Eidgenössische Finanzmarktaufsicht FINMA
Autorité fédérale de surveillance des marchés financiers FINMA
Autorità federale di vigilanza sui mercati finanziari FINMA
Swiss Financial Market Supervisory Authority FINMA

FINMA Risk Monitor 2023

Contents

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

The Swiss Financial Market Supervisory Authority FINMA is an independent public supervisory authority. It has 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. It seeks to ensure that the supervised financial institutions are not destabilised in the future by possible risks they are facing. Assessing the risk position of individual supervised institutions is therefore a critical part of FINMA's supervisory activity.

The *Risk Monitor* creates transparency both for supervised institutions and the wider public about how FINMA 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. The *Risk Monitor* also describes the focus of FINMA's supervisory activity on the basis of prevailing risks. Furthermore, each report highlights one selected trend with the potential to impact on the Swiss financial market over the long term.

The seven principal risks already mentioned in last year's *Risk Monitor* remain the same: interest rate risks, credit risks associated with mortgages, credit risks associated with other loans, credit spread risks, risks of cyberattacks, risks in the area of combating money laundering and risks due to increased impediments to cross-border market access. In addition, liquidity and funding risks and outsourcing are now also viewed as separate risk drivers and are listed as further risks in this year's report. Arrows indicate how these risks have trended since the last *Risk Monitor*.

Note

The risks referred to above and the focal points of FINMA's supervisory activity are not an exhaustive list of risks. Other risks not cited may also be (or become) very significant. This *Risk Monitor* is expressly not intended as a basis for investment decisions. The occurrence of extreme events ("tail risks") is always possible, including in connection with risks that FINMA has categorised as comparatively modest and therefore not included in the *Risk Monitor*. The *Risk Monitor* concentrates on the risks relevant to the market as a whole. For individual supervised institutions, idiosyncratic risks can be just as significant. Individual cases are not explicitly discussed in this report.

Latest developments

Owing to high and persistent inflation, rapidly rising nominal interest rates and the effects of the rise in energy prices, global economic growth has slowed since publication of the last *Risk Monitor*. Uncertainties remain high, also due to ongoing geopolitical tensions and regional conflicts. Against this backdrop, credit spreads for corporate and sovereign bonds remain high. In mid-March 2023, the collapse of a number of American regional banks and the uncertainty surrounding Credit Suisse led to banking sector stress globally. Credit Suisse's situation deteriorated rapidly. The measures taken by the Swiss authorities[1] stabilised the situation and ensured financial stability. The subsequent formal completion of the merger of UBS Group and Credit Suisse Group created legal clarity and further stability.[2] The merger has not only increased UBS's global importance, but also its relative size compared to Switzerland's GDP. This first merger of two global systemically important banks (G-SIBs) poses multidimensional risks.

On the one hand, Credit Suisse AG must be restructured so that the combined large bank's earnings power and expenses are rebalanced. This also includes the disentanglement and integration of the legal structure. UBS must ensure that the integration takes place in line with its risk appetite and culture. One of the main risks of integration is inadequate risk control due to a lack of a holistic overall risk view. Likewise, the reduction of Credit Suisse positions that are not in line with UBS's strategy entails financial risks. Furthermore, considerable operational risks arise, on the one hand due to staff reductions and on the other hand due to technological integration. The risks of IT disruptions, cyberattacks or fraud are significantly increased during the integration process. FINMA will continue to supervise the merged bank intensively during the integration. FINMA has clearly expressed its supervisory expectations to the bank and will also appoint third parties to monitor compliance.

In the area of recovery and resolution, UBS's ability to stabilise itself must be maintained. FINMA assesses this as part of the approval of the recovery plan. On the other hand, global resolvability and the feasibility of the emergency plans for the Swiss units must be ensured without interruption. In addition to financial risks, operational risks must also be taken into account. FINMA assesses these as part of the approval of the emergency plans. If global resolvability is insufficient, capital add-ons are possible.

[1] Safeguarding financial market stability: Federal Council welcomes and supports UBS takeover of Credit Suisse (admin.ch)
[2] Press release (finma.ch).

Principal risks

FINMA takes a risk-based approach to supervision. The intensity of its supervision is dictated firstly by the risks that the financial market participants incur and secondly by the primary risks in the current environment. This section will discuss the nine principal risks identified by FINMA for its supervised institutions and the Swiss financial centre over a time horizon of up to three years. The arrows in the section headings indicate changes compared to last year's *Risk Monitor:* the risk increased (↑), stayed the same (→) or decreased (↓).

Interest rate risk (→)

Sustained inflationary pressure has led to further monetary tightening with base rate hikes both in Switzerland[3] *and abroad. Nonetheless, nominal interest rates and in particular inflation-adjusted real rates remain low. In the event of an abrupt rise in interest rates, financial market participants could suffer substantial declines in earnings or losses, particularly if their investment and business strategy leaves them heavily exposed. Structural inflation pressure is the key determinant of the longer-term trend in interest rates. The risk resulting from interest rate changes for the banking sector therefore remains high. FINMA continues to pay close attention to this.*

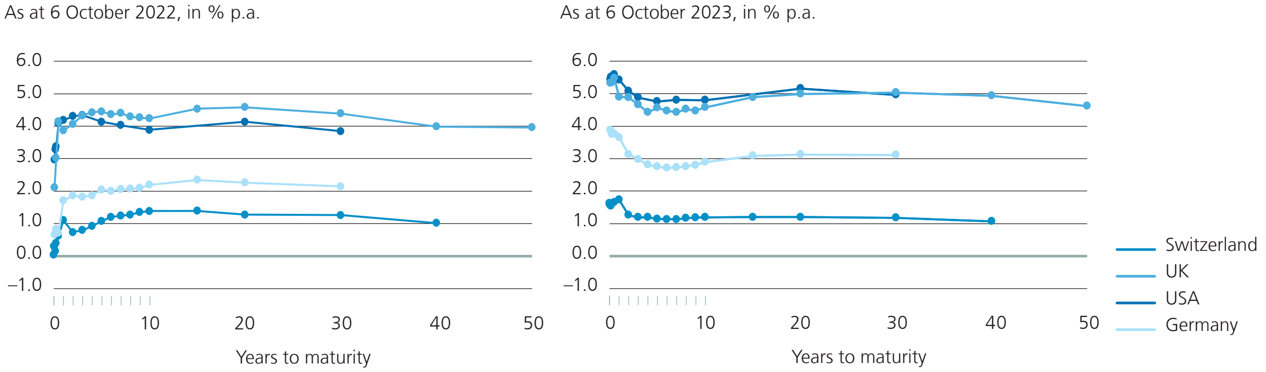
Inflation and rising interest rates have an impact on the bond markets in particular. There were further shifts in bond yields compared with 2022. Yields on shorter maturities rose more rapidly than yields on long-dated government bonds in relevant markets.

