Trend Monitor 2019

A survey of trends and risks on the financial markets

October 2018

The Dutch Authority for the Financial Markets

The AFM is committed to promoting fair and transparent financial markets.

As an independent market conduct authority, we contribute to a sustainable financial system and prosperity in the Netherlands.

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1. Introduction and summary

Introduction

In Trend Monitor, the AFM identifies important trends and related risks in the financial sector. Identifying and understanding changes in the sector contributes to an effective, forward-looking and preventive approach to supervision. This first edition gives central priority to the point at which one of the trends - political uncertainty - will reach an initial climax: Brexit on 29 March 2019. Another trend covered is the continued digitalisation of the sector, as well as the growing role of the financial sector in the transition to a sustainable society and economy. The survey looks at these trends from the perspective of the AFM's mission to promote fair and transparent financial markets and contribute to sustainable financial prosperity.

Trend Monitor is a new publication that aims to present background information on, details of and interrelationships between relevant supervisory issues. Accordingly, Trend Monitor discusses certain selected trends in order to put a number of present and/or future risks and supervisory issues in perspective. Trend Monitor also gives us the opportunity to communicate on these issues in a more detailed way than in existing AFM publications such as the Agenda. Depth is more important than breadth. It is not our intention to cover all the trends and risks in the financial sector. Instead, we focus on three trends that are currently relevant for understanding some of the current developments in the sector. This does not mean that other trends such as the continuing low level of interest rates and internationalisation have no influence. Figure 1 presents an overview of the trends discussed and the associated risks. The trends and associated risks are in various stages of development, meaning that exactly what effect they will have is not equally clear in all respects. In most cases, approaching dilemmas and other issues can be identified. We present general directions for potential solutions where possible, some of which are mainly up to the sector itself while others require greater supervisory attention.

The observations in 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 in the coming year will be detailed in the Agenda 2019, which will be published in early 2019.

Summary

A hard no-deal Brexit in March 2019 is the most obvious geopolitical risk for financial institutions. The departure of the United Kingdom (UK) from the European Union (EU) has significant consequences for the financial sector. British financial parties play an important part in the European financial sector. If they lose access to the EU market, this will involve numerous risks for securities trading, the insurance market and European supervision. Although all the parties involved are striving to enable an orderly Brexit with a transition period, the risk of a hard Brexit in March 2019 has not disappeared. It is important that financial institutions prepare adequately for this. A substantial number of trading platforms and trading parties have chosen the Netherlands as their new base. The AFM is making the necessary preparations to ensure that it can exercise effective supervision of these new parties and markets. In addition, the financial

markets are experiencing uncertainty with respect to monetary policy. Monetary policy is being tightened in a number of countries, including the United States and Canada, and a similar development is expected in Europe as well. This raises the question of whether investors have properly assessed the risks of their investments. Due to the low level of interest rates, in recent years investors have been looking for investments offering relatively high returns. The threat of a trade war increases the likelihood of abrupt movements in the financial markets, which could affect the stability and smooth operation of these markets.

The growing number of technology-driven applications and innovations in the financial sector (known as 'fintech') is affecting all segments of the market. Digitalisation makes it possible to approach consumers in an ever-increasingly personal and targeted way. There are now new providers, data streams and distribution possibilities that are making financial products and advice more accessible (faster and always available). This offers benefits to customers, but also poses new challenges for both the providers and the supervisor. Large-scale use of data raises issues with respect to matters such as privacy, data ownership, solidarity in insurance and new possibilities for influencing people. Another aspect of digitalisation is that this is creating new forms of financial (or cyber) crime. This is also leading to increasing pressure on the gate-keeping role of financial institutions to prevent the financial system from being used for criminal purposes. The AFM expects the sector to apply technological developments in the interests of customers (duty of care 2.0). The application of new technologies, in combination with increasing use of data and a growing cyber threat, places high demands on financial institutions with respect to maintaining a controlled and ethical business operation. For the AFM, digitalisation means that its supervision will be more focused on care in the use of customer data, the robustness of value chains that are becoming more complex and the management of risks in IT-intensive business operations.

The financial sector has a central role to play in the transition to a sustainable society and economy. Influenced by social and policy developments, the offering of financial products and services with sustainable features is growing. Investors are increasingly including sustainability as a factor in their decisions, with environmental, social and governance (ESG) factors becoming more important in the financial reporting of listed and other companies. The AFM supports the important contribution of the financial sector in the transition to sustainability. It also sees risks that ultimately could become an obstacle to this if they are not addressed. The common theme in these risks is the availability and quality of information. This not only concerns information necessary to better estimate the risks arising from sustainability, it also concerns the extent to which a company, a product or a service makes a positive contribution to attaining sustainability goals. The absence of any standards for what can be called sustainable is the underlying problem. As long as this is not addressed, financial enterprises will remain responsible for clarity with respect to the terminology they use and the safeguards for the claims that are made. Another item of attention is that financial enterprises integrate sustainability in their financial products and services in a responsible and careful way. The statutory requirements in place apply equally to financial products and services that feature sustainability. In its supervisory areas, the AFM accordingly focuses on the care with which sustainability is assigned a place in the financial sector.

The further development of European legislation for sustainable finance will contribute to the specifics of the supervisory duty of the AFM in this area.

Figure 1 AFM Trend Monitor 2019. The arrows give an indication of the urgency and scale of the underlying risks.
Source: AFM

2. Political uncertainty

2.1 Political uncertainty in the financial markets

Brexit is the biggest cause of political uncertainty for the financial sector in Europe. In 2016, the citizens of the UK voted to leave the EU in a referendum. Since that time, the EU and the UK have been working to achieve an orderly transition to a new mutual relationship. The risk that this will not succeed and that the UK will leave the EU on 29 March 2019 without any further agreements (the 'no-deal' scenario) has not disappeared. This is also referred to as the 'cliff-edge' scenario or 'hard Brexit'. In this scenario, EU rules will cease to apply in the UK overnight. This would mean that UK companies would lose their entitlement to access EU markets, and EU companies would lose their access to the UK. Even if this scenario is avoided, it is anything but certain what the relationship between the EU and the UK will look like. Even if the UK and the EU reach agreement, some companies could lose access to markets. The arrival of British financial parties in the Netherlands therefore remains a current issue. The same applies to the risks in financial markets and the discussions to be held regarding the prevention of supervisory arbitrage and competition in the post-Brexit financial markets.

Brexit is an expression of a broader trend of increasing geopolitical risks for the financial markets. In several Western countries, support for the political middle ground appears to be moving to parties on the political fringes. This polarisation makes it difficult to find a consensus, which leads to uncertainty regarding policy. The difficult coalition negotiations seen in Germany and the political tensions in Italy are examples of this development. There are tough political debates ongoing with the EU that are putting relationships under pressure with respect to policy on migration, the strengthening of the Eurozone and a new multi-year financial context for the EU budget. Outside Europe, there is less reason than there used to be for assuming that the US will be a like-minded partner in international cooperation.

In addition, the financial markets are experiencing uncertainty with respect to monetary policy. Interest rates have been at very low levels for a long time. Firstly, this has led to increased issuance of debt. Secondly, investors have turned to investments offering relatively high returns (the 'search for yield'). This has led to high valuations in a number of investment categories. Now that monetary policy is being tightened in several countries (such as the US, Canada and the UK) and a similar development is expected in Europe, the question is whether investors have adequately assessed the risks. A change in interest rates that goes contrary to market expectations can lead to abrupt changes in the prices of these investments. This could lead to a high volume of sales and possibly to a period of increased volatility and lack of liquidity in some markets. Emerging countries with debt denominated in foreign currency are vulnerable to such a development, as illustrated by the situation in Turkey and in Argentina.

The threat of a trade war increases the risks of this uncertain situation. Increased import tariffs imposed by the US, China and the EU have already led to increased volatility in the financial markets. The reciprocal increases to import tariffs have widened to include an increasing number of products. The effects of this on the real economy have so far been limited. Further escalation of protectionist measures could however have more serious consequences for the economy and put pressure on international cooperation in other areas. As a result, the likelihood of abrupt movements in the financial markets is increasing, which could affect the stability and smooth operation of these markets.

2.2 Brexit

A hard Brexit on 29 March 2019 will have disruptive effects on the financial sector, and financial institutions need to prepare for this. The EU and UK economies are closely linked, not only in the real economy but also in financial terms. The capital markets in the EU and the UK are closely interrelated, and many European businesses and consumers rely on the UK financial sector for their financial services. If British parties lose their access to the EU market as a result of a hard Brexit at the end of March 2019 (and *vice versa*), this could cause serious disruption to securities trading and restrict the provision of cross-border services. Various issues such as the Irish border are currently standing in the way of a final exit agreement. As long as there is no such agreement, a hard Brexit remains a real possibility and the sector has to prepare for this. The following analysis assumes that this scenario will occur.

The greatest risk is to the efficient operation of the capital market; retail services will be less affected. The following sections list the main consequences and risks of a hard Brexit from the perspective of conduct supervision. The risks, which are listed in successive order, concern access to the international financial capital market, the continuity of securities trading, the continuation of international banking and insurance services, outsourcing to the UK and supervisory arbitrage. We conclude this section with the arrival of British financial parties in the Netherlands.

2.2.1 Access to the international financial market under pressure

British parties are very important for Dutch organisations active in the European securities market. Securities trading (which includes trading in shares, bonds and derivatives) is a regulated activity and many parties playing a part in European securities trading are located in the UK. The market can be roughly divided into three parts: the large broker dealers, their clients and the market infrastructure (Figure 2). The large broker dealers are parties such as Goldman Sachs, JP Morgan and Barclays, that offer their clients access to various markets. For example, they either act as counterparty or look for a counterparty when a client wishes to hedge an interest-rate risk. Their clients in the Netherlands include pension funds, but also other asset managers, banks and large companies. The market infrastructure consists of the trading platforms and the clearing and settlement infrastructure, which makes financial trading possible. In essence, the risk of Brexit for the securities market is that the large broker dealers and a large part of the market infrastructure are located in the UK, and that they will lose their access to the EU market post-Brexit. If this happens, they will no longer be able to service their clients in the Netherlands and the rest of

Europe. Dutch clients, such as pension funds, could thus be faced with higher costs or even find that they are no longer able to execute certain transactions.

