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# Financial Stability Report 2021

SCHWEIZERISCHE NATIONALBANK  
BANQUE NATIONALE SUISSE  
BANCA NAZIONALE SVIZZERA  
BANCA NAZIUNALA SVIZRA  
SWISS NATIONAL BANK





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# Financial Stability Report 2021



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# Foreword

In this report, the Swiss National Bank (SNB) presents its evaluation of the stability of the Swiss banking sector. The SNB is required to contribute to the stability of the financial system in accordance with the National Bank Act (art. 5 para. 2 (e) NBA). A stable financial system is defined as a system in which the various components fulfil their functions and are able to withstand severe shocks. This report focuses on Switzerland's banks, as experience from financial crises shows that financial stability depends primarily on the stability of the banking sector.

The SNB monitors developments in the banking sector from the perspective of the system as a whole and with a focus on systemically important banks, because the latter have the potential to affect the system at large. The SNB does not exercise any banking supervision and is not responsible for enforcing banking legislation. These powers lie with the Swiss Financial Market Supervisory Authority (FINMA).

This report is divided into five chapters. The executive summary (chapter 1) is followed by chapter 2, which tracks key domestic and global risks to the Swiss banking sector, focusing on credit quality, real estate and stock markets, interest rates, and developments in the international banking sector. This chapter also presents current developments on the Swiss corporate loan market in the context of coronavirus disease (COVID-19). Furthermore, the Swiss mortgage and real estate markets as well as climate risks are discussed in separate subchapters. Chapter 3 gives an overview of the structure of the Swiss banking sector. Chapters 4 and 5 assess the globally active banks (Credit Suisse and UBS) and the domestically focused commercial banks ('domestically focused banks'), respectively. They are analysed separately due to the differences in their size and business model. The three domestically focused systemically important banks (DF-SIBs) PostFinance, Raiffeisen Group and Zürcher Kantonalbank (ZKB) are analysed together with the other domestically focused banks.

The banking statistics used in this report are based on official data submitted and/or on data reported by individual banks. Bank-specific data on the globally active banks and the DF-SIBs are analysed at a consolidated level. This document is based on data as at 31 May 2021.

### Macroeconomic environment

Economic and financial conditions for the Swiss banking system have improved since publication of the last Financial Stability Report in June 2020, although the coronavirus pandemic continues to weigh on the economy.

The first wave of the pandemic in spring 2020 and the associated containment measures led to a massive drop in global economic activity and caused governments and central banks to take extraordinary support measures. During the second half of 2020, the global economy initiated a strong recovery. The recovery was subsequently slowed by new waves of infections, which necessitated renewed containment measures. Most of these could be eased in the course of spring 2021 as vaccination campaigns progressed.

In Switzerland, largely thanks to public support measures, the pandemic's impact has been less severe than expected 12 months ago. To date, the economy and the banking system have proved resilient. In particular, Swiss banks' solid capital base and the public support measures have ensured that companies have continuous access to funding through bank loans.

However, the pandemic's adverse impact is turning out to be substantial, both globally and in Switzerland, and the macroeconomic environment remains challenging. GDP continues to be below its pre-pandemic level in most countries and unemployment is generally elevated. Against this backdrop, interest rates are historically low, despite recent rises. Data on corporate ratings suggest a further deterioration in global corporate credit quality. At the same time, stock prices and residential real estate prices have increased markedly and corporate bond spreads have returned to their low pre-pandemic levels. On the domestic mortgage and residential real estate markets, credit volume has risen moderately, while price growth has been strong. With the improvement in Switzerland's economic outlook since the last Financial Stability Report, the likelihood of a correction on the mortgage and residential real estate markets due to pandemic-related developments has decreased. At the same time, however, the vulnerability of these markets to future shocks has increased further, as growth in mortgage lending and residential real estate prices has been higher than fundamental factors such as income and rents can explain. On the domestic commercial real estate market, prices have come under pressure in response to the economic contraction. The uncertainty surrounding the medium-term effect of the pandemic is particularly high for this segment of the real estate market.

The course of the pandemic will continue to be critical in shaping the macroeconomic environment. The SNB's baseline scenario assumes that, globally, vaccination programmes prove effective, the pandemic remains under control in the major economies, and containment measures are gradually scaled back during 2021. As a result, the global economy grows strongly. However, with the exception of China, the recovery in the emerging economies is generally less rapid as vaccination campaigns advance at a slower pace and some containment measures are still necessary. Global production capacity continues to be underutilised and unemployment remains elevated. Global monetary policy continues to be accommodative. In Switzerland, GDP grows strongly in the near term and unemployment declines. Production capacity remains underutilised for some time, however.

The global macroeconomic environment presents several risks for financial stability. First, as uncertainty about the economic outlook remains high, the risk of worse-than-expected outcomes continues to be elevated. In particular, coronavirus mutations could require additional or longer-lasting containment measures. This might delay the recovery further or even lead to a renewed recession, which would impair banks' credit portfolios. Second, in an environment of extensive fiscal and monetary policy support, there are signs of stretched valuations on stock, credit and real estate markets in a number of countries. A change in market perceptions regarding the economic outlook or the strength of policy support could trigger large price corrections. Third, global public and corporate debt is at a historically high level, making these market segments increasingly vulnerable to future income or interest rate shocks.

To capture the risks to the Swiss banking sector, the SNB considers four stress scenarios. The first concerns a protracted recession in the euro area and an extended period of very low interest rates in the euro area and Switzerland. The second assumes a severe recession in the US, which spreads to the rest of the world. The third involves a major crisis in emerging economies, comparable to those during the second half of the 1990s. The fourth analyses the impact of a global interest rate shock.

The first three stress scenarios offer a benchmark for the potential effects of a worse-than-expected development of the coronavirus pandemic and of a broad price correction in financial markets. If containment measures cannot be eased as expected or even have to be tightened again, they might trigger a renewed recession centred on the regions most affected by the resurgent pandemic. This could also lead to renewed turbulence on financial markets and have an adverse effect on real estate prices.

## Globally active banks

The two globally active Swiss banks are proving resilient in the current challenging economic environment. Their profitability in 2020 was above the historical average. Global public support measures and the swift recovery of financial markets have supported the financial results of the two Swiss banks and their peers. Moreover, the diversified income structure of Credit Suisse and UBS is contributing positively to their resilience in the current environment. Though provisions for credit losses have risen significantly as a result of the pandemic, they remain low compared with international peers. This is predominantly due to the fact that the globally active Swiss banks rely less heavily on credit business and have a different loan portfolio composition. In Q1 2021, both banks – but in particular Credit Suisse – suffered large losses from exposure to a US-based hedge fund, Archegos Capital Management (‘Archegos’).<sup>1</sup> An otherwise strong performance in their investment banking and wealth management activities helped to absorb these losses. In response to this matter, FINMA has opened proceedings against Credit Suisse and ordered various risk-reducing measures to be put in place.

In line with their resilient profitability over the course of the pandemic, the two globally active Swiss banks have improved their capital position since the last Financial Stability Report. Overall, their regulatory capital ratios have returned to pre-pandemic levels and fully comply with the look-through capital requirements of the Swiss ‘too big to fail’ (TBTF) regulations.

The market’s assessment of Credit Suisse and UBS also improved following the sharp correction in Q1 2020. Over the course of the pandemic, credit default swap (CDS) premia and stock prices have recovered roughly back to pre-pandemic levels. However, following the large losses incurred on its Archegos exposure in Q1 2021, Credit Suisse’s CDS premia have increased and its stock market valuation has decreased again.

The two globally active Swiss banks are well placed to face the challenges presented by the current environment and support the real economy. At the same time, the loss potential of Credit Suisse and UBS under the stress scenarios continues to be substantial, particularly in the US recession and protracted euro area recession scenarios. Furthermore, the pandemic has again demonstrated that massive shocks and unexpected spikes in uncertainty are a recurring feature of the banking business. Finally, as the Archegos incident has illustrated, large losses may materialise even in the absence of a macroeconomic or system-wide financial shock. This underlines that the

TBTF capital requirements are necessary for ensuring adequate resilience at these two banks.

## Domestically focused commercial banks

Domestically focused banks also proved resilient in the face of the deteriorating economic conditions in 2020, with their profitability even increasing slightly compared to 2019.

Two factors explain this positive development. First, in 2020, the pandemic’s economic impact translated into only a limited increase in provisions for credit losses. To date, public support measures and the resilience of the Swiss economy have helped to prevent a materialisation of credit risks. Second, the narrowing of domestically focused banks’ interest rate margins has slowed considerably despite the renewed decline in mortgage interest rates relative to 2019.

As in previous years, domestically focused banks have retained a significant share of their profits and further built up their capital base. Both their leverage and risk-weighted capital ratios have remained stable at historically high levels. Accordingly, their buffers in excess of the regulatory minima are substantial.

Banks’ loss-absorbing capacity is particularly important in the current environment. First, experience shows that banks’ provisioning and write-offs tend to react with a lag to deteriorating economic conditions. Second, domestically focused banks’ exposure to vulnerabilities on the Swiss mortgage and real estate markets remains a source of concern. Mortgage volume at these banks has continued to rise. With regard to credit quality, the strengthening of banks’ self-regulation has significantly reduced the share of new mortgages with a high loan-to-value (LTV) ratio in the investment property segment. However, affordability risks increased slightly and reached a new high in 2020, as the loan-to-income (LTI) ratio indicates.

The SNB’s scenario analysis suggests that most domestically focused banks’ capital buffers are adequate to cover the substantial loss potential under the protracted euro area recession scenario, the US recession scenario and the interest rate shock scenario. A number of banks could nonetheless approach, or fall below, the regulatory minima in those scenarios.

The SNB will continue to monitor developments on the mortgage and real estate markets closely. In this context, it will regularly assess the need for a reactivation of the countercyclical capital buffer (CCyB).

<sup>1</sup> While FINMA and Credit Suisse refer to Archegos as a hedge fund, the Federal Reserve Board and others refer to it as a family office. This terminological distinction highlights the fact that, despite acting like a hedge fund in economic terms, Archegos was exempt from registration with the US Securities and Exchange Commission and did not have to disclose its size or leverage.



# 2 Macroeconomic environment

## 2.1 KEY DEVELOPMENTS

Economic and financial conditions for the Swiss banking system have improved since publication of the last Financial Stability Report in June 2020, although the coronavirus pandemic continues to weigh on the economy.

The first wave of the pandemic in spring 2020 and the associated containment measures led to a massive drop in global economic activity and caused governments and central banks to take extraordinary support measures. During the second half of 2020, the global economy initiated a strong recovery. The recovery was subsequently slowed by new waves of infections, which necessitated renewed containment measures. Most of these could be eased in the course of spring 2021 as vaccination campaigns progressed.

In Switzerland, largely thanks to public support measures, the pandemic's impact has been less severe than expected 12 months ago. To date, the economy and the banking system have proved resilient. In particular, Swiss banks' solid capital base and the public support measures have ensured that companies have continuous access to funding through bank loans.

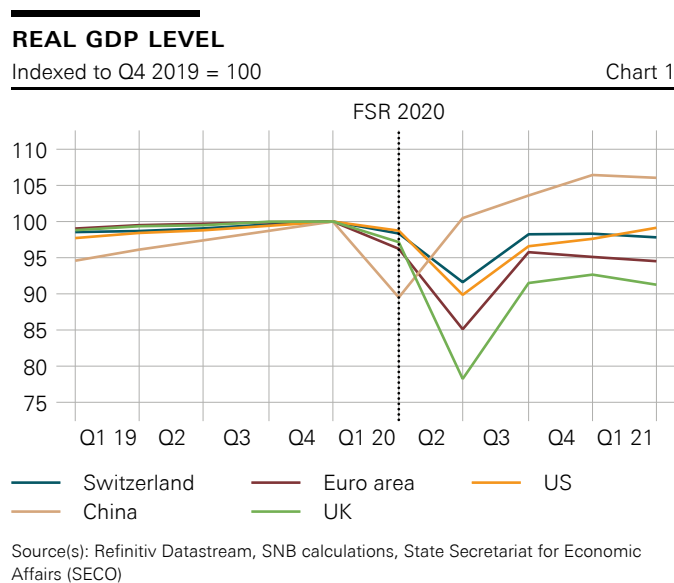
However, the pandemic's adverse impact is turning out to be substantial, both globally and in Switzerland, and the macroeconomic environment remains challenging. GDP continues to be below its pre-pandemic level in most countries and unemployment is generally elevated. Against this backdrop, interest rates are historically low, despite recent rises. Data on corporate ratings suggest a further deterioration in global corporate credit quality. At the same time, stock prices and residential real estate prices have increased markedly and corporate bond spreads have returned to their low pre-pandemic levels. On the domestic mortgage and residential real estate markets, credit volume has risen moderately, while price growth has been strong. With the improvement in Switzerland's economic outlook since the last Financial Stability Report, the likelihood of a correction on the mortgage and residential real estate markets due to pandemic-related developments has decreased. At the same time, however, the vulnerability of these markets to future shocks has increased further, as growth in mortgage lending and residential real estate prices has been higher than fundamental factors such as income and rents can explain. On the domestic commercial real estate market,

prices have come under pressure in response to the economic contraction. The uncertainty surrounding the medium-term effect of the pandemic is particularly high for this segment of the real estate market.

The global macroeconomic environment presents several risks for financial stability. First, as uncertainty about the economic outlook remains high, the risk of worse-than-expected outcomes continues to be elevated. In particular, coronavirus mutations could require additional or longer-lasting containment measures. This might delay the recovery further or even lead to a renewed recession, which would impair banks' credit portfolios. Second, in an environment of extensive fiscal and monetary policy support, there are signs of stretched valuations on stock, credit and real estate markets in a number of countries. A change in market perceptions regarding the economic outlook or the strength of policy support could trigger large price corrections. Third, global public and corporate debt is at a historically high level, making these market segments increasingly vulnerable to future income or interest rate shocks.

*Slowdown in global economic recovery, interest rates remain low:* After rebounding in Q3 2020, global GDP growth has slowed markedly since Q4 2020, as many countries have tightened containment measures again in response to rising infection numbers. In advanced economies, GDP generally remains below pre-pandemic levels (cf. chart 1) and unemployment rates are elevated. Among emerging economies, the recovery has progressed at a fast pace in China, but more slowly in other large economies such as Brazil and Russia.

Against this backdrop, interest rates are historically low, despite recent increases in long-term rates, especially in the US and the UK (cf. chart 2). Interest rate volatility has remained moderate overall.



*Financial markets optimistic about global credit quality, despite significant vulnerabilities:* Financial market indicators such as credit risk premia paint an optimistic picture of expected developments in global credit quality. However, high global indebtedness and high uncertainty surrounding the macroeconomic outlook together present a significant risk.

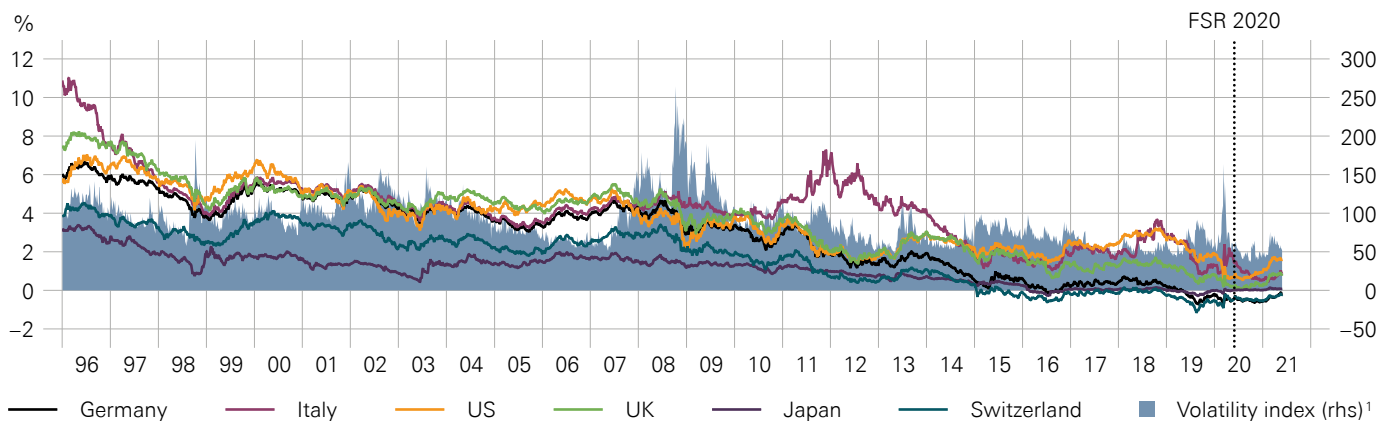
Over the reporting period, sovereign and corporate credit risk premia have declined. In the sovereign segment, risk premia are back to pre-pandemic levels for the southern member states of the euro area, whereas they continue to be more elevated than before the pandemic for some large emerging economies such as Brazil and Russia (cf. chart 3). In the corporate segment, the spike in risk premia observed in March 2020 in all major markets has completely reversed (cf. chart 4).

However, a number of indicators point to a deterioration in credit quality. In both the sovereign and the corporate segment, global debt relative to GDP has increased sharply and is at a historical high, even when the temporary nature of the drop in GDP is taken into account (cf. chart 5). The sharp increase in debt levels is partly a result of the public support measures. While these measures have helped to mitigate the pandemic's economic impact in the short term, they could lead to higher vulnerabilities in the medium term. Likewise, the number of corporate rating downgrades has exceeded the number of upgrades (cf. chart 6). The contrast between financial market indicators and debt and ratings indicators suggests a heightened risk of large price corrections.<sup>1</sup>

<sup>1</sup> Cf. also IMF, *Global Financial Stability Report*, October 2020, p. xiii.

## LONG-TERM INTEREST RATES: TEN-YEAR GOVERNMENT BONDS

Chart 2



<sup>1</sup> The index used is the MOVE Index, which measures the implied volatility of US Treasury options.

Source(s): Bloomberg, Refinitiv Datastream

## SOVEREIGN CREDIT DEFAULT SWAP PREMIA

Premia for credit protection (five-year senior)

Chart 3



Source(s): Bloomberg

Despite the deep economic recession and high debt levels, non-performing loan ratios and corporate insolvencies have not increased significantly in advanced economies,<sup>2</sup> indicating that credit risks have so far only partially materialised. However, these indicators usually react to shocks with a lag and policy support measures have mitigated much of the pandemic's impact to date. Weak earnings forecasts and high debt levels suggest that policy support measures may have only delayed insolvencies for some firms.<sup>3</sup>

In Switzerland, too, market indicators such as corporate bond spreads are consistent with an improvement in expected corporate credit quality. In line with global

developments, corporate debt relative to GDP has increased. Moreover, high and increasing household debt relative to GDP, and rising affordability risks in mortgage lending, constitute relevant vulnerabilities (cf. subchapters 2.3 and 5.2). As regards backward-looking indicators, non-performing loan ratios remain historically low and indicators for corporate insolvencies have not increased so far – indeed, they have even decreased. As mentioned above, these indicators tend to lag and it is likely that they will eventually increase in response to the economic shock.