As shown in the chart of government bond yield curves below, the Swiss franc yield curve has already been back in positive territory since 2022. Yields on forty-year Swiss Confederation bonds are unchanged compared to 2022 and have even fallen for ten-year Swiss Confederation bonds in 2023. Yields on shorter maturities, such as one-year government bonds, have risen sharply since the rate hikes by the Swiss National Bank. This has led to a so-called partially inverted yield curve[4] in Swiss government bonds. A similar development can be observed in the government bonds of other currencies. Inverted yield curves reflect the market's expectation of falling interest

[3] Although inflation has fallen below 2% in Switzerland, inflation pressure has not yet been defeated entirely. Inflation is likely to pick up again towards the end of the year owing to a range of factors (e.g. health insurance premiums, rents, VAT, transport and energy prices).

[4] While the interest rates in the range of maturities from 1 to 7 years and from about 25 years upwards decrease with increasing maturity (inverted yield curve), there is a normal yield curve in the range up to 1 year and in the range from about 7 to about 25 years. Therefore, it is referred to as a partially inverted curve overall.

Government bond yield curves



Source: Refinitiv Datastream

rates and are usually accompanied by the expectation of a downward trend in economic activity. Market participants therefore expect a mild recession in Switzerland in the second half of the year. However, actual future developments must be regarded as very uncertain. Depending on the path of inflation and inflation expectations, a further rise in interest rates cannot be ruled out.

For banks, rising interest rates entail the following risks:

1. Profitability: Higher interest rates lead to a rise in interest margins (particularly on customer deposits). At the same time, low-interest fixed-rate loans are increasingly expiring. Banks' margins between lending and deposit rates could therefore potentially continue to rise, boosting profitability. This effect could be observed very well last year. Amid continuing low deposit interest rates and higher inflation, bank deposits remain relatively unattractive from the customer's point of view compared with other investment opportunities. Customers could therefore look for alternative investments that offer a superior hedge against inflation. For banks, this could reduce an attractive refinancing option as interest rates rise. However, customer behaviour depends heavily on future financial and economic developments. This is a potential threat to banks that have modelled customers' propensity to shift assets too optimistically in their favour or have not hedged this sufficiently. On the credit side, rising interest rates mean higher borrowing costs, which can negatively affect the demand for loans and subsequently earnings opportunities. Banks also need to use hedging instruments to counter the cost of higher interest rates in good time. Thus, a significant sudden upward interest rate shock could hurt banks' profitability. Likewise, the very flat and partially inverted yield curves result in earnings risks for the future, as this makes the maturity transformation practised by banks less worthwhile or not worthwhile at all.

2. Market value risks: Besides the earnings potential, however, strongly rising interest rates and uncertainty about future developments can also have a negative impact on the market values of the bank's asset positions. While in the case of trading positions, the rise in interest rates and an increase in interest rate volatilities have a direct negative impact on the income statement, in the case of held-to-maturity investment portfolios (securities are held until their final maturity date), valuation losses that have already accrued can increase further in the form of hidden charges. These become a problem in particular if the corresponding portfolios have to be sold before maturity (for example, due to a need for liquidity). In addition to the change in market value, an increase in interest rates can also have a negative impact on credit default risk (see the next section on credit risks).

3. Distorted perception of risks: In an interest rate environment with very low or even negative real interest rates, financial market participants may have underestimated the risks. The risk premium for a product may be perceived as relatively low by investors or financial institutions, even though the underlying risk is actually significant in reality. This may potentially have led to misaligned investment incentives or even asset price bubbles. The risks that built up during this negative interest rate period could therefore now come home to roost. An abrupt rise in interest rates could lead to higher volatility and losses, with the corresponding consequences for investors (for example, in the case of money market mortgages) and financial institutions alike. Financial institutions are required to counteract this risk, primarily through appropriate risk management, holding sufficient capital, and proper client disclosure.

In general, insurance companies are somewhat less affected than banks by rising interest rates, as their technical liabilities are largely backed by fixed-interest securities. Although rising interest rates reduce the value of their fixed-interest securities, they lower the economic value of the liabilities at the same time. Nonetheless, sudden large increases in interest rates also pose a risk to insurance companies:

1. Solvency: In some cases, there may be an overall negative effect on the SST[5] ratio. This is because it is generally not possible to perfectly hedge interest rate risks. Therefore, rising interest rates will have a negative impact if the average duration of liabilities is lower than the duration of the bonds held by the insurer. Equally, if short-term interest rates rise more rapidly than long-term interest rates, as has been the case in recent months, then the impact is particularly severe on insurance companies that hold short-term bonds but have long-term liabilities. Moreover, rising interest rates normally lead to widening credit spreads and corrections in equity prices which have a negative impact on insurers' capitalisation (see next sections).

2. Investment portfolio: Higher interest rates do not have a directly visible impact on insurance companies' statutory accounts, as securities are largely valued at amortised cost, in line with the statutory valuation method for insurance liabilities. This gives insurance companies an incentive not to alter the diversification of their investment portfolio where possible, as selling the bonds would realise losses. However, this significantly reduces the company's financial flexibility.

3. Customer behaviour: Rising interest rates reduce demand for both life and non-life insurance. Demand for insurance products softens due to a possible contraction in the economy (leading to fewer businesses being set up, fewer new vehicle registrations, etc.), and this is compounded by consumers' lower disposable income, which has an adverse impact on the number of new insurance contracts being taken out.

4. Profitability and costs: Rising interest rates are the result of higher inflationary pressure. For general insurers and reinsurers in particular, rising prices increase the cost of insurance benefits, which puts pressure on profitability. The higher costs also force insurers to increase their provisions.

Overall, the current economic environment creates new challenges for insurers. Revenues could decline significantly, while expenditures increase. Liquidity can also be impaired in this context, so that investments have to be sold (see "Liquidity and funding risk"). This leads to losses being realised, which in turn has a negative impact on profitability.

[5] The Swiss Solvency Test (SST) is used to assess the capitalisation of an insurance company. At least once a year insurance companies submit the SST report, which is reviewed by FINMA.

Credit risk: mortgages (→)

FINMA has intensified its focus on mortgage credit risk owing to the rise in interest rates. So far the changing interest rate environment has only had a fairly modest impact on residential property prices and has been reflected in weaker price growth and a decline in the number of transactions. Demand for rental properties is very strong. The rise in mortgage interest rates will lead to a deterioration in effective borrower affordability for variable-rate mortgages and thus increases the risk of loan defaults.

