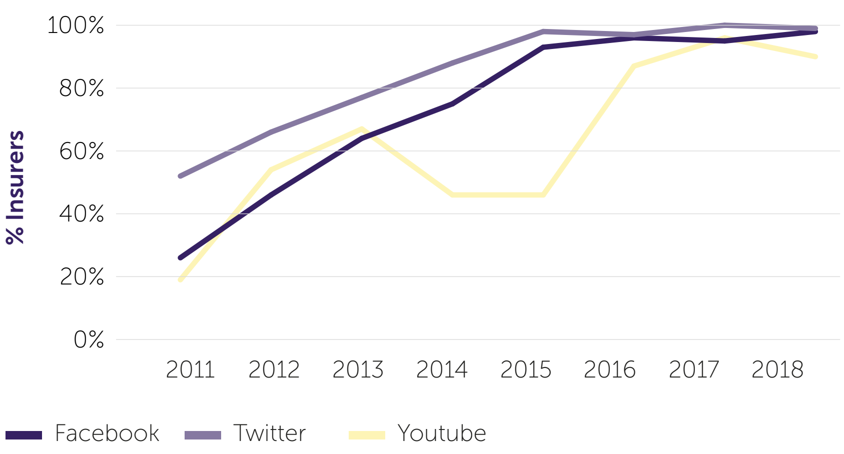
Figure 17: The consumer's decision-making process and the exchange of information with the institution with digital service provision

I. Recognising the problem

The decision-making process begins with the consumer recognising a problem. The consumer will only go looking for a solution if they experience something as a problem. In this case, the solution is a financial product or service. In this phase, providers try to influence the consumer using advertisements. Advertising has been shifting to digital channels for some years, including social media (Deloitte, 2018).

The use of social media by financial institutions has become commonplace in recent years. Whereas until 2010 less than half of institutions were active on social media, nowadays virtually every institution is active on one or more channels (see for instance Figure 18 for the activities of insurers).

Figure 18: Virtually all insurers are now active on social media



Source: ITDS SOME rapportages, 2019

Far-reaching personalisation of advertisements can lead to undesirable situations. Online advertising offers the possibility of tailoring advertisements to the person concerned. For example, one can select a target group of people likely to buy a house, or people who have just got married. This can lead to more appropriate advertising. There is, however, also a risk that this technique can be used for undesirable purposes. For example, by ensuring that advertising of loans is shown to consumers who are easily influenced, status-sensitive and/or inclined to borrow excessively.[18]

Box 5 The influence of digitalisation op internationalisation

One overall risk of digitalisation concerns supervisory arbitrage. Under current European regulation, financial products may be offered from another EU Member State. Digitalisation makes it possible to offer services in another country without a local physical presence, thus lowering the barriers to doing this. There is thus a real risk of supervisory arbitrage (as is also the case in the capital markets, see Box 2). Providers can for instance choose to provide services from a Member State with a small home market and/or a more lenient supervisory regime. This can thus influence consumers in other Member States to a great extent. They can be confronted with providers or products from another country where different rules apply and a different level of protection is afforded than is normally the case in the consumer's home country. Examples of this in the Dutch market have been providers of pay-day loans and contracts for difference (CfD). In addition, these foreign providers are subject to supervision in their home country, meaning that action by the supervisor in the consumer's country in case of abuses might be less effective.

[18] Facebook for instance offers the possibility of targeting on the basis of income, an interest in expensive goods or online gambling (or a combination thereof).

II. Searching for information

Once the consumer has recognised a problem, they will start looking for more information on one or more products. The customer thus enters a decision-making environment that is controlled by the institution, in which the institution itself decides which information the customer gets to see and how it is presented. The institution can base this on data on the customer that it has obtained legitimately. How this information is presented to the customer is important, as once they are in the decision-making environment the customer is close to making a decision to purchase. The information has to be accurate and complete and enable the customer to make an appropriate decision. The increasing relevance of the mobile channel is also important in this respect. Consumers are able to go from an advertisement on social media directly to the institution's digital decision-making environment. This ease of access, combined with the small screens on mobile devices, means that how the information is presented all the more important. Moreover, the role of data in all phases of the service provision is becoming more important, see Box 6.

A visit to a comparison site may form part of this step in the decision-making process. Comparison sites are now the major source of information for consumers looking for a new insurance (Association of Insurers, 2017). A comparison site will display a list of available alternatives, either based on specific information from the customer or not. Consumers can thus easily compare numerous alternatives on the basis of the criteria they consider to be important. The risk here is that it is not clear how objective the comparison site is, whether products are ranked solely on the basis of their features or whether there are possibilities for advertising by placing products (apparently) higher in the list. Another risk is that providers make cosmetic adjustments to their products so that they will appear higher in the list.