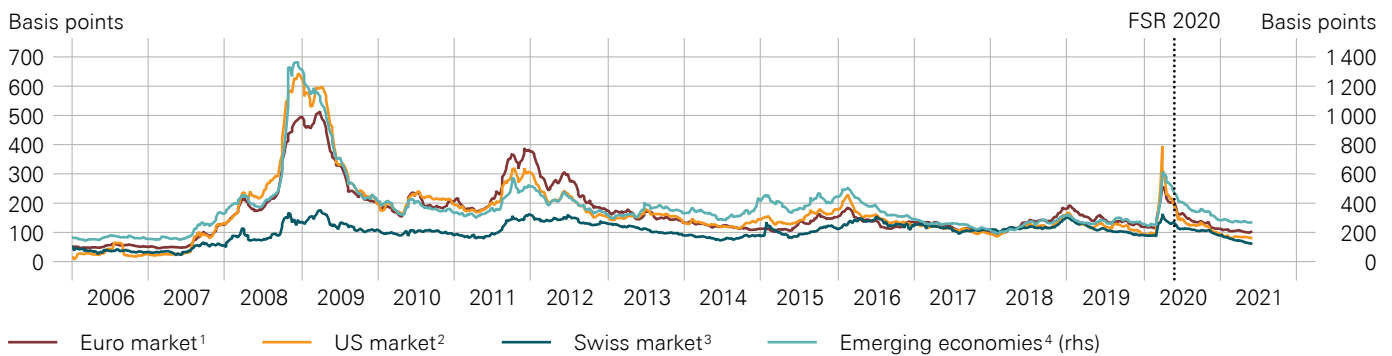
*Rally on stock markets:* Stock prices have risen markedly over the last 12 months. Price increases were particularly strong in the US and the euro area, while they were comparatively weaker in Switzerland and the UK. Despite the rising prices, stock market volatility has remained above its pre-pandemic level for much of the period. The

2 Cf. IMF *World Economic Outlook*, April 2021, p. 19.  
3 Cf. Banerjee, R., J. Noss and J. M. Vidal Pastor, Liquidity to solvency: transition cancelled or postponed?, *BIS Bulletin* No. 40.

## BOND SPREADS

Yield spread between corporate and government bonds

Chart 4

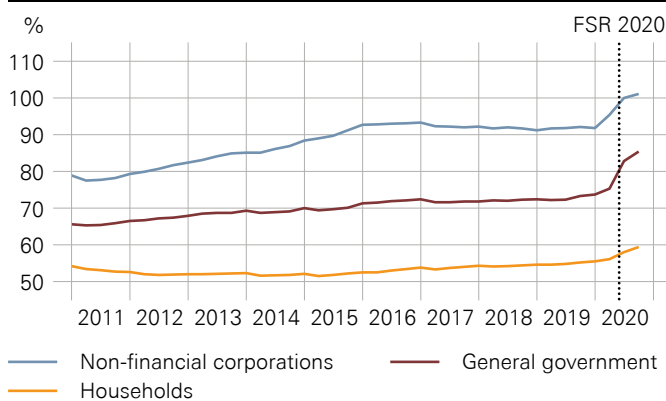


1 Euro-Aggregate Corporate (investment grade, 5–7 year maturity, EUR-denominated) and German Government (5–7 year maturity), Bank of America Merrill Lynch.  
2 US Corporate (investment grade, 5–7 year maturity, USD-denominated) and US Treasury (5–7 year maturity), Bank of America Merrill Lynch.  
3 Yields for Swiss investment grade corporate bonds (5-year maturity) and for Swiss Confederation bonds (5-year maturity), calculated by the SNB.  
4 Emerging Economies Corporate (USD and EUR-denominated), option-adjusted spread, Bank of America Merrill Lynch.

Source(s): Refinitiv Datastream, SNB, St. Louis Fed

## GLOBAL DEBT/GDP<sup>1</sup>

Chart 5



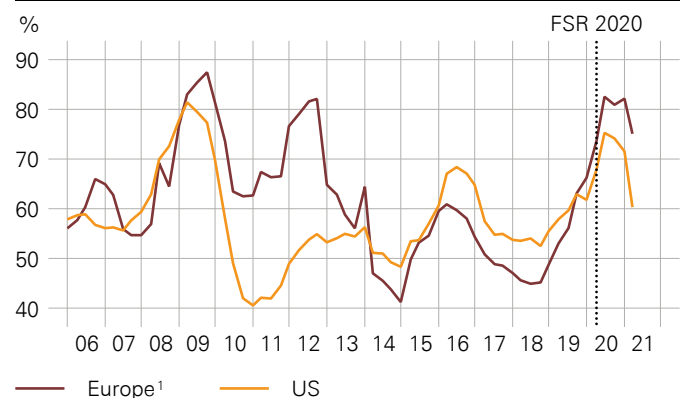
1 All reporting countries. Aggregate based on conversion to USD at PPP exchange rates.

Source(s): BIS, Refinitiv Datastream

## RATING DOWNGRADES RATIO

Number of downgrades relative to total rating changes in non-financial sector, moving average over four quarters

Chart 6



1 EU-17 countries plus Switzerland, Norway and Iceland.

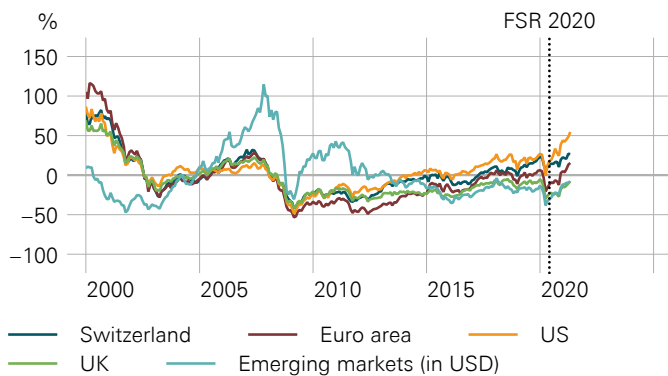
Source(s): Moody's

cyclically adjusted price/earnings ratio (cf. chart 7), a measure of stock valuation, lies significantly above its long-term average for the US, the euro area and Switzerland.<sup>4</sup>

**Favourable market developments for international banking sector:** In line with overall developments in credit risk premia, CDS premia (a market indicator of bank resilience) for the largest banks have decreased further and are at pre-pandemic levels (cf. chart 8). Bank stock prices have also recovered, outperforming general stock price indices. Short-term funding markets have remained calm.

4 Based on a 36-year average of the ratio. For the US, the deviation of the price/earnings ratio from its long-term average is significantly greater when long-term data covering more than 100 years are used.

**CYCLICALLY ADJUSTED PRICE/EARNINGS RATIO**  
Deviation from average;<sup>1</sup> Datastream global indices Chart 7



1 The average of earnings is calculated using a 10-year moving average. The average of the price/earnings ratio is calculated over the period 1985–2021 or for the period where data are available.

Source(s): IMF, Refinitiv Datastream

**Vulnerable real estate markets:** Against the backdrop of accommodative monetary and fiscal policy, the pandemic has so far had mixed effects on real estate markets. Overall, the vulnerability of these markets to future shocks has increased.

In residential real estate markets, despite the significant deterioration in economic conditions, prices for single-family houses, apartments and apartment buildings have mostly continued to rise – in many countries even at an accelerated pace (cf. chart 9). In the context of these price developments, vulnerabilities in the residential real estate markets of several major economies have increased. The residential price-to-rent ratio, a simple measure of real estate valuation, has increased markedly and lies above its long-term average in many countries (cf. chart 10). More generally, a wide range of indicators, which account for the impact of factors such as income and interest rates, point to vulnerabilities in many countries’ residential real estate markets.<sup>5</sup>

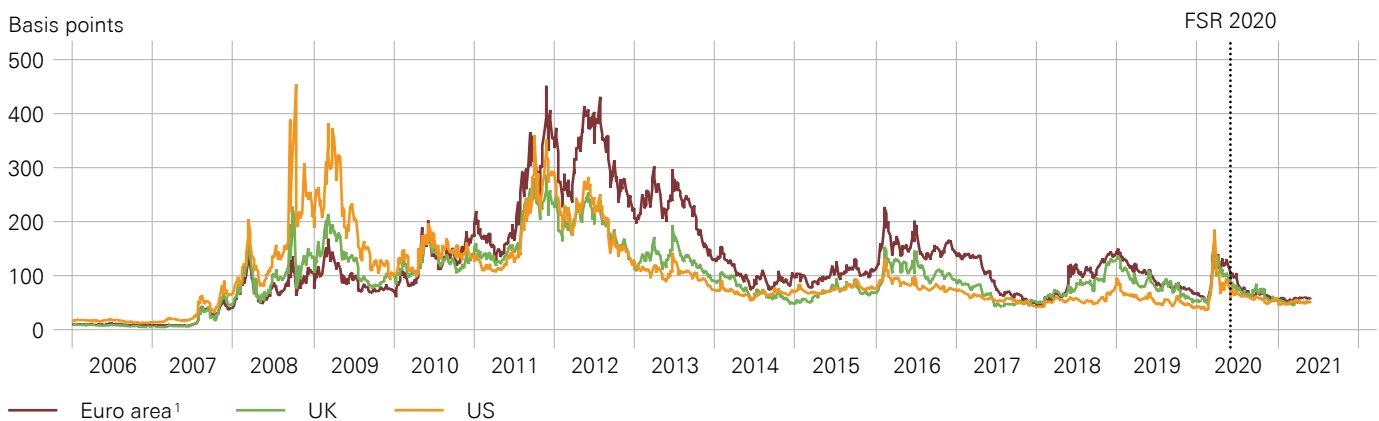
In the commercial investment segment, prices have decreased overall as a consequence of the pandemic. Developments have varied greatly between countries, locations and property types, however. Overall, the vulnerability of the commercial investment segment has increased during the pandemic as fundamental factors such as aggregate demand and net operating income have deteriorated and the outlook remains particularly uncertain.<sup>6</sup>

5 Cf. ECB, *Financial Stability Review*, May 2021, p.36; Board of Governors of the Federal Reserve System, *Financial Stability Report*, May 2021, p.20.

6 Cf. IMF, *Global Financial Stability Report*, April 2021, pp.51–60.

**BANK CREDIT DEFAULT SWAP PREMIA**

Average of biggest banks (five-year senior) Chart 8



1 France, Germany, Italy, Netherlands and Spain.

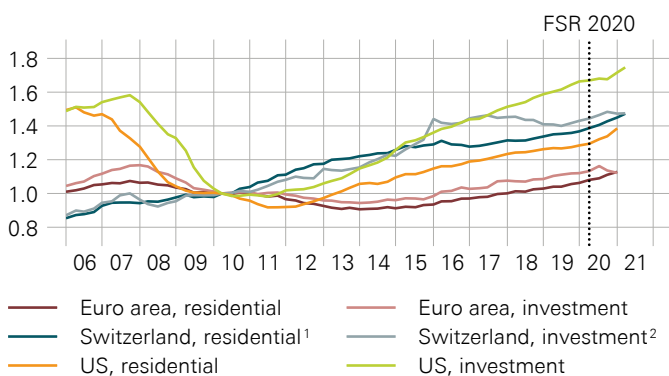
Source(s): Bloomberg, Refinitiv Eikon, SNB calculations

## 2.2 BANK LENDING TO SWISS COMPANIES IN THE CONTEXT OF THE CORONAVIRUS PANDEMIC

Companies in Switzerland have had continuous access to funding via bank loans since the outbreak of the coronavirus pandemic. This has been possible thanks to the banks' solid capital base, which has allowed them to maintain their role as credit providers, and to a set of targeted measures implemented by the Swiss authorities in March 2020. The latter included the Federal Council's guaranteed loan programme and the SNB COVID-19 refinancing facility (CRF, cf. Financial Stability Report 2020, pp. 11–14). Ongoing access to credit enabled companies to bridge liquidity shortfalls resulting from the pandemic and, together with other measures such as the short-time work compensation scheme, helped to contain its negative impact on the economy and on financial stability.

### REAL ESTATE PRICES

In real terms (deflated by total CPI), Q1 2010 = 100 Chart 9

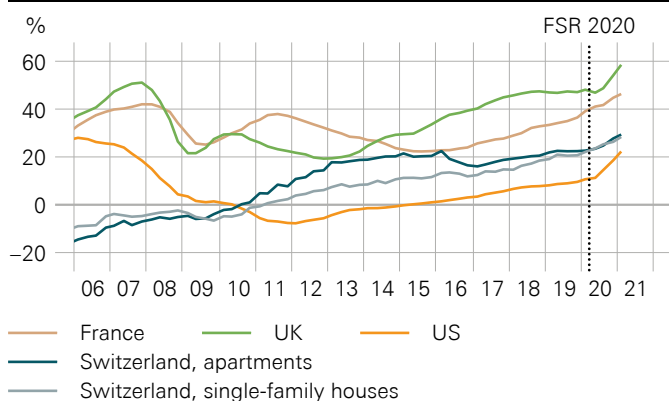


- 1 Weighted average of transaction prices for single-family houses and apartments.  
 2 Weighted average of transaction prices for residential (apartment buildings) and commercial (office and retail buildings) investment real estate.

Source(s): BIS, FSO, Refinitiv Datastream, Wüest Partner

### RESIDENTIAL REAL ESTATE: PRICE-TO-RENT RATIOS

Deviation from long-term average<sup>1</sup> Chart 10



- 1 The average is calculated over the period 1970–2019, or over the period for which data are available. For Switzerland, transaction prices are used.

Source(s): BIS, FSO, OECD, Refinitiv Datastream, Wüest Partner

To date, the SNB's monitoring has shown no evidence of credit rationing. The findings of the qualitative SNB survey<sup>7</sup> launched in spring 2020, as well as the development of credit aggregates and market intelligence, all suggest that the credit market in Switzerland is functioning smoothly.

Survey results show that, for most banks, loan rejection rates have remained at between 0% and 20% (cf. chart 11), a level that is within the normal pre-pandemic range according to banks. The main reason for rejections has been concerns about applicants' financial strength. Virtually no banks have reported their own capital and liquidity situation as a factor limiting credit supply. While banks have tightened credit conditions for customers in particularly affected sectors, overall lending conditions have remained broadly unchanged (cf. chart 12).

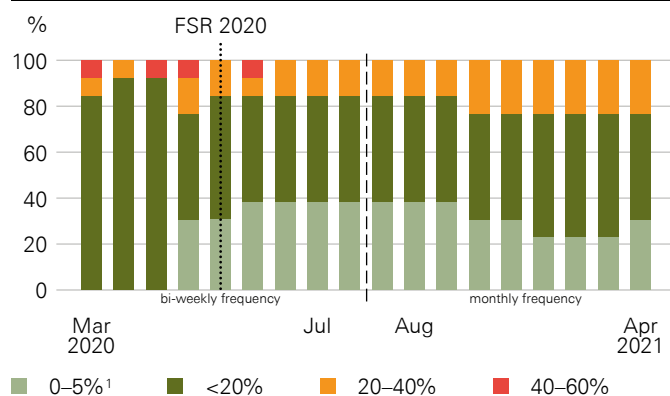
These findings are consistent with other observations. Total bank lending outside the guaranteed loan programme has also increased (cf. chart 13), keeping credit limit utilisation rates at broadly unchanged levels. Moreover, interest rates and risk premia for new loans have remained stable overall. Finally, a number of banks have implemented their own bridging loan programmes for companies that have fundamentally viable business models but are currently unable to meet banks' lending standards due to the pandemic.

Public support measures have also been crucial in alleviating liquidity issues at companies in Switzerland. The Federal Council's guaranteed loan programme, in combination with the CRF, enabled companies to gain rapid access to bridging loans. This was particularly important as many of these companies have been severely

7 To support its assessment, the SNB launched a qualitative bank survey, as a complement to its regular statistics. The frequency was fortnightly from March 2020 until July 2020, and monthly thereafter.

### REJECTION RATE ON APPLICATIONS FOR NON-GUARANTEED LOANS

Share of banks per rejection rate range Chart 11



- 1 Since mid-May 2020, the survey additionally covers 0–5%.

Source(s): SNB



affected by the pandemic and did not have an established credit relationship with a bank before it broke out. The guaranteed loan programme provided around 137,000 companies – one-fifth of eligible firms – with access to liquidity; the volume of bridging loans granted totalled CHF 17 billion. Overall, the utilisation of these bridging loans has continued to increase slowly since the last Financial Stability Report; a small share of firms have already fully repaid their loans. Moreover, by end-April 2021, banks had used the CRF to refinance more than 70% of the outstanding COVID-19 credit limits, illustrating the relevance of this facility. Both the guaranteed loan programme and the CRF remain important support measures despite the improvement in economic conditions. Other important public support measures that have helped reduce companies' liquidity needs or bridge liquidity shortfalls are the short-time work compensation scheme and the hardship assistance programme for particularly affected companies.

### 2.3 SWISS MORTGAGE AND REAL ESTATE MARKETS

Mortgage volume and residential real estate prices have continued to rise since end-2019. These markets benefited from the fact that support measures helped to mitigate the coronavirus pandemic's impact on household income. Furthermore, demand for residential real estate was supported by low interest rates. Market analysts also report that household preferences, and thus demand, for residential property increased during the lockdown. Against this backdrop, concerns that a worse-than-expected development of the pandemic might trigger a correction in the mortgage and residential real estate markets have not materialised. Moreover, with the improvement in the economic outlook since the last Financial Stability Report, the likelihood of pandemic-related developments triggering a correction has decreased. At the same time, however, the shift in household preferences for residential property could be temporary. More generally, the vulnerability of these

markets to future shocks has increased further since end-2019 as mortgage and residential real estate price growth has been higher than fundamental factors such as income<sup>8</sup> and rents can explain.

