

FINMA Risk Monitor 2020

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Monitoring risk: central to forward-looking oversight of the financial markets

The Swiss Financial Market Supervisory Authority FINMA is an independent public supervisory authority with the legal mandate to protect investors, creditors and policyholders and ensure the proper functioning of the financial markets. It thereby contributes to enhancing the reputation, competitiveness and future sustainability of the Swiss financial centre.

The main focus of FINMA's work is the supervision of the financial sector. This is designed to ensure that the supervised financial institutions remain stable and successful going forward, given the possible risks they are facing. Assessing the risk position of individual supervised institutions is therefore a critical part of FINMA's supervisory activity. This makes its supervisory focus essentially forward-looking.

FINMA is publishing a Risk Monitor for the second time. This will create additional transparency both for supervised institutions and the wider public about how it fulfils its statutory responsibilities.

The Risk Monitor provides an overview of what FINMA believes are the most important risks currently facing supervised institutions over a time horizon of up to three years. Arrows indicate how these risks have trended since the last Risk Monitor. The Risk Monitor also describes the focus of FINMA's supervisory activity on the basis of the risks. Furthermore, each report highlights one selected trend that has the potential to impact on the Swiss financial market over the long term. Among the most important longer-term risks identified by FINMA, this report will also discuss the risks connected with big data and artificial intelligence in the insurance area. This year's Risk Monitor additionally highlights the corona pandemic and provides an update on climate risks.

Corona pandemic as risk driver

In spring 2020, the corona pandemic plunged the world economy into crisis. As a result, the financial system too was subjected to considerable strains.

Some major financing markets, notably the US dollar money markets, became acutely stressed. The extreme and sudden demand for safe-haven assets hampered activities and pricing – even on a number of markets that are normally very liquid. Given the resulting turmoil in the capital markets, money market bottlenecks and defaults on corporate loans and other financing instruments, the crisis is also impacting on banks and insurers. Thanks to the cushion of liquidity and capital they have built up over the years and their operational readiness, Swiss financial institutions have been able to withstand the initial repercussions of the crisis well. However, the effects of the corona pandemic will continue to impact the financial markets for months, if not years.

In the spring, it took unprecedented interventions on the part of the Federal Reserve in particular to stem the turbulence on the money markets. The extremely rapid pace of change on these markets has, however, exposed weaknesses in liquidity management by banks and non-banks – for instance in the case of money market funds. These developments have impacted on Swiss financial institutions too. Therefore, any resurgence of such market turbulence – and a resulting decrease in liquidity - would pose a significant short-term risk for both Swiss and foreign financial institutions.

As part of its regular risk assessment, FINMA analyses changes in the probability of various arising risks as well as their consequences. In this year's analysis, FINMA has found that the corona pandemic has brought about a certain change in the risk landscape for financial institutions in Switzerland. The corona pandemic - or pandemics in general - is not presented as a principal risk in the risk assessment as such, but as a significant short-term driver of financial risks that are directly linked to the supervised institutions. The six principal risks already mentioned in last year's Risk Monitor remain the same: the persistently low interest rate environment, a possible correction

on the real estate and mortgage market, cyberattacks, a disorderly abolition of LIBOR benchmark interest rates, money laundering, and increased impediments to cross-border market access. However, the current pandemic does exacerbate some of these risks. Corporate loan risks, especially outside of Switzerland, will increase as a result of the developments in the past months. Thus FINMA now also includes defaults or adjustments to corporate loans or bonds abroad among the Swiss financial institutions' principal risks.

Climate risks (update)

FINMA continues to see climate risks as a longer-term risk for the Swiss financial-services industry. It is addressing the topic systematically and is currently analysing those areas among the Swiss institutions subject to supervision that might be exposed to elevated climate-related risks. Based on an assessment of risks, FINMA addresses the relevant risks together with the largest banks and insurers. Together with the Swiss National Bank and academic institutions, FINMA also analyses the risks of the two big banks in a pilot capacity. Moreover, FINMA intends to raise awareness of these risks by introducing an expanded disclosure obligation. A more complete and more consistent disclosure of these financial risks will enhance market transparency, financial institutions' risk awareness and legal certainty.