Supervised institutions incur a two-fold credit risk when they grant a mortgage: firstly, there is a risk that customers are unable to meet their interest and amortisation obligations, resulting in a credit default for the lending institution. The better customer affordability is, the lower the risk of default. Secondly, there is a risk that the value of the property that serves as collateral for the loan falls in the event of default, and the lending institution therefore incurs losses. The risk of a large loss in the event of default increases if property prices collapse in a crisis. This risk can be mitigated if the lender does not permit excessive loan-to-value ratios and borrowers are required to provide sufficient equity.

The total volume of outstanding mortgages lent by banks has continued to rise. This is largely due to sharp growth in lending for investment properties. Growth in lending for investment properties has slowed somewhat but is still significantly positive. The rise in mortgage interest rates means that banks' margins have also risen. This has a positive impact on profitability (see previous section), particularly for small and medium-sized banks for whom the mortgage business is the main source of revenue.

New loans for buy-to-let properties (residential apartments or houses let by private individuals) have been falling since interest rates began to rise. This is due to the fact that higher interest rates mean this type of investment is producing a lower return and is thus less attractive.

Since interest rates began to rise, the share of new mortgages with a variable interest rate (i.e. linked to SARON) is twice as high as during the negative interest rate environment. Affected borrowers are therefore exposed to greater interest rate risk or affordability risk.

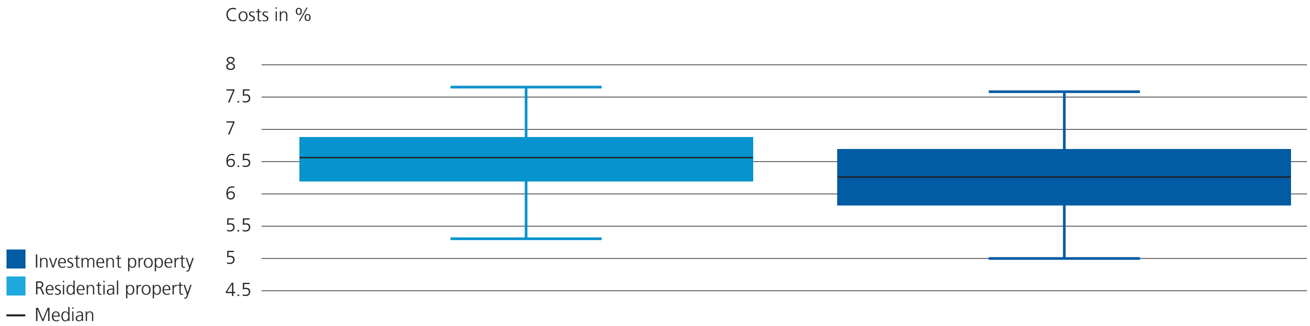
In addition, FINMA has observed that many banks do not use sustainable lending criteria. This means they tend to overestimate what borrowers can afford. In these cases, for example, the projected interest rate was set too low or the affordability threshold too high. In addition, many banks grant a very high proportion of "exception to policy" loans, i.e. loans that are outside their own lending criteria.

The chart shows the distribution of projected costs in relation to the affordability criteria of 45 banks. These figures relate to the financing costs of an investment property with a loan-to-value (LTV) ratio of 75% and a residential property with an LTV of 80%.[6] It illustrates how banks use very different assumptions for projected costs (projected interest rate and ancillary costs) in their lending policies, and in some cases include only a very limited buffer for unforeseen events. In combination with elevated borrowing costs this can lead to higher affordability risks for customers that can in turn lead to greater loan defaults for banks.

The rate of price growth in the residential property market only began to slow in mid-2022, even though interest rates began to rise at the end of 2021 and the number of transactions has fallen since then owing to the resultant weakening of demand. However, as supply is very limited, transaction prices are still being paid that have led to rising price indices.

[6] This is the maximum permitted LTV. This is set out in the guidelines recognised by FINMA as a minimum standard.

Affordability criteria in lending



The box plot displays the minimum, lower quartile, median, upper quartile and maximum.

Maximum projected costs in % for a mortgage with a LTV of 80% (residential property) or 75% (investment property), taking into account the affordability thresholds of the individual banks. The affordability threshold is taken into account so that the banks can be compared in terms of affordability criteria.

Source: FINMA

Higher interest rates have put pressure on the valuation of investment properties. However, vacancy rates are at an historic low and rents have also risen due to the higher underlying interest rates, which has an offsetting effect on the valuation of investment properties. High immigration and the large number of asylum seekers have created strong demand for rental properties. As only small numbers of new homes have been built in recent years, this has led to a very tight rental market. A further point is that demand from institutional investors for residential property is likely to be sensitive to the changed interest rate environment as the rise in interest rates means that other attractive investment opportunities are now available.

A real estate crisis would have a serious impact on the Swiss financial centre. If property prices fell significantly, the collateral for these loans would be worth much less than was assumed when they were first granted. This would result in appreciable losses for the mortgage lending institutions. FINMA stress tests show that a severe real estate crisis could result in total losses in the double-digit billion range. Some banks would hold too little loss-absorbing capital for the mortgage portfolio to cushion these losses.

In view of the high overall volume of mortgage lending, banks' capital buffers are extremely important. The countercyclical capital buffer reactivated by the Federal Council at the end of September 2022 therefore continues to apply. Once the final package of Basel III reforms enters into force, banks using the standard model will have to set aside considerably more capital for mortgages on investment properties than for mortgages on owner-occupied properties due to the differing risk levels.

Compared to the banking sector, the share of mortgage lending in the insurance industry remains low and is on a declining trend. However, insurance companies are exposed to the real estate market through direct and indirect investments in property. Property held directly and indirectly and mortgages make up an average of 18% of insurers' investment portfolios. A real estate crisis combined with rising interest rates would therefore have significant consequences for insurers' solvency and coverage of tied assets.

Credit risk: other loans (→)

The lending business is strongly influenced by the general economic situation. Continuing high inflation and interest rates as well as macroeconomic and geopolitical shocks could have an impact on borrowers' capacity to pay and increase credit risk. Declining earnings and falling market valuations can lead to losses on Lombard loans and loans to corporations. However, this depends on the uncertain macroeconomic situation.