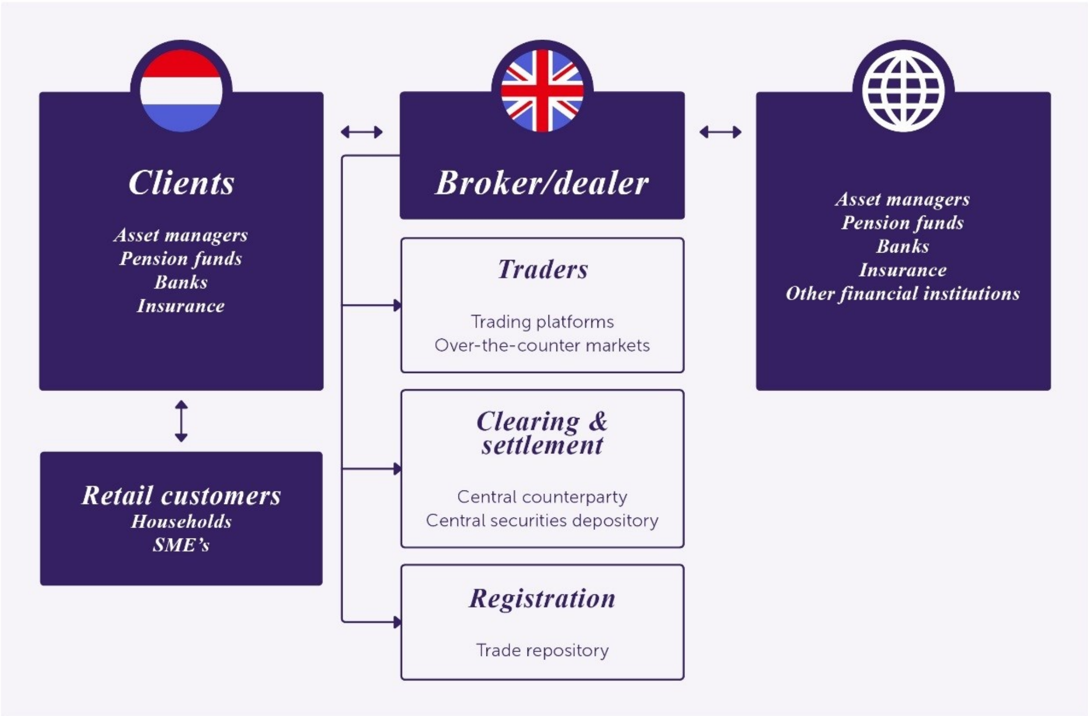


Figure 2 Simplified representation of the relationship between the UK and NL in the capital market

Source: AFM

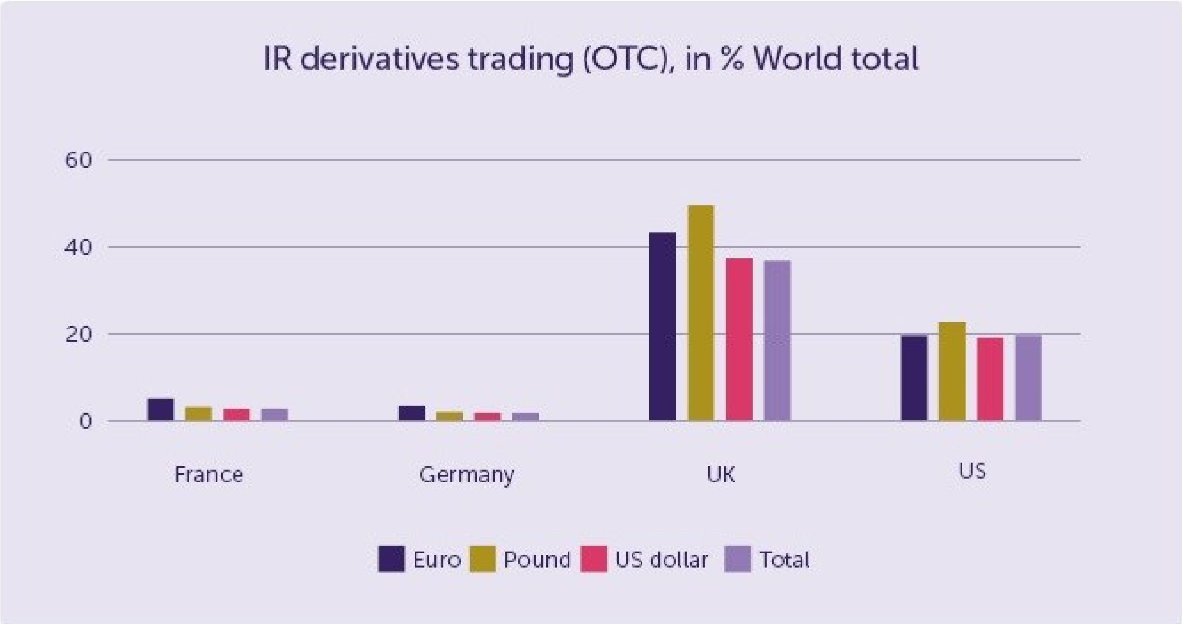
A lack of alternatives in Europe will limit European financial parties in their transaction alternatives, which will increase risks and costs. The UK is an important financial hub for various markets. A significant portion of the markets for derivatives is located in the UK, while other European countries play a much smaller role (Figure 3). This problem also applies to other markets, such as the bond market and the repo market. The large broker dealers who can provide access to all these markets have located 90% of their European operations in London (Batsaikhan, Kalcik and Schoenmaker, 2017). In the current set-up, they can service the entire European market from London, but there is a danger that this will change as a result of Brexit. Almost all the British parties that service the European market from London are accordingly applying for licences in EU Member States and relocating sufficient personnel to European locations in order to be able to continue to service European parties post-Brexit.[1]

Nonetheless, this operational shift will take time and it is not certain that all institutions will have obtained the right licence(s) in good time. This means that there is a possibility that fewer or even no European alternatives would be available to replace the British financial parties that are no longer available. If no alternative counterparties can be found, this would limit the transaction options available to European clients.

[1] See also FT, 2018: JPMorgan to move several dozen staff ahead of Brexit

In this case, European clients might not be able to hedge their interest-rate risk adequately in the derivatives market, for example, or not be able to park their cash securely in the repo market. Even if it is possible to find European alternatives, European parties generally have a smaller scale and therefore would not be able to offer the most competitive prices.

For Dutch clients such as the pension funds, market access would be retained, but this could lead to greater risks, fewer investment opportunities and lower returns. It is important for these parties that they look for a solution with their British service providers and look for alternatives as necessary in due time.



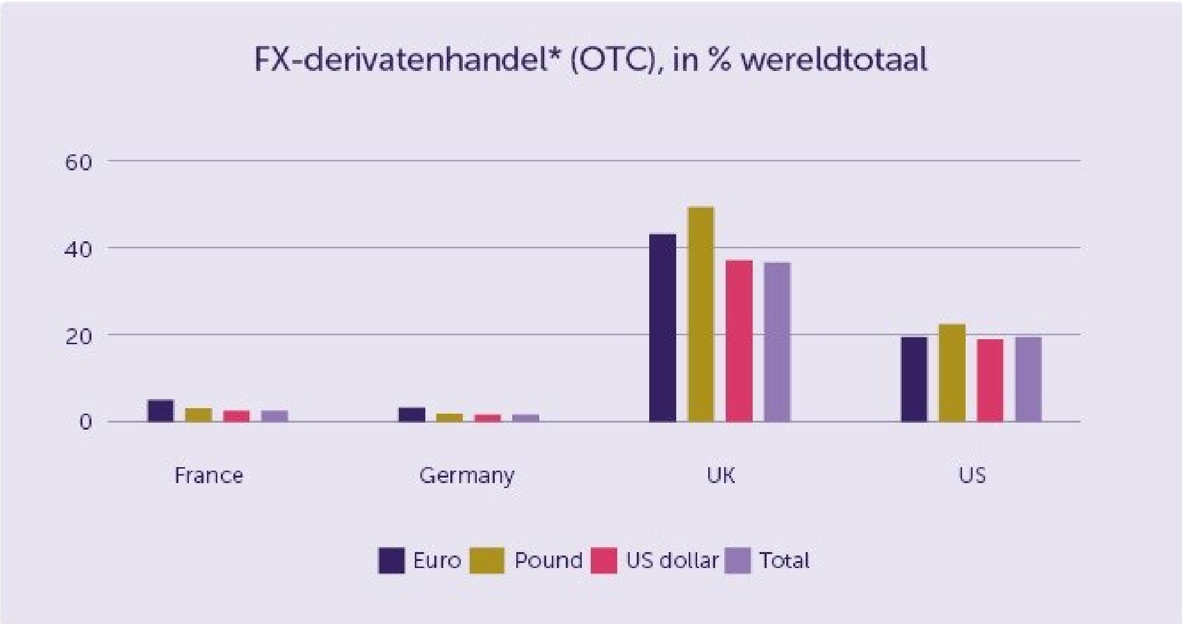


Figure 3: Over The Counter FX and IR derivatives trading 2016

Source: BIS (2016); Processing AFM; * Currency derivatives incl. spot transactions, forward currency contracts, currency swaps, options and other products.

2.2.2 Continuity of securities trading uncertain

British trading platforms will be less accessible for European parties. Although European parties will still in principle be able to trade on British platforms, this will be subject to restrictions.[2] Additionally, the UK could decide not to allow European parties to access these platforms. In reaction to this, some trading platforms located in the UK are applying for licences in an EU country, and some of them have announced their intention to establish themselves in the Netherlands.[3] These include some of the largest equity trading platforms in the European capital market and the global bond market (figure 4). This would mean a sizeable increase in the number of trading platforms in the Dutch market.

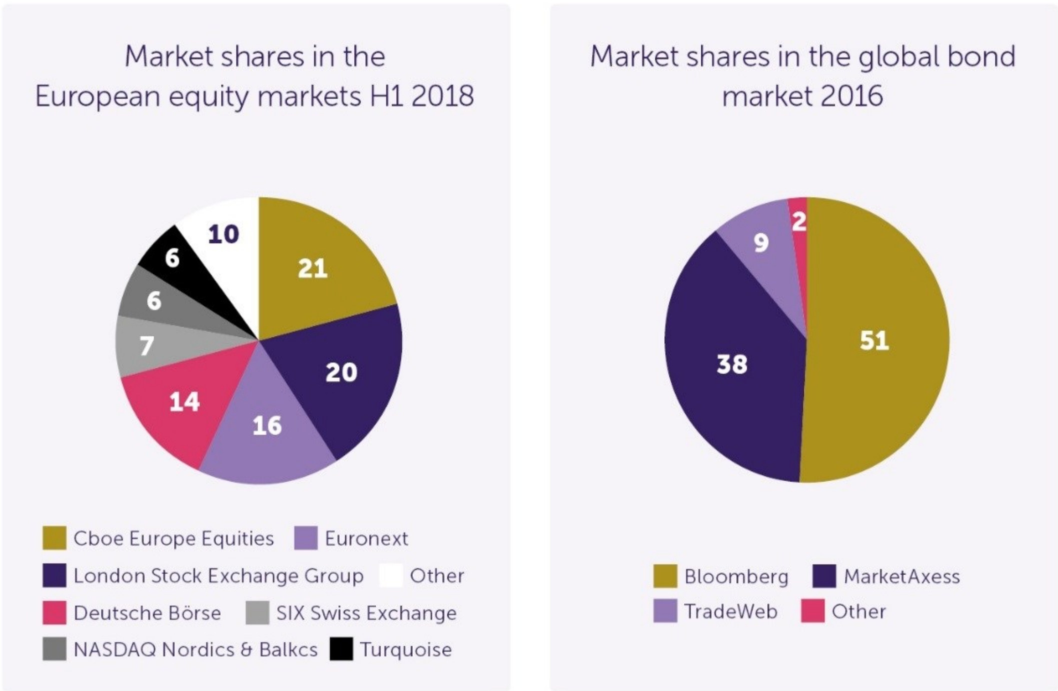


Figure 4: Market share of the European capital market and the global bond market by trading volume

Source: Federation of European Securities Exchanges (2018); Greenwich Associates 2016 European and North American Fixed-Income Studies

After a hard Brexit, parties entering into derivatives transactions subject to the EMIR clearing obligation could no longer be able to meet this obligation with a Central Counterparty (CCP) located in the UK, meaning that costs would rise. Clearing is the netting off of gross securities positions of trading parties with a single counterparty (the CCP), whereby all trading parties end up with a single net position with the CCP. This makes it simpler to manage counterparty risk. Derivatives subject to the EMIR clearing obligation have to be cleared with a licensed CCP in the

[2] Participation is for example not permitted if the European party would obtain a dominant position.
[3] This interest has been reported in the media. The AFM is not anticipating this and is not making any statement regarding potential licence applications from these parties or the result of these applications. Ultimately, the decision by these parties to establish themselves in the Netherlands or not will depend on several factors, including the agreements on market access that have to be reached between the EU and the UK.

EU. The CCPs located in the UK have a dominant position in the European market and clear more than 90% of the interest-rate swaps denominated in euros and 40% of the credit default swaps denominated in euros (ECB, 2017). The two most dominant players are LCH Clearnet and ICE Clear. Post-Brexit, these British CCPs will in principle no longer qualify as a CCP with a licence in an EU Member State. A financial party wishing to effect a transaction subject to the clearing obligation will then have to clear the transaction with a licensed CCP in the EU and this could lead to higher costs. CCPs in the EU have less volume and, in addition, diversification of gross positions across various CCPs will mean fewer possibilities for netting and possibly additional collateral requirements. Estimates of the additional collateral obligations as a result of Brexit and the costs of this for European financial institutions vary widely, ranging from a few billion to EUR 20 billion per year (European Parliament, 2017; Bruhl, 2017).