The institutions should already be taking account of such climate-related financial risks that are reflected in the known risk categories (credit, market, liquidity and operational risks, plus insurance risks where insurers are concerned) and, if significant, should also be disclosed. Making the requirements to disclose climate-related risks more concrete will on the one hand raise awareness of the need to record these risks while also, on the other hand, giving the supervised financial institutions a specific and legally secure framework for such disclosure. In this way, transparency will be improved for all market players. The supplementary disclosure specifications in the areas of governance, strategy, risk management and metrics fit into the existing framework formed by the related circulars on disclosure at banks and insurance companies; their content is geared to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The new disclosure obligations will apply to institutions in supervisory categories 1 and 2 (extremely important, complex institutions and very important, complex institutions).

Note

The risks referred to above and the focal points of FINMA's supervisory activity are not an exhaustive list. Other risks not cited may also be (or become) very significant. This report is expressly not intended as a basis for investment decisions.

Principal risks

FINMA takes a risk-based approach to supervision. The intensity of its supervision is dictated firstly by the risk posed by each financial market participant and secondly by the primary risks in the current environment. This section will discuss the seven principal risks identified by FINMA for its supervised institutions and the Swiss financial centre over a time horizon of up to three years. The biggest change in terms of risks relates to the corona crisis, which has increased both the probability and the impact of various risks. The arrows in the headings show changes in relation to last year's FINMA Risk Monitor: principal risk increased (\uparrow) , stayed the same (\rightarrow) or decreased (\downarrow) . New principal risks that have arisen are flagged as (new).

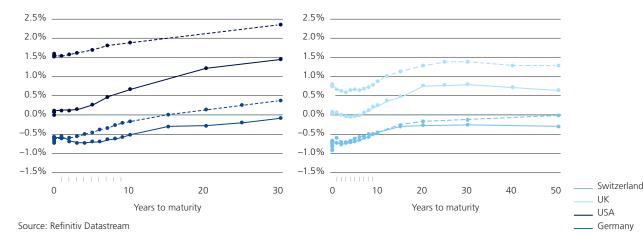
Low interest rate environment (1)

Persistently low interest rates in both Switzerland and the European Union (EU) are affecting the profitability of supervised institutions. This situation also increases the risk of price bubbles or the sudden bursting of such bubbles and undermines the viability of certain business models. The response to the corona pandemic accentuates this situation. FINMA thus continues to pay close attention to the related risks.

Negative interest rates have been a feature of the Swiss money market since 2011. Since the end of July 2019, negative interest rates have extended to all maturities out to 50 years. The corona pandemic prompted the central banks to institute even more expansionary monetary measures – such as cuts in key interest rates and securities purchase pro-

Government bond yield curves

as at 30 September 2020 (dotted line: as at 31 December 2019), in % p.a.



grammes – to bolster the economy. These brought yield curves even lower. On top of this, central banks have been publicly stating that they will probably keep their key rates low for several years and, in some cases, are according a somewhat lower weighting in their objectives to the risks of higher inflation. This is further delaying a possible normalisation of interest rates.

The chart on page 5 shows how the interest curves for major currencies are being pushed downwards. US interest rates have seen the sharpest fall. The rates in Switzerland are negative for all maturities and lower than in any other country.

The potential consequences of the low interest rate environment affect two areas in particular:

1. Profitability and business models: The persistence of a low interest rate environment and a flat yield curve could squeeze the banks' profitability due to the erosion of net interest margins. Life insurers are also affected – on the one hand, because policies taken out in the past contain significant interest rate guarantees that are becoming increasingly difficult to honour; and on the other hand, because acquiring profitable new business is increasingly onerous. The downward shift in the yield curves and high market volatility in the crisis phase at the start of the year impacted on the solvency of insurers, thus forcing them to accumulate more reserves. If interest rates were to stagnate at their current low levels for a long time, this would also pose a risk to certain business models. For this reason, a number of significant businesses have exited the life insurance market. 1 In the area of individual life insurance, there has been a trend away from classical products offering interest rate guarantees and towards unit-linked solutions. Financial institutions will increasingly be forced to reduce their costs or seek economies of scale, either individually or through consolidation – with the attendant effects on headcounts. Moreover,

- there is a risk that such measures will not be sufficient or that some of the key strategic decisions are not taken in time.
- 2. Customer behaviour: It remains likely that the low interest rate environment will prompt the banks to impose negative interest rates across broader categories of clients. The resulting customer behaviour is, however, difficult to predict.

Correction on real estate and mortgage market (1)

Vacancy rates for residential investment properties, which have risen further owing to the corona pandemic, increase the level of risk in the Swiss real estate and mortgage market. Lost earnings from the rental of commercial and office property and flagging demand for office and retail space are pushing down prices in the commercial real estate segment. Moreover, growth in mortgages was more robust than expected this year.