#### Moderate mortgage growth, strong residential real estate price growth

Mortgage growth in the Swiss banking sector as a whole was unchanged in 2020 compared to the previous year and remained at a moderate level (3.2% at end-2020).<sup>9</sup> Meanwhile, transaction price indices for single-family houses and apartments indicate that growth on the owner-occupied residential real estate market was strong in 2020. At end-2020, year-on-year transaction price growth was 5.4% for single-family houses (compared to 2.4% at end-2019), and 5.1% for apartments (end-2019: 2.1%).<sup>10</sup> In the residential investment property segment, in spite of mounting vacancies, year-on-year transaction price growth was 3.2% for apartment buildings (compared to 1.5% at end-2019).<sup>11</sup> Overall, year-on-year growth in Q1 2021 was similar to year-on-year growth in Q4 2020 for both mortgage volume and residential real estate prices.

8 Given the lagged availability of broad income measures, the vulnerability indicators for mortgage and real estate markets presented in this section use GDP as a proxy for income. While data on labour income and short-time work compensation suggest that, in 2020, household income was less affected by the coronavirus pandemic than GDP, they do not alter the assessment of vulnerabilities substantially. According to these data, vulnerability indicators would still have increased in 2020 if household income rather than GDP had been used as a fundamental factor.

9 Mortgage growth at insurers (excluding reinsurers) amounted to 1.9% in 2020. At pension funds, for which the latest available figures are for the year 2019, mortgage growth was 18%. The overall market share of non-banks, i.e. insurers and pension funds, in the domestic mortgage market remains low, at around 4% for insurers and around 2% for pension funds in 2019.

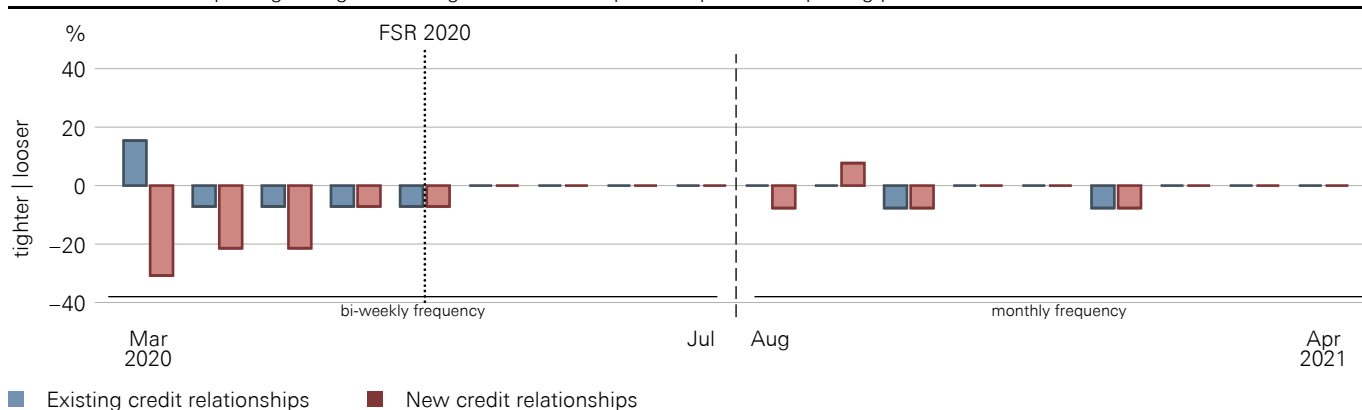
10 Source: Wüest Partner. According to Federal Statistical Office (FSO) indices, year-on-year price growth at end-2020 was 3.2% for single-family houses and 3.1% for apartments.

11 Source: Wüest Partner.

### CHANGE IN LENDING CONDITIONS FOR NON-GUARANTEED LOANS

Net share of banks reporting change in lending conditions compared to previous reporting period<sup>1</sup>

Chart 12



1 The bars represent the difference between the share of banks reporting a loosening and the share of banks reporting a tightening of lending conditions compared to the previous reporting period.

Source(s): SNB

### Increase in vulnerabilities in Swiss mortgage and residential real estate markets

In the mortgage market, vulnerabilities have increased since end-2019. Before the outbreak of the pandemic, the mortgage-to-GDP ratio had already reached high levels by both historical and international standards, due to mortgage growth significantly outpacing income growth over a number of years. Since end-2019, the divergence in growth rates has been particularly pronounced, as economic activity contracted following the onset of the pandemic while mortgage growth remained unchanged. The mortgage-to-GDP ratio increased significantly and the difference between this ratio and its long-term trend – a measure of vulnerability – widened substantially. While developments since end-2019 point to growing vulnerabilities, these should not be overstated. The currently high values for both the mortgage-to-GDP ratio and the difference between this ratio and its long-term trend are likely to decrease to some extent as the economy recovers from the pandemic.

Developments in the single-family house and apartment segments suggest that vulnerabilities in the owner-occupied residential real estate segment have increased further since end-2019. Over the last decade, and particularly in 2020, transaction prices for both single-family houses and apartments have risen faster than fundamental factors can explain. As a result, a broad set of indicators currently points to overvaluation in these segments, implying an elevated risk of price corrections (cf. chart 14).

The uncertainty regarding the extent of this overvaluation is high, however. For the apartment segment, simple valuation metrics, such as price-to-rent and price-to-GDP ratios, have reached levels that are roughly 30% above their historical averages. According to model-based indicators accounting for a broader set of economic factors, such as GDP, income, rents and interest rates, current

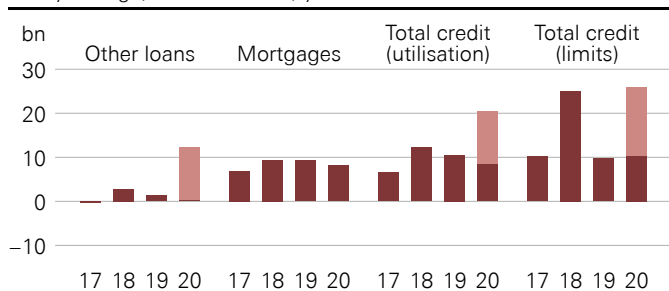
prices are about 5–30% overvalued. The upper and lower end of this range are given by the ‘user cost’ model.<sup>12</sup> This forward-looking metric is sensitive to assumptions regarding the evolution of interest rates and rents over the very long term. For instance, according to this model and assuming long-term expectations for the real mortgage rate at the historical average of 2.6% (‘baseline’), market prices for apartments are roughly 30% above the level justified by fundamentals. Assuming a real mortgage rate of 1.0% (‘very low interest rate’) results in an overvaluation of around 5%. An econometric model<sup>13</sup> explaining real estate prices based on their historical relationship with GDP per capita, the stock of residential buildings per capita and the real long-term interest rate, puts the overvaluation in the middle of the 5–30% range. As can be seen in chart 14, this model’s estimates are sensitive to large fluctuations in income, such as those observed in 2020.

In the residential investment property segment, vulnerabilities to future shocks also remain high. Since the beginning of the low interest rate environment in 2008, transaction prices for apartment buildings have grown much more than rents (cf. chart 15), resulting in historically low initial yields (i.e. the ratio of rental returns to transaction prices). Furthermore, brisk construction of rental apartments, as measured by the

### DOMESTIC BANK CREDIT TO NON-FINANCIAL CORPORATIONS

Yearly change, in CHF billions, year-end data

Chart 13



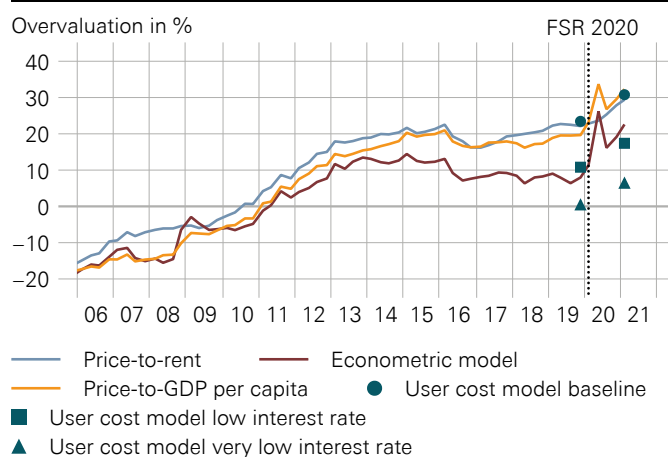
- COVID-19 bridging loans, approximated<sup>1</sup>
- Bank credit excluding COVID-19 bridging loans

1 Approximations for loans granted under the Federal Council’s COVID-19 bridging loans scheme and other guaranteed loan programmes. Repayments until end-2020 considered.

Source(s): SECO, SNB

### APARTMENTS: VALUATION INDICATORS

Chart 14



Source(s): FSO, SECO, SNB, Wüest Partner

number of approvals<sup>14</sup> as well as buy-to-let activity,<sup>15</sup> have led to rising vacancy rates (cf. chart 16). Although the number of approvals for rental apartment construction has declined somewhat since 2018, the high level of vacant dwellings suggests oversupply.

Going forward, the vulnerabilities in the mortgage and residential real estate markets, and the resulting risk of disruptions, continue to present relevant financial stability risks. A price correction and a materialisation of affordability risks could be triggered if an unexpectedly large upward interest rate shock were to occur, or if the pandemic's impact on household and corporate income were to be more adverse than currently expected under the baseline scenario.

The commercial investment segment of the real estate market was affected heterogeneously by the pandemic and remains vulnerable to future deterioration in economic conditions. Since end-2019, available indicators suggest that, overall, commercial investment prices have come under pressure in response to the economic contraction (cf. chart 15). However, market participants report that property types have been affected to varying degrees. For example, hotels, restaurants and retail space have been hit hard, while office space at central locations has been only marginally affected. The uncertainty surrounding the medium-term effect of the pandemic on the commercial investment segment of the real estate market is high. Some of the negative effects could prove transitory, while others (such as the partial replacement of physical gatherings by online meetings and employees partly working from home) could be permanent.<sup>16</sup> Generally, this segment

tends to be more sensitive to the economic cycle than the residential segment. In an economic downturn, companies' demand for commercial space typically weakens, thereby increasing vacancy rates and exerting a dampening effect on commercial rents. Lower rental income, in turn, causes transaction prices for commercial real estate to decline.

The SNB will continue to monitor developments on the mortgage and real estate markets closely. In this context, it will regularly assess the need for a reactivation of the CCyB.

## 2.4 CLIMATE RISK

In line with its statutory mandate, the SNB actively monitors climate-related risks to financial stability. Climate change could affect banks' traditional core business – e.g. as a result of write-downs on loans to particularly exposed companies or trading losses caused by valuation adjustments in stock and bond markets.<sup>17</sup>

There are essentially two key types of climate risk: transition risks and physical risks.

*Transition risks* are the risks associated with transitioning to a sustainable, low-carbon economy. New laws and regulations as well as technological innovations can lead to upheavals in the real economy. For example, a sudden and strong increase in emission taxes or a ban on carbon-intensive production processes could threaten the existence of companies or entire industrial sectors.

*Physical risks* are risks associated with an increase in the frequency and severity of climate-related natural catastrophes. These natural catastrophes involve weather

14 Source: Wüest Partner, Baublatt Info-Dienst.

15 Buy-to-let properties are generally apartments and single-family houses owned by private individuals that are not occupied by the owners themselves, but are instead rented out (cf. [www.finma.ch/en/news/2019/08/20190828-mm-selbstregulierung/](http://www.finma.ch/en/news/2019/08/20190828-mm-selbstregulierung/)).

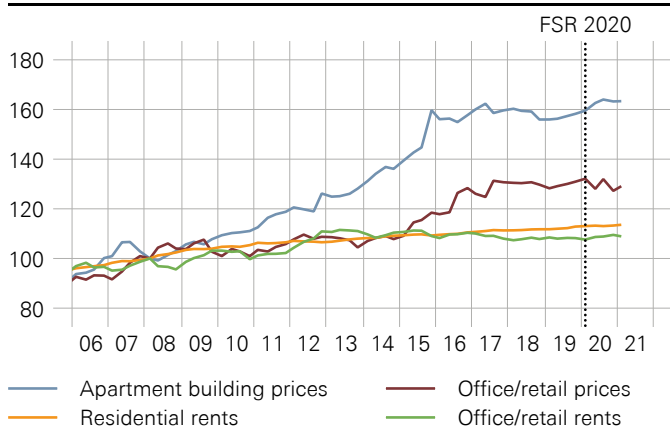
16 Cf. IMF, *Global Financial Stability Report*, April 2021, p. 53.

17 For an overview of climate risks in the context of financial stability, cf. *The green swan*, BIS, January 2020.

### INVESTMENT REAL ESTATE: PRICES AND RENTS<sup>1</sup>

In nominal terms, Q1 2008 = 100

Chart 15



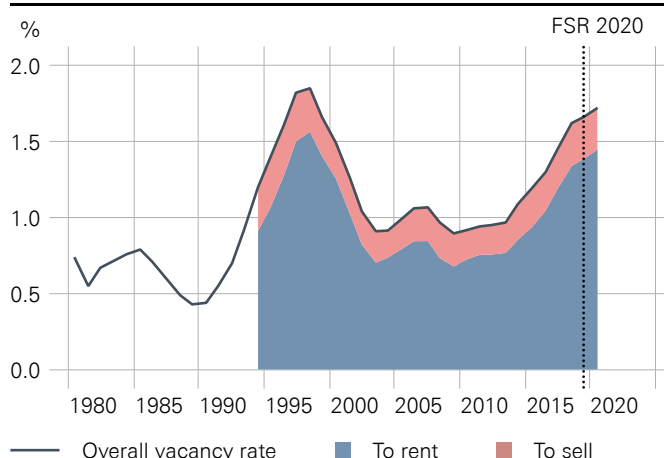
1 Transaction prices and existing rents (residential) / asking rents (office/retail).

Source(s): FSO, Wüest Partner

### RESIDENTIAL VACANCY RATE

Vacant dwellings relative to total number of dwellings

Chart 16



Source(s): FSO, SNB calculations



events (storms, floods, droughts, etc.) as well as longer-term environmental changes (rising sea levels, changes in precipitation, etc.). For example, storms can damage production facilities and infrastructure, leading to declines in economic output.

From a financial stability perspective, the SNB focuses on whether the banking system and systemically important financial market infrastructures (FMIs) are adequately prepared for potential climate-related shocks and whether climate risks are properly covered by existing regulations. At present, the SNB regards the risk posed by climate change to the stability of the Swiss banking sector and the systemically important FMIs as moderate; it keeps this assessment under ongoing review.

As part of this assessment, the SNB is currently working on a joint pilot project with FINMA and the University of Zurich to identify and measure risk concentrations at Switzerland's globally active banks in respect of transition risks. To date, detailed data on the banks' sectoral exposures in stocks, bonds, loans and derivatives have been collected.<sup>18</sup> Moreover, these exposures have been mapped to climate policy-relevant sectors (CPRS) – groups of economic activities with a similar degree of vulnerability to transition risks.<sup>19</sup> In a next step, the impact of possible changes in climate policy will be assessed using sensitivity analysis.<sup>20</sup>

The findings will help decision-makers evaluate whether these risks are adequately covered or whether action needs to be taken. Regarding systemically important FMIs, the SNB focuses on minimising climate-related physical risks that could lead to operational outages, e.g. by stipulating that technical facilities be distributed across locations with different risk profiles.

In the year under review, important steps were taken in the area of climate-related financial disclosures. FINMA announced a strengthening of the disclosure requirements for banks and insurers based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).<sup>21</sup> Moreover, the Federal Council announced that it was officially backing the TCFD's recommendations. It called on Swiss companies from all sectors to implement them and committed to drafting a bill to make the

requirements binding.<sup>22</sup> Greater transparency is essential if companies and authorities are to improve their climate-related risk assessments and markets are to price the associated risk accurately.

At international level, the SNB contributes to the activities of the Network for Greening the Financial System (NGFS) to define methodologies and best practices for central banks to assess climate-related risks. Moreover, as a longstanding member of the Basel Committee on Banking Supervision (BCBS), the SNB participates in the Committee's work regarding the integration of climate risk into banking supervision. In particular, the Committee will investigate the extent to which climate-related financial risks can be addressed within the existing Basel Framework, identify potential gaps in the current framework and consider possible measures to address them.<sup>23</sup>

## 2.5 MACROECONOMIC AND FINANCIAL SCENARIOS

To capture the different sources of risk to the Swiss banking sector, the SNB considers a baseline and four stress scenarios for developments in the economic environment and in financial market conditions. The baseline scenario reflects the current economic and financial environment and describes the most likely outcome given currently available information. By contrast, the stress scenarios are designed for systematically analysing the vulnerabilities and the resilience of the Swiss banking sector. The SNB periodically estimates the impact of the stress scenarios, irrespective of their putative short-term likelihood. Each stress scenario covers a subset of relevant risk factors for Swiss banks that are analysed within an internally consistent framework. The calibration of shocks is guided by historical experience.

All of the stress scenarios concentrate on macroeconomic and financial risk factors.<sup>24</sup> The impact of the different scenarios on the Swiss banking sector as regards banks' loss potential and resilience is examined in chapters 4 and 5.

### Baseline scenario

The SNB's baseline scenario assumes that, globally, vaccination programmes prove effective, the pandemic remains under control in the major economies, and containment measures are gradually scaled back during 2021. As a result, the global economy grows strongly. However, with the exception of China, the recovery in

18 Sectoral data are based on the 'European statistical classification of economic activities' (NACE Rev. 2). The four-digit granularity used comprises over 600 sectors.

19 For example, CPRS for coal producers comprises four NACE Rev. 2 categories: 'Mining of hard coal', 'Mining of lignite', 'Manufacture of coke oven products', and 'Extraction of peat'.

20 The work is based on Battiston, S., A. Mandel, I. Monasterolo, F. Schütze and G. Visentin 2017, A climate stress-test of the financial system, *Nature Climate Change* 7, 283–288 (2017), and Vermeulen, R., E. Schets, M. Lohuis, B. Kölbl, D.-J. Jansen and W. Heeringa 2018, *An energy transition risk stress test for the financial system of the Netherlands*, Occasional Studies, Vol. 16, No. 7, De Nederlandsche Bank.

21 Cf. FINMA press release of 31 May 2021.

22 Cf. press release of the Federal Council from 12 January 2021. The TCFD was established at the end of 2015 by the Financial Stability Board, of which Switzerland is a member, to develop recommendations on the financial transparency of companies with regard to climate change. Its recommendations provide a common international framework that enables companies and financial sector players to properly assess and quantify their exposure to climate risk.