After the 2007–2008 global financial crisis the economic environment was dominated by very low interest rates, low volatility and high liquidity. This led market participants to increase lending volumes and debt levels substantially. The current environment of high inflation, slower economic growth and tight monetary policy puts pressure on credit markets and affects supervised institutions in the following ways:

- None of the Swiss banks is particularly active or exposed to the traditional commercial lending business outside Switzerland. Although globally active Swiss banks such as UBS lend to corporate clients outside Switzerland, they only do so within narrow limits. These loans (or loan facilities) are typically designed either to generate revenues from other business activities with these corporate customers (for example bond or equity issuance or advisory services). In this case, the risks of loan default remain at least partly on the banks' balance sheets. Alternatively, the banks bundle and syndicate these loans to investors. For example, UBS is particularly active in the leveraged finance segment which involves lending to companies for leveraged corporate acquisitions and syndicating these to investor customers.
- The rapid rise in interest rates has led to a significant slowdown in new leveraged finance business. Existing leveraged finance positions that have so far not led to a transaction have in some cases had to be partly written off. Moreover, in a

higher interest rate environment there is a greater chance of leveraged finance loans that remain on banks' balance sheets due to a lack of demand suffering loan defaults. As new transactions are only being launched very selectively and existing transactions have already been written down, the scale of potential losses from here depends mainly on interest rate trends and investor demand.

- The quality of the domestic banks' corporate lending portfolios could also be hit by the impact of an economic slowdown, a further rise in energy costs or supply chain problems. However, the impacts vary from sector to sector.
- The Lombard loan portfolio[7] makes up a significant part of the large international banks' assets. Due to the volatile markets, the securities used as collateral are exposed to large movements, particularly downwards. The haircuts applied by the banks to the value of this collateral may be too low, meaning that the loans may not be sufficiently backed by collateral. If customers are unable to meet margin calls when the value of collateral falls, this could lead to loan defaults and losses for the bank. Concentration risks can also arise if loans are based on single securities (single stock lending) or less diversified collateral.
- While for banks credit risk materialises mostly through defaults, insurers and asset managers are more affected by credit downgrades or higher default rates among bond issuers. Insurers and asset managers are less active in the lending business, but do hold significant portfolios of fixed-income securities. These are subject to country and counterparty risk.

[7] Lombard loans are secured loans that are granted primarily to retail clients in the wealth management business. In most cases, securities portfolios are pledged as collateral.

Market risk: credit spread risk (→)

Credit spread risk is the risk of a loss due to changes in credit spreads. Credit spreads on corporate bonds widened somewhat at the beginning of 2023, particularly as a result of the banking turmoil in March 2023, but fell back again as pressure on the banking sector eased. However, overall spreads are slightly higher than before Russia's invasion of Ukraine. This applies both to corporate and sovereign bonds.

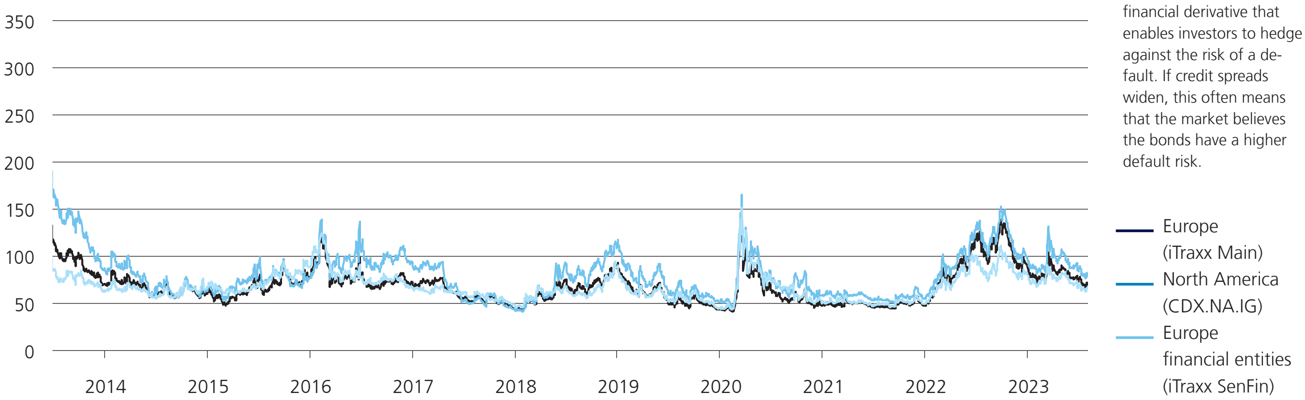
Since March 2023, credit spreads on European and US corporates have narrowed again, both for investment-grade and non-investment grade bonds (see credit spread charts below). The persistence of inflation globally, geopolitical uncertainties, and the continuing sluggish growth outlook could lead to higher risk aversion and thus to higher credit spreads. In addition, corporate debt levels and government debt to GDP ratios increased substantially as a result of the pandemic and have not yet fallen back significantly. The vulnerability of these markets to future shocks has therefore increased further.

Higher credit spreads for corporate or government bonds would affect supervised institutions in the following ways:

- In the event of a rapid and substantial widening of credit spreads, banks could experience direct falls in the value of their portfolios. This would affect a wide range of financial products such as bonds, securitisations and leveraged loans (loans to highly indebted counterparties). Particularly in some riskier markets such as high yield bonds and leveraged loans, activity picked up slightly in 2023. However, market sentiment remains uncertain, as bond spreads are volatile and the market

Credit spreads for investment-grade bonds in CDS indices[8]

Basis points p.a.

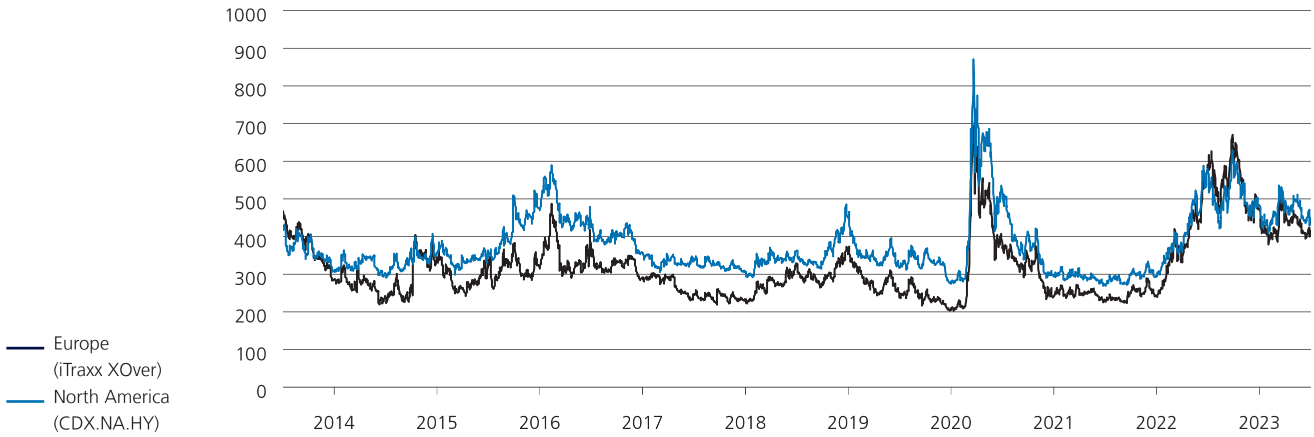


Source: Bloomberg

[8] These indices show the average price trend for credit default swaps of corporates with high credit ratings. Credit default swaps are often used as a measure of credit spread risk because they are a market for insurance against loan defaults. A credit default swap is a financial derivative that enables investors to hedge against the risk of a default. If credit spreads widen, this often means that the market believes the bonds have a higher default risk.