Negative interest rates continue to pose a risk of bubbles developing in various asset classes, particularly in the real estate market. Due to the persistently low interest rate environment, investors are still searching for higher-yielding investments. As a result, they are investing increasingly in real estate despite rising vacancy rates and falling rents. In doing so, they are accepting ever lower initial returns. Previous trends have been sustained this year, surprisingly.

The corona pandemic is adding to the strains on the real estate market - and especially the market for offices and commercial buildings – by accentuating the imbalance of supply and demand. In particular, the upswing in the market for office space has been halted for the time being: rents are falling, and with more people working from home there is little prospect of any expansion in office floorspace usage – hence the pressure on prices. The boom in online trading due to the corona pandemic is also dragging down prices and rents for retail floorspace.

¹ In 2019, for instance, AXA pulled out of the full-coverage insurance business in the occupational benefits sector.

Moreover, net immigration declined in the first half of 2020. 1.72 percent of all homes (for owner occupation or for rent) are currently vacant. This is a total of about 78,800 units. The following chart illustrates the trend over time.

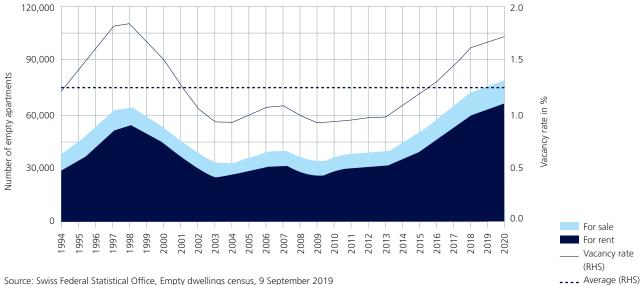
By contrast, prices of owner-occupied homes have continued to rise since the outbreak of the corona pandemic. Vacancy rates here have been relatively constant over the past years. The supply overhang problem is less pronounced in this segment.

The consequences of a real estate crisis with sharp price corrections could be significant, with banks, insurers and real estate funds all being equally affected.

- Insurers and banks: FINMA has performed stress tests with insurance companies and banks, taking scenarios of a possible real estate crisis. The results showed that life insurers as well as banks are especially vulnerable to real estate price corrections.
- Real estate funds: Valuation losses and the resulting outflows could cause liquidity problems for real estate funds. Owing to such strong outflows, foreign real estate funds have thus been "gating" during the corona pandemic. By responding in this way, fund managers seek to avoid having to sell off large numbers of fund holdings due to a sudden surge in redemptions. In contrast to the situation abroad, Switzerland has not seen any gating during the pandemic other than in a few short-lived instances.

Vacant homes

Vacant homes for rental or sale, and vacancy rate up to the second quarter of 2020



Source: Swiss Federal Statistical Office, Empty dwellings census, 9 September 2019

Defaults or adjustments to corporate loans or bonds abroad (new)

Owing to the corona pandemic, the risk premiums for corporate bonds rose sharply in the first quarter of 2020. Since then, they have decreased substantially again. Risk premiums for investment grade borrowers have been at around the average for the last few years. Risk premiums for high-yield borrowers are still slightly above their pre-crisis levels. Credit quality has been especially badly hit in the energy sector and among those companies that have had to severely restrict their business operations due to the lockdown, such as airlines and tourism operators.

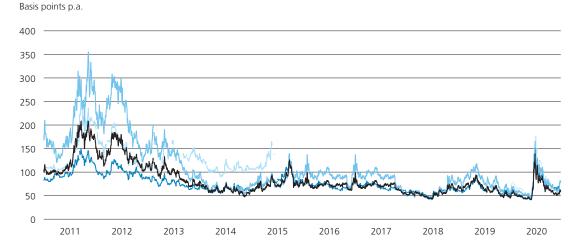
In some places, the global recession and health policy measures are resulting in a massive downturn in numerous companies' sales and earnings. It is currently unclear when an economic recovery will set in. This increases the probability of bankruptcies, especially in countries that are suffering a sharp economic slump. Up to now, the downturn in Switzerland has been less pronounced than in other countries,

thanks in particular to state support for the real economy – hence the focus on foreign corporate credits and bonds.

Potential defaults or corrections on the market for corporate credits and bonds are of concern to banks and insurers in equal measure.