It is now up to Clearing Members and their clients to prepare for Brexit. Clearing with a CCP is effected through Clearing Members, a small number of parties that are affiliated to the CCP and clear transactions through the CCP for their own group and/or other parties. If the CCPs located in the UK are no longer recognised as licensed CCPs, these parties will have to look for affiliation with another CCP located in the EU if they wish to continue to offer these services to EU clients subject to the clearing obligation (Figure 5 line 1). A number of parties have started the process of negotiating new contracts for this. The party effecting the transaction is the party with the clearing obligation. If the Clearing Member is not successful in affiliating to a European CCP, the trading party will have to find another Clearing Member that is affiliated to a European CCP (Figure 5 line (2)) for this party to avoid facing higher costs. Clearing Members and their clients must therefore consult with each other in good time.

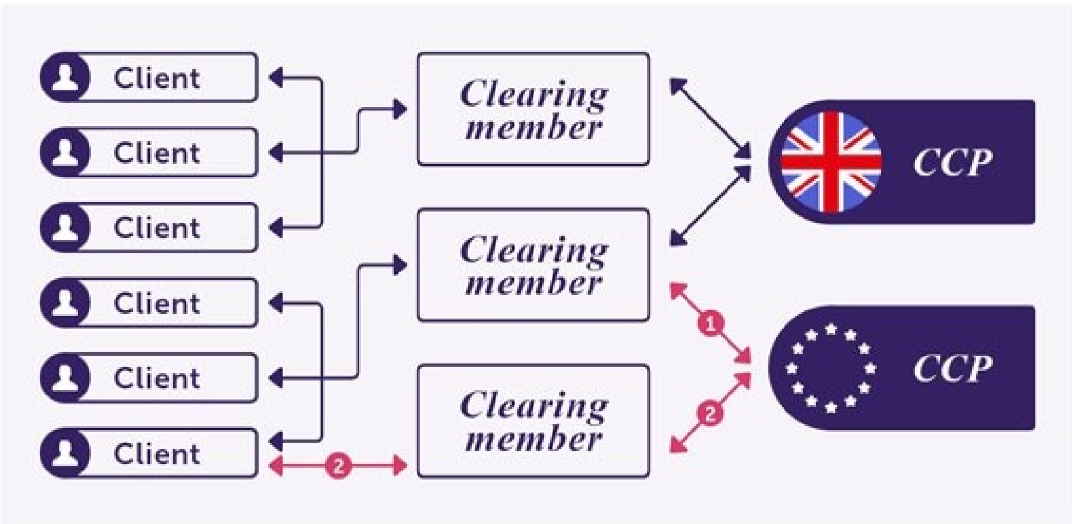


Figure 5: Simplified representation of the clearing market

Source: AFM

After Brexit, financial institutions in the UK and the EU could no longer be able to comply with some of the obligations relating to international uncleared over-the-counter (OTC) derivatives contracts. Derivatives contracts are regularly adjusted during their term to maturity (known as 'life-cycle events'). This involves for instance rolling over open positions, exercising options and trade compression[4]. This may involve regulated activities. Post-Brexit, British parties with which these contracts are concluded will lose their market access and possibly will no longer be able to execute regulated activities. The result will be that institutions will have to deal with larger gross positions, no possibility of shifting risk to another entity or of maintaining an open position. This could lead to a higher risk profile than desired, higher margin requirements and higher costs. EUR 23,000 billion in contracts between parties in the UK and the EU could be affected as a result, amounting to roughly a quarter of the total number of contracts between these parties (Bank of England, 2017). In preparation for this, derivatives dealers in the UK are engaged in transferring parts of their derivatives portfolios to European parties (a process known as novation)[5]. While this will limit the Brexit risk, it entails other risks as well. For instance, the new European counterparty could fall into a different risk category than the original British counterparty. In addition, derivatives contracts originally concluded prior to the introduction of EMIR will be subject to the EMIR obligations after novation, whereas they are currently exempt. Due to the various types of derivatives contract, it is important that derivatives dealers and their clients reach agreement on a solution in good time.

Usually, when contracts in complex financial instruments are concluded, it is agreed that the contract is subject to British law and British jurisdiction. This means that British law will prevail in case of a dispute and that cases can be brought before the British courts. A ruling by the British court can currently be enforced in any EU country. After Brexit, there may be uncertainty in this respect, and there is a danger that the legal basis for compliance with these (derivatives and other) contracts could disappear. Holders of these instruments can consult with their counterparty regarding a solution, such as the application of French or Irish law for new contracts.

For the credit rating agencies (CRAs), there is the risk that ratings issued in the UK will no longer be valid in the EU. CRAs are subject to European supervision by ESMA (the European Securities and Market Authority). They have to register with ESMA in order to issue ratings that can be used by financial institutions for legal purposes. These purposes are mainly prudential in nature. The use of unrecognised ratings in documents such as prospectuses is permitted, as long as it is made clear that the rating in question is not issued by a recognised European CRA. The three largest CRAs - Moody's, S&P and Fitch - have their headquarters in the UK and collectively have a market share of more than 90%. After Brexit, these CRAs registered in the UK will no longer qualify as European CRAs. To continue to be recognised post-Brexit, parts of their businesses will have to relocate to the EU. These CRAs already have offices in the EU. The ratings issued by these European offices can be produced by analysts outside the EU (under the endorsement regime), but there must be good reasons for this. ESMA has already stated that it is not prepared to interpret this loosely and that it will require the CRAs to transfer activities relevant to the EU to the EU (ESMA, 2018).

[4] The replacement of a collection of contracts with a single contract with the same net position.
[5] FT, 2017: Investment banks split on shifting assets ahead of Brexit

2.2.3 The continuation of international banking and insurance services is uncertain

Banks and insurers in the UK and the EU could no longer be able to provide services to clients in another jurisdiction post-Brexit. The British banking sector currently serves around half the commercial market in Europe. Regarding the insurance market, the insurance obligations issued by the UK to the EU amount to approximately EUR 50 billion, and around 38 million European policyholders are potentially vulnerable (Bank of England, 2018). Insurers in the UK sell insurance policies to businesses and consumers in the EU and *vice versa*. A licence is needed to sell an insurance policy, pay claims and accept premiums for existing policies. Many insurers in the UK and the EU currently use the European passport to be able to provide these services in other EU countries, but this will no longer be possible post-Brexit. Besides the market inefficiency that Brexit will entail for future policies, current policies could soon no longer be implemented. This means that premiums could no longer be paid in, and payments could no longer be effected. This creates an immediate vulnerability for clients of British banks and insurers in the Netherlands. The problem in the Netherlands would appear to mainly affect the commercial market, but consumers also receive limited services from insurers in the UK. These banks and insurers will have to find a solution in good time.

The cover of existing insurance policies could change. Dutch clients of Dutch insurers could also be confronted by changes. Insurances with cover in foreign countries, such as car or travel insurance, can offer cover in the EU. Although most policies define their cover in terms of countries (rather than in terms of the EU), it could be the case that the policy conditions refer to the EU. Clients of insurers need to be informed in good time if insurers change their conditions as a result of Brexit.

2.2.4 Outsourcing to British parties will not be possible as a matter of course

Dutch financial parties that have outsourced services to parties in the UK may no longer meet the licence requirements. Several Dutch financial parties have outsourced services to British parties. Asset managers and banks can for instance use data-related services or securities depositary services in the UK. These services may in principle be outsourced only to a party in a supervisory regime that has been declared to be equivalent. If we have a hard Brexit, the UK will not qualify as such, and these parties will have to find an alternative within the EU. It is moreover an issue for the regulators to reach agreement on a declaration of equivalence that would involve the least disruption.

2.2.5 Supervisory arbitrage

The risk of supervisory arbitrage by financial institutions will increase if there is competition between EU Member States to attract British financial parties. Some of the larger financial enterprises from the UK will relocate or incorporate a subsidiary in the EU in order to retain access to the EU internal market. There is a risk that these parties will intentionally look to relocate in a Member State with a relatively lenient supervisory regime. This effect will intensify if EU Member States compete with each other to attract institutions relocating from the UK to reap the economic benefits that these institutions will bring with them. A race to the bottom in financial regulation and its application will weaken the effectiveness of supervision. At European level, the AFM wishes to see financial supervision post-Brexit that is as effective and harmonised as possible.

Fragmentation of supervision is also a risk. British financial parties have a number of options available for retaining their access to the European market. In addition to applying for a European licence with the possibility of a passport, British financial parties can also become authorised by national supervisors in each country. The risk here is that the supervision of these parties will be fragmented between various national supervisors and moreover the majority of the activities will remain in the UK. Here too, the AFM wishes to ensure that these parties are supervised in a European context as effectively as possible, for example by requiring that these parties actually carry out an adequate proportion of their business in the EU (the substance criterion).

2.2.6 The arrival of British financial firms in the Netherlands

A number of market parties from the UK have expressed an interest in establishing themselves in the Netherlands. Virtually all the large players in the financial markets that hold licences in the UK have considered Amsterdam as a potential location as part of their due diligence. The AFM has held approximately 150 discussions with parties interested in obtaining a licence. Trading platforms, proprietary traders and several smaller banks have expressed an interest in establishing themselves in the Netherlands.[6] Trading platforms established in the UK such as CBOE, LSE Turquoise and Bloomberg have publicly stated that they wish to establish themselves in Amsterdam, as has the trading firm Jane Street. Parties from outside the EU that currently service the European market from London such as the Japanese bank MUFG have also expressed an interest in coming to Amsterdam. The AFM has requested interested parties to submit their licence applications by 1 July 2018, so that under normal circumstances there will be sufficient time to process their applications by 29 March 2019. This does not change the fact that as a hard Brexit in March 2019 becomes more likely, there will be many parties that will submit licence applications at a later date. The final number of licence applications that will be submitted to the AFM is thus still uncertain.

2.2.7 Consequences for supervision

Financial institutions are themselves responsible for good and sufficient preparation for all possible Brexit scenarios. Together with DNB and the European supervisors, the AFM is supervising that Dutch financial institutions assess the impact of Brexit and take appropriate measures where needed. As necessary, the AFM makes enquiries of financial institutions subject to supervision in order to obtain a more detailed impression of how institutions are preparing for

[6] As with the trading platforms mentioned above, this interest has been reported in the media. The AFM is not anticipating this and is not making any statement regarding potential licence applications from these parties or the result of these applications. Ultimately, the decision by these parties to establish themselves in the Netherlands or not will depend on several factors, including the agreements on market access that have to be reached between the EU and the UK.

Brexit. The AFM discusses the implications of Brexit for the financial sector with institutions and industry organisations such as the Dutch Banking Association (the *Nederlandse Vereniging van Banken* or 'NVB'). At European level, the AFM wishes to see financial supervision post-Brexit that is as effective and harmonised as possible.

The arrival of a substantial number of trading platforms and trading firms in the Netherlands will significantly affect the AFM's supervision post-Brexit. The AFM is taking account of a scenario in which 30% to 40% of the European capital market will come to the Netherlands. This would mean that trading platforms and trading within the EU would be concentrated in Amsterdam. This will strengthen Dutch financial markets, positively affect other knowledge-intensive and innovative service providers and contribute to access to the capital market for Dutch companies. It would also mean a substantial expansion of the responsibilities and duties of the AFM's supervision of the capital markets. Besides additional non-recurring supervisory tasks such as licence applications, this will have significant consequences for ongoing supervision. Ongoing supervision for instance includes supervision designed to prevent market abuse. The AFM will need to collect and review far more transaction and order data in order to be able to perform this market abuse supervision. On the basis of European regulation, the AFM will have to share more data with other supervisors and will be responsible for the quality of the data reported by Dutch parties. In addition, the AFM will have to deal more frequently with questions regarding policy and interpretation from new capital market parties, and play a larger role in European consultation. This will require an expansion of capacity, expertise and IT systems.