Credit spreads for non-investment grade (high yield) bonds in CDS indices

Basis points p.a.



Source: Bloomberg

has been expressing concerns about borrowers' creditworthiness. As a result, banks have tended to sell their holdings of riskier financial products and have only launched a limited number of new transactions. But they have suffered smaller losses in 2023 due to market movements than last year.

- Furthermore, an increase in yield spreads can lead to credit valuation adjustments on derivative transactions. This can have an impact on the confidence of counterparties and customers and potentially spark outflows of deposits and assets.
- Banks can also be adversely affected if the cost of rolling over hedges against credit defaults increases.
- At insurance companies, substantial corrections in corporate bond spreads lead to a fall in asset values and thus in capitalisation, as the assets are valued at market value for solvency purposes (SST).

Bonds held in tied assets are usually valued at amortised cost. In this case, the value of a bond is only affected if there is a deterioration in its creditworthiness or in the event of default, but not for movements in interest rates.

Liquidity and funding risk (new)

Liquidity and funding risk refers to the risk that in a crisis financial institutions will not have sufficient liquid funds to meet their short- to medium-term obligations. This can have various causes, such as elevated demand for collateral by counterparties, rating downgrades, inadequate or limited access to central bank liquidity, or increased demand for liquidity due to rapid outflows of customer funds. Furthermore, systemic or individual events can lead to trading partners and investors only providing liquidity on more stringent financial conditions or even withdrawing liquidity.

Triggered by the banking turmoil in the US, the global crisis of confidence spread rapidly in mid-March 2023. It affected Credit Suisse's liquidity position through rapid outflows of customer funds and reductions in counterparty limits. The measures taken by the Swiss authorities[9] stabilised the situation and ensured financial stability. The turmoil in the banking sector as well as various historic banking crises have shown that a crisis stemming from liquidity shortfalls can have significant consequences.

- Banks: If investors lose confidence in a bank's ability to meet its liabilities, this can quickly lead to a significant outflow of liquidity. This can trigger a stress situation with an unstoppable downwards spiral as other market participants also become more cautious and less willing to provide liquidity (bank run). This can further exhaust a bank's liquidity and – depending on the size of the bank or the number of banks affected – destabilise the financial system. The turmoil in the banking sector in March 2023 highlighted a number of challenges for banks' liquidity risks. These related in particular to the speed and volume of deposit outflows, the concentration in the funding structure as well as the role of social media and the digital financial system.
- Insurers: Upheaval on the financial markets can lead to increased liquidity risk for insurance companies. Rising interest rates and therefore falling market values of liquid assets reduce available liquidity. Particularly for insurance companies that are active internationally, issues such as a funding requirement for subsidiaries can put additional pressure on liquidity.
- The solvency calculations for insurers (SST) have a one-year view and therefore demand that insurance companies are able to raise funding on the capital markets at short notice if required. If an insurance company suffers a significant loss at the year-end and the markets experience a significant downward correction at the same time, this situation can lead to higher funding costs. Thus insurers are heavily exposed to turbulence on the markets.

[9] Safeguarding financial market stability: Federal Council welcomes and supports UBS takeover of Credit Suisse (admin.ch).

Cyber risks (→)

Cyber risks remain one of the biggest operational risks for supervised institutions. The Swiss financial sector has not been left unscathed by cyberattacks. Successful cyberattacks can cause significant damage as various examples in the past have demonstrated. Although the number of reports received by FINMA was unchanged, there is ongoing pressure on the financial institutions to keep a close eye on the current threat level, react quickly if needed and continuously test their own infrastructure for any vulnerabilities.

The media regularly reports on successful cyberattacks on established companies. Attackers recently exploited a vulnerability in the data transfer programme MOVEit to extract data and subsequently blackmail the companies involved. For many supervised institutions it is a challenge to identify these "zero-day" attacks that exploit previously unknown weaknesses in a system. These weaknesses cannot be identified by traditional means such as vulnerability scanners and closed afterwards.

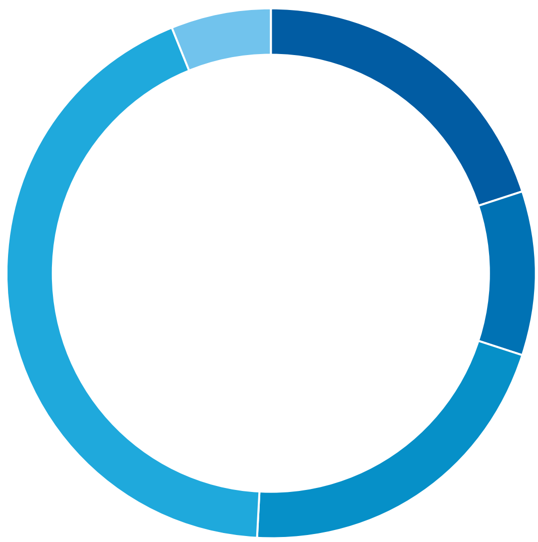
Distributed denial of service (DDoS) attacks also remain common (see chart "Distribution based on cyber reports received by FINMA over the last twelve months"). In these attacks, a system (e.g. a web page) is overwhelmed by a huge number of requests. Politically motivated groups recently used this method to attack the websites of the Swiss federal administration and other public authorities, for example. Supervised institutions were also affected, but were able to fend off the attacks. Compared to the DDoS

Distribution based on cyber reports received by FINMA over the last twelve months