1. Banks: It may be assumed that the international corporate loans business will suffer larger defaults than hitherto. Globally active Swiss banks, especially the two big banks, grant loans to corporate clients outside Switzerland that are not sold on to investors or are only partially sold on. As a result, the banks' earnings situation may be impacted by permanent or temporary value adjustments on these loans. Internationally active Swiss banks also engage in leveraged finance (primarily granting of corporate loans for a credit-financed company takeover) and bundle and syndicate these loans for selling on to investors. From the banks' point of view this entails the risk

Benchmark Credit Default Swap (CDS) Indices Investment Grade



(iTraxx Main)

North America
(CDX.NA.IG)

Europe
financial entities
(iTraxx SenFin)

Asia excluding
Japan
(iTraxx Asia-Ex)

Europe

Source: Bloomberg

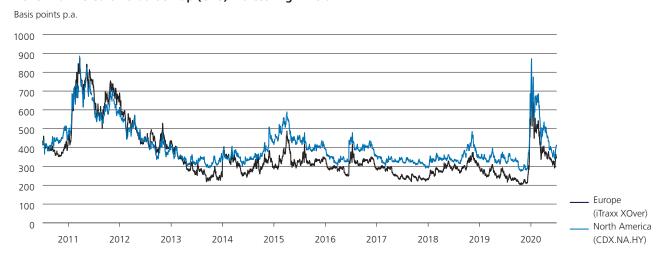
that the loans granted are not sold on in time. In addition, internationally active Swiss banks deal in securities and loans and the associated derivatives. In this area, the market and credit risks for the Swiss banks may be rated as rather moderate. The effects of the corona pandemic on international commodities trading were felt especially by those Swiss banks that finance such trading. Despite a subdued level of trading in this segment, they had to effect write-downs totalling approximately CHF 500 million by the end of September 2020.

2. Insurers: A renewed rise in credit risks would result in sharp price corrections on corporate bonds, even with substantial losses in some cases. This may in turn lead to reductions in the tied assets of insurance companies, which secure the claims arising from insurance contracts. On average across the market as a whole, some 19 percent of insurers' investments are invested in corporate bonds (including in the financial sector) and almost 45 percent of these corporate bonds have a rating of BBB+ or lower. Therefore, any sharp price corrections to corporate bonds may also lead to a substantial decline in the companies' risk-bearing capital and in the SST ratios of many insurers. At present, an average of less than 1 percent of the investments are held in sub-investment grade corporate bonds (rated below BBB-).

Discontinuation of LIBOR (\(\brace \)

The date on which LIBOR is to be abolished is fast approaching. The use of LIBOR reference rates for financial instruments is still widespread. Progress has been made in efforts to ensure an orderly transition from LIBOR to alternative interest rates. The risk is decreasing overall in particular thanks to fallback clauses to alternative interest rates in the derivatives area. A survey carried out in June 2020, however, showed that financial instruments totalling at least 14 trillion Swiss francs and still pegged to LIBOR will only expire after 2021. Of these, over 2 trillion Swiss francs' worth are specifically pegged to LIBOR in Swiss francs. The discontinuation of LIBOR from the

Benchmark Credit Default Swap (CDS) Indices High Yield



Source: Bloomberg

end of 2021 could therefore have a significant impact on the market. Inadequate preparations for the replacement of LIBOR interest rates – including CHF LIBOR rates – thus continue to pose a significant risk.

Efforts must be made to replace LIBOR swiftly, since the underlying problems have once more come to the fore during the corona pandemic. In particular, LIBOR is not based on transactions actually executed, and thus reflects distorted interest rates by comparison with the rates that are steered by central banks. Therefore, the timely replacement of LIBOR is being given a high priority at an international level too. The International Swaps and Derivatives Association (ISDA) has devised an "IBOR Fallbacks Protocol". This protocol will create a standardised means of introducing fallback clauses for most derivatives contracts and for replacing LIBOR interest rates with alternative rates as soon as the fallback clauses are triggered. This situation must be rectified without delay in those areas that are still lacking robust contract clauses

covering the discontinuation of LIBOR. It is thus necessary to revise contracts in such a way that they can be based on these alternative interest rates. Moreover, the supervised financial institutions must establish clarity with regard to those contracts that entail residual risks for them – i.e. the contracts which, most probably, cannot be satisfactorily adapted by the end of 2021 and thus give rise to legal and valuation risks. And finally, the operational readiness must be ensured, for example by switching the financial institutions' internal operating systems over to new reference interest rates.