Box 6 The increasing role of data in financial services provision

The increasing role of data is an overarching challenge in the entire chain of financial services provision. Providing a service to customers requires extensive information on their wishes and financial possibilities. The collection of this information is the main aspect of financial services provision that is changing as a result of digitalisation. Many of the innovations in financial services thus concern data and the collection of data. Data sources can increasingly be used automatically to obtain quantitative data (for example, on the customer's financial position), making things easier for both the customer and the financial services provider. Data on online behaviour can also be used. Innovation is also happening with respect to the collection of qualitative information on customers. There are now new possibilities for identifying the customer's wishes, risk appetite or knowledge, whereas this used to happen through personal contact with an adviser. These data offer the possibility of better tailoring products to the customer, maintaining ongoing contact with the customer and providing better information to the customer.

Data innovation is also happening in areas other than direct customer contact. The availability of large quantities of data and the possibility of combining and analysing these data are also opening up new possibilities for the business operation of financial institutions. Insurers for example expect to increase their usage of external data sources and AI applications in the coming years. Insurers are already using internal data, and expect to increase their usage in the next three years of data on payment behaviour, data from the Chamber of Commerce or UWV and IoT (Internet of Things) data (AFM/DNB, 2019). Many insurers in particular expect to be using payment data within the next three years, mainly in order to improve the setting of premiums and combat fraud. Increased usage of advanced AI applications with these data is also expected. With regard to these applications, the AFM believes it is important that consumers understand what data they are sharing, how these data are processed and that the outcomes of advanced data applications can be explained. In asset management as well, data usage is at the heart of concepts such as automated or semi-automated asset management. Finally, there is innovation throughout the sector with respect to compliance, commonly known as Regtech, for instance by automating reporting to supervisors.

The increasing role of data involves risks with respect to information security and cyber security. Financial institutions possess large and growing amounts of customer data. The availability of these data makes it possible to automate parts of the business process. This creates new possibilities but also new risks, such as data leaks, breakdowns or external attacks. As a result, information security, accessibility of systems and availability of the service are becoming increasingly important. In addition, many institutions outsource parts of their IT processes. This concerns not only the use of cloud providers, which is common practice among financial institutions, but also possibly the management and maintenance of software and IT systems. The risk here is that actual performance is delegated to a third party, while the obligations under the Financial Supervision Act (Wft) rest with the licensed institution.

The increasing importance and use of data is also affecting regulation and supervision. There are already new laws in place that focus on the use of data, such as the General Data Protection Regulation (GDPR) and the Payment Services Directive 2 (PSD2). While the AFM is not the designated supervisor for these laws, the increasing use of data is affecting the AFM's supervisory tasks. For example, together with DNB, the AFM supervises the management of processes and systems at financial institutions. The AFM has published principles for information security that businesses can use, among other things. We expect to see further development in the legislation governing the use of data and cyber security.

III. Evaluating alternatives

The customer data collected are converted into an advice or product offering that is evaluated by the customer. In this phase, the aim of the financial institution is to obtain a full profile of the customer in order to present various alternatives. This profile is based on the data actively collected by the institution from the customer and/or data that the customer has recorded digitally (either intentionally or otherwise) and that are interpreted by the institution. After processing by the institution, these data are converted into an advice or an offer of one or more products.

The distinction between execution-only and advisory services is important in this phase. The information the provider needs to collect varies depending on the type of service. With an execution-only service, institutions are expected to establish that the customer has sufficient knowledge and experience to ensure that they are able to make an independent assessment of various alternatives. An execution-only party ensures this by collecting data on the customer's knowledge and experience through what is known as the knowledge and experience test. An institution giving advice on various alternatives has to collect data on several elements. In this case, an institution providing advice will request information on the customer's financial position, risk appetite, objectives, knowledge and experience and takes account of this in its advice. A digital environment will, just like a human adviser, have to put targeted questions to the consumer to collect all this information and assess whether the consumer understands all the information presented. This entails challenges, for example with respect to establishing qualitative elements. For instance, we have identified that there is room for improvement in the methods used until now to establish risk appetite (AFM guideline for fulfilling the duty of care in semi-automated asset management; Van der Meeren et al, 2019). In addition, in an online environment it may not be clear to consumers what type of service they are looking at and what rights they can derive from this.

Execution-only services are provided mainly in digital form, advisory services to a lesser extent. Execution-only services are usually provided in digital form, with the knowledge and experience test also having to be conducted digitally. Fully digital advisory services are not yet common, partly because of the challenges outlined above. There are also large differences from one product group to another. Execution-only services are common for investments, while mortgages are mostly arranged with advice from a human adviser (AFM, 2017, 2018). Services provided by a human adviser usually involve use of advisory software (a package of tools for customer management, customer contact, product comparison, assessing the financial consequences of products and the purchase of products). This means that digitalisation plays a large part in this part of advisory services (the contact between the provider and the adviser), while the ultimate customer contact happens through the human adviser. The quality of this software is nevertheless highly important for the quality of the advice (see the 'Making a selection' phase). Also, with this service there are possibilities for digitalising elements of the customer contact, for example by giving the consumer access to their file through a customer portal and/or offering them the possibility of making changes themselves or purchasing new products. These options are appearing in the market, mainly at the larger advisory firms. There are also a small number of parties in the market offering advice in fully digital form. This type of digital service is expected to become more common in the future, and will be developed for other products as well.