23 Cf. BIS press release of 14 April 2021.

24 In addition to the risks covered by these scenarios, operational and legal risks (including cyber risks) can materialise, in most cases independently of the underlying economic scenario.

the emerging economies is generally less rapid as vaccination campaigns advance at a slower pace and some containment measures are still necessary. Global production capacity continues to be underutilised and unemployment remains elevated. Global monetary policy continues to be accommodative. In Switzerland, GDP grows strongly in the near term and unemployment declines. Production capacity remains underutilised for some time, however.

### **Stress scenarios**

*Protracted euro area recession:* This scenario involves protracted recessions for the euro area and Switzerland. Stock prices drop and corporate spreads widen globally. In many countries, including Switzerland, real estate prices fall significantly. Interest rates in Switzerland remain very low for an extended period.

*US recession:* A severe recession spreads from the US to the rest of the world, including Switzerland. Global financial stress rises significantly, and both real estate and stock prices drop sharply. Global interest rates remain low.<sup>25</sup>

*Emerging markets crisis:* Emerging economies experience a severe recession with an abrupt rise in domestic bond spreads and a sharp drop in stock prices. The advanced economies experience a mild recession, but major financial stress. Global interest rates remain low.

*Interest rate shock:* In this scenario, increasing inflation triggers a rapid rise in interest rates around the globe. Subsequently, economic growth slows significantly and real estate prices fall sharply.

The first three stress scenarios offer a benchmark for the potential effects of a worse-than-expected development of the coronavirus pandemic and of a broad price correction in financial markets. If containment measures cannot be eased as expected or even have to be tightened again, they might trigger a renewed recession centred on the regions most affected by the resurgent pandemic. This could also lead to renewed turbulence on financial markets and have an adverse effect on real estate prices. The interest rate shock scenario helps to assess risks to financial stability stemming from vulnerabilities on the mortgage and real estate markets.

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<sup>25</sup> This scenario specification is similar to the 'severely adverse scenario' in the US Federal Reserve's 2021 stress test.

### 3 Structure of the Swiss banking sector

The banking sector plays an important role in Switzerland's economy, as banks are the main providers of essential financial services. These so-called 'systemically important functions' include, in particular, domestic deposit and lending business. Moreover, the banking sector accounts for around 5% of value added in Switzerland, and employs about 106,000 people.

The Swiss banking sector is distinguished by its size, the dominance of a small number of banks and its international integration. At the end of 2020, total banking sector assets stood at roughly CHF 3,800 billion. This is equivalent to around 500% of Swiss GDP – a high ratio by international standards (cf. table 1). A look back over the last 25 years shows that this ratio climbed steadily to over 800% until the beginning of the global financial crisis of 2007/08, but has since fallen again (cf. chart 17). This development is exclusively attributable to foreign assets – especially those held by the two largest Swiss banks, Credit Suisse and UBS. At the same time, the ratio of domestic assets to GDP has remained relatively stable, as has domestic employment in the Swiss banking sector.<sup>1</sup>

1 According to SNB data, between 2005 and 2020, domestic employment decreased slightly from approximately 110,000 to approximately 106,000 on a consolidated basis. Data are only available from 2005 onwards.

The Swiss banking sector can be broken down into three broad categories: (i) the two globally active banks, Credit Suisse and UBS, (ii) the domestically focused banks (DFBs),<sup>2</sup> primarily comprising regional, cantonal and Raiffeisen banks, and (iii) other banks, which include domestic banks as well as branches and subsidiaries of foreign banks. These three bank categories differ with regard to size, market share in domestic business, and business model.

Of the 232 banks in Switzerland, the SNB has designated five institutions as systemically important for the country. Systemically important banks are those whose failure could cause serious damage to the Swiss economy and the Swiss financial system on account of their size, interconnectedness with the economy and financial system, as well as their services which cannot be substituted at short notice.<sup>3</sup> Due to their systemic importance, they are subject to special regulatory requirements under the Banking Act.<sup>4</sup> The five systemically important banks are the two globally active banks, Credit Suisse and UBS, and three domestically focused banks, PostFinance, Raiffeisen Group and ZKB. Credit Suisse and UBS are additionally identified as global systemically important banks (G-SIBs) by the Financial Stability Board (FSB).

2 Banks with a share of domestic loans to total assets exceeding 50% or which play a prominent role in the domestic deposit market.

3 Cf. arts. 7 and 8 Banking Act.

4 These special requirements include higher capital and liquidity requirements as well as specific requirements for resolvability in a crisis (cf. art. 9 Banking Act).

#### INTERNATIONAL COMPARISON OF BANKING SECTOR SIZE

2019

Table 1

	Size of banking sector (ratio of total assets to annual GDP)
Switzerland	489%
United Kingdom	435%
France	315%
Netherlands	307%
Canada	279%
Sweden	259%
Belgium	220%
Japan	212%
Germany	201%
Italy	161%
United States	100%

Source(s): Central bank websites, IMF

An international comparison shows that the five systemically important banks are large relative to the economy (cf. chart 18). This is particularly true of the two globally active banks, Credit Suisse and UBS. In each case, their total exposure,<sup>5</sup> as a measure of bank size, is roughly 130% of Swiss GDP. The three DF-SIBs are also large relative to the domestic economy in an international comparison, with total exposure in each case between 16% and 36% of GDP.<sup>6</sup>

5 Total exposure is the sum of on and off-balance-sheet positions as defined in the Basel III leverage ratio framework.

6 A comparison of euro area banks to euro area GDP (see dark yellow bars in chart 18) serves as a useful alternative benchmark since these banks have access to centralised funding and capitalisation schemes (cf. [srb.europa.eu/en/content/single-resolution-fund-and-consilium.europa.eu/media/37268/tor-backstop\\_041218\\_final\\_clean.pdf](http://srb.europa.eu/en/content/single-resolution-fund-and-consilium.europa.eu/media/37268/tor-backstop_041218_final_clean.pdf)).

The five systemically important banks play a prominent role in the Swiss banking sector. In terms of total assets, the two globally active banks dominate, each accounting for approximately one-quarter of total banking sector assets. In the domestic deposit and lending business, the three DF-SIBs also play an important role. Together, the five systemically important banks account for more than half of this domestic business (cf. charts 19 and 20). The other domestically focused banks account for roughly one-third. The market share of the ‘other banks’ category is less than one-tenth.

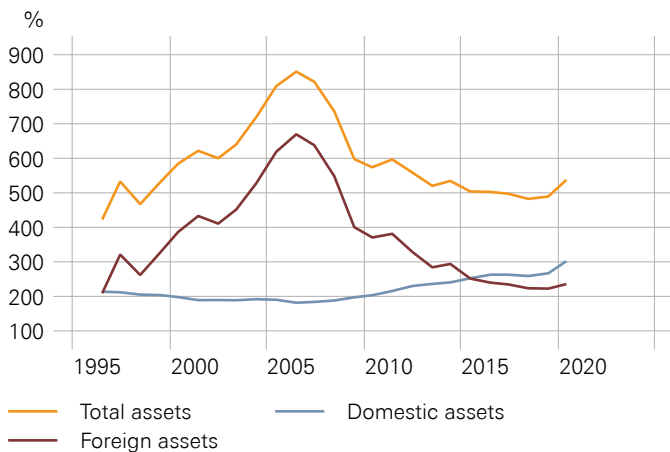
The business models of the three bank categories are very different. The two globally active banks, Credit Suisse and UBS, are universal banks with a large proportion of foreign business (roughly 70% of their respective balance sheets). Both institutions place special emphasis on international wealth management, but they also have substantial operations in domestic deposit and lending business as well as investment banking. While investment banking has been scaled back since the global financial crisis, it continues to make up about one-third of both Credit Suisse’s and UBS’s total exposure. The income structure of these two banks is relatively diversified, with the largest share coming from fee and commission income due to their focus on wealth management (cf. chart 21).

The domestically focused banks concentrate on deposit and lending business, with a special focus on mortgage lending. Interest income is therefore the dominant component of their total income. Other sources of income play a smaller role (cf. chart 21). Their domestic assets account for about 90% of their total assets.

### SIZE OF BANKING SECTOR

As a percentage of GDP, consolidated

Chart 17

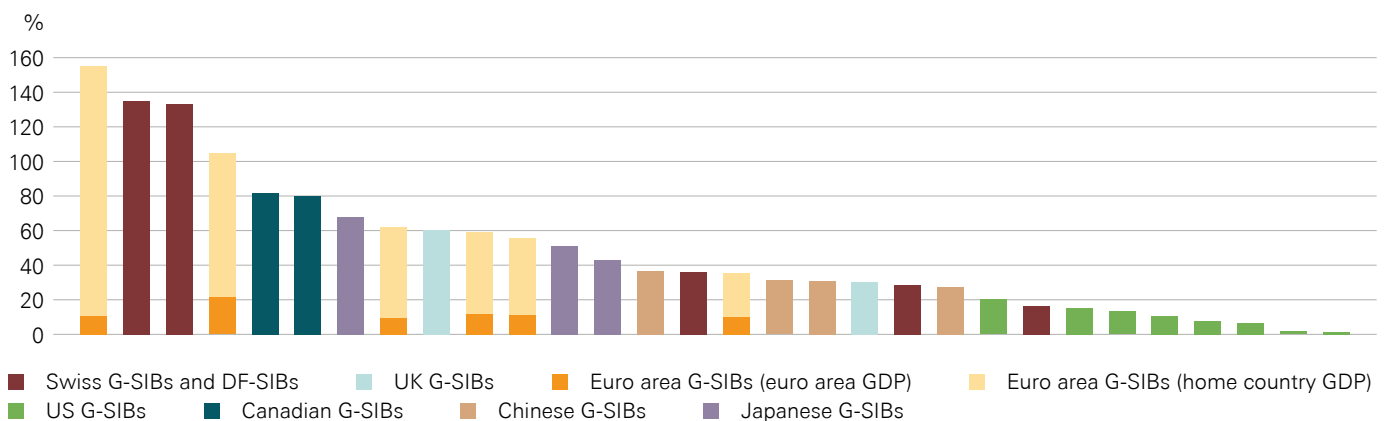


Source(s): SNB

### BANK SIZE TO GDP OF JURISDICTION<sup>1</sup>

G-SIBs and Swiss DF-SIBs

Chart 18



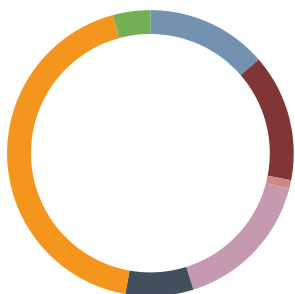
<sup>1</sup> Bank size measured by total exposure as at Q1 2021 except for the Swiss DF-SIBs (Q4 2020); GDP as at 2019.

Source(s): Bank disclosures, IMF, SNB calculations

In the ‘other banks’ category, most institutions focus on wealth management. Accordingly, fee and commission income makes up around half of their total income. Foreign assets account for about 50% of total assets held by these banks, reflecting their international clientele.

The Financial Stability Report focuses on those banks primarily responsible for providing systemically important functions for the Swiss economy. These are the globally active banks, Credit Suisse and UBS, and the domestically focused banks. These two groups of banks are discussed in separate chapters. The three DF-SIBs, PostFinance, Raiffeisen Group and ZKB, are analysed together with the other domestically focused banks. However, due to their particular importance for financial stability, they are also discussed separately where appropriate. The ‘other banks’ category is not analysed in the Financial Stability Report because these banks are less relevant for the domestic deposit and lending business.

**MARKET SHARE DOMESTIC LOANS**  
2020 Chart 19



— Credit Suisse **14%**  
 — UBS **14%**  
 — PostFinance **1%**  
 — Raiffeisen **16%**  
 — ZKB **8%**  
 — Other DFBs **43%**  
 — Other banks **4%**

Source(s): SNB

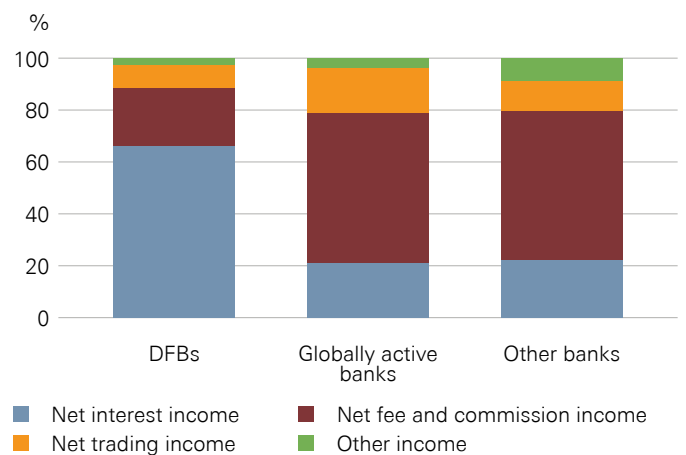
**MARKET SHARE DOMESTIC DEPOSITS**  
2020 Chart 20



— Credit Suisse **14%**  
 — UBS **16%**  
 — PostFinance **8%**  
 — Raiffeisen **14%**  
 — ZKB **7%**  
 — Other DFBs **34%**  
 — Other banks **7%**

Source(s): SNB

**INCOME STRUCTURE**  
As a percentage of total revenue, 2020 Chart 21



Source(s): SNB

# 4 Globally active banks

## 4.1 RESILIENCE

The assessment of the two globally active banks' resilience comprises two elements: profitability and capitalisation. Sustainable profits are the first line of defence for absorbing losses in a stress event and they help to restore capital – the second line of defence – following such an event.

### 4.1.1 PROFITABILITY

#### Profitability proves resilient during pandemic

Over the course of the coronavirus pandemic, the profitability of the globally active Swiss banks has proved resilient, both in comparison with peers and from a historical perspective.

Despite the challenging environment created by the pandemic, in aggregate the profitability of the two institutions increased slightly in 2020 and lay between that of their European and US peers.<sup>1,2</sup> Global public support measures and the swift recovery of financial markets have supported the profitability of the two Swiss banks and

1 When adjusting for special items, Credit Suisse's underlying profits were broadly stable in 2020, while those of UBS were up compared to the previous year.

2 For the international comparison of profitability, the sample is limited to other G-SIBs with a business model that resembles that of the globally active Swiss banks. Specifically, the sample includes, besides Credit Suisse and UBS, the following banks: JP Morgan Chase, Bank of America, Citigroup, Morgan Stanley, Goldman Sachs, Barclays, HSBC, Deutsche Bank, Société Générale and BNP Paribas.

that of their peers. At both banks, return on assets or ROA<sup>3</sup> remained above the average calculated for both the period after the global financial crisis (2011–2018) and the pre-crisis period (2001–2006; cf. chart 22).<sup>4,5</sup>

The diversified income structure of the two globally active banks contributes positively to their resilience in the current environment. By international standards, both institutions exhibit a large share of non-interest income and, in particular, fee and commission income (cf. chart 23). This mainly results from their continued strategic focus on wealth management. Favourable market developments, in particular the swift recovery of financial markets and elevated volatility, contributed to high fee and commission as well as trading income in 2020.

#### Significant increase in provisions for credit losses in 2020, but low compared with peers

Provisions for credit losses rose significantly as a result of the pandemic, but they remain low in comparison with international peers (cf. chart 24).<sup>6,7</sup> Two factors account for the comparatively low provisions for credit losses as a share of total assets. First, credit business is less important for Credit Suisse and UBS than for many peers due to the globally active Swiss banks' diversified income

3 ROA is defined as pre-tax profit as a percentage of total assets.

4 From a financial stability perspective, profitability metrics that relate profits to the size of the balance sheet are particularly relevant. ROA is such a metric that is widely used and available for a long time period. Profits relative to equity (return on equity, ROE) is a popular metric among investors but has less relevance from a financial stability point of view.

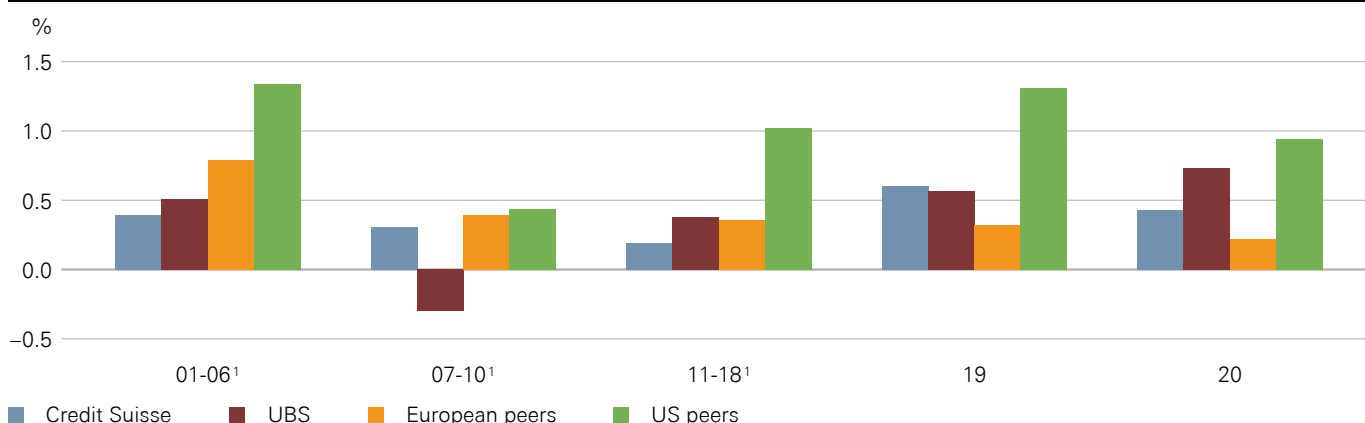
5 The picture is similar when adjustments are made for the differing methods of calculating balance sheet size under the various accounting standards. Banks which calculate according to US GAAP tend to have smaller balance sheets and thus a higher ROA due to more generous netting options. This applies, for example, to the US banks and to Credit Suisse. Total exposure, which is employed for the internationally comparable leverage ratio, adjusts for these differences and yields a similar picture to the simple balance sheet totals used here.

6 Credit Suisse has set aside CHF 1.1 billion and UBS USD 0.7 billion for credit losses in 2020, compared to CHF 0.3 billion and USD 0.1 billion in 2019 (cf. banks' annual reports).

7 The term 'provisions for credit losses' comprises all credit loss expenses that are reflected in the income statement.

## RETURN ON ASSETS (REPORTED PRE-TAX PROFIT AS A PERCENTAGE OF ASSETS)

Chart 22



1 Annual averages.

Source(s): Refinitiv Eikon, SNB calculations



structure. Second, provisions for credit losses are lower as a proportion of their loan portfolios because they have a smaller overall share of consumer and corporate loans and a larger share of loans that are secured by collateral.