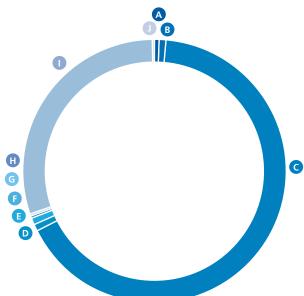
The SARON (Swiss Average Rate Overnight) has been available in Switzerland since summer 2019 and is gaining significance as a money market rate. Here, therefore, an alternative to the CHF LIBOR already exists. In fact, the changeover of mortgages from LIBOR to SARON has already begun.

Total CHF LIBOR volume maturing after 2021

Volume by product category in CHF millions, as at June 2020

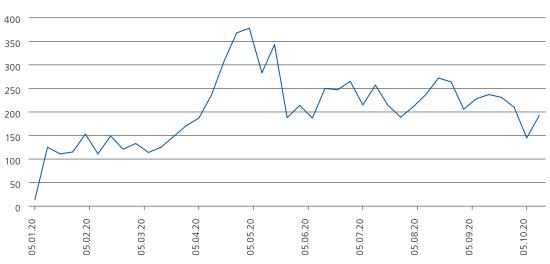
- A Other: 6,117
- B Capital instruments (e.g. AT1, T2): 15,493
- OTC derivatives: 1,563,573
- D Exchange-traded derivatives: 9,754
- E Personal loans incl. mortgages: 14,558
- F Corporate loans incl. mortgages: 6,518
- G Syndicated loans: 7,495
- H Securitised loans: 1
- Customer deposits: 639,997
- Floating-rate notes: 739

Source: FINMA, self-assessment by 26 banks and securities firms



Reports received in 2020 by the National Cyber Security Centre (NCSC)

Number of reports per week



Source: NCSC

FINMA requires 26 banks – selected on risk-based grounds – to report on their progress in quarterly self-assessments. These assessments make it clear which obstacles currently stand in the way of a smooth winding-up of the existing LIBOR positions: uncoordinated approaches in the various jurisdictions; lack of operational readiness; opposition or disinterest on the part of counterparties to cooperate in making the necessary changes to contracts; and low market liquidity for products based on alternative interest rates.

The self-assessments also indicate that, in the first half of 2020, LIBOR-based contract volumes had not fallen significantly but had actually risen again. Thus there is clearly a need for action: the abolition date is rapidly approaching, and there is no time to lose. The increase in LIBOR-based volumes could be due to the corona pandemic, which has made it necessary to grant loans exceptionally quickly. However, the crisis is not a reason for delaying the changeover.

Cyber risks (1)

The high and ever-growing dependency on and interconnectivity of information and communication technologies gives rise to pronounced vulnerabilities among Swiss financial institutions. For example, outages of and disruptions to IT systems, particularly those resulting from cyberattacks, can jeopardise the availability, confidentiality and integrity of critical services and functions. Depending on the nature of the cyberattack in question, this can have repercussions not only for individual financial institutions but on the functioning of the Swiss financial centre as a whole. The corona pandemic has increased this vulnerability as many employees of financial institutions are working away from their office, thus opening up new potential weak points for attackers.

During the lockdown in particular, cyberattacks became much more frequent and more intensive. For example, the distribution of malware increased, as did the number of phishing mails. Since August 2020, moreover, many of the supervised financial institutions informed FINMA about so-called DDoS attacks on their infrastructure. These "distributed denial-of-service" attacks attempt to disrupt the availability of an internet service by bombarding it with queries. In all cases, these attacks were accompanied by black-mail letters in which a bitcoin payment would have to be made in order to prevent a subsequent attack. This wave of blackmail attempts was not aimed exclusively at companies in the financial sector and was a global phenomenon.

Cybercrime overall is on the rise. This can potentially go as far as cyber sabotage of critical infrastructure, or the disclosure of stolen information. Moreover, the attackers are becoming increasingly professional and well organised. This makes it all the more important – but also more challenging – to prevent and combat the attacks effectively.

A successful cyberattack can have serious consequences for the functioning of the Swiss financial centre. It may, for example, delay the provision of a financial service or even render it impossible. For the financial markets to function properly, institutions that provide integrated or interlinked services are particularly important – e.g. financial-market infrastructures, critical-service providers of key IT systems for the financial centre, and systemically important financial institutions. A successful attack on an institution of this kind could prove damaging both to other financial institutions and the Swiss economy as a whole. The reputational damage would be significant, and confidence in the Swiss financial centre would be undermined.