Type of attack

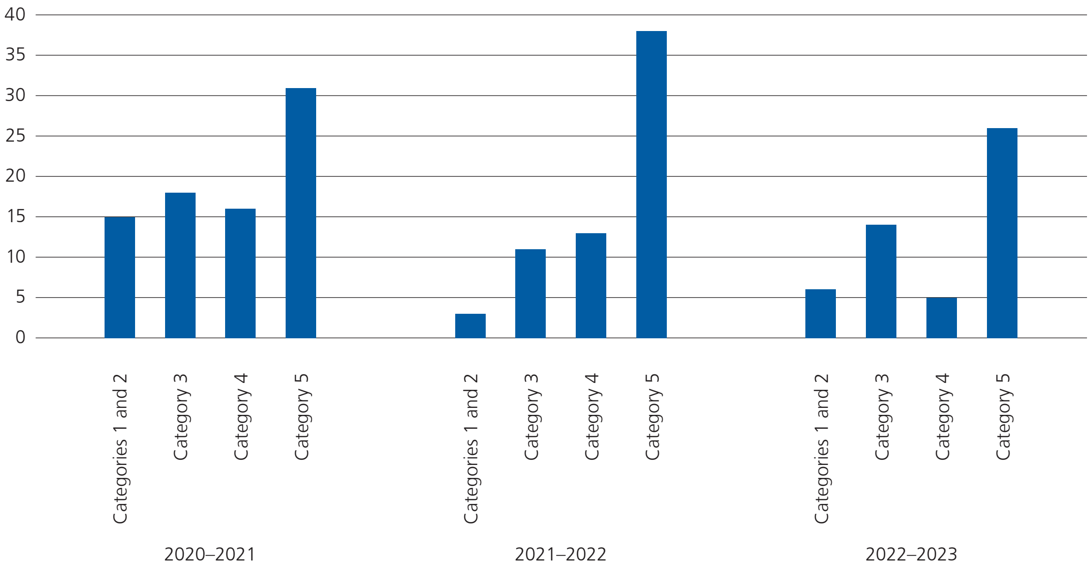
Indexed to Q1 2000

- DDoS: 20
- Misused identity: 10
- Malware: 21
- Unauthorised access: 43
- Inappropriate use: 6



Source: FINMA

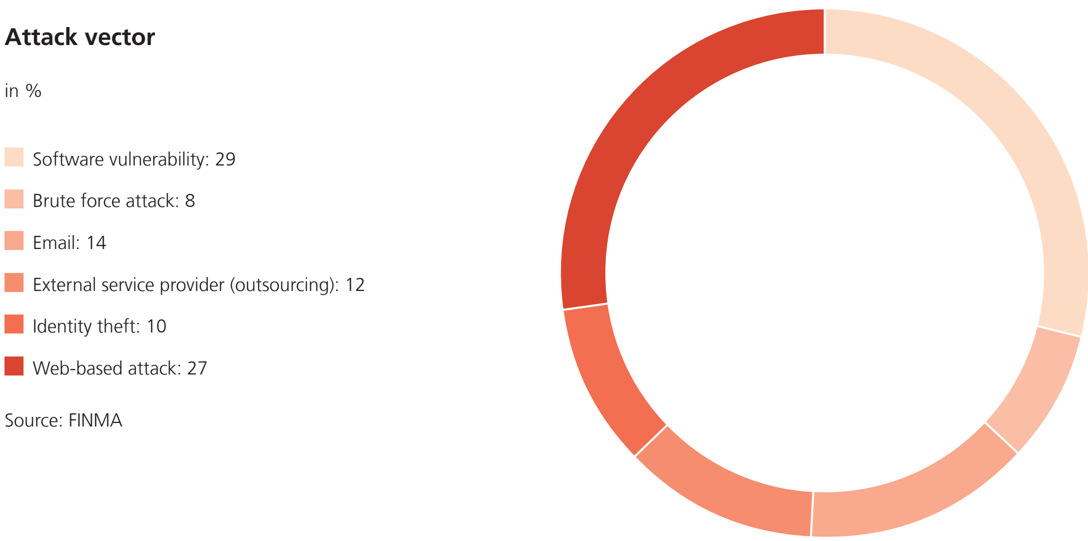
Number of reports of cyberattacks by supervisory category



Source: FINMA

Attack vector

in %



Source: FINMA

attacks at the end of 2020 which led to significant outages, the financial institutions were very well prepared on this occasion. Nonetheless, the threat of politically motivated cyberattacks is on the increase.

The reports by supervised institutions to FINMA on cyberattacks confirm the trend that smaller institutions are attacked more often (see chart "Number of reports of cyberattacks by supervisory category"). In addition, insurers (around 30% of attacks) and asset managers (around 20%) are more often becoming the focus of cyberattacks compared to the past and to banks. The existing trend of successfully attacking companies via service providers has also continued (see chart "Attack vector"). For example, attackers compromised data from supervised institutions in two separate ransomware attacks on service providers. The number of companies affected reached double digits. Such attacks do not necessarily only affect customer data, but can also involve other data classified as critical by the company, for example information on staff, confidential business information, investment strategies, etc.

Money laundering and sanctions (→)

The Swiss financial centre is a leading global cross-border wealth management hub for private clients. This makes it particularly exposed to money-laundering risks. Breaches of due diligence and reporting obligations can result in legal consequences and reputational damage for financial institutions both in Switzerland and abroad. In the past year, money-laundering risk has remained high. In addition, compulsory sanctions in connection with the war in Ukraine continue to pose operational risks for supervised institutions.

A large number of new customers of the Swiss wealth management industry are to be found in emerging markets, where there is a significant threat of corruption. Experience has shown that the financial flows associated with corruption and embezzlement can involve not just politically exposed persons, but also state or quasi-state organisations and sovereign wealth funds. Particularly in asset management, the use of complex structures may further increase the risk. These not only include structures whose complex design leads to a lack of transparency about the beneficial ownership of assets. A web of business relationships, where the use of multiple domiciliary companies makes it impossible to establish the economic purpose can also be used to conceal the origins of criminal assets.

The Swiss financial centre has not been left unscathed by various money-laundering scandals in the past. A whole host of cases have shown that a bank's compliance framework must be adapted in line with risk appetite. Among other things, the annual risk analysis plays a key role here. A financial institution not only needs to keep a constant eye on whether the risks it is assuming actually correspond to its business activities, but also ensure that these are mitigated effectively by control mechanisms.

The increase in MROS reports in recent years may indicate a cultural shift as well as better monitoring systems, but also the continued existence of a number of very significant risks. The reports received by MROS and the corresponding calculations show an increase of 28% over the past year. This increase is twice as high as in 2021 and represents the strongest growth since 2018. As in the previous year, transaction monitoring was the source of information that most frequently revealed suspicious conduct on the part of financial intermediaries in 2022 (30%).

In addition to the well-established money-laundering risks (especially in connection with cross-border wealth management), risks in the crypto area are becoming increasingly apparent. While new technologies facilitate efficiency improvements in the financial system, the threat of money laundering and the financing of terrorism is also heightened due to the potential for greater anonymity along with the speed and cross-border nature of transactions.

In particular, cryptocurrencies are often used in connection with cyberattacks or as a means of payment for illegal trading on the dark web. Money-laundering risks can be significant for FinTech companies too. Financial institutions active in this area without adequate management of money-laundering risk could seriously damage the reputation of the Swiss financial centre.