#### Large losses from exposure to US-based hedge fund in Q1 2021

In Q1 2021, both banks – but in particular Credit Suisse – suffered large losses<sup>8</sup> from exposure to a US-based hedge fund, Archegos Capital Management (‘Archegos’).<sup>9</sup> An otherwise strong performance in their investment banking and wealth management activities helped to absorb these losses. This incident demonstrates that banks are exposed to significant risks that are not necessarily related to macroeconomic or system-wide financial shocks but may nevertheless lead to large losses.

#### 4.1.2 CAPITALISATION

##### Regulatory capital ratios back to pre-pandemic levels

Since the assessment in last year’s Financial Stability Report, the two globally active Swiss banks have improved their capital position, in spite of the challenging environment. Overall, their regulatory capital ratios are back to pre-pandemic levels and fully compliant with the look-through capital requirements of the Swiss TBTF regulations.

8 In Q1 2021, Credit Suisse reported a loss of CHF 4,430 million and UBS a loss of USD 774 million from the default of Archegos. Both banks have stated that they incurred additional but less material losses on this default in Q2 2021. Credit Suisse and UBS expect these additional losses to amount to approximately CHF 600 million (cf. press release of 22 April 2021) and USD 87 million (cf. transcript of earnings call, 27 April 2021), respectively. Regarding overall performance in Q1 2021, Credit Suisse reported a pre-tax loss of CHF 757 million and UBS a pre-tax profit of USD 2,298 million.

9 While FINMA and Credit Suisse refer to Archegos as a hedge fund, the Federal Reserve Board and others refer to it as a family office. This terminological distinction highlights the fact that, despite acting like a hedge fund in economic terms, Archegos was exempt from registration with the US Securities and Exchange Commission and did not have to disclose its size or leverage.

At the end of Q1 2021, Credit Suisse’s look-through<sup>10</sup> going-concern risk-weighted capital ratio stood at 16.1%; at UBS it stood at 18.7% (cf. table 2). The improvement in these ratios compared to Q1 2020 is mainly attributable to the increase in both banks’ going-concern capital. While the leverage ratio for Credit Suisse increased to 5.0%, UBS’s leverage ratio remained unchanged compared to Q1 2020, at 5.2%, as the increase in going-concern capital was offset by an increase in total exposure. In Q2 2021, in response to the large losses suffered as a result of exposure to Archegos, Credit Suisse issued mandatory convertible notes to strengthen its capital position by roughly CHF 1.8 billion or 5% of its CET1 capital.<sup>11</sup>

In an international comparison, both globally active Swiss banks’ Basel III risk-weighted capital ratios continue to be well above the average for G-SIBs. Their Basel III leverage ratios are in line with the corresponding international average (cf. chart 25).

#### 4.2 RISK

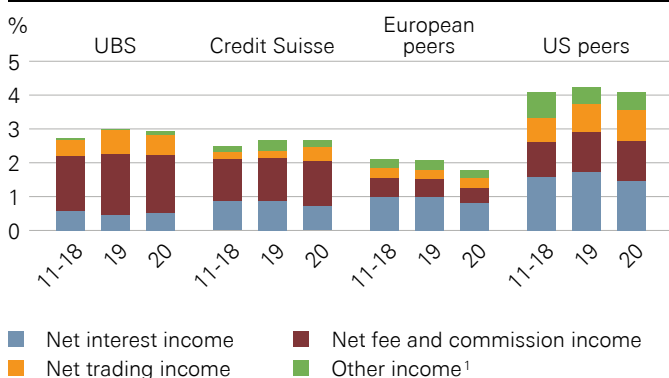
The two globally active Swiss banks are exposed to four main categories of risk: credit risk, market risk, operational risk and business risk. The following subchapter describes these risk categories in qualitative terms and, where applicable, illustrates their relative

10 The analysis in this report focuses on the look-through perspective. In this perspective, eligible going-concern instruments are defined according to the final capital quality requirements of the Swiss TBTF regulations, i.e. after expiry of all transitional provisions. Going-concern capital is made up of Common Equity Tier 1 (CET1) capital and high-trigger contingent capital instruments (HT CoCos) that qualify as additional Tier 1 (AT1) capital. By contrast, in their disclosures the two globally active banks use a grandfathering perspective. In the grandfathering perspective, eligible going-concern instruments are defined according to the regulations currently in force. These allow the temporary inclusion of instruments that are not eligible as going-concern capital under the final TBTF requirements. Specifically, the banks can use low-trigger contingent capital instruments (LT CoCos) with AT1 capital quality up to their first call date in order to comply with the going-concern requirements currently applicable. Credit Suisse and UBS can benefit from this grandfathering perspective until 2024 and 2025, respectively.

11 Cf. Credit Suisse’s Q1 2021 financial report, p. 13.

#### EARNINGS BY TYPE (AS A PERCENTAGE OF ASSETS)

Chart 23



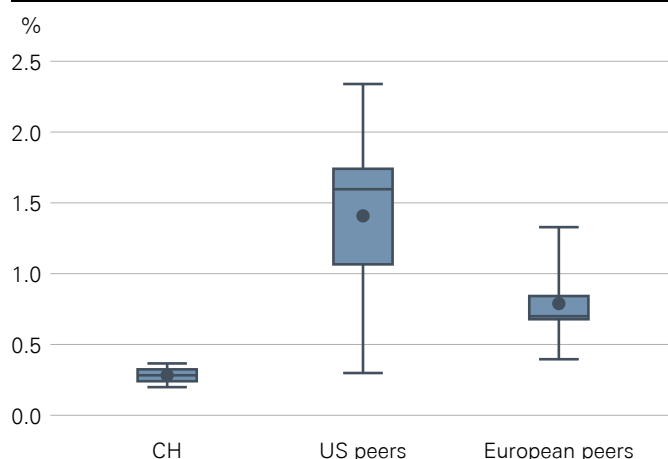
1 Other income includes, in particular, non-interest income from off-balance-sheet operations, such as trust income or income arising from securitisation transactions.

Source(s): Moody’s, SNB calculations

#### COMPARISON OF PROVISIONS FOR CREDIT LOSSES

2020, in % of loans

Chart 24



Source(s): Bloomberg, FR Y-9C, quarterly reports

## GOING-CONCERN CAPITAL RATIOS AND REQUIREMENTS

Table 2

	Credit Suisse			UBS		
	Q1 2020	Q1 2021	Requirement <sup>1</sup>	Q1 2020	Q1 2021	Requirement <sup>1</sup>
<b>TBTF ratios (look-through, in percent)<sup>2</sup></b>						
TBTF CET1 capital ratio	12.1	12.2	10.0	12.8	14.0	9.6
TBTF going-concern capital ratio	15.2	16.1	14.3	17.3	18.7	13.9
TBTF CET1 leverage ratio	3.8	3.8	3.5	3.8	3.9	3.4
TBTF going-concern leverage ratio	4.8	5.0	5.0	5.2	5.2	4.9
<b>TBTF ratios (with grandfathering, in percent)<sup>3</sup></b>						
TBTF CET1 capital ratio	12.1	12.2	10.0	12.8	14.0	9.6
TBTF going-concern capital ratio	16.9	17.6	14.3	18.1	19.6	13.9
TBTF CET1 leverage ratio	3.8	3.8	3.5	3.8	3.9	3.4
TBTF going-concern leverage ratio	5.3	5.5	5.0	5.4	5.4	4.9
<b>Basel III ratios (in percent)<sup>4</sup></b>						
Basel III CET1 capital ratio	12.1	12.2	8.0	12.8	14.0	8.0
Basel III Tier 1 capital ratio	16.9	17.6	9.5	18.1	19.6	9.5
Basel III Tier 1 leverage ratio	5.3	5.5	3.5	5.4	5.4	3.5
<b>Levels (look-through, in CHF billions)</b>						
TBTF CET1 capital	36.3	37.0	–	35.4	38.2	–
High-trigger additional Tier 1 contingent capital (HT AT1 CoCos)	9.6	11.8	–	12.3	12.6	–
Low-trigger additional Tier 1 contingent capital (LT AT1 CoCos)	4.9	4.7	–	2.4	2.4	–
TBTF RWA	301	303	–	276	272	–
TBTF total exposure	958	968	–	921	982	–

1 The capital requirements do not include a CCyB requirement. The Swiss requirements do not take into account FINMA pillar 2 capital add-ons.

2 The ratios are calculated based on the final requirements, i.e. the requirements after expiry of grandfathering and all other transitional provisions. As such, going-concern capital consists of CET1 capital and HT CoCos with AT1 capital quality.

3 The ratios are calculated taking into account the grandfathering clause applicable from January 2020: LT CoCos with AT1 capital quality and a first call date after 1 January 2020 are counted as going-concern capital. The ratios for Q1 2020 do not take into account the temporary exclusion of central bank reserves from the leverage ratio calculation granted by FINMA and applicable between March 2020 and 1 January 2021. Based on the grandfathering perspective, and taking into account the temporary exclusion of central bank reserves from the leverage ratio calculation granted by FINMA, the going-concern leverage ratios of the two globally active banks are 5.8% (Credit Suisse) and 5.9% (UBS) for Q1 2020.

4 The requirement for the Basel III CET1 capital ratio comprises the minimum of 4.5%, the capital conservation buffer of 2.5% and the surcharge for G-SIBs of 1% for both banks. The requirement for the Basel III Tier 1 capital ratio comprises, in addition, a minimum of 1.5% to be met with capital of at least AT1 capital quality. The leverage ratio requirement comprises the minimum of 3% and the surcharge for G-SIBs of 0.5% for both banks.

Source(s): Bank disclosures, SNB calculations



importance using risk-weighted assets (RWA) and exposure data. The subsequent subchapter describes the potential impact of stress scenarios on these risk exposures.

#### 4.2.1 RISK CATEGORIES

##### Credit risk

Credit risk is the risk of loss due to a client or counterparty failing to make contractually agreed payments. At 71%, credit risk makes up the largest share of the globally active Swiss banks' total RWA (cf. chart 26). The banks' credit exposures arise not only from loans on their balance sheets but also from off-balance-sheet positions and counterparty exposures from derivatives and securities financing transactions. All these exposure categories together represent 65% of the globally active banks' total exposure (cf. chart 27).

Table 3 gives an overview of the credit portfolios of the two globally active banks, broken down by counterparty type. The retail portfolio, consisting chiefly of domestic mortgages and Lombard loans,<sup>12</sup> is the largest in terms of exposure. In a risk-weighted perspective, credit exposure to corporate clients, arising from global investment banking and Swiss corporate banking, is more material. The higher average risk weight of corporate credit exposures reflects, in particular, the lower degree of collateralisation.

12 Lombard loans are secured loans or credit lines mainly to private clients in the wealth management segment. They are typically collateralised by security portfolios.

##### Market risk

Market risk is the risk of loss due to adverse movements in market variables, such as equity prices or credit spreads. At 6%, market risk accounts for a much smaller share of RWA at the globally active Swiss banks than credit risk (cf. chart 26). Market risk arises in particular from trading assets and derivatives positions; at 23%, these represent a substantial share of both banks' total exposure (cf. chart 27). Trading book positions are hedged to a large extent, which explains market risk's relatively small contribution to RWA.<sup>13</sup>

Despite its small contribution to RWA, market risk is an important risk category for the globally active banks for two reasons. First, the applied hedging strategies may not fully protect against very large market shocks.<sup>14</sup> This was borne out by experience during the global financial crisis, where traded positions suffered large losses despite being hedged against smaller market shocks. Second, mark-to-market losses may also occur on fair-value positions in the banking book which do not fall under the market risk framework for regulatory capital purposes. Examples are

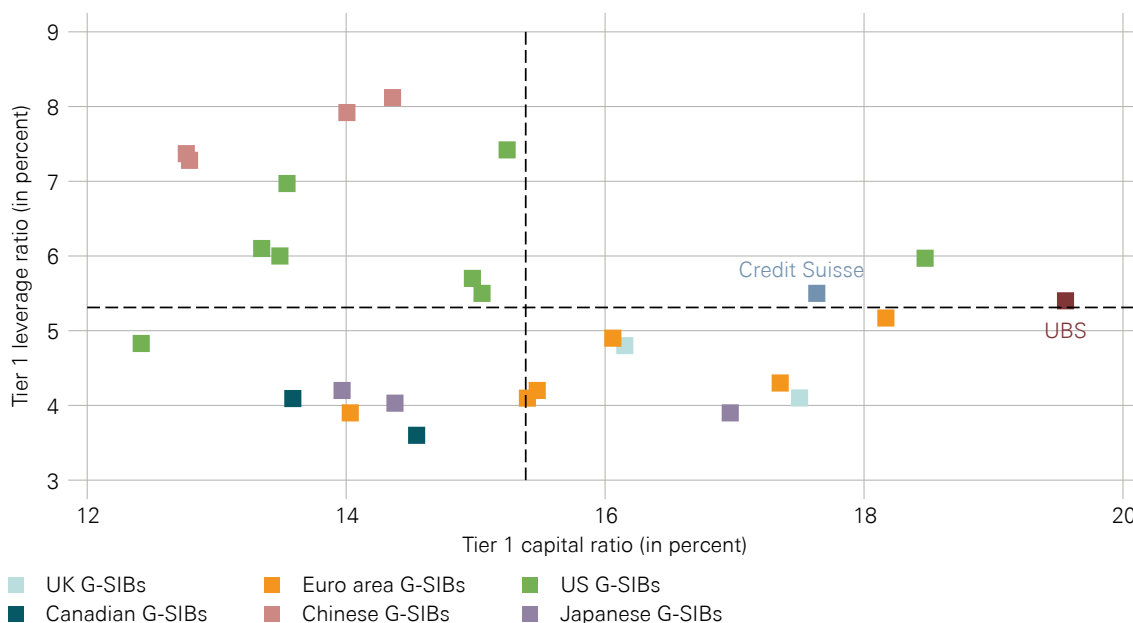
13 Value at risk (VaR), a statistical measure of short-term loss potential in the trading book and one of the inputs for calculating market risk RWA, is relatively small at both banks due to the hedging of the different trading book positions. At end-2020, regulatory VaR (time horizon 10 days and confidence level 99%) was CHF 123 million at Credit Suisse and USD 37 million at UBS (cf. banks' Pillar 3 reports).

14 The mutual hedging of derivatives and trading positions may be impaired by very large market shocks. Previously strongly correlated risk factors may suddenly behave differently in a stress scenario (basis risk). Furthermore, the risk profile of non-linear derivatives may change substantially under such a scenario.

## INTERNATIONAL COMPARISON OF TIER 1 CAPITAL<sup>1</sup>

G-SIBs, Q1 2021

Chart 25



1 The dashed lines depict the (unweighted) averages.

Source(s): Bank disclosures

illiquid equity investments or lending-related positions in the banking book that are fair-valued.

### Operational risk

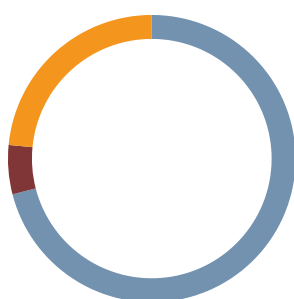
Operational risk is the risk of loss due to inadequate procedures, fraud or failed internal systems. It also includes legal risk and cyber risk. Operational risk is material at the globally active Swiss banks and reflects, in particular, the complexity of their international business activities. It accounts for 23% of the two banks' total RWA. This is relatively high by international standards,<sup>15</sup> as the operational loss history of both institutions includes several costly legal cases.

<sup>15</sup> At end-December 2019, operational risk as a share of G-SIBs' RWA averaged around 16% (cf. *Basel III Monitoring Report*, December 2020).

### BREAKDOWN OF RWA

Globally active banks as at Q1 2021

Chart 26



— Credit risk **71%**  
 — Market risk **6%**  
 — Operational risk **23%**

Source(s): Bank disclosures, SNB calculations

### Business risk

Business risk refers to the risk of reduced earnings due to a drop in business volume or client activity. Business risk plays an important role for the globally active Swiss banks due to their wealth management and investment banking activities. For instance, a severe shock on the financial markets, followed by a slow recovery and ongoing uncertainty, could reduce both the value of assets under management and the demand for client transactions. As a result, fee and commission income would decrease. There is no specific RWA requirement for business risk.

### Risk dimensions of Archegos and Greensill defaults

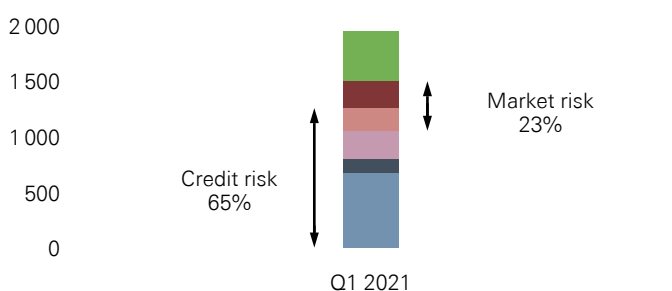
The consequences of the defaults of Archegos and of a UK-based financial services company, Greensill Capital ('Greensill'), in March 2021 illustrate that the different risk categories described in this subchapter can materially affect a bank, even in the absence of system-wide shocks.

### BREAKDOWN OF TOTAL EXPOSURE

Globally active banks as at Q1 2021

Chart 27

CHF billions



■ Loans on the balance sheet    ■ Off-balance-sheet positions  
 ■ Securities financing transactions    ■ Derivatives  
 ■ Trading positions  
 ■ Other assets (mainly cash and balances at central banks)

Source(s): Bank disclosures, SNB calculations

### CREDIT PORTFOLIOS OF THE GLOBALLY ACTIVE BANKS<sup>1</sup>

Q4 2020, in CHF billions

Table 3

	Credit Suisse			UBS		
	Exposure	RWA	Average risk weight	Exposure	RWA	Average risk weight
Sovereign exposures	136	2	2%	201	5	2%
Exposures to banks and institutions	35	10	29%	56	15	26%
Corporate exposures	183	94	51%	163	76	47%
Retail exposures	200	34	17%	341	51	15%
Of which residential mortgages	114	20	17%	154	32	21%
Other exposures	18	15	83%	13	12	93%
<b>Total</b>	<b>572</b>	<b>155</b>	<b>27%</b>	<b>774</b>	<b>158</b>	<b>20%</b>

<sup>1</sup> Includes credit risk and counterparty credit risk but excludes exposures to central counterparties.