Money laundering (\rightarrow)

The Swiss financial centre is a leading global crossborder wealth management hub for private clients. This makes it particularly exposed to money-laundering risks. Breaches of the law can result in significant sanctions and reputational damage to financial institutions both in Switzerland and abroad. In the past year, the money-laundering risk remained high.

Owing in particular to shrinking margins, financial institutions may take the commercial decision to pursue relationships with profitable new clients from relatively high-risk emerging-market nations where there is a significant threat of corruption. This risk may be exacerbated further during the corona pandemic as difficulties with contacting clients may hamper the implementation of measures designed to combat money laundering. Recent global corruption and money-laundering scandals and the numerous violations of money-laundering regulations by financial institutions show that the risks for financial institutions involved in the cross-border wealth management business remain high. Experience has shown that the financial flows associated with corruption and embezzlement can involve not just affluent private clients, who often qualify as politically exposed persons, but also state or quasi-state organisations and sovereign wealth funds. The risks are increased further by complex structures that may impair transparency when it comes to identifying the beneficial owners of the assets concerned. These structures include domiciliary companies, fiduciary relationships and insurance wrappers.

The enforcement cases handled by FINMA in the past year clearly underscored the following: a bank's compliance framework must be adapted in line with risk appetite; the institutions must establish the provenance of large blocks of assets and whether the clients concerned really are the beneficial owners; and they must report any dubious relationships and transactions to the Money Laundering Reporting Office (MROS).

In addition to the traditional money-laundering risks related in particular to cross-border asset management services, the financial industry also faces new risks in the area of blockchain technology² and in relation to digital assets. Although these new technologies promise efficiency improvements in the financial industry, they also accentuate the threats posed by money laundering and the financing of terrorism due to the greater potential anonymity they involve, as well as the speed and cross-border nature of the transactions. Malpractice by the financial institutions active in FinTech could significantly damage the reputation of the Swiss financial centre and slow down the development of digitalisation.

For Swiss financial institutions, this gives rise to legal uncertainties and risks, as well as the possibility of additional costs. Restrictions on cross-border financial services potentially limit the business opportunities for Swiss-based financial institutions, which could lead to jobs being relocated abroad.

Market access (\rightarrow)

Changes to and restrictions on market access to foreign target markets that are of importance to Swiss financial institutions may have significant repercussions for the revenue streams of the Swiss financial centre. The risk of market access restrictions remained high in 2020 and changed little over the course of the year.

The trend towards tougher market access rules for foreign providers in a number of jurisdictions has continued. As before, this tightening may be seen against a backdrop of increasing friction in international trade relations and uncertainties relating to Brexit. As a result of Brexit, Switzerland is seeking closer cooperation with the United Kingdom in the area of financial services. In June 2020, the two finance ministers thus signed a joint declaration regarding closer bilateral cooperation between the two countries.

The discontinuation of stock market equivalence with the European Union in 2019 is an example of a change in Switzerland's market access at European level. It remains likely that the EU will tighten up its rules for the provision of cross-border financial services to EU-based clients. Moreover, due to the ongoing negotiations between Switzerland and the EU, equivalence procedures are still encountering difficulties.

² Report of the interdepartmental group on combating money laundering and the financing of terrorism (CGMP). October 2018.

FINMA's supervisory focus

FINMA aligns its supervisory focus with the risks described above. In particular, it is keeping a close eye on the following areas:

The *interest rate situation* remains a key topic in the supervisory dialogue between FINMA and the institutions it supervises. FINMA will continue to regularly identify banks which are particularly exposed and conduct an intense exchange of views with these institutions with regard to their approach to interest rate risks and their strategies to ensure sustainable profitability. Low interest rates continue to have an impact on the various sectors of the insurance industry. With life insurers in particular, FINMA will thus continue to closely analyse the appropriateness of reserve levels and the potential repercussions of any further interest rate cuts.

The real estate and mortgages market has also been a focus for FINMA's supervisory activities for some years. In particular, the market for investment properties and the associated credit portfolios continue to be closely scrutinised. FINMA will in particular continue to keep a close eye on those financial institutions that are reporting especially high growth in the mortgage business. Owing to the corona pandemic, value adjustments, depreciation and at-risk receivables are under particularly close scrutiny. Where the banks are concerned, moreover, developments in the buy-to-let segment – i.e. properties purchased by private individuals for letting out – are being closely watched. This segment is not subject to the more stringent self-regulation requirements for banks introduced at the beginning of the year. In the area of asset management, FINMA will continue to analyse risk management by real estate funds. Here, FINMA has urged real estate fund managers to disclose appropriate quantitative information on risks arising from the corona pandemic. In the insurance sector, FINMA will again conduct stress tests to obtain knowledge about the influence that real estate held in insurers' portfolios may have on these companies' solvency.