3. Digitalisation of the financial sector

3.1 Technological renewal in all market segments

The growing number of technology-driven applications and innovations in the financial sector (known as 'fintech') is affecting all segments of the market. Fintech is enabling new providers, products and distribution possibilities that focus on increasing the efficiency and improving the customer experience. This is expressed among other things by far-reaching automation in the sector, breaking up the value chain for financial services and increasing usage of customer data. The most obvious change in recent years has been the disappearance of physical bank branches. It is now expected that a much wider range of financial services can and will be offered in digital form. One direct effect of this is that employment in the financial sector has been declining sharply for several years. Compared to the peak in 2007, employment in the financial sector has contracted by around 20% from 272,000 to 212,000 employees in 2017. If this decline continues, in 2020 the financial sector will employ fewer than 200,000 people (Figure 6; CBS, 2018; UWV, 2017). Although developments so far appear to be gradual and slow moving, new technologies have the potential to bring about radical changes in the near future.

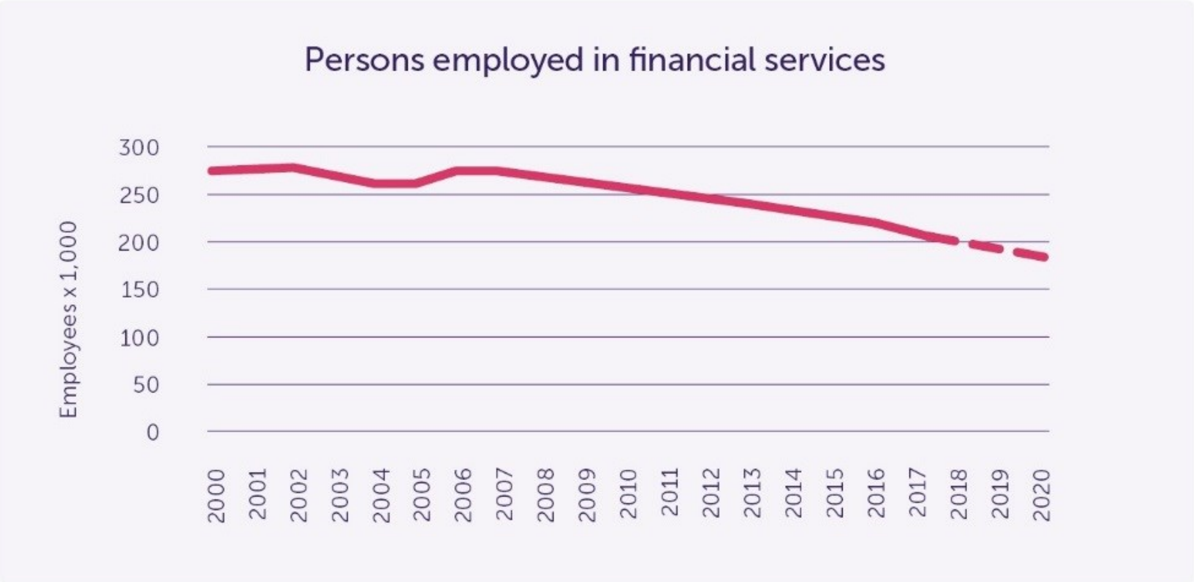


Figure 6: Number of people employed in financial services is declining

Source: CBS, 2018; processed by the AFM

The existing players have a central role in bringing new technologies to the market in the banking and insurance sectors. Existing financial parties usually work in the form of a partnership with new parties, or acquire new parties. New products under their own brand names are then introduced to the market. The banking sector appears to be more advanced with the application of innovations in payment services than the insurance sector, where there is still much potential for the application of (for instance) advanced data analytics.

Changes are taking place in the intermediary channel as a result of the arrival of digital distribution options. Although intermediaries still have a dominant position in the distribution of financial products, shifts are occurring in the intermediary channel. Internet comparison sites are currently the leading source of information for orientation to a new insurance policy (Dutch Insurers' Association, 2017). The smaller intermediary firms seem to be feeling pressure from this development. In addition, technology is making direct digital distribution possible. Homogeneous product categories subject to price pressure, such as car insurance, seem to be leading the way. Moreover, digital distribution is not bound by borders and is rapidly scalable, meaning that foreign parties can quickly enter the Dutch market. So far, however, this has not affected the dominant position of the intermediary sector in the distribution of financial products (Decisio, 2017).

In asset management, products relating to automated trading and robotic advice are coming to the market. Both existing and new parties are developing activities in the market for robotic advice and automated trading. Asset management is thus becoming available to retail investors with small amounts of money to invest. In this market too, it is mainly the existing players, either under a new label or not, that are offering robotic advice to the wider public.

The capital market is becoming fragmented due to an interaction between regulation and technology. Before MiFID came into effect in 2007, equity trading was conducted on national stock exchanges. Since then, various alternative trading platforms have come into being that serve the whole European market. These alternative exchanges now handle 25% of the trading in AEX stocks, and in the European capital market as a whole alternative trading platforms are among the largest exchanges in the market (Federation of European Securities Exchanges, 2018; Fidessa, 2018; CBOE, 2018). In addition, the value chain has become more complex. Capital market parties are using various specialist providers, especially in infrastructural areas (such as Bloomberg or TriOptima). Although these parties often fulfil crucial functions for the efficient operation of the international capital market, such as the settlement of transactions, not all of them are subject to financial supervision. If, for example, their services are disrupted, no trading is possible in some markets.

The increasing importance of fintech is also illustrated by the growth of investment in specialist fintech companies. More than EUR 20 billion in venture capital was invested in fintech companies in the European market in the first half of 2018 (KPMG, 2018). There are currently more than 400 fintech firms operating in the Dutch market, 100 more than a year ago (Holland FinTech, 2018). The largest group consists of payment services (around 90), followed by alternative finance (approximately 50; figure 7). This focus on payment services is similar to that seen in an international context (BIS, 2018).

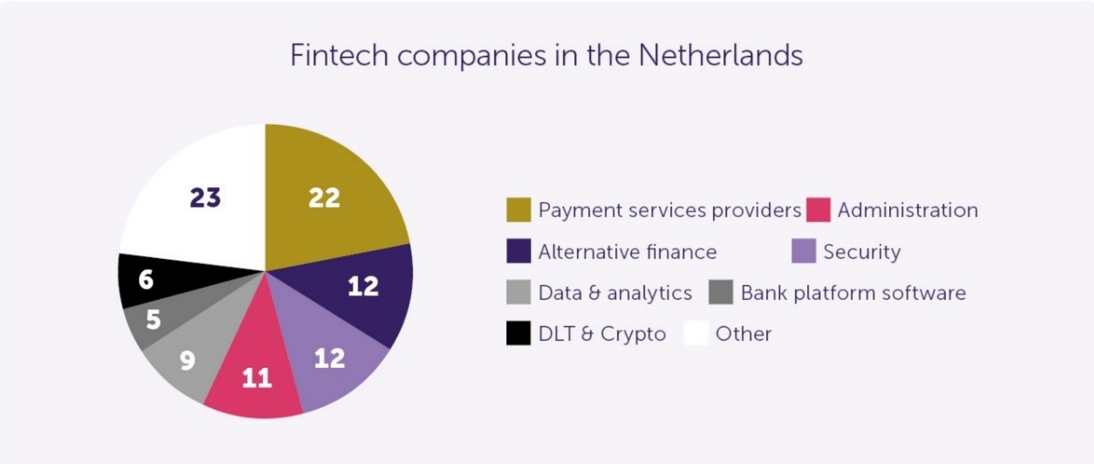


Figure 7: Payment services providers are the largest group of fintech companies

Source: Holland FinTech (2018); Processed by the AFM.

3.2 Implications of increasing usage of data and technology

The use of customer data is increasing, and this presents opportunities for improving financial services. Financial institutions are intensifying and digitalising their communication with customers, for example through websites and apps. Because this customer journey is digitalised, there is a continuous flow of customer data to these institutions. This data flow is making it increasingly possible to personalise the offering of products and services on the basis of customer profiles developed by the institutions. Products such as digital financial advice, personalised insurance policies and automated asset management are now on offer. This potentially offers benefits for customers.

The increasing usage of data, however, is accompanied by issues regarding ownership of data and how data is collected, stored and used. The increasing use of data places a responsibility on institutions to store and secure data properly and to use data in the interests of customers. Institutions must be able to demonstrate how they have given central priority to the customer's interests in their service provision, both now and in the past (duty of care 2.0). Access to correct and complete customer, transaction and product data is essential for this insight. In addition, the customer data held by financial institutions, especially the transaction data, is of great value to third parties such as advertisers. There needs to be research into the legal and social boundaries for this at international level.

In the insurance sector, the use of data raises issues with respect to solidarity and accessibility. Insurers can use data for a detailed segmentation of risks. This could lead to large differences in premiums or risk groups for which insurance is no longer available (Dutch Insurers' Association, 2017). The data held by insurers can also be used to obtain insight into how losses can be avoided. This could, however, also lead to guidance of behaviour that is not necessarily desirable. Lastly, there are insurance products for which the amount of the premium is related to the submission of data, such as lower-cost car insurance if drivers install a device in their cars to measure their driving performance. Here it is important that the consumer clearly understands what data they are submitting and how this relates to the amount of the premium.

More far-reaching usage and increasing complexity of algorithms form a potential risk for the effective governance and internal control of financial institutions. Artificial intelligence is already having a significant effect on the financial sector through applications in trading algorithms, fraud detection, automated advice and trade settlement. The first steps are also being taken to apply machine learning to the setting of insurance premiums. The use of this technology will most likely increase. This requires increasing attention to the risks associated with the use of self-learning algorithms to analyse customer data. One clear risk for business operation for example concerns the use of self-learning algorithms that distinguish (without being noticed) between customer groups in a way that is socially undesirable or even prohibited, such as discrimination on the basis of age, ethnic background or gender. Financial institutions have to structure their business operations so that the risks associated with the use of complex algorithms are managed. The AFM will devote specific attention to this issue in its supervision.

New issues regarding the desirable use of data require further cooperation between supervisors. New legislation has already been developed to address the issues associated with the use of data and technology, such as the General Data Protection Regulation (GDPR), which came into effect in 2018. The Security of Network and Information Systems Act (*Wet beveiliging netwerk- en informatiesystemen* or 'Wbni'), which sets requirements with respect to security and reporting for essential services, also came into effect in 2018. Furthermore, the AFM expects on the basis of existing legislation that data will always be used in the customer's interests. Nonetheless, increasing data usage will lead to new issues in which it will not always be clear what constitutes due care in the use of data by financial firms in practice. It is also not always possible to draw the line between where supervision of privacy (by the Dutch Authority for Consumers and Markets) ends and supervision of compliance with the duty of care (by the AFM) begins. Closer cooperation between supervisors has been initiated in order to avoid both overlaps and gaps.

3.3 The rise of cyber crime

A less attractive side of the increasing digitalisation of financial products and services is that there is a greater risk of cyber crime. The threat from cyber criminals is increasingly directed at the financial institutions themselves, as well as the customers that they serve. The financial sector is one of the most frequently attacked sectors. 53% of financial institutions experienced ICT incidents in 2016 and 28% experienced ICT incidents resulting from an external attack (CBS, 2017). The financial sector is also one of the three sectors reporting the most data leaks (AP, 2018). In addition, the number of DDoS attacks[7] is increasing and these are becoming more targeted (NBIP, 2018). One illustration of this was the bringing down of websites of a number of large Dutch

[7] Distributed denial-of-service (DDoS) attack: an attack by a network of computers on a server, usually with the aim of making a website inaccessible.

financial institutions in January 2018. There has also been an increase in ransomware attacks[8], which are increasingly targeting businesses rather than individual users (Securelist, 2017). But private citizens are still important targets. Reports of phishing e-mails[9] are increasing rapidly. The theft of log-in details for financial institutions is the main target (CPB, 2016).