In view of the war between Russia and Ukraine, the Federal Council took the decision on 28 February 2022 to adopt the packages of sanctions imposed by the EU. The ordinance on measures connected with the situation in Ukraine encompasses not only the usual financial sanctions against certain listed individuals and businesses, but also bans on providing certain financial services to Russian nationals as well as individuals and businesses residing in the Russian Federation.

The State Secretariat for Economic Affairs (SECO) is responsible for checking that the sanctions are enforced. FINMA is responsible for monitoring the supervisory organisational rules in financial market law. These rules require the supervised financial institutions to adequately identify, limit and monitor all risks including legal and reputational risks and establish an effective internal control system. This also includes dealing with sanctions.

The correct observance of sanctions is operationally challenging and requires the utmost care. Breaches of sanctions regulations pose severe legal and reputational risks for the individual institutions, but also for the Swiss financial centre as a whole. Even if sanctions regulations are complied with, there are high reputational risks in dealing with high-risk clients (such as politically exposed persons) from sanctioned countries, which require particularly careful risk management.

Market access in Europe (→)

Changes to and restrictions on access to foreign target markets that are of importance to Swiss financial institutions could have repercussions for their revenue streams. The risk of restrictions on market access has only changed a little in 2023.

The trend towards increasing fragmentation in the regulation of financial markets persists. Regulatory fragmentation can lead to the market access regimes applicable to Swiss institutions offering services abroad being tightened up. Foreign authorities are frequently imposing more rigorous requirements regarding access to information on the supervision of Swiss financial institutions with cross-border business. For example, Swiss financial institutions can be called on to transfer large amounts of information directly to foreign authorities. In addition, market access is generally tied to obligations for mutual cooperation between supervisory authorities.

The European Council and the European Parliament reached a provisional agreement at the end of June 2023 to introduce a requirement for banks from non-EU countries to set up branches within the EU – however this measure has not been finally approved. Before being formally adopted, it still has to be confirmed by the European Council and the European Parliament. The indications are that a rule that is less restrictive for the Swiss banks than originally expected has been decided upon. As there were no agreements between Switzerland and the EU, there were no other significant improvements on financial market issues.

Switzerland is currently negotiating a financial services agreement with the United Kingdom to improve cross-border market access. Overall, however, developments in the area of market access for cross-border business remain shrouded in legal uncertainty, which could give rise to additional costs for financial institutions. Restrictions on the provision of cross-border financial services could lead to an outsourcing of jobs abroad and thus cause lasting damage to the Swiss financial centre.

Outsourcing (new)

The outsourcing of significant functions to third parties is a driver of operational risks at supervised institutions. Financial institutions are increasingly dependent on service providers to perform important or critical functions. Outsourcing has continued to grow in recent years due to digitisation and a focus by financial institutions on their core business. It offers many advantages such as flexibility, innovation and improved operational resilience. However, interruptions and outages of critical functions and key service providers can also pose significant risks. In extreme cases, they could affect the stability of the financial market.

Financial institutions have been using external service providers to perform core tasks for many years. Outsourcing has continued to increase in recent years. The number of significant outsourced services per supervised institution is growing. The number of sub-outsourcers is also rising, which means the supply chain is becoming more complex.

Financial institutions typically outsource business processes such as payments (two thirds of banks), settlement or IT infrastructure and operations (80% of banks, 60% of insurers) at least partly. They are therefore significantly dependent on third parties to provide their services, but are also responsible for monitoring the service providers and ensuring they take the appropriate action when needed. The fact that a third of cyberattacks on financial institutions are directed via third parties underlines the risks involved (see the discussion on cyber risks above).

For certain important functions, numerous financial institutions outsource to just a small number of service providers. One example is cloud services. This increases the operational dependence of the financial market on a single service provider. An outage or unintentional accessing of data by these critical service providers could have a very serious impact on the Swiss financial market.

Monitoring and managing the service providers and the associated risks is key to ensuring financial institutions' operational functioning. Responsibility for proper business conduct cannot be delegated and therefore also applies to outsourcing (FINMA Circ. 2018/3, margin no. 23). It is therefore essential for the financial institutions to build up the necessary knowledge to suitably manage and monitor the outsourced function and be able to take action when needed, as required by FINMA Circ. 2017/1 "Corporate governance" (margin no. 60 ff). FINMA has found that supervised institutions have room for improvement in identifying their entire supply chain and the resultant risks. In addition, the risks associated with significant outsourcing are not adequately identified, monitored and controlled in some cases.

FINMA's supervisory focus

FINMA aligns its supervisory focus with the risks described above. Important instruments in supervision include regular supervisory discussions, on-site reviews, stress tests and, in the case of insurance companies, additionally the SST scenarios. FINMA also makes targeted use of the following specific supervisory instruments. If FINMA identifies weaknesses at a financial institution based on its supervisory tools, it will direct that it takes appropriate action. For instance, one such measure is the requirement that a bank has to hold more capital.

FINMA uses forward-looking and regular risk analyses to identify **interest rate risks** at supervised institutions at an early stage. In particular, FINMA carries out specific interest rate stress tests and analyses outlier banks with high interest rate risks. In addition, it continues to take capital measures for particularly exposed institutions. For insurance companies, the level of provisions for interest rate shocks and inflation remains a central topic in supervision.

Credit risk on mortgages is a key focus of FINMA's supervisory activity due firstly to the significant risks and secondly to the huge importance of the mortgage business for Swiss banks. FINMA obtains an overview of lending criteria, credit risk management, and in particular the management of risk appetite. By evaluating both specific and regular data surveys, FINMA analyses newly issued mortgages across a number of different parameters. On this basis it then carries out specific stress tests for portfolios of existing mortgages at specific banks using its own methodology. FINMA examines what a significant price fall or significant rate increases along with an economically unfavourable backdrop would mean for the individual banks.

FINMA regularly informs supervised institutions of the potential risks associated with unsustainable growth of the mortgage portfolio and the importance of appropriate risk management in the lending segment. In the insurance sector FINMA obtains detailed information on the real estate and mortgage portfolios annually. Furthermore, insurers with high geographic concentrations of real estate are required to hold additional capital.

Credit risks are usually the main risk for Swiss banks on the asset side of their balance sheets. This risk exists for all types of loans. Alongside the mortgage segment discussed above, FINMA also continues to intensively monitor leveraged finance positions at the combined UBS. FINMA conducts specific supervisory discussions on the corporate lending business in Switzerland and separately monitors the Lombard loan business. In addition, FINMA has a special focus on potential loan defaults at domestic banks resulting from rising energy prices.

Higher credit spread risk is another key topic in FINMA's supervisory dialogue. FINMA considers this risk in its regular performance of loss-potential analysis at larger institutions.