FINMA will periodically investigate possible defaults on or adjustments to corporate loans with the banks under its supervision. In the case of highly exposed banks, FINMA investigates the areas of leveraged finance, trade finance and loans relating to commodities trading. In doing so, FINMA will also focus on these banks' risk situation, their lending standards and the loss potential arising from the loans concerned. If there is a material exposure to countries in financial difficulties, FINMA will also critically explore risk appetite in relation to such countries. In calculating the capital requirements of insurance companies, FINMA takes account of the increased credit risks on corporate bonds in light of the corona pandemic. Where necessary, it will address this topic with the companies that are particularly affected.

FINMA will make further efforts to ensure that the financial institutions under its supervision are well prepared for the discontinuation of the LIBOR reference interest rates by initiating a dialogue with institutions that are especially affected and verifying that the risks entailed by the possible discontinuation of LIBOR are properly recorded, contained and monitored. FINMA will place particular emphasis on the timely and robust migration of existing LIBOR contracts that extend beyond 2021 and expansion of the range of products based on alternative interest rates. In the context of the numerous derivative contracts affected and the large overall contractual volume, FINMA considers it essential that the new ISDA "IBOR Fallbacks Protocol" and the Swiss framework agreement for over-the-counter (OTC) derivatives issued by the Swiss Bankers Association be applied in a timely and broad-based fashion. In the case of derivative contracts that cannot be migrated or adapted (the so-called tough-legacy contracts), a risk assessment must be available for each contract or contract type and specific measures taken to minimise risk, especially with regard to the legal and valuation risks.

Where the handling of cyber risks is concerned, FIN-MA has continued to build up its expertise on cyber issues and has communicated its expectations for addressing such risks with the institutions under its supervision. FINMA is still focusing primarily on improvements to the crisis management toolkits of the supervised financial institutions and their stakeholder groups. It will also analyse the general threat situation on an ongoing basis so that it is informed about critical cyberattacks at an early stage. Furthermore, it has published guidance on the related reporting requirements for the supervised institutions: they must report any significant attacks on the availability, confidentiality and integrity of critical functions.3 FINMA continues to closely monitor any significant incidents involving cyberattacks so that, wherever possible, it can gather information with general applicability. It will also continually contribute to the coordination platform⁴ for combating cyberattacks that is operated together with its partner authorities.

reputational risks associated with access to foreign markets and will raise awareness of this problem at the affected institutions as part of its supervisory dialogue. It also assists the relevant political bodies in Switzerland in their efforts to ensure equivalence at a technical level, especially now in the context of the negotiations with the United Kingdom.

FINMA will continue to closely monitor the legal and

In its supervision of measures to combat money laundering, FINMA prescribes an audit programme that takes account of various business models. The scope and content of the audit depend on the specific risk of money laundering at the financial institution under scrutiny. FINMA will continue to focus on risk management at financial institutions that look after politically exposed or quasi-state clients. The topic of "quasi-state clients" will be addressed and monitored especially in the context of on-site checks in the money-laundering area. To facilitate a rapid and efficient response to any relevant facts and circumstances, FINMA will frequently obtain information from exposed institutions in a targeted fashion outside of the audits and on-site checks. Where independent portfolio managers and trustees are concerned, due account will be taken of any significant money-laundering risks as part of the licensing procedure. Where necessary, FINMA will launch enforcement proceedings.

³ FINMA Guidance 05/2020.

⁴ Cf. information on the Federal Department of Finance (FDF) website on the national strategy for the protection of Switzerland against cyber risks (NCS) 2018–2022.

Longer-term trends and risks

FINMA has also identified risks that could have an impact on the Swiss financial centre over the longer term. Below, we discuss risks relating to the use of extensive data collections (big data) in the insurance sector that may lead to transparent insurance clients. Other long-term risks include demographic ageing, risks for asset management in a market where financial instrument valuations are declining, and risks arising from climate change. As FINMA presented the latter in more detail in its 2019 Risk Monitor, the present Risk Monitor will provide an update.