The social costs of cyber crime are significant. Firstly, there are the direct costs of the theft of money, for example by means of a phishing attack. Secondly, there are indirect costs because financial institutions have to invest in IT security. The cyber security market in the Netherlands is estimated to amount to EUR 7.5 billion, and this figure is expected to rise. Financial institutions bear a large part of the costs of this themselves (CPB, 2016; CBS, 2017). Lastly, there are social costs when financial services become inaccessible as a result of activities such as DDoS attacks.

Arming against cyber crime requires a large commitment from financial institutions, and an even greater commitment from smaller institutions. Despite the fact that large institutions are more frequently attacked, smaller institutions also have to deal with cyber crime. Investing in cyber security is expensive and requires specialist knowledge. Smaller institutions do not have the scale necessary to obtain this knowledge themselves. This problem is partly due to the fact that the cyber security sector does not have the necessary standardisation and certification to make cyber security available to smaller parties as well (Ministry of Economic Affairs, 2018; NCTV, 2017).

The outsourcing of services by multiple financial institutions creates concentration risks for the entire sector. If financial institutions become dependent on a limited number of suppliers of core applications, this could create undesirable single points of failure. Financial institutions are increasingly using cloud providers for data storage. The revenue from cloud services is undergoing exponential growth, but there are only a few players with sufficient capacity to serve large institutions.[10] As an illustration, the three largest cloud providers (Amazon, Microsoft and Google) serve over 90% of the market.[11] These dependencies can be used by cyber criminals to gain access to several institutions through such a single point of failure.

[8] A type of malicious software that makes computers and/or the files stored on these computers unusable until a sum of money is paid to the hacker.
[9] Mails that in this case appear to originate from a bank and lead victims to an imitation website constructed by criminals so that they can obtain customer log-in details.
[10] Gartner, 2018: Gartner forecasts worldwide public cloud revenue to grow 21.4% in 2018
[11] CNBC, 2018: Amazon lost cloud market share to Microsoft in the fourth quarter

The interrelationships between financial institutions and third parties makes the management of disseminating inside information more complicated. Various organisations in the information chain have access to inside information. This means that there is a risk that this inside information will be leaked at each link in the chain (Figure 8). Criminals, for instance, are attempting to gain access to media agencies in order to profit from foreknowledge of press releases from listed organisations. This risk is increasing along with the increase in the number of players in the chain, such as the cloud providers or the IT suppliers. The AFM will devote attention to these digital interrelationships in its supervision.

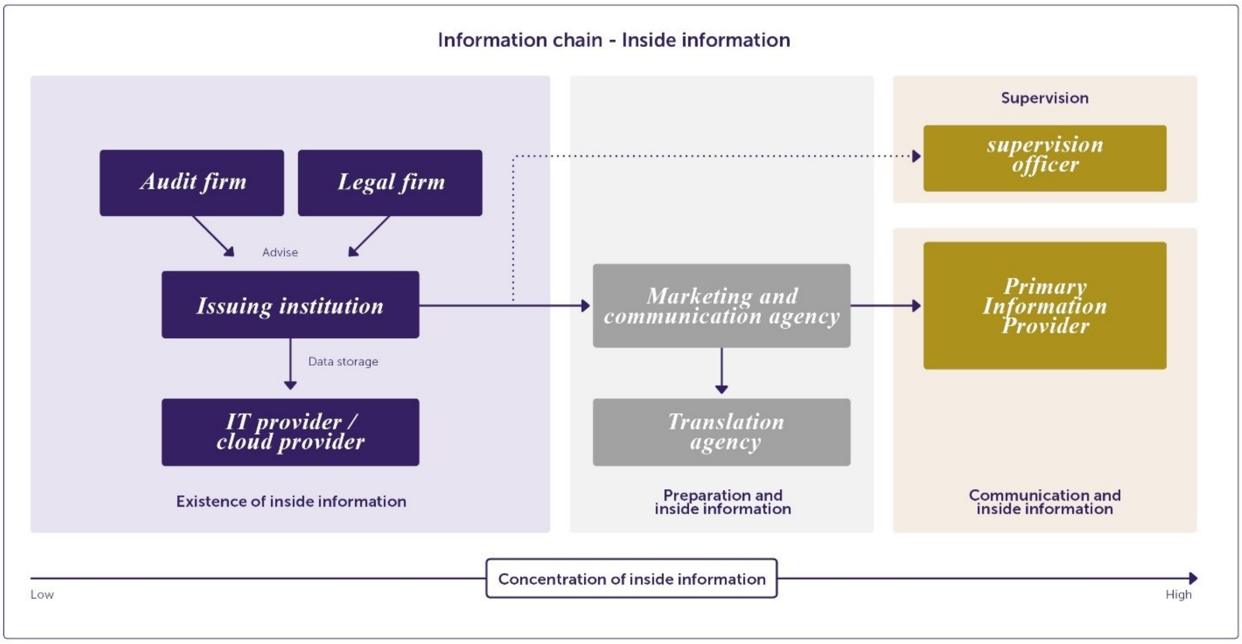


Figure 8: Various parties in the information chain have access to inside information
Source: AFM

3.4 Gatekeeper function to prevent financial crime is under pressure

Financial enterprises and audit firms fulfil an important role in preventing the financial system from being used for financial criminal activities. This gatekeeping role, of among others collective investment schemes, investment firms (for instance asset managers), audit firms and financial services providers, is essential for combating money laundering and the financing of terrorism, contravention of sanctions, fraud and corruption. Figure 9 gives an indicative example of the likelihood that financial enterprises and audit firms will inadvertently be used for criminal behaviour and the effect of this if it should occur.

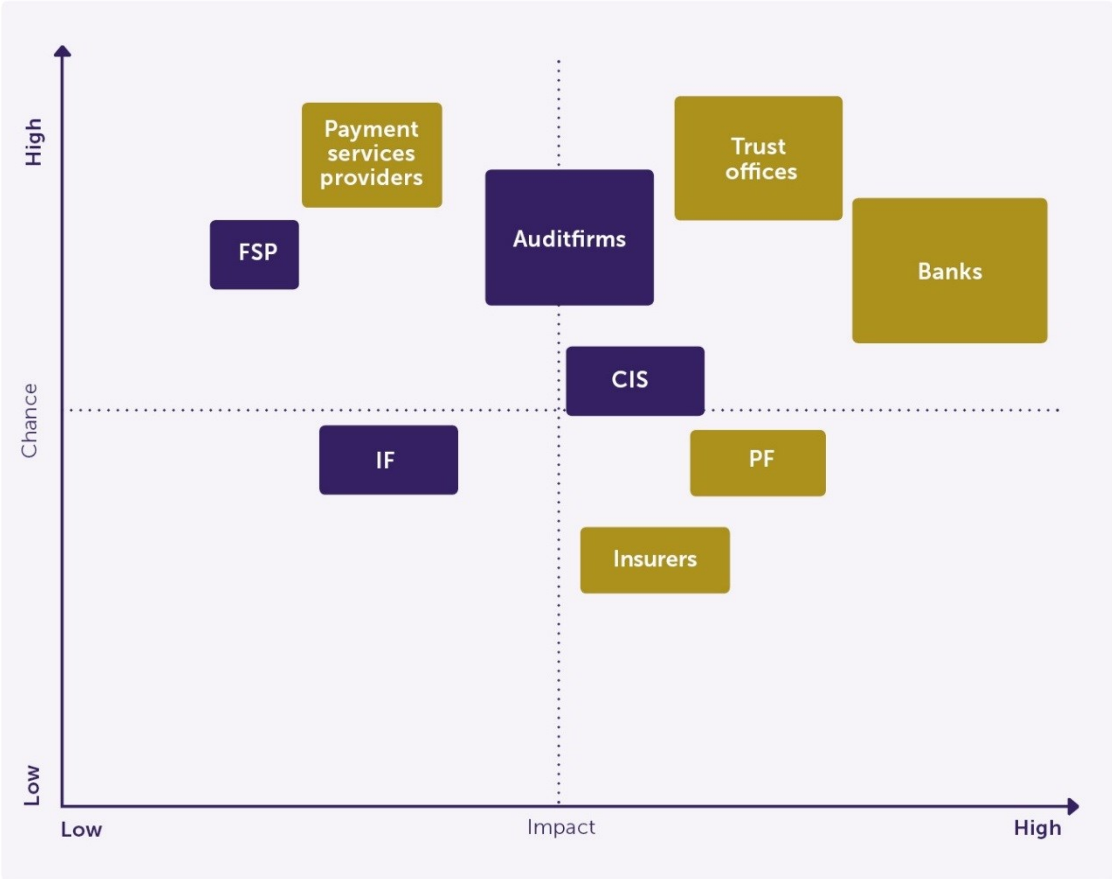


Figure 9: Probability/impact matrix of inadvertent use for criminal activities

Source: AFM; WODC (2017). The size of the oval shows the relative importance of the gatekeeping role of these institutions; institutions not subject to AFM supervision pursuant to the Wwft or Wta are shown in grey; FSP = financial service providers that act as intermediaries in life insurance; IF = investment firms; CIS = collective investment schemes; PF = pension funds.

Use of the financial sector for criminal behaviour can undermine confidence in the sector and cause serious financial damage for the government, citizens and businesses. The volume of money laundering in the Netherlands is estimated to amount to billions of euros. Estimates of the amount of tax revenue lost by the Netherlands each year due only to money laundering through offshore companies run to approximately EUR 10 billion.[12] For the losses due to VAT fraud, only one form of tax fraud, estimates range from hundreds of millions of euros to around EUR 1.5 billion per year (Boerman et al., 2017). Besides this financial loss, financial crime also damages public confidence in the financial sector.

New and revised regulation is tightening the requirements for the gatekeeping role of financial institutions. The European Fourth Anti-Money Laundering Directive was implemented in the Dutch Money Laundering and Terrorist Financing (Prevention) Act (Wwft) in 25 July 2018. This directive sets stricter requirements for client acceptance and obliges institutions to assess and record their own risks with respect to money laundering and facilitating the financing of

[12] See: 'Criminal assets in tax haven are invisible'. Blauw, 30 January 2016, no. 1.

terrorism. Besides these preventive measures, the repressive measures have also been tightened. There is also now an obligation to publish administrative sanctions or other measures. There is already discussion of a Fifth Anti-Money Laundering Directive, which will focus on dealing with new technological developments and virtual currencies. In addition, the European Supervisory Authorities (ESAs) published guidelines for market parties on the risks of money laundering and financing of terrorism on 4 January 2018. Finally, the Financial Action Task Force (FATF) has drawn up 40 recommendations that are leading for investigative and supervisory authorities and financial and non-financial institutions in combating money laundering and the financing of terrorism.

Digitalisation increases the vulnerability of the financial sector to crime because it makes the gatekeeping role more difficult. Digitalisation can play a part in all phases of the criminal process: from preparation and implementation to the laundering of received funds. This also increases the risk of inadvertent involvement in financial crime, for instance due to the mixing of criminal money with legal revenue that is difficult to detect. Technological developments such as the arrival of blockchain technology, cryptocurrencies and Payment Service Providers (PSPs) are leading to money laundering occurring in ever-increasing forms, which presents new challenges for the financial sector.[13] This requires a high degree of alertness at financial enterprises and audit firms (and supervisors), as well as increasing requirements for their operational risk management.