This phase may involve dynamic pricing, but this appears so far to be relatively uncommon. A digital environment offers the possibility of differentiating prices at individual level on the basis of specific information on the customer, either in combination with information the institution already has on the customer or not. For insurance policies, this may lead to large variations in premiums or risk groups that are no longer able to obtain insurance at all. There are as yet no indications that dynamic pricing is becoming a widespread phenomenon in the insurance sector (AFM/DNB, 2019).[19]

IV. Making a decision

After the institution has collected the necessary data, the data are processed and converted into a presentation of an advice or a product offer. During the visualisation of this, it is important that the advice or product is presented to the customer in an understandable fashion. If the customer is given advice, they must understand how the product works, what its conditions are and what they can expect from the after-sales service after agreeing to take the service or purchase the product. The institution is responsible for establishing that this is the case at the time of purchase. Digitalisation offers many possibilities for doing this in a personalised manner, for instance by emphasising the key information for a particular customer. There is a risk that as a result of the distance, it is more difficult for the service provider to verify that the customer has understood the offer.

An institution may use advisory software for comparison of alternatives and making a selection. Advisory software assists advisers to scan the landscape of products and providers and assess the consequences of financial decisions. The possibilities and therefore the role of this type of software in the quality of the service provision are further increasing, also with respect to personal (that is, non-digital) service provision. Advisers can use this software to collect more types of data needed for the purchase

[19] The solidarity monitor of the Association of Insurers provides information on the development of variations in premium. The most recent report shows that premium variations have increased for home contents, buildings and liability insurance, but that this is not the case for motor vehicle third-party insurance and life insurance. Since the solidarity monitor is a recent publication with only two measuring dates so far, it is not yet possible to identify trends from this. The solidarity monitor moreover does not offer any insight into the causes of premium variations, so it does not answer the question of whether dynamic pricing is leading to greater premium variations.

of a financial product automatically and exchange data with partners in the financial chain. One example of this is the digital exchange of a valuation report with the mortgage provider. At the same time, however, the responsibility for the service provision rests with the financial adviser; the advisory software and its developer are not subject to supervision. The AFM accordingly believes it is important that advisers thoroughly understand the possibilities and the limitations of the software and also give feedback on this to developers. A similar argument can be made for software used in investment and pension-related services.

V. Evaluating the decision

Digital channels make maintaining contact after purchase of a product easier, but this may lead to customers being influenced in undesirable ways. In the evaluation phase, the consumer considers whether the product they selected is still appropriate to their situation. The provider also plays a part in this and continues to be in contact with the customer with respect to a number of products. In a digital environment, this is much easier than it used to be, as a result of e-mail or other applications. This is basically a good thing, since an adviser can far more conveniently stay in contact with customers and identify when circumstances require a change of product. At the same time, the institution thereby continues to collect data on the customer's behaviour that can be used for marketing purposes. This leads to a risk that the customer will be continually tempted to purchase new products. Gamification is an example of a method of keeping customers continually involved. This can be used in the interests of customers and also in ways that the AFM does not consider to be desirable (AFM, 2019).

6.3 Conclusion

The AFM considers the influence of digitalisation on the sector to be generally positive. Digitalisation can improve the quality of financial services provision. Digitalisation means it is now easier to purchase a financial product, the service provision can be more personal and there are new possibilities for keeping in contact with customers.

But digitalisation also involves risks. One obvious risk of further digitalisation in retail financial services is that the increasing simplification of the purchase of financial products and the personalisation of financial products will lead to products that are unsuitable for consumers. The ability to fine-tune the targeting of consumers and play on biases in decision-making has a major role. The risks of digitalisation are particularly clearly visible on the fringes of the regulated financial sector. Cryptos are a good example of how consumers are urged to make purchases on the basis of limited information, and with instruments such as binary options and CfDs, we see how consumers are encouraged to continue trading. The AFM continues to monitor developments, engages in regular dialogue with parties introducing new digital and other services to the market and expresses its expectations for the market in various policy publications.[20]

These opportunities and risks form part of the framework used by the AFM for considering new developments. Within the statutory framework and the AFM's explanation of this in its previously published guidelines, the AFM focuses on the extent to which new service provision concepts are in the customer's interest and the extent to which the risks associated with these concepts are relevant.

[20] These include the Guideline on fulfilling the duty of care with (semi-)automated asset management, the View on robo advice, the Manual for online service provision and the Principles for information security.

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