Source(s): Bank disclosures (converted from USD to CHF for UBS), SNB calculations

In the case of Archegos, the globally active Swiss banks and other prime brokers provided leveraged exposure on concentrated equity positions through derivatives contracts. Based on current information, so-called ‘total return swaps’ played a key role here. As the name suggests, under such swap agreements the total return (dividends and capital gains) of financial instruments is exchanged or swapped. The prime brokers transferred the total return earned on selected shares to Archegos and received interest and fee payments in return. When the price of an underlying share increased, the prime brokers paid Archegos the corresponding change in value. Conversely, Archegos paid when the share price fell. This allowed Archegos to gain exposure to individual shares without having to hold the securities directly (‘synthetic exposures’).

As long as Archegos was a performing counterparty and the prime brokers hedged their positions – for example, by buying the underlying shares – the prime brokers’ main risk was counterparty credit risk. Following sharp price falls in the underlying shares, Archegos was unable to honour margin calls and defaulted. As a result, prime brokers were suddenly exposed to the market risk of the underlying shares. The price falls were compounded by the fact that all of the banks involved wanted to unwind their positions in these shares at the same time and as quickly as possible. As the market losses on these shares exceeded the collateral posted by Archegos, some of the prime brokers, particularly Credit Suisse, incurred large losses.<sup>16</sup>

In the case of Greensill, Credit Suisse had to close several investment funds worth a total of approximately USD 10 billion. The assets held by these ‘supply chain finance funds’ largely consisted of notes backed by receivables. These notes were originated and structured by Greensill, a financial services company that filed for bankruptcy in March 2021.

Credit Suisse’s direct credit exposure to Greensill was significantly lower than its exposure to Archegos.<sup>17</sup> However, according to Credit Suisse, clients who invested in the funds managed by the bank could suffer losses.<sup>18</sup> As a result, the bank itself could also incur costs from potential compensation claims filed by clients.

Whenever the default of a single counterparty materially affects a bank, the matter usually has an operational risk dimension and the internal control processes of the bank need to be reviewed. Furthermore, such matters also entail business risk, as they may affect the bank’s reputation and hence its ability to attract and retain clients.

<sup>16</sup> Cf. subchapter 4.1.1.

<sup>17</sup> Credit Suisse had a loan exposure of USD 140 million, of which USD 50 million was repaid in Q1 2021. The bank marked down the remaining exposure of USD 90 million by USD 30 million. Cf. Credit Suisse’s Q1 2021 financial report, p. 12.

<sup>18</sup> So far, Credit Suisse has paid back about half of the net asset value to investors. According to the bank, losses for the investors can be expected to occur predominantly in positions with an aggregate net asset value of approximately USD 2.3 billion. Cf. Credit Suisse’s Q1 2021 financial report, p. 12.

FINMA has opened two separate proceedings against Credit Suisse in the Archegos and Greensill cases and is investigating, in particular, possible shortcomings in risk management. FINMA has ordered various short-term measures to be put in place. These include organisational and risk-reducing measures and capital surcharges as well as reductions in or suspensions of variable remuneration components. These precautionary and temporary measures are intended to complement and reinforce steps already taken by the bank.<sup>19</sup>

#### 4.2.2 IMPACT OF STRESS SCENARIOS

##### **Loss potential remains substantial under stress scenarios**

The SNB focuses on the macroeconomic and financial stress scenarios described in subchapter 2.5 when assessing the magnitude of the globally active banks’ risk exposure and loss potential. The loss potential under these stress scenarios continues to be substantial.

The loss potential is highest under the US recession scenario, which combines a deep recession in the advanced economies with severe stress on the global financial markets. The main contribution to the loss potential in this scenario is credit losses from corporate loan portfolios and counterparty exposures in investment banking, as well as from retail and corporate loan portfolios in Switzerland. Business risk also plays an important role in this scenario, as the severe market shocks reduce client assets and client activity, leading to lower fee and commission income. These market shocks also result in significant mark-to-market losses on fair-valued credit, securitisations, and equity positions.

In the interest rate shock, protracted euro area recession, and emerging markets crisis scenarios, the losses originate from the same risk categories as described for the US recession scenario, but their relative contributions depend on the characteristics of the scenario concerned. While in the protracted euro area recession scenario credit and counterparty losses play a particularly important role, mark-to-market losses and business risk are more pronounced in the emerging markets crisis scenario.

The US recession scenario and the protracted euro area recession scenario offer a benchmark for the potential effects of a worse-than-expected development of the coronavirus pandemic. If containment measures cannot be eased as expected, or even have to be tightened again, they might trigger further recessions. This could also have an adverse effect on real estate prices and lead to renewed turbulence on the financial markets. Such adverse developments are assumed under both the US recession scenario and the protracted euro area recession scenario. The emerging markets crisis scenario offers a benchmark for the potential consequences of a large price correction

<sup>19</sup> Cf. FINMA press release ‘Credit Suisse: FINMA opens proceedings in ‘Archegos’ case and confirms ongoing proceedings in ‘Greensill’ case’, 22 April 2021, [www.finma.ch/en/news/2021/04/20210422-mm-cs-verfahren/](http://www.finma.ch/en/news/2021/04/20210422-mm-cs-verfahren/).

in global equity and credit markets, as the latter show signs of stretched valuations.

The results of the scenario analysis indicate that the two globally active Swiss banks are well placed to face the challenges presented by the current environment and support the real economy. Thanks to their capital buffers, both banks are able to cope with significantly worse developments in economic and financial conditions.

At the same time, the analysis underlines that the TBTF capital requirements are necessary to ensure adequate resilience at these two banks. In addition to the substantial loss potential outlined in the stress scenarios, material losses can occur due to operational risk. Furthermore, recent experience highlights that large credit and trading

losses can occur even in the absence of system-wide shocks. Sufficiently high capital buffers are therefore needed to cover all risks associated with the complex international business activities of the globally active banks.

### 4.3 MARKET ASSESSMENT

Market-based indicators provide a complementary assessment of the two globally active Swiss banks' resilience, in addition to regulatory capital ratios and profitability metrics.

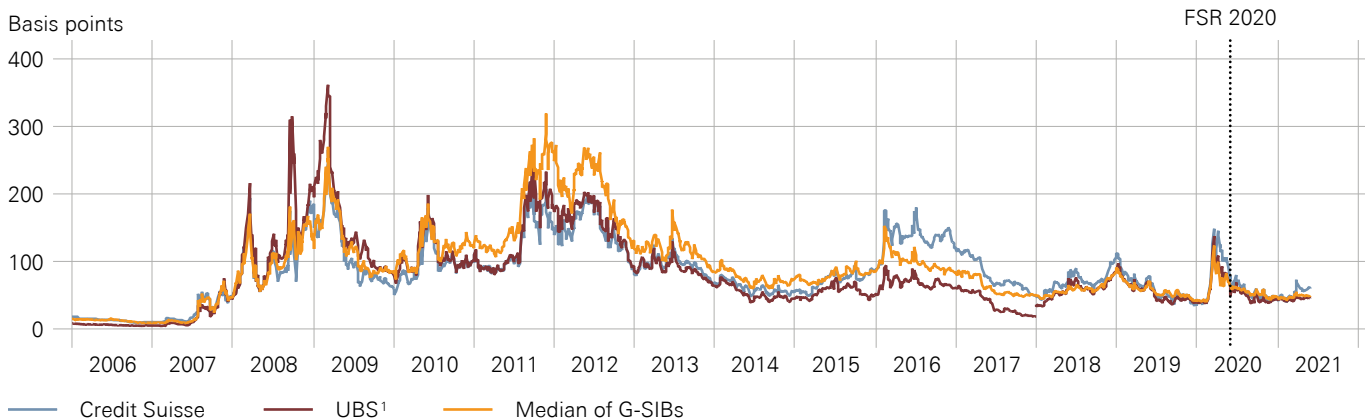
#### Market assessment of creditworthiness – back to pre-pandemic levels

CDS premia reflect the market's assessment of a bank's creditworthiness. The greater the perceived credit risk,

### INTERNATIONAL COMPARISON OF CDS PREMIA

Premia for credit protection (five-year senior)

Chart 28



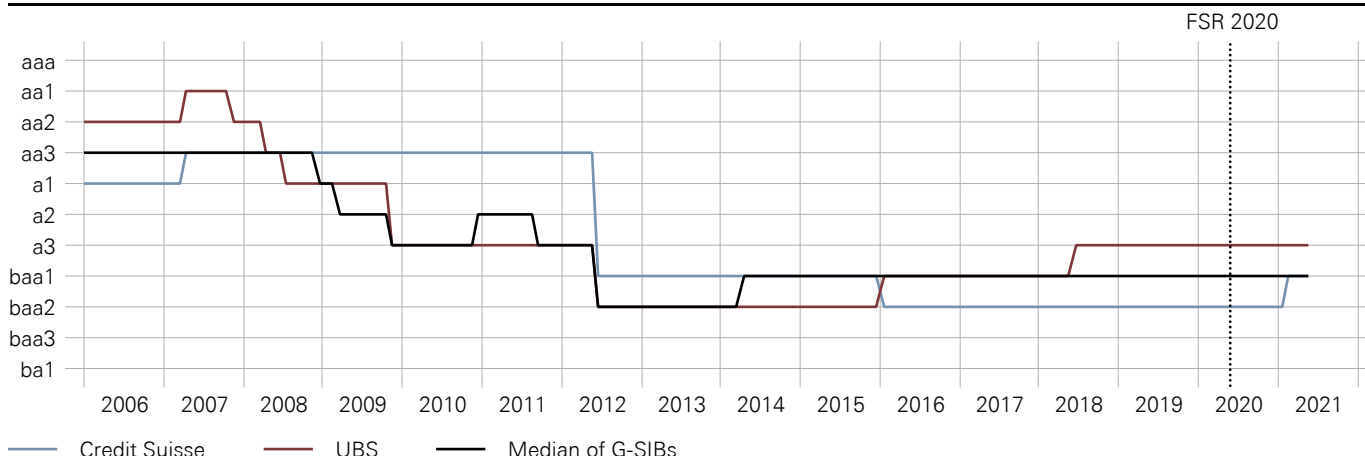
1 Up to end-2017, at operating company level (UBS AG); from 2018, at holding company level (UBS Group AG).

Source(s): Bloomberg, Refinitiv Eikon

### INTERNATIONAL COMPARISON OF STAND-ALONE RATINGS

Moody's, baseline credit assessment

Chart 29



Source(s): Bloomberg, Moody's

the higher the premium on a given CDS.<sup>20</sup> Over the course of the pandemic, the CDS premia of both globally active Swiss banks recovered to their pre-pandemic levels, reflecting the stabilisation of financial markets. However, the CDS premia of Credit Suisse have increased following the large losses related to Archegos. In an international comparison, CDS premia for UBS are currently around the median for globally active banks, whereas those of Credit Suisse are slightly above (cf. chart 28).

The market's assessment of banks' creditworthiness is also reflected in the stand-alone ratings of the three major rating agencies (Moody's, S&P and Fitch). These evaluate the intrinsic financial strength of the banks, assuming no extraordinary external support.<sup>21</sup> The stand-alone rating of UBS is unchanged, and that of Credit Suisse is higher compared to last year's Financial Stability Report.<sup>22</sup> The stand-alone ratings of the globally active Swiss banks are comparable to those of other G-SIBs (cf. chart 29 for an international comparison based on Moody's stand-alone ratings).

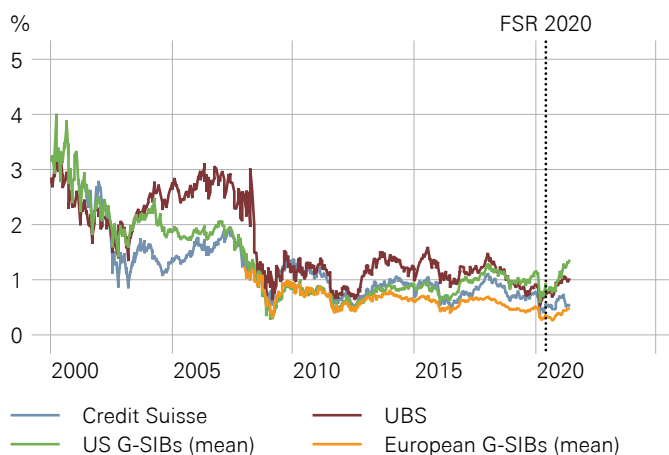
20 It is important to note, however, that market prices include market expectations of government support in a crisis (TBTF issue). CDS premia thus reflect the market's view of the likelihood that the underlying credit will be repaid. It is irrelevant whether the investment is repaid by the bank or by a third party such as the government.

21 In addition to stand-alone ratings, the agencies issue long-term credit ratings, which explicitly factor in the possibility of extraordinary government support ('government support uplift') in the event of a crisis. At holding company level, the three major rating agencies removed this government support uplift a few years ago. At the operating company level, S&P and Fitch have also removed the government support uplift, while Moody's continues to assume that the globally active Swiss banks – alongside most other G-SIBs in Europe and the US – benefit from a 'moderate probability of government support' resulting in a 1 notch rating uplift on their deposits and senior unsecured debt.

22 UBS: Moody's, S&P and Fitch rate the creditworthiness of UBS as unchanged compared to last year's Financial Stability Report. Credit Suisse: Moody's rates the creditworthiness of Credit Suisse as higher (+1 notch), reflecting the bank's improved and more stable profitability, while S&P and Fitch rate it as unchanged.

## MARKET CAPITALISATION OVER TOTAL EQUITY

G-SIBs Chart 30



Source(s): Bloomberg

## Stock market valuation relative to other G-SIBs primarily reflects differences in profitability

Stock market valuation can be measured using the ratio of market capitalisation over book value of total equity (cf. chart 30). Over the course of the pandemic, the stock market valuation of Credit Suisse and UBS – along with the other G-SIBs – recovered following the sharp decline in Q1 2020. However, by the end of Q1 2021, the stock market valuation of Credit Suisse had declined again following the large losses related to Archegos. The valuation of the two Swiss banks is currently above the average for European G-SIBs, but below the average for US G-SIBs.

The observed differences in stock market valuation between the globally active Swiss banks and their international counterparts primarily reflect differences in profitability. Chart 31 plots the metric for stock market valuation (market capitalisation over book value of total equity, y-axis) against a metric for profitability (return on assets, x-axis).<sup>23</sup> It shows that the stock market valuation is correlated with profitability. The stock market valuation of the globally active Swiss banks is broadly in line with this observation.

## 4.4 RESOLUTION

If a globally active Swiss bank gets into financial distress and recovery measures prove unsuccessful, an orderly resolution must be possible without exposing taxpayers to loss. As Switzerland's home resolution authority, FINMA is responsible for the planning and operational implementation of the globally active Swiss banks' resolution. To this end, it draws up a resolution plan for each of the globally active Swiss banks. FINMA's primary resolution strategy is to restructure these banks via a 'single point of entry' bail-in. This means that FINMA would intervene at the level of the group holding company and convert bail-in-able creditors' claims into equity, which helps to restore the bank's capital base. Such bail-in-able claims usually consist of specific debt instruments known as 'bail-in bonds'.<sup>24</sup>

The Swiss emergency plan would serve as a fallback for safeguarding systemically important functions in Switzerland, if FINMA's primary resolution strategy were to fail.<sup>25</sup> The two globally active Swiss banks must demonstrate in this plan how they would maintain systemically important functions for Switzerland if they were at risk of insolvency – independently of the rest of the group. FINMA deems the Swiss emergency plans of Credit Suisse and UBS to be effective.<sup>26</sup>

23 A similar picture emerges if the ratio of market capitalisation to CET1 capital is used as a measure of stock market valuation and return on total exposure is used as a measure of profitability.

24 Cf. FINMA *Resolution Report 2020*, p. 20.

25 The systemically important functions comprise, in particular, domestic deposit and lending business as well as domestic payment transactions.

26 Cf. FINMA *Resolution Report 2021*, [www.finma.ch/en/enforcement/resolution/resolution-berichterstattung/](http://www.finma.ch/en/enforcement/resolution/resolution-berichterstattung/). In the case of UBS, full compliance is conditional on reducing certain financial interdependencies within the group by end-2021 (cf. FINMA *Resolution Report 2020*, p. 31).

### Funding in resolution still work in progress

There are, among others, two key prerequisites for an orderly resolution. First, a bank needs an appropriate level of gone-concern loss-absorbing capacity to allow for recapitalisation by means of a bail-in in the event of impending insolvency. Second, a bank needs sufficient liquidity to implement the resolution strategy ('funding in resolution'). Both conditions have to be fulfilled not only at group level, but also at the level of the individual group entities.

Regarding gone-concern loss-absorbing capacity, Credit Suisse and UBS meet all the requirements on a consolidated basis. Regarding funding in resolution, a recent analysis by the Swiss authorities<sup>27</sup> has shown that the currently applicable liquidity requirements for systemically important banks would probably not be sufficient to cover liquidity needs in the event of a resolution.<sup>28</sup> The authorities are currently reviewing these requirements and preparing a draft version for a revised liquidity ordinance. The public consultation will start by the end of 2021.<sup>29</sup>

27 As part of its TBTF evaluation report of July 2019, the Federal Council instructed the FDF, together with FINMA and the SNB, to examine whether current liquidity requirements for systemically important banks are adequate to cover liquidity needs in the event of a resolution or whether regulatory adjustments are necessary. Cf. Federal Council, *Bericht des Bundesrates zu den systemrelevanten Banken*, 3 July 2019, BBI 2019 5385, pp. 5395–5396 (not available in English).

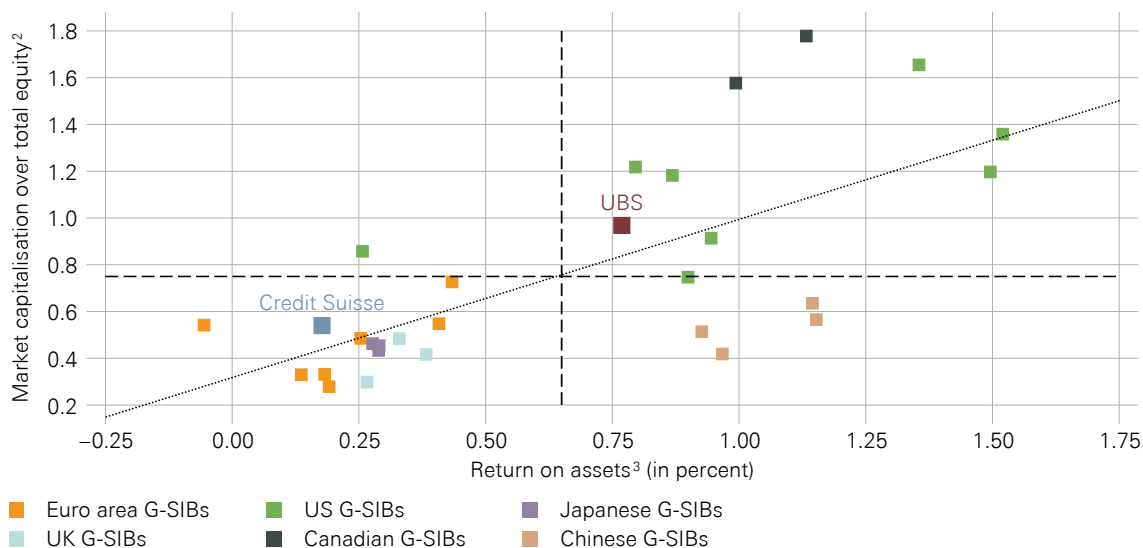
28 Cf. FINMA *Resolution Report 2020*, p. 12.