3.5 The arrival of non-financial players in the sector

The providers of financial services are increasingly outsourcing services to parties outside the financial sector. This increases the role of players that are not subject to supervision and it is making the value chain more complicated. In most cases, the providers of financial services are not developing the technologies that underlie their financial services themselves, they are delegating this to other parties. IT services like cloud storage and application development are the most commonly outsourced services (EBA, 2017). The parties providing these outsourced services are, however, not subject to financial supervision and have no direct involvement with the requirements that exist due to supervision. At the same time, the financial provider using the technology may not sufficiently understand the outsourced service (such as developed algorithms) in order to maintain control of shortcomings in digital services, whether inadvertent or otherwise. This means it is more difficult for financial institutions to oversee and control the entire value chain underlying the service. This leads to operational risks (EBA, 2017). A more complex chain also makes it more difficult for supervisors to ensure oversight, identify risks and intervene where needed.

[13] Technological developments for instance are making it easier for criminals to use PSPs or even set up malicious PSPs themselves. Having their own PSP gives criminals the possibility of concealing their clients or the origin of their revenue (Boerman et al., 2017).

Digitalisation is the driver behind the rise of new products, including cryptocurrencies. The last quarter of 2017 featured the turbulent rise of the cryptocurrencies. The spectacular price appreciation led to large groups of consumers purchasing cryptocurrencies for the first time at the end of that year. Research by the AFM revealed that there was an inflow of inexperienced investors in a speculative market that was susceptible to fraud (AFM, 2018). Nonetheless, Dutch consumers behaved sensibly with respect to cryptocurrencies during the peak of the hype at the end of 2017. The sums invested were limited and there was very little speculation with borrowed money. Recent figures show that interest in cryptocurrencies has now fallen sharply (Figure 10).

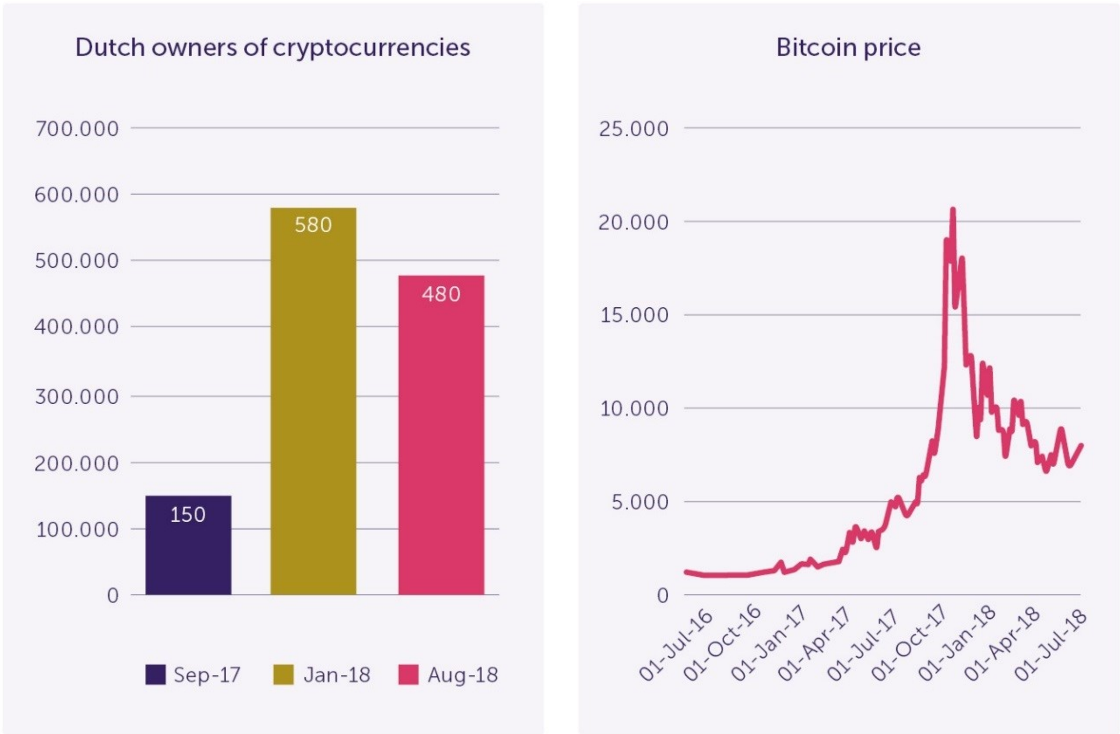


Figure 10: Interest in cryptocurrencies seems to have waned

Source: Kantar TNS, CoinMarketCap

New technology is also making it easier to start providing financial services, also without proper knowledge of applicable regulation. New technology has, for instance, made it relatively easy to initiate an Initial Coin Offering (or 'ICO')[14]. However, this market includes parties with malicious intentions, which are using this easy access to get around money-laundering regulation or defraud investors. The AFM is currently reviewing whether additional regulation is needed in consultation with DNB and the Ministry of Finance.

The large technology companies, known as the big techs, play an important part in the distribution of financial products. However, under financial supervision they have no statutory obligation to act in the consumer's interest. Through their advertising platforms, these companies are already a crucial link in the distribution of financial products. They also have what

[14] The issue of a cryptocurrency by a (start-up) business to obtain finance.

is effectively a monopoly in digital advertising.[15] With respect to the back office, the large technology companies dominate the market for cloud storage and they provide the techniques for analysing large quantities of data. The expectation is that they will use their knowledge of data and marketing to further specialise their advertising services and thus strengthen their position in the distribution chain. Whether they will move into the provision of financial services that require a licence is still an open question. But they are not expected to fully take over the functions of banks and insurers (such as can be seen in the Chinese market). But it is already quite possible that they will provide attractive services that act as a front-end for the services provided by existing financial parties and thus come between the customer and the existing financial service providers without themselves carrying out activities that require a licence. In some countries, for instance, it is possible to make payments or check bank balances using the Facebook Messenger app. Amazon links payment, credit and insurance services to its products.[16] In the Netherlands, customers of ING and Rabobank for example can use some banking services using Google Assistant.[17]

Licensed institutions will continue to be ultimately responsible for services provided to consumers, also if significant parts of their business operations are outsourced or offered to customers through other players. The increase in the number of players in the value chain that are not directly subject to supervision makes it important for the AFM to better acquaint these parties with the requirements that ensue from financial supervision.

3.6 Opportunities and risks from digital means of influence

Another offshoot of the innovation in the financial sector as a result of technology is that market parties can increasingly personalise and direct how choices are presented to consumers using customer data and advanced data analytics. This is part of a broader development, in which behaviour is increasingly influenced by exploiting limitations in the rationality of consumers when making decisions. One example of this is digital marketing, in which algorithms determine what information is to be provided to which individuals. Pricing algorithms determine the price to be paid in individual cases for the same product and can determine the extent to which products are or are not available to specific consumers. More than previously, micro-targeting and dynamic pricing can be used to take advantage of the (unconscious) propensity of individual customers to pay more for a product. Data and data analytics can also be used to optimise the choice environment that consumers are presented with. How this is done determines whether the customer's interests are given central priority and whether the use of these techniques meets standards such as the duty of care.

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[15] FT, 2017: Google and Facebook dominance forecast to rise

[16] See for example Bloomberg, 2018: Amazon checking-account threat put regional banks on defensive BBC, 2017: Facebook Messenger payments come to UK

[17] https://www.rabobank.nl/particulieren/apps/rabo-assistent/ and https://www.ing.nl/nieuws/nieuws_en_persberichten/2018/juli/ing_ontwikkelt_eerste_toepassing_voor_nederlandse_google_assistent.html

In particular, there is a visible trend in which financial institutions are introducing new forms of influence by means of gamification. Gamification is the application of game techniques and 'game thinking' within consumers' choice environment, but outside the traditional field of computer or video games. Examples of game techniques include the possibility of earning badges and points and playing with or against friends and/or strangers. The addition of these elements makes it more attractive for consumers to keep playing (Boer, 2013). Gaming is rapidly gaining in popularity. The number of gamers worldwide is estimated at 1.8 billion, and the industry passed the milestone of USD 100 billion in revenue in 2017 (Newzoo, 2017). Gamification is now also being introduced in the financial markets, for instance in financial education, in the banking sector and in investment services. The digitalisation of financial services moreover means that financial products and services are increasingly accessible on low-threshold platforms, such as smart phones, so that consumers are more able to make financial decisions quickly and on the fly.

Gamification can make personal finance more interesting and more fun for consumers. Consumers generally have little interest in financial products such as pensions and occupational disability insurance. This is partly because these products are complex, or because the consequences of decisions will only become visible over the long term and consumers are therefore inclined to put off these decisions. Gamification is an effective way of activating consumers and keeping their attention because it plays to people's intrinsic motivation to learn, achieve a certain status or obtain a degree of recognition. It also appeals to the extrinsic motivation of people at such time as win elements are introduced. The addition of social aspects, such as the possibility of working together, chatting or duelling with other gamers, means that the experience becomes more pleasurable and that players can challenge each other to continue playing the game and achieve targets. Gamification can therefore increase consumers' knowledge of financial products and concepts through play and encourage them to take a proactive view of their finances. Several initiatives in this area have already been developed in the United States, and these are expected to come to the Dutch market as well.

New techniques for influencing behaviour can, however, also have harmful or undesirable effects (or side-effects). Gamification can for instance involve risks of addiction because consumers lose control of their game behaviour (Hamari, 2017). The introduction of game elements such as competitions and status levels can moreover blur the boundary between the game and reality. Unlike normal computer games, which also involve this risk, addictive game elements in financial products could lead to material financial consequences for consumers. This could involve high debts or residual debts because consumers fail or are unable to stop playing in time. Little is known regarding the nature and scale of the risks of gamification, and these risks will vary depending on the financial market or product involved. Further study is needed to identify where gamification is being used, where the risks and opportunities as a result of its application lie, and the groups that will be most affected by the harmful side-effects of gaming techniques.

3.7 Consequences for supervision

For the AFM, digitalisation means that its supervision will increasingly be focused on care in the use of customer data, the robustness of value chains that are becoming more complex and the management of risks in IT-intensive business operations. The starting points for supervision will be that the AFM expects the sector to use technological developments in the interests of customers (duty of care 2.0) and expects financial institutions to be aware of the risks associated with the increasing use of technological developments. Increased usage of data, application of complex algorithms, cyber threats, digital interrelationships, use of the financial sector for criminal purposes, new products and possibilities for outsourcing place high demands on the controlled and ethical business conduct of financial institutions.

4. The transition to a sustainable society and economy

4.1 Increasing attention to sustainability

4.1.1 International targets and the role of the financial sector

The international community has committed itself to a far-reaching sustainability agenda in order to ensure a sustainable future. The Netherlands has also adopted the Sustainable Development Goals (or 'SDGs') of the United Nations and, specifically with respect to the approach to climate change, is bound by the Paris Climate Agreement. A huge effort is required to make these international agreements a reality. The momentum in society is shifting from the question of *whether* a transition to a sustainable society and economy is needed to the question of *how* this transition can be achieved as quickly and effectively as possible.

The financial sector is at the heart of this transition. Policy and economic activity will significantly affect the realisation of the global sustainability agenda, but the path to achieving it will have to be priced and financed. In the effort to achieve sustainable finance, financial institutions can put their own decision-making processes, policies and investments on a more sustainable footing. This will contribute to the adequate factoring in or inclusion of sustainability risks and opportunities in the investment mix, attention to what are known as stranded assets and how to value these assets and better understanding of the dependencies on (for instance) environmental and social factors. The financial sector also plays a key role in mobilising the capital required to enable the realisation of the global sustainability agenda. Sustainable finance is thus both an end in itself and a precondition for the facilitation and acceleration of the transition.

Initiatives are being developed in various areas to facilitate and accelerate the contribution of private capital to the realisation of sustainability targets. The development of reporting models and targeted financial products (such as green bonds[18]) is thus contributing to sustainability becoming ever more deeply embedded in the financial sector. Research into the effect of environmental, social and governance (ESG) factors is playing an important part in asset management, for example. Until recently, attention to sustainable finance was limited to niche players, but now sustainability issues are becoming integrated at listed and other companies, financial enterprises and in the capital markets.