Transparent insurance clients

When it comes to offsetting risks among customer groups, insurance companies have long been used to working with large data volumes. However, recent years have seen developments that put data handling on a completely new footing, opening up new fields and methods for data processing.

First, the volume of data produced and made available has exploded in quantitative terms alone. Second, the growing mountain of information also contains data that are novel by their very nature and were not available up to now. And third, these data are increasingly available in real time.

The insurance industry's analytical instruments are improving thanks to technological advances, easier access to large data volumes and artificial intelligence. This enables insurers to make faster and more accurate statements about the risks that are to be insured.

On the one hand, considerable opportunities and hopes are pinned on this facility, as new insurance solutions will be developed and risks for which no meaningful insurance protection was previously available can be made insurable. Owing to technological analysis possibilities, moreover, insurers can develop premium tariffs that are better aligned to the risk involved or products more closely tailored to cus-

tomer needs. So, for example, people with pre-existing health disorders will probably be able to insure the financial consequences of these illnesses, for which cover would currently be excluded.

On the other hand, access to large volumes of data also entails risks. In particular, it makes insurance clients increasingly transparent. It may, for example, be possible to mine data from fitness apps that are relevant for health and life insurance. Similarly, car drivers' speed and acceleration data may be gleaned via GPS tracking. These data make it easier to assess the drivers' specific risks. In addition, satellite applications can record up-to-date risk parameters for real estate properties.

Based on this large volume of data and the methods for analysing it, insurers can easily separate good and bad risks. The analysing methods used for this (e.g. machine learning) derive their results from algorithms. Although the results are precise and correct, they are no longer traceable. As a result, it will be difficult to identify in advance areas in which unexpected and discriminating results may occur. This poses the risk of certain groups being unintentionally neglected or even discriminated against. This results in inequitable treatment – or, in the worst case, discrimination – on the basis of algorithms, for example pricing that might contain a concealed discrimination of certain ethnic groups.

These developments entail four principal risks for the insurance sector:

1. Discrimination: discrimination of certain groups of insured persons with higher risks who can only obtain insurance cover at higher cost. In extreme cases, these groups may no longer be able to find anyone to insure them. The permissibility of discrimination in the area of insurance is ultimately a political matter. However, discrimination that is unintended or concealed is a matter for the supervisory authorities. The probability of such discrimination occurring will increase in the years to come.

- 2. Diminished solidarity: The growing volume of data and the analysis of such data are leading to smaller, more closely differentiated and more homogeneous insurance populations. Thus the higher-risk insured are de facto being excluded from insurance cover owing to the prohibitive costs involved. This ultimately affects precisely those persons who would be in greatest need of the insurance cover. Potentially, therefore, there is a loss of solidarity – and yet the principle of solidarity is at the core of the insurance industry.
- 3. Malpractice towards customers: Insurance tariffs based on Big Data technology may become so lacking in transparency that the products and their prices can no longer be reconstructed. This may result in malpractice towards customers that is difficult to identify.
- 4. Competition: Traditional insurers may face competition owing to the market entry of new service providers that have superior digital capabilities. The trend in the digitalised economy towards a "winner takes it all" situation implies that there will also be losers.

The flip side of increasingly flexible, personalised insurance services is decreasing product transparency and reduced comparability in the insurance market. If these new methods and possibilities are overused or misused, the stated risks could materialise for the insurance market. When new technologies are harnessed in the insurance field, the focus should therefore be placed on preventing inappropriate discrimination and abusively inequitable treatment, as well as on data protection and possible market shifts. FINMA is addressing these risks proactively.

Abbreviations

AT1 Additional Tier 1

CDS Credit default swap

 $\pmb{\mathsf{CGMF}}\ \mathsf{Interdepartmental}\ \mathsf{coordinating}\ \mathsf{group}\ \mathsf{on}\ \mathsf{combating}$

money laundering and the financing of terrorism

CHF Swiss francs

DDoS Distributed denial of service

EU European Union

FDF Federal Department of Finance

FINMA Swiss Financial Market Supervisory Authority

IBOR Interbank Offered Rate

ISDA International Swaps and Derivatives Association

LIBOR London Interbank Offered Rate

MROS Money Laundering Reporting Office Switzerland

NCS National strategy for the protection of Switzerland against cyber risks

NCSC National Cyber Security Centre

OTC Over-the-counter

p.a. per annum

RHS Right-hand side

SARON Swiss Average Rate Overnight

SST Swiss Solvency Test

TCFD Task Force on Climate-related Financial Disclosures

T2 Tier 2

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