29 Cf. Federal Council, *Bericht des Bundesrates zu den systemrelevanten Banken*, 4 June 2021, p. 14 (not available in English), [www.news.admin.ch/news/message/attachments/66982.pdf](http://www.news.admin.ch/news/message/attachments/66982.pdf).

### INTERNATIONAL COMPARISON OF MARKET CAPITALISATION OVER TOTAL EQUITY WITH RETURN ON ASSETS<sup>1</sup>

G-SIBs, Q1 2021

Chart 31



1 The dashed lines depict the (unweighted) averages. The dotted line represents the regression of 'market capitalisation over total equity' on 'return on assets'. The correlation between the two series is 0.50.

2 Market capitalisation measured as of Q1 2021; total equity as of Q1 2021.

3 Return on assets defined as pre-tax profit of last four quarters as a percentage of total assets as of Q1 2021.

Source(s): Bloomberg



# 5 Domestically focused commercial banks

## 5.1 RESILIENCE

The assessment of the domestically focused banks' resilience comprises two elements: profitability and capitalisation. Sustainable profits are the first line of defence for absorbing losses in a stress event and they help to restore capital – the second line of defence – following such an event.

### 5.1.1 PROFITABILITY

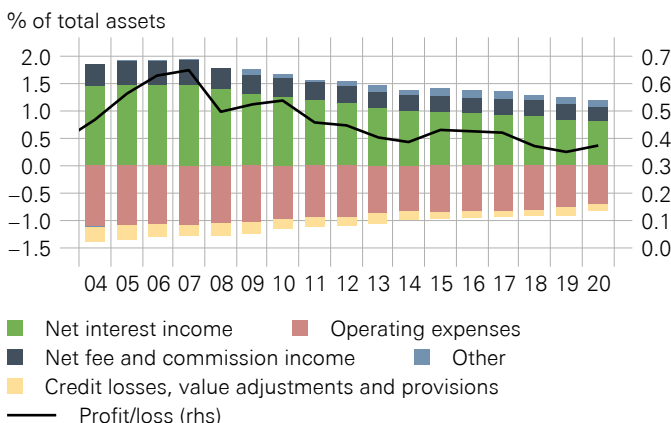
#### Slight increase in bank profitability from historically low level – little impact from pandemic

Domestically focused banks' profitability has proved resilient despite the adverse macroeconomic conditions. In 2020, these banks' overall profitability – measured as the return on assets (ROA)<sup>1</sup> – increased slightly from a historically low level (from 0.35% in 2019 to 0.37% in 2020, cf. chart 32). The ROA increase occurred despite lower net interest income (NII) relative to total assets and a slight increase in provisions for credit losses due to the economic impact of the coronavirus pandemic. The positive contributions to ROA came from lower business expenses and a decrease in provisions and value adjustments, which is unrelated to the current economic environment. Bank profitability remains low by historical

1 ROA is defined as post-tax profit as a percentage of total assets.

#### RETURN ON ASSETS OF DOMESTICALLY FOCUSED BANKS

Chart 32



Source(s): FINMA, SNB

standards, having fallen significantly over the last decade as low interest rates have weighed on interest rate margins.

At the three DF-SIBs, profitability evolved heterogeneously in 2020. Raiffeisen Group's ROA remained broadly unchanged (0.33%, down 1 basis point), with the profitability of most income streams remaining stable relative to total assets. In response to the deterioration in economic conditions, provisions for credit losses increased slightly. This was largely offset by a decline in business expenses. ZKB's ROA decreased from 0.51% (2019) to 0.46% (2020) as the profitability of most income streams declined in 2020, while provisions for credit losses increased markedly. Higher trading income together with lower business expenses partially offset these negative contributions. PostFinance's ROA increased from -0.46% (2019) to 0.11% (2020). The negative ROA in 2019 was driven by an extraordinary CHF 800 million goodwill write-off.<sup>2</sup> Excluding this factor, ROA would have decreased from 0.17% (2019) to 0.11% (2020). Higher business expenses, together with an increase in value adjustments resulting from a change in credit risk on financial assets, drove the observed decrease.

#### Slight decline in interest rate margin from already low level

For the domestically focused banks, NII is the dominant income component. The average interest rate margin<sup>3</sup> on outstanding claims of domestically focused banks has been on a downward trend since 2007, decreasing from 1.80% to 1.11%. This amounts to an average annual interest rate margin decline of around 5 basis points since 2007.

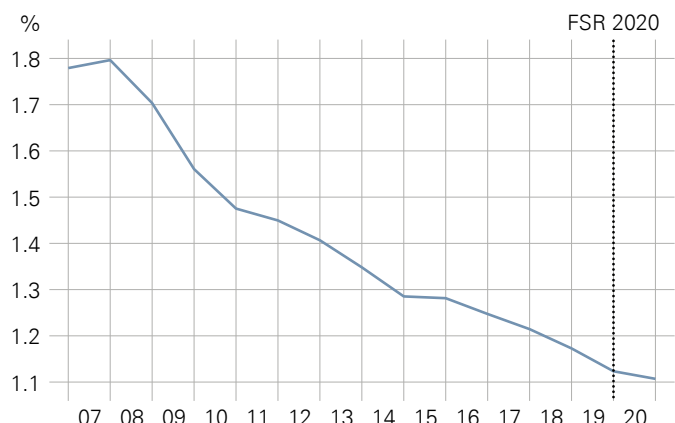
2 Cf. Financial Stability Report 2020, p. 39.

3 Interest rate margins are approximated as NII divided by the sum of mortgage claims, claims against customers, and financial claims.

#### INTEREST RATE MARGIN OF DOMESTICALLY FOCUSED BANKS

Weighted average

Chart 33



Source(s): FINMA, SNB

In 2020, the interest rate margin decline continued, but slowed considerably compared to previous years. The average interest rate margin declined by 1.6 basis points to 1.11% (cf. chart 33).

The development of interest rates continued to compress domestically focused banks' interest rate margins in 2020. In particular, the average interest rate on outstanding mortgage loans decreased further from 1.37% (end-2019) to 1.28% (end-2020) as maturing loans were renewed at lower rates. The median interest rate on new mortgages over all maturities remained stable at 0.90%.

Three factors helped to slow the decline in the interest rate margin in 2020. First, in aggregate, domestically focused banks' direct negative interest payments to the SNB decreased. This reflects the SNB's adjustments in November 2019 and April 2020, which resulted in higher exemption thresholds overall. It also reflects banks' exploitation of arbitrage opportunities from unused exemption amounts on the interbank market. Second, foreign currency funding costs, particularly in US dollars, fell as the corresponding interest rates declined substantially throughout 2020.<sup>4</sup> Third, banks increasingly passed on the cost of negative interest rates to their depositors, contributing to a decrease in these banks' funding costs.

Going forward, should interest rates remain low, interest rate margins will continue to remain under pressure and may decrease further as maturing loans are renewed at lower rates.

4 For some domestically focused banks, foreign currency, particularly USD, constitutes a material source of funding.

## 5.1.2 CAPITALISATION

### Stable capital ratios ensure significant loss-absorbing and lending capacity

In 2020, the domestically focused banks' capitalisation remained broadly stable at a high level.

The going-concern risk-weighted capital ratios of the domestically focused banks remained stable, in terms of both total eligible capital (2019: 18.5%; 2020: 18.6%) and Tier 1 capital (2019: 18.0%; 2020: 18.1%). Their risk-weighted ratio is high by historical standards and has been growing steadily over the last decade (cf. chart 34).<sup>5</sup>

The domestically focused banks' going-concern Tier 1 leverage ratio rose to 8.4% at end-2020 (end-2019: 7.2%). This significant increase was driven by FINMA's decision to extend the temporary exemption of central bank reserves for the calculation of the leverage ratio from July 2020 to January 2021.<sup>6</sup> Excluding the impact of this temporary exemption for all domestically focused banks, the going-concern Tier 1 leverage ratio remained broadly stable at 6.8%.

Domestically focused banks' capital buffers are substantial. These buffers constitute the amount that banks can dedicate to additional lending or use to absorb potential losses without breaching regulatory minimum requirements.<sup>7</sup> At end-2020, these buffers typically

5 For the aggregate analysis in this section, a phase-in perspective is used for DF-SIBs' going-concern capital ratios. Since January 2020, participants in the definitive small banks regime have been exempted from certain regulatory requirements (cf. [www.finma.ch/en/supervision/banks-and-securities-firms/kleinbankenregime/](http://www.finma.ch/en/supervision/banks-and-securities-firms/kleinbankenregime/)). In this section, these banks are included only in aggregate leverage ratio figures and are excluded from risk-weighted ratios.

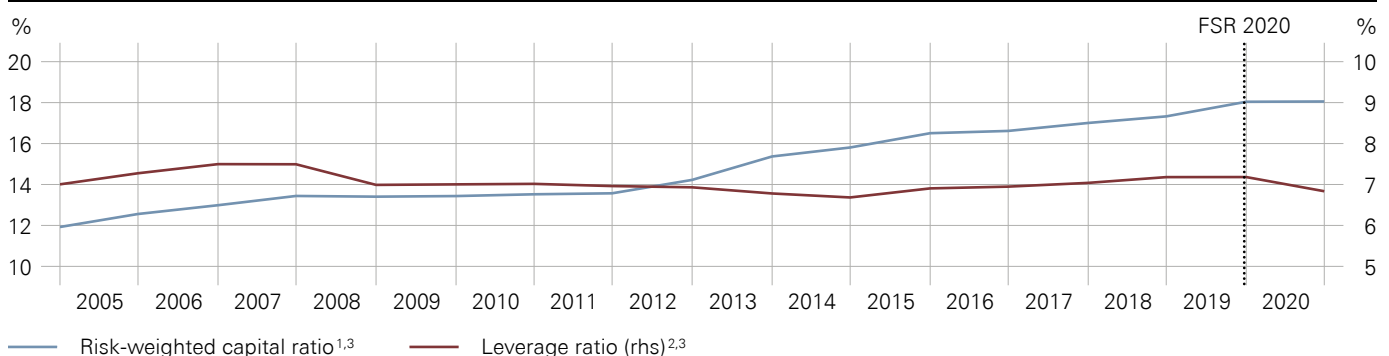
6 As part of the package of measures designed to cushion the economic impact of the coronavirus pandemic, FINMA allowed banks to temporarily exclude central bank reserves from their total exposure (leverage ratio denominator) until 1 January 2021 (cf. [www.finma.ch/en/news/2020/05/20200519-news-aufsichtsmittlung-062020](http://www.finma.ch/en/news/2020/05/20200519-news-aufsichtsmittlung-062020)).

7 Cf. Federal Council, Capital Adequacy Ordinance, CAO (*Eigenmittelverordnung*, not available in English).

## CAPITAL RATIOS OF DOMESTICALLY FOCUSED BANKS

Risk-weighted Tier 1 capital ratio and Tier 1 leverage ratio<sup>1</sup>

Chart 34



1 From 2020, excluding members of small banks regime.

2 Until 2013, Tier 1 divided by total assets. From 2014, Tier 1 divided by Basel III leverage ratio exposure. For 2020, the Basel III leverage ratio exposure includes central bank reserves.

3 A phase-in perspective is used for DF-SIBs' going-concern capital ratios.

Source(s): FINMA, SNB



## GOING-CONCERN CAPITAL RATIOS AND REQUIREMENTS

Look-through and phase-in

Table 4

	PostFinance			Raiffeisen Group <sup>4</sup>			ZKB		
	2019 <sup>5</sup>	2020	Requirement 2020 <sup>3</sup>	2019	2020	Requirement 2020 <sup>3</sup>	2019	2020	Requirement 2020 <sup>3</sup>
<b>TBTF ratios (look-through, in percent)<sup>1</sup></b>									
TBTF going-concern capital ratio	17.5	16.1	12.9	14.6	16.9	13.2	17.6	17.6	12.9
TBTF going-concern leverage ratio	4.5	4.5	4.5	5.7	6.0	4.6	6.2	5.8	4.5
<b>TBTF ratios (phase-in, in percent)<sup>2</sup></b>									
TBTF going-concern capital ratio	18.8	18.1	12.9	17.9	19.6	13.2	20.0	18.9	12.9
TBTF going-concern leverage ratio	4.8	5.0	4.5	7.0	7.0	4.6	7.0	6.2	4.5
... excluding central bank reserves	–	7.3	4.5	–	8.2	4.6	–	–	4.5
<b>Levels (in CHF billions)</b>									
Tier 1 capital TBTF (look-through)	5.7	5.3	–	14.4	15.8	–	11.4	12.1	–
Tier 1 capital TBTF (phase-in)	6.1	6.0	–	17.6	18.3	–	13.0	13.0	–
TBTF RWA	32.6	33.0	–	98.3	93.5	–	65.0	68.5	–
TBTF total exposure	126.5	118.3	–	252.3	263.3	–	185.6	208.3	–
... excluding central bank reserves	–	81.4	–	–	229.8	–	–	–	–

1 The ratios are calculated based on the final requirements, i.e. no transitional provisions are taken into account.

2 The ratios and levels are calculated based on the phase-in requirements as at end-2019 (for 2019 figures) and as at end-2020 (for 2020 figures).

3 The Swiss sectoral countercyclical capital buffer (CCyB) for the risk-weighted requirements is zero in 2020. Excluding bank-specific Pillar 2 surcharges for specific risks.

4 Raiffeisen switched to using internal models to calculate RWA (F-IRB) in 2019.

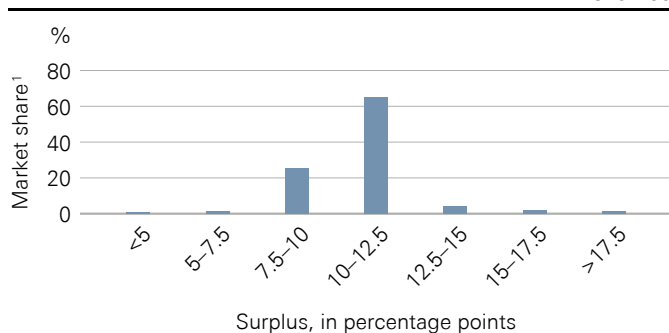
5 PostFinance adjusted its Q4 2019 public disclosure after publication of the FSR 2020. Look-through values therefore differ from those published in the FSR 2020.

Source(s): DF-SIBs' regulatory disclosures

### RISK-WEIGHTED SURPLUS CAPITAL OF DOMESTICALLY FOCUSED BANKS

Capital surplus with respect to the 8% minimum requirement for risk-weighted total capital ratios

Chart 35



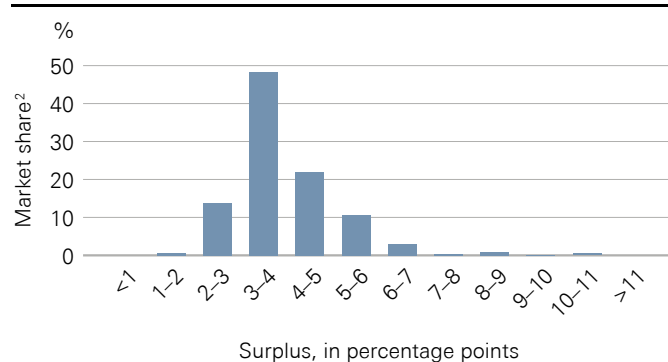
1 Share of domestically focused banks' total Basel III leverage ratio exposure. Excluding members of small banks regime.

Source(s): FINMA, SNB

### LEVERAGE RATIO SURPLUS CAPITAL OF DOMESTICALLY FOCUSED BANKS

Capital surplus with respect to the 3% minimum requirement for leverage ratios<sup>1</sup>

Chart 36



1 Total Basel III leverage ratio exposure includes central bank reserves.

2 Share of domestically focused banks' total Basel III leverage ratio exposure.

Source(s): FINMA, SNB

represented 7.5–12.5% of their risk-weighted assets (cf. chart 35), and 2–6% of their total balance sheet (cf. chart 36). In aggregate, these banks' capital buffers in excess of the regulatory minima amounted to approximately CHF 53 billion. About 60% of these buffers (CHF 32 billion) are held voluntarily by the domestically focused banks as surpluses above all regulatory minimum and buffer requirements.<sup>8</sup>

#### DF-SIBs comply with TBTF going-concern requirements

DF-SIBs are subject to the additional going-concern and gone-concern requirements defined under TBTF. At end-2020, the three DF-SIBs were fully compliant with the look-through as well as the phase-in TBTF going-concern risk-weighted capital and leverage ratio requirements (cf. table 4).

In a look-through perspective, the TBTF risk-weighted capital ratio increased at Raiffeisen Group, stayed constant at ZKB, and decreased at PostFinance. While the increase at Raiffeisen Group indicates capital build-up, the decrease at PostFinance partly reflects the fact that, according to its regulatory disclosures, the bank would use a portion of its available Tier 1 capital to fulfil look-through gone-concern requirements (cf. 'Gone-concern loss-absorbing capacity varies across DF-SIBs' in subchapter 5.3). To avoid double-counting, such capital has to be deducted from Tier 1 going-concern capital ratios. TBTF leverage ratios decreased at ZKB, increased at Raiffeisen Group and remained stable at PostFinance.

<sup>8</sup> These include the capital buffer target levels set according to supervisory category (cf. CAO), as well as the institution-specific capital buffer requirements applying to systemically important banks. These requirements go beyond the Basel III requirements for all banks, except those pertaining to supervisory category 5, which includes the smallest banks and the banks with the lowest risk exposure. Some banks have Pillar 2 capital surcharges for specific risks; these are not taken into account here.