4.1.2 Developments in sustainable finance

Institutional investors are currently leading the growth in sustainable finance in Europe, but the contribution of retail consumers is rising rapidly. The most recent two-yearly SRI Study from Eurosif in 2016[19] showed strong growth of investment portfolios focusing on sustainable investing

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[18] Green bonds are a variety of bonds with a green label, with the capital raised being used for projects that have a positive effect on the environment or the climate (Climate Bonds, 2018).
[19] The next two-yearly Eurosif study will appear at the end of 2018.

in the European market from 2013 to 2015 (Eurosif, 2016). Total sustainable assets under management at that time amounted to more than EUR 11,000 billion. Around half of the worldwide assets placed in investments qualified as sustainable are thus managed in Europe.[20] Although an exclusion policy is still the most common investment strategy, impact investing has achieved unprecedented growth of 385% in the period from 2013 to 2015.[21] Eurosif notes in this respect that there is a clear shift in the distribution of asset allocation from equities to bonds in this period. This corresponds with the rapid growth of the green bond market (see 4.2.1). The share of European retail consumers in the total of the investments qualified by Eurosif as sustainable has risen particularly sharply, from around 3% in 2013 to 22% in 2015 (Eurosif, 2016).

Large commitments to allocate capital to sustainable investments by institutional and other investors will further encourage demand for sustainable finance opportunities. Around the world, asset managers, insurers and reinsurers, pension funds and banks are publicly expressing their intention to reallocate substantial portions of their investment portfolios to an increasing proportion of sustainable investments.[22] This also concerns several initiatives focusing on engagement strategies, whereby shareholdership is used actively with the aim of improving the sustainability performance of companies in the investment portfolio. For instance, there is the investor initiative Climate Action 100+, which aims to reduce the greenhouse gas emissions of the 100 largest companies (in terms of volume of emissions).[23]

A further step involves the intentional exclusion of professional and retail clients that are underperforming on sustainability as regards certain of their financial products or services. One large insurer has recently decided that in addition to its sustainable investment targets, it will remove all insurance risks associated to the production of coal from its books by 2040.[24] It cannot be ruled out that this kind of initiative will be emulated by other insurers and providers of financial products or services.

4.2 Integration of sustainability in the financial sector

4.2.1 Asset management, capital markets and retail offering

Asset managers are increasingly including ESG factors in their investment decisions. This is not only due to ethical considerations or a preference for sustainability but also has other reasons. Firstly, this development is driven by the opportunities offered by the transition to sustainability and innovation, and secondly it further enhances the risk management of the investment portfolio. Both approaches are based on ESG integration and analysis, and could contribute to a competitive advantage or outperformance of the investment portfolio. As an underlying factor,

[20] JP Morgan, 2018: Sustainable investment is moving mainstream
[21] Under an exclusion policy, a list is compiled of companies that are not considered as eligible for investment, for reasons of sustainability. Impact investing involves a strategy whereby investments are selected with the aim of making a positive contribution to social or environmental goals (such as the SDGs).
[22] See for example the overview of commitments following the One Planet Summit in Paris in December 2017 (UNFCCC, 2017). Numerous other examples of public commitments can be found in the media.
[23] See the Climate Action 100+ website
[24] FT, 2018: Allianz to stop selling insurance to coal companies

the integration of ESG considerations in asset management and (in a wider sense) in the capital markets makes it possible to include negative externalities in the valuation of companies and instruments. Examples of these externalities are expressed in ESG factors, such as greenhouse gas emissions, impact on biodiversity, human rights, animal welfare, use of drinking water, use of land, use of commodities and ethical business operation. These factors are measured in various ways and included on integration in investment decisions. This presents a more complete picture of a company or instrument. Hidden costs and negative effects of economic activities can thus be more accurately estimated in production, consumption, business results and finance.

The market for green bonds is growing rapidly, but the lack of clear definitions and standards is standing in the way of further development. Businesses and governments are increasingly financing specific and targeted investments in sustainable projects with debt instruments. According to a study by the Climate Bond Initiative (CBI) the global green bond market, although it still represents only around one per cent of the total bond market, showed explosive growth in 2017 to more than USD 160 billion. If growth continues at this rate, the market could increase to around USD 250-300 billion in 2018.[25] Although issuers place these debt instruments in the market for specific targeted investments that can be qualified as green, there is still no clear and mandatory standard that a green bond has to meet. The CBI currently offers one of the most commonly used labels for green bonds, but around 30% of the bonds issued in 2018 do not fit the definitions of this label. Work will therefore be done at European level on a uniform standard, on the instruction of the European Commission. Besides specific green bonds with an investment purpose that is climate-related, parties such as the European Investment Bank are offering broader sustainability (awareness) bonds. The capital raised goes to projects in areas such as health care and education, where possible in conformity with the SDGs.[26]

The retail offering of financial products and services specifically advertising a sustainability feature is growing, but it is not always clear what this feature actually means. There is a huge diversity of financial products with sustainability features and the nature of the sustainability features implied also varies widely. Sustainable investment funds are an example of these products. By investing in these funds, investors hope to make a positive contribution to environmental or climate-related issues. Figures from JP Morgan for instance show that both the number of sustainable exchange traded funds (ETFs) and the assets invested in them have grown explosively since 2016.[27] In addition, there are payment and savings products with sustainability labels, loan constructions for energy-saving measures and the green bonds already mentioned above. Various banks and insurers in both the Netherlands and Europe have also conducted advertising campaigns that explicitly draw attention to the sustainable nature of their products or services offering and the sustainable composition of their investment portfolios. However, there

[25] Climate Bond Initiative, 2018: Green Bond Highlights 2017. Around half of all green bonds are listed on the Luxembourg Stock Exchange, which has a particular specialisation in sustainable finance due to the Luxembourg Green Exchange (LGX) incorporated in 2016. Since the beginning of 2018, the LGX has also been offering access to the large green bond market in China via a joint venture.
[26] EIB, 2018: EU Bank pioneers new bond in support of sustainable development
[27] JP Morgan, 2018: Sustainable investment is moving mainstream.

is currently no adequate information on the quality or meaning of various types of qualification or rating that financial enterprises link to their products or services. It is also not always clear which parties are involved in the assessment of the degree of sustainability of products or services.

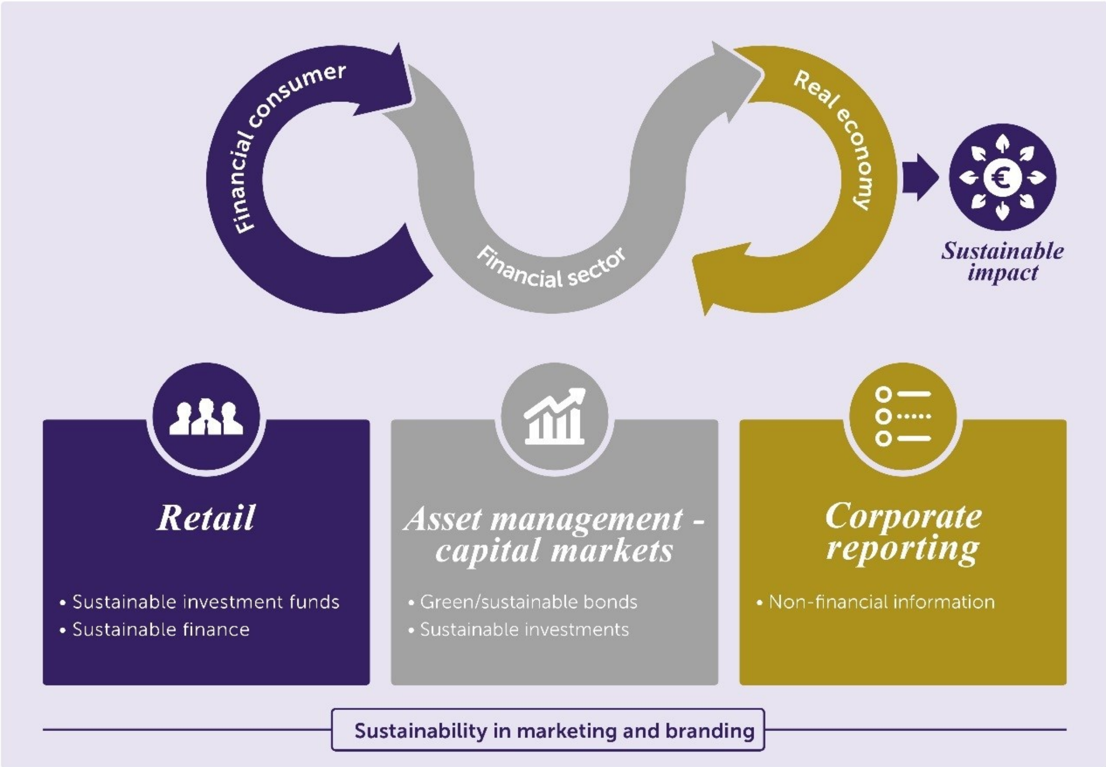

Figure 11 Overview of market developments in sustainable finance

Source: AFM

4.2.2 Possible issues regarding the integration of sustainability

Clear and transparent application of sustainability principles in the financial sector is essential for an effective transition and will prevent reputational risk. Clarity and transparency are needed for players in the financial markets to determine the role that sustainability factors play in investment decisions and what effect these decisions will have on sustainable financial well-being. Consumers and financial and other enterprises will also be better able to decide whether, and if so, how they can contribute to a sustainable future through the products or services that they purchase. A lack of clarity and transparency also leads to increased reputational risk. Reputational risk can arise both from the perception that what is sold is being misrepresented and from a view that the financial sector is unable to provide a meaningful contribution to a social problem. This could even lead to financial products and services that actually do make a significant contribution to sustainability targets getting a poor reputation as a result of careless behaviour by financial firms. There are currently no requirements or limitations regarding the interpretation of sustainability in relation to financial products and services. In a situation where specific statutory or regulatory provisions are lacking, financial enterprises are themselves responsible for ensuring that they are clear, responsible and transparent with respect to the terminology they use.

Careful integration of sustainability principles and ESG factors has to be supported by better insight into the financial and economic consequences of this integration. There is plenty of research into the potential of integration and the various ways in which this can be implemented. This comes from academics,[28] NGOs,[29] or for instance from researchers specialising in ESG investments and data providers.[30] The topic also regularly receives the attention of the media.[31] Inadequate integration of ESG factors in the capital markets and in asset management could lead to relevant externalities not being assessed or assessed incorrectly.[32] In the first instance, the point is that all the externalities that affect or could affect business performance (and therefore valuation) are included. In many cases however, it is not a simple matter to establish which externalities are relevant and material for the company and where responsibility lies in the entire chain of a product or service.[33] Secondly, this concerns the provision of clear information on the positive or negative contribution that financial instruments such as green bonds or asset management make to the achievement of sustainability targets. Inadequate integration of ESG could also mean that financial enterprises are less able to manage their financial and non-financial risks, meaning that they are less able to fulfil their duty of care to their customers. There is also the question of whether insight of stakeholders into the impact of ESG integration could lead to other forms of market manipulation, and the implications of this for the publication of inside information and the timing of this publication.

Integration of sustainability aspects in financial products and services must not occur at the expense of the application of statutory and other requirements regarding responsible and careful provision of services to financial consumers. The fact that financial enterprises are including sustainability aspects in their products and services can be seen as a positive development. This however does not affect their obligation to do this in a responsible manner and with due care. The statutory requirements in place apply equally to products and services that feature sustainability. For example, the regulation that protects consumers against excessive borrowing or inappropriate investment products. One practical example is the increase in loan constructions or the potential easing of lending standards for the financing of sustainable features, especially with respect to introducing such features in people's homes.[34] First-time buyers in the housing market are exempted from the loan to value (LTV) standard of 100% and

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[28] In the Netherlands for instance, via the Sustainable Finance Lab, see among others the study of the integration of natural capital in investment policy (Sustainable Finance Lab, 2018).