FINMA monitors banks' **liquidity and funding risks** on an ongoing basis, thereby ensuring that both quantitative and qualitative regulatory requirements are met by the supervised institutions. FINMA also analyses risks at supervised institutions that may arise from concentrations in the funding structure. If needed, institution-specific measures are defined, and until they are implemented, the requirements may be tightened under certain circumstances. For systemically important banks, additional institution-specific requirements will be stipulated for entry into force on 1 January 2024 on the basis of the special provisions for systemically important banks in the Liquidity Ordinance.

Following the complete revision of the Circular "Operational risks – banks", FINMA updated its supervisory practice with regard to **cyber risks** in 2023. The changes enter into force in 2024 and will be the focus of future supervisory activity. In addition, FINMA carried out a survey of small and medium-sized insurance companies to enable it to better assess the state of readiness of supervised institutions' cyber-specific risk management. FINMA will define further specific supervisory measures based on the survey. Finally, FINMA informs the supervised institutions and the public regularly about current risks and potential attack vectors as well as methods based on the cyberattacks reported to it.

FINMA monitors adherence to the due diligence obligations relating to **money laundering and sanctions** by means of an audit programme that takes account of different business models. The scope and content of the audit depend on the specific risk of money laundering at the financial institution under scrutiny. FINMA continues to focus on risk management at financial institutions that look after politically exposed or quasi-state clients. FINMA has taken institution-specific measures to reduce money-laundering risks in this sphere. In relation to the sanctions on Russia, FINMA carries out on-site reviews and investigations of sanctions management for various exposed supervised institutions. FINMA also coordinates with SECO on this issue.

FINMA considers the legal and reputational risks associated with **access to foreign markets** in its supervisory work. It also assists the relevant political bodies in Switzerland in their efforts to ensure equivalence at a technical level, including in the context of the current negotiations with the United Kingdom on a Mutual Recognition Agreement in the finance area. Furthermore, like its partner authorities elsewhere in Europe, FINMA recommends the prompt implementation of the Basel III standards as comprehensively as possible. This is conducive not just to resilience in the banking sector but also to market access. In the insurance sector, FINMA also advocates that Solvency II equivalence is maintained.

FINMA monitors **outsourcing risks** by means of specific on-site reviews and analysis of available supervisory and review data, which is continuously adapted to the needs of supervision in terms of data quality and the specific data collected. FINMA also actively monitors international developments in this area and participates in the discussions on developing potential risk reduction measures. Concentration of certain service providers is monitored continuously, and both the supervised institutions and the service providers are made aware of the importance of this issue. To identify concentration, data on significant outsourcing by banks, insurers, financial market infrastructures, and other financial market participants is obtained continuously and supervisory actions are defined on this basis. FINMA focuses on outsourcing of critical functions, namely the management of operational risks and ensuring operational resilience in accordance with FINMA Circular 2023/1 in the area of outsourcing.

Longer-term trends and risks

As part of its risk monitoring, FINMA identifies key trends and risks that could have an impact on the Swiss financial centre over the longer term. Last year, decentralised finance was discussed here. This year, FINMA is taking a look at artificial intelligence in the Swiss financial market.

Artificial intelligence in the Swiss financial market

The importance of artificial intelligence (AI) has grown rapidly in all areas of life, including the financial market, in recent years. In accordance with its strategic objectives for the years 2021 to 2024, FINMA supports innovation in the Swiss financial centre and monitors the associated risks.

Surveys show that most institutions are still experimenting with AI, while some companies already have advanced applications that require corresponding risk management processes. Since chatbots such as ChatGPT became available, interest in AI solutions has taken a further upward leap. As in other areas of life, we can expect AI to lead to a host of changes in the financial market.

FINMA sees particular challenges in the use of AI in the following four areas and expects the financial industry to manage the risks accordingly.

Governance and responsibility: Decisions can increasingly be based on the results of AI applications or even be carried out autonomously by these applications. Combined with the reduced transparency of the results of AI applications, this makes control and attribution of responsibility for the actions of AI applications more complex. As a result, there is a growing risk that errors go unnoticed and responsibilities become blurred, particularly for complex, company-wide processes where there is a lack of in-house expertise. For example, the AI application ChatGPT gives such apparently convincing answers based on the highest probability that it is very difficult for users to assess whether the answers are factually correct or not.

Clear roles and responsibilities and risk management processes must be defined and implemented. The responsibility for decisions cannot be delegated to AI or third parties. Everyone involved must have sufficient expertise in AI.

Robustness and reliability: The learning process in AI is based on huge quantities of data. First of all, this poses risks arising from poor data quality (e.g. data that is not representative). Moreover, AI applications undergo a process of automatic optimisation, which can result in the model developing in a wrong direction (known as drift). For example, according to the *Harvard Business Review*,[10] the majority of AI algorithms for predicting Covid-19 failed. These applications were not reliable enough to be deployed autonomously. Finally, increased use of AI applications and resultant outsourcing and cloud usage will also increase IT security risks.

When developing, training, and using AI, institutions need to ensure that the results are sufficiently accurate, robust, and reliable. Both the data and the models as well as the results need to be open to critical questioning.

Transparency and explicability: The vast number of parameters and complex models in AI applications often means it is impossible to isolate the impact of individual parameters on the result. Without an understanding of how the results have come about, there is therefore a risk that decisions based on AI applications are not verifiable or explicable. This may make checks by the institution using it and auditors or supervisory authorities difficult or impossible. In addition, customers cannot fully assess the risks if they are not informed that AI is being deployed. For insurance tariffs, for example, the use of AI could mean that the tariff is no longer transparent. It would

[10] Why AI Failed to Live Up to Its Potential During the Pandemic (hbr.org).

then be impossible to explain the tariff to customers in a transparent way.

Institutions must ensure that the results of an application are explicable and use of the application is transparent, in accordance with the recipient, relevance and process integration.

Non-discrimination: Many AI applications use personal data to assess individual risks (e.g. to set tariffs, for lending) or develop customer-specific services. If there is insufficient data on particular groups of people, this can lead to distortions or incorrect results for these groups. If products and services are offered based on these incorrect results, this can lead to unintentional and unjustified discrimination. Alongside legal risks, discrimination also entails reputational risks for the companies concerned.

Firms must avoid unjustified discrimination.

FINMA has discussed and developed its expectations with regard to AI applications with the financial industry, national and international organisations and academia.

FINMA will monitor the use of AI by supervised institutions. It will also continue to closely monitor developments in the use of AI in the financial industry, remain in discussions with relevant stakeholders and keep up to date with international developments.

Abbreviations

CDS Credit default swap
DDoS Distributed denial of service
EU European Union
G-SIB Global systemically important bank
AI Artificial intelligence
MROS Money Laundering Reporting Office Switzerland
SECO State Secretariat for Economic Affairs
SST Swiss Solvency Test
USA United States of America

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