[29] An extensive data bank of studies can be found for instance via the UN-backed organisation *Principles for Responsible Investment*.

[30] See for example the reports of the Investors' Association for Sustainable Development (*Vereniging van Beleggers voor Duurzame Ontwikkeling*) or the website of the Dutch company Sustainalytics.

[31] For example FT, 2018: Green investing generates returns, not just a warm glow and FT, 2018: The green multiplier effect

[32] This could for instance affect transparency issues in the prospectus or offer document. But also in the composition of ESG-oriented benchmarks or indices, a uniform and transparent ESG methodology is an important safeguard of quality and comparability.

[33] This chain consists of upstream activities, activities performed directly by the reporting business, and downstream activities (Platform Carbon Accounting Financials, 2017).

[34] See for instance reports of the possibility that banks wish to offer to make borrowing easier for making a property more sustainable (NOS, 2018: Plan: easier borrowing for making owner-occupied homes more sustainable).

can finance a loan up to 106% LTV for the installation of sustainable features.[35] The AFM endorses the need for making housing more sustainable, on condition that the lending for sustainable features is responsible and in the customer's interests.

In addition, greater insight is needed into the risks that financial instruments or securities with sustainable features may entail. There is still not enough insight into the still developing market for sustainable financial instruments and securities and how they will be affected given certain developments. It is also not clear what effect these situations could have on price formation and transactions. For example, what risks could arise if the issuer cannot adequately demonstrate that the capital raised is actually being used for sustainable purposes, or if the green label lapses over time?

4.3 Non-financial information and reporting

4.3.1 Increasing importance of non-financial reporting

Attention to the importance of non-financial reporting is rising, especially in Europe but also beyond. The performance of companies on sustainability is increasingly an item of attention for various stakeholders. This does not only concern the effect of business on issues such as the environment. The reverse also applies, in the form of the impact of sustainability issues on companies' present and future performance. Besides investors, governments, supervisors and non-governmental organisations are focusing on the non-financial performance of financial and other companies. Prompted by the Sustainable Stock Exchanges Initiative of the UN, stock exchanges around the world are playing an increasing role in the availability of non-financial information on listed companies.[36] This is occurring for instance through the use of non-financial reporting as a listing rule, or by providing sustainability guidance to listed companies.

There are various, usually voluntary guidelines and frameworks that are used with respect to the inclusion of non-financial information in reporting. Well-known examples include the frameworks of the Global Reporting Initiative and the International Integrated Reporting Council. A recent initiative that focuses mainly on transparency on climate risks concerns the recommendations of the FSB Task Force on Climate-Related Financial Disclosures (TCFD).[37] This initiative can now increasingly be assured of worldwide support. In the Netherlands, the 2016 Corporate Governance Code and the Decree on Non-Financial Information[38] (already in effect for the 2017 financial year) prescribes certain non-financial reporting requirements. It is notable that more far-reaching legislation applies in France that also requires institutional investors to be transparent on how they reflect sustainability principles. Although the availability of non-financial information seems to be increasing as a result of the many initiatives for voluntary and mandatory

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[35] The loan to value standard expresses (as a percentage) the maximum mortgage in relation to the value of the property.
[36] See the Sustainable Stock Exchanges Initiative website.
[37] The AFM also supports the application of these recommendations. See also the Task Force website.
[38] BNFI; based on EU Directive 2014/95/EU.

guidelines, this diversity also means that the quality and usability of the information for the various stakeholders varies widely.

4.3.2 Quality of non-financial information

For the users of annual reports, it is important not only that non-financial information is available, it also needs to be of adequate quality. Quality is first of all determined by the relevance, completeness and reliability of the information. The information is also strengthened in qualitative respects if it is comparable, timely, verifiable and comprehensible.[39] This sets requirements for the preparers of annual reports and the manner of verification of the information in these reports. This can reduce the risk of what is known as ‘greenwashing’, whereby companies present their own performance on sustainability as better than it actually is in reality.

The lack of mandatory standards is a major obstacle for effective application of non-financial reporting. This lack is partly due to insufficient insight into the needs of the users of annual reports. It is also the case that some standards are being devised in a fragmented way and at regional level. The AFM considers it very important that international institutions such as the European Commission and IOSCO contribute to uniform application of the ESG reporting requirements. In order for insights into the needs of users to be applied, the relevant institutions need to share research findings and knowledge with each other. The evaluation of already implemented legislation and regulation also plays an important role here.

In addition, non-financial information in annual reporting is still only subjected to limited evaluation or auditing. Having reported information reviewed or audited by a party such as an auditor can provide assurance with respect to its reliability. The most recent AFM thematic review of integrated reporting (on the 2015 financial year) shows that around one fifth of the companies have had assurance provided by an auditor with respect to their non-financial information.[40] Most of these companies are in the AEX index. This is an increase compared to 2012, when 12% of companies had their non-financial information assessed by an auditor. There was one case in 2015 where the non-financial information was *audited* by an auditor. The other cases concerned an *evaluation*. The review revealed that only one company that had its non-financial information evaluated is considering having it audited by an auditor. The provision of a certain degree of assurance with respect to non-financial information by a company, or an additional degree of assurance due to independent verification, raises certain questions. For instance, what are the needs of the users, and what degree of assurance do they need? There is also the question of whether in the current situation the parties are in a position to provide the necessary degree of (additional) assurance. Lastly, there is the question of whether auditors should normally provide this additional assurance or whether other parties could also do this. The market for the certification of information is becoming an attractive business for an increasing number of parties.

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[39] This concerns the interpretation of the term ‘quality’ according to the conceptual framework of the IASB.
[40] The 2016 thematic review of integrated reporting is published on the AFM website (AFM, 2016).

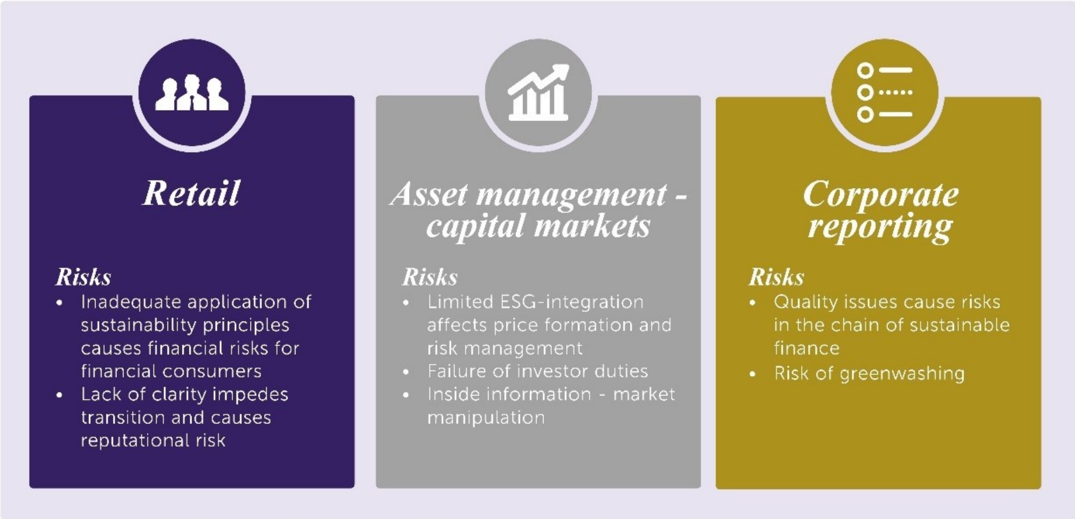

Figure 12: Potential risks in the sustainable finance chain

Source: AFM

4.4 Policy developments and consequences for financial supervision

The Action Plan introduced by the European Commission: Financing Sustainable Growth can play an important part in the further development of sustainable finance. At the request of the European Commission, a group of experts (High Level Expert Group on Sustainable Finance, or HLEG) formulated recommendations in January 2018 for promoting and facilitating sustainable finance in Europe.[41] These recommendations led to a practical action plan in March 2018, which among other things aims to develop a taxonomy for sustainable economic activities and refine reporting requirements. The plan also goes into further detail of a sustainability label for financial products, an elaboration of investor duties for sustainability preferences of clients and end clients and integration of sustainability in the mandate of the various European financial markets supervisors (ESAs).[42] The action plan affects all the major actors in the financial system and thus forms an overall strategy or road map for sustainable growth in Europe. The AFM endorses the main objective of the action plan, which is the effort to achieve greater clarity, consistency, uniformity and transparency in sustainable finance.

The European proposals arising from the action plan are expected to have a significant effect on the AFM's supervision. The European Commission introduced its first package of legislative proposals in May 2018.[43] These concern a directive for a framework for sustainable investments (a taxonomy), a directive for sustainable considerations in investments and advice (known as investor duties) and a proposed amendment to the Benchmark Directive in connection with low-carbon and positive carbon impact benchmarks. Issues relating to the provision of information, the duty of care and reporting requirements are at the heart of the supervisory mandate of the AFM. It is therefore natural that the AFM will play an important role in the supervision of

[41] European Commission, 2018: Final report of the High-Level Expert Group on Sustainable Finance
[42] European Commission, 2018: Commission action plan on financing sustainable growth
[43] European Commission, 2018: Commission legislative proposals on sustainable finance

compliance that will follow the implementation of the legislative proposals under development on the basis of the action plan.

The final Climate Agreement in the Netherlands will lead to financing issues in which the (Dutch) financial sector will play an important role. The actual agreements will determine the elaboration of the financing issues and the speed and impact of the proposed energy transition. It is obvious that agreements on energy-saving and limiting greenhouse gas emissions will have consequences for the economy as a whole, including the industrial and services sectors as well as households. Potential agreements concern the circular economy, infrastructure and transport, and dependence on fossil fuels. The policy developments will entail both opportunities and risks for financial consumers and the capital markets.

The attention of financial supervisors in the area of sustainable finance has so far primarily been focused on prudential issues and financial stability. An important moment for international awareness of the risks of climate change for the financial sector was the Breaking the Tragedy of the Horizon lecture by Mark Carney, governor of the Bank of England, in 2015 (Bank of England, 2015). Increasing attention since then to the prudential risks of climate change has, among other things, led recently to the establishment of a joint venture between central banks and prudential supervisors (Central Banks and Supervisors Network for Greening the Financial System; DNB is one of the founding members). The European action plan also devotes attention to the exposure of financial institutions to the risks associated with climate change and the environment.

There is also a need for closer cooperation in other areas of attention, such as conduct supervision. Among other things, this is emphasised by the sharp focus placed by the European Commission on the crucial preconditions for sustainable finance, which include the provision of information and the duty of care requirements. Partly for this reason, the AFM, together with the French supervisor AMF, has created an informal network with the aim of promoting sharing of knowledge and cooperation between European conduct supervisors. The involvement of European financial conduct and prudential supervisors could receive a further boost in the near future from the European Commission, possibly to some extent through the European Supervisory Authorities (EBA, EIOPA and ESMA). In addition, the AFM is encouraging other international joint ventures such as IOSCO to be involved in the sustainability discussions in their own areas of attention and thus further encourage cooperation and coordination.

The AFM supports the important contribution by the financial sector in the transition to a sustainable society and economy. Sustainability issues affect many links in the chains of insurance, finance and investment. From reporting by companies to the provision of information to consumers. One important common theme is the availability and quality of information – not only in order to enable proper estimation of risks, but also to decide whether and how a contribution to achieving the sustainability goals can be delivered. The AFM accordingly believes that it is important that sustainability is integrated in financial products and services in a responsible and careful manner. This obviously means that applicable statutory and other requirements apply just as fully to financial products and services with sustainable features. In its areas of attention, the AFM will accordingly focus on the care with which sustainability is assigned a place in the financial sector.

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