In a phase-in perspective, the TBTF risk-weighted capital ratio decreased at PostFinance and at ZKB, and increased at Raiffeisen Group. Following FINMA's decision to allow banks to temporarily exclude central bank reserves from their total exposure (i.e. the leverage ratio denominator), the leverage ratio for PostFinance increased compared to end-2019. ZKB and Raiffeisen Group disclosed their leverage ratios without the temporary exclusion of central bank reserves at end-2020. For ZKB, the leverage ratio decreased due to the growth of its balance sheet, while it remained constant for Raiffeisen Group.

## 5.2 RISK

Domestically focused banks are mainly exposed to domestic credit risk, interest rate risk and business risk. This subchapter discusses credit risk and interest rate risk in detail. Furthermore, scenario analysis provides a complementary and broader assessment of these banks' risks, including business risk.

### 5.2.1 CREDIT RISK

#### Large exposure to domestic credit market

At end-2020, domestic credit accounted, on average, for around two-thirds of the aggregate balance sheet of the domestically focused banks. By sector, credit to households made up two-thirds, and corporate loans to the real sector<sup>9</sup> around one-quarter, of total credit. Broken down by type of loan, around 90% of the credit volume was mortgage loans, while most of the remaining loans (approximately 60%) were unsecured (cf. table 5).

Due to the composition of their balance sheets, domestically focused banks are particularly exposed to developments affecting the financial soundness of corporations and

<sup>9</sup> In the following, we use the term 'corporations' to denote corporations in the real sector, i.e. private non-financial corporations.

## DOMESTIC BANK CREDIT BY TYPE OF BORROWER AND LOAN

Domestically focused banks, figures at end-2020<sup>1</sup>

Table 5

	Households	Non-financial corporations	Financial corporations	Public corporations	All sectors
<b>Domestic bank credit (in CHF billions)</b>	<b>566</b>	<b>233</b>	<b>31</b>	<b>24</b>	<b>854</b>
<b>Domestic bank credit (in percent)</b>	<b>66.2</b>	<b>27.3</b>	<b>3.6</b>	<b>2.8</b>	<b>100.0</b>
Of which mortgages	64.5	22.4	2.2	0.2	89.3
Of which other loans: secured	0.9	2.2	0.5	0.5	4.1
Of which other loans: unsecured	0.9	2.7	0.9	2.2	6.7

<sup>1</sup> Reporting entity: Domestic bank offices; positions are vis-à-vis domestic non-banks (all currencies).

Source(s): Credit volume statistics, SNB

households as well as to real estate prices in Switzerland. While the environment was relatively benign up until 2019, it deteriorated markedly with the onset of the coronavirus pandemic in 2020.

So far, the deterioration in the macroeconomic environment has barely been reflected in credit quality indicators for domestically focused banks. Backward-looking indicators such as the level of specific provisions or the share of non-performing loans, as well as more forward-looking indicators such as the level of impaired claims, have increased somewhat, but remain low by historical standards.

Going forward, credit quality is expected to deteriorate. While the uncertainty about the pandemic's impact on domestically focused banks' credit portfolios continues to be high, the damage is likely to remain limited thanks to the measures taken by the authorities, the recovery of the Swiss economy, and the fact that most of the banks' loans are secured.

#### Further growth in mortgage exposure, high affordability risks

In 2020, domestically focused banks' exposure to the Swiss mortgage and residential real estate markets increased further (cf. subchapter 2.3, 'Swiss mortgage and real estate markets' for developments in these markets). The mortgage volume at these banks increased at a slightly slower pace compared to the previous year (3.7% in 2020 versus 4% in 2019).

At the same time, affordability risks as measured by the loan-to-income (LTI) ratio of new mortgage loans increased slightly in 2020, reaching a new high. This applies especially to the residential investment property segment, where the increase is visible regardless of the level of imputed interest rates used to measure this risk (5%, 4% or 3%), i.e. irrespective of the LTI thresholds

considered. As a result, the vulnerability of these mortgages to shocks such as an increase in interest rates or a decrease in income/rents has risen further from an already high level (cf. chart 37).<sup>10</sup>

#### Residential investment properties – decrease in share of new mortgage loans with high LTV ratios

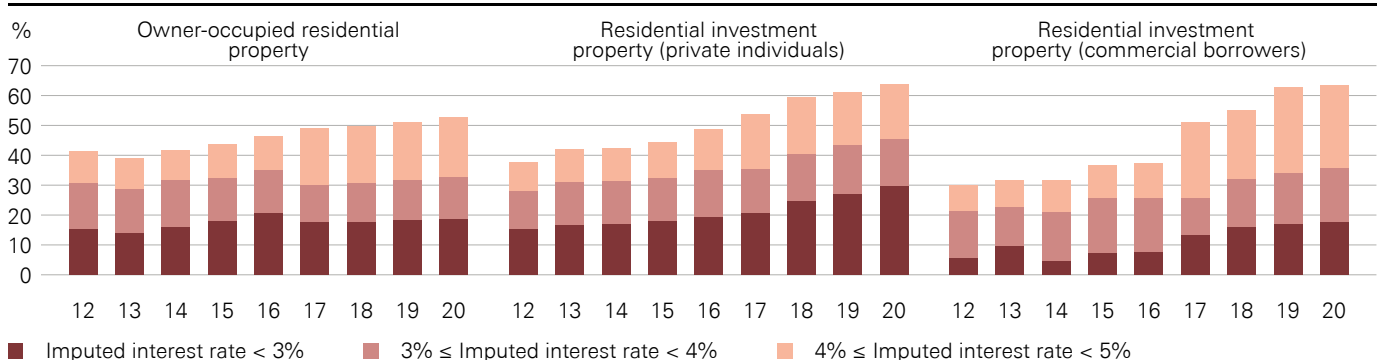
Meanwhile, the revision of the self-regulation guidelines for banks in the area of investment properties led to a substantial decrease in the share of new mortgage loans with high loan-to-value (LTV) ratios in 2020. The revised self-regulation guidelines became effective on 1 January 2020 and stipulate, among other things, a minimum down payment of at least 25% of the lending value (previously 10%). As a consequence, the share of new mortgage loans with an LTV ratio of more than 75% decreased substantially from 40% in 2019 to 21% in 2020 for residential investment properties held by commercial borrowers, and from 27% to 16% for residential investment properties held by private borrowers (cf. chart 38). Two main factors explain why the share of new mortgage loans with an LTV ratio of more than 75% did not drop to zero in spite of the 25% down payment requirement. First, the revision of the guidelines came with a transition period of six months. Second, the revised guidelines do not explicitly include the buy-to-let segment, which accounts for a sizeable share of the loans granted by banks to finance residential investment properties.<sup>11</sup> In its risk monitoring, the SNB will place particular emphasis on developments in this segment of the market.

10 When interpreting these figures, it should be noted that they apply to new mortgages and are not representative of the LTIs for the stock of outstanding mortgages. While there are no data on the exact distribution of LTIs for outstanding mortgages, approximations suggest that the share of outstanding mortgages with a high LTI ratio is lower due to amortisation in particular (cf. Financial Stability Report 2019, p. 21).

11 FINMA recommends that banks voluntarily also apply the stricter requirements to loans for buy-to-let properties (cf. [www.finma.ch/en/news/2019/08/20190828-mm-selbstregulierung/](http://www.finma.ch/en/news/2019/08/20190828-mm-selbstregulierung/)). Some banks are already following this practice.

### LOAN-TO-INCOME OF NEW MORTGAGE LOANS<sup>1</sup>

Proportion where imputed costs exceed rents (inv. prop) or one-third of income (owner-occ.) at an imputed interest rate of up to 5%<sup>2</sup> Chart 37



1 From 2017 on, data from the revised 'Survey on new mortgages' are shown.

2 The dark red shaded area shows the proportion where imputed costs exceed rents or one-third of income at an imputed interest rate of up to 3%. The red shaded area shows the additional proportion for an imputed interest rate between 3% and 4%. The pale red shaded area shows the additional proportion for an imputed interest rate between 4% and 5%.

Source(s): SNB

In line with the substantial decrease in the share of new mortgage loans with high LTV ratios, the share of new residential investment property mortgages with the highest risk density ('high-LTV/high-LTI' loans) also declined markedly – from 33% in 2019 to 17% in 2020 for commercial borrowers, and from 22% to 13% for private borrowers. As can be seen from chart 39, this shift in banks' lending policy has led to an accumulation of new loans with an LTV of just below 75%. Nonetheless, this reduction in LTV risks in a segment of the real estate market which is particularly vulnerable to shocks given historically low initial yields is a positive development from a financial stability perspective.

### 5.2.2 INTEREST RATE RISK

#### Persistently high interest rate risk exposes banks to sudden and large upward interest rate shocks

Interest rate risk can result from a mismatch between the repricing maturities of a bank's assets and liabilities. Banks typically use short-term liabilities (i.e. deposits with potentially short, but contractually undefined, repricing maturities) to refinance long-term assets (i.e. loans with relatively long, but contractually defined, repricing maturities). The result of such maturity transformation is that interest rates on assets are locked in for longer than interest rates on liabilities. This exposes banks to upward shocks in interest rates – a sudden and large increase in interest rates would reduce the present value of assets more substantially than the present value of liabilities.

In 2020, interest rate risk from maturity transformation – as measured by the impact of an upward interest rate shock on the banks' net present value (NPV) relative to Tier 1 capital – remained broadly unchanged at a high level. Based on repricing assumptions for non-maturity positions that are fixed over time and that are the same for all banks, domestically focused banks' NPV would have declined, on average, by 30% of Tier 1 capital if interest rates had

suddenly risen by 200 basis points (cf. chart 40).<sup>12</sup>

Based on banks' internal repricing assumptions, this value would be significantly lower (12.7%). The majority of the difference is driven by assumptions regarding the repricing behaviour of sight and savings deposits (i.e. positions without contractual maturity) – which, in turn, is dependent on depositor behaviour – in the event of an interest rate rise.<sup>13</sup> The uncertainty surrounding these assumptions is considerable. Accordingly, it is important that banks adopt a conservative stance when choosing the internal repricing assumptions used for setting their risk appetite and assessing their risk tolerance.

The NPV analysis shown in chart 40 highlights banks' substantial exposure to large upward interest rate shocks. However, it tends to overestimate banks' exposure to small or medium upward interest rate shocks. In the current environment, banks would benefit from the restoration of liability margins if interest rates were to rise, a fact that is not fully accounted for in the NPV analysis (cf. Financial Stability Report 2016, pp. 26–30).<sup>14</sup> For larger interest rate shocks, the positive impact on earnings from the restoration of the liability margin would be small relative to the negative impact resulting from the deterioration of the structural margin. For instance, according to SNB scenario analysis, under the interest rate shock scenario, banks would suffer a decline in NII due to their high level

<sup>12</sup> The analysis accounts for linear interest rate risk hedging. Cf. Financial Stability Report 2013, pp. 18–19 for a detailed discussion of fixed and banks' own internal repricing assumptions.

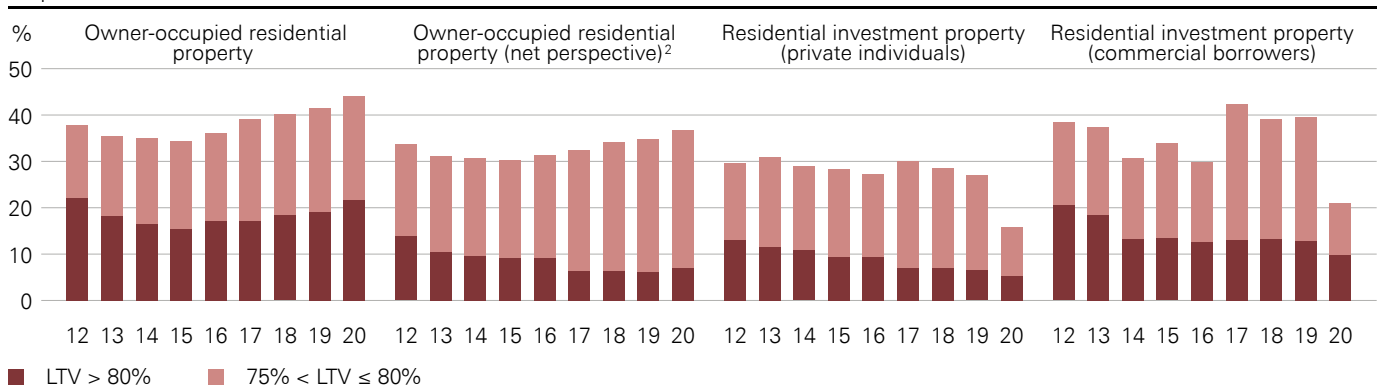
<sup>13</sup> When interest rates rise, a substantial portion of funds could quickly migrate into longer-term liabilities with typically higher rates, or other forms of investment. As a result, banks may need to reprice customer deposits faster than currently anticipated to retain customer deposits as a source of funding.

<sup>14</sup> The interest rate margin has three components: the asset margin, the liability margin, and the structural margin. The asset margin is the difference between the interest on the asset and that on the alternative asset with the same maturity on the capital market. The liability margin is the difference between alternative funding costs for the same maturity on the capital market and the interest paid on the liability. The structural margin is the margin from maturity transformation.

### LOAN-TO-VALUE OF NEW MORTGAGE LOANS<sup>1</sup>

Proportion of new loans with LTV over 80% or between 75% and 80%

Chart 38



<sup>1</sup> From 2017 on, data from the revised 'Survey on new mortgages' are shown.

<sup>2</sup> For the net perspective, pledges from pillar 2 and 3a pension funds used as part of the scheme to encourage home ownership are counted as additional collateral in the LTV calculation; moreover, banks' internal valuations are used as the value of the pledged property.

Source(s): SNB

of maturity transformation, despite the restoration of their liability margin.

### 5.2.3 IMPACT OF STRESS SCENARIOS

#### Stress losses could be significant, but capital buffers should ensure adequate resilience

The SNB considers three stress scenarios, outlined in subchapter 2.5, when assessing the magnitude of domestically focused banks' risk exposure and loss potential: the protracted euro area recession scenario, the US recession scenario, and the interest rate shock scenario.

The domestically focused banks are projected to incur losses under both the protracted euro area recession and the US recession scenarios. Overall, the impact of these losses on banks' capital would be moderate. While the scenarios differ in terms of dynamics, they are qualitatively similar. Under both scenarios, the Swiss economy would enter into a deep recession, unemployment rates would rise sharply and interest rates would stay low. Furthermore, the domestic real estate market would face a significant price correction and global financial markets would experience stress. Consequently, losses on corporate loans and mortgages would increase markedly, and banks' fee and commission income as well as NII would decline.

The capital buffers of the domestically focused banks would remain substantial after the shock under both scenarios. Nonetheless, in the absence of counteracting measures, a small number of banks could approach, or fall below, the specific capital buffer target levels set by the Capital Adequacy Ordinance (CAO) – or even fall below regulatory minima.

Under the interest rate shock scenario, domestically focused banks would experience substantial losses. These losses would mainly be driven by an increase in mortgage interest rates, leading to a materialisation of affordability

risks, and a pronounced drop in real estate prices, exposing a proportion of the banks' mortgage portfolios to under-collateralisation. Consequently, write-downs on domestic mortgages would surge. Moreover, due to their high level of maturity transformation, banks would suffer a decline in NII under this scenario, despite the restoration of their liability margins.

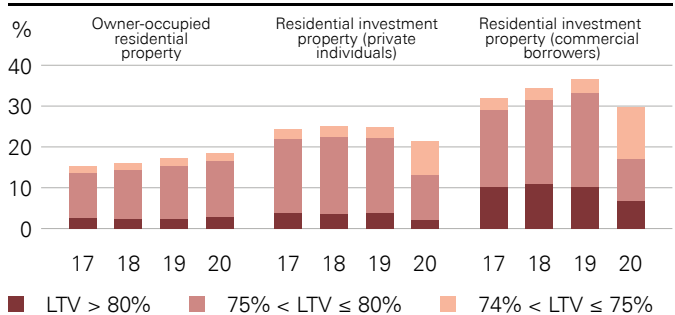
Domestically focused banks' aggregate losses would be substantially larger under the interest rate shock scenario than under the recession scenarios and would deplete a significant proportion of these banks' capital buffers. Many banks would fall below the specific capital buffer target levels set by the CAO. Moreover, in the absence of counteracting measures, a number of banks with a sizeable cumulative market share would approach, or fall below, regulatory minima. Overall, though, thanks to the substantial capital buffers currently available, most domestically focused banks should be able to absorb the losses under such a stress scenario while continuing to lend.

The results suggest that the domestically focused banks' capital buffers should ensure adequate resilience. These banks should be able to continue to fulfil their role as credit providers to the real economy under a wide spectrum of stress scenarios. It is important to note that, in addition to the losses that the stress scenarios could cause, material losses for domestically focused banks can also occur due to operational and legal risks (including cyber risk).

### 5.3 RESOLUTION

If a DF-SIB gets into financial distress and recovery measures prove unsuccessful, an orderly resolution must be possible without exposing taxpayers to loss. In order to alleviate the TBTF issue, systemically important banks must meet additional gone-concern loss-absorbing

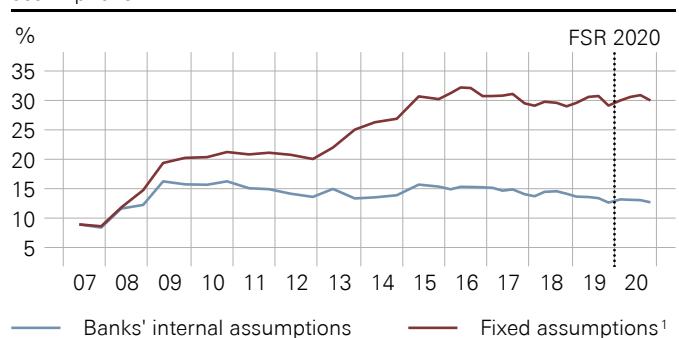
**HIGH LTV AND HIGH LTI**  
Share of new mortgages with high LTV<sup>1</sup> and high LTI<sup>2</sup> Chart 39



1 Net perspective, where pledges from pillar 2 and 3a pension funds used as part of the scheme to encourage home ownership, as well as other forms of collateral, are taken into account in the LTV calculation; moreover, banks' internal valuations are used as the value of the pledged property.  
2 Mortgages where imputed costs exceed rents (inv. prop) or one-third of income (owner-occ.) at an imputed interest rate of 5%.

Source(s): SNB

**INTEREST RATE RISK OF DOMESTICALLY FOCUSED BANKS**  
Losses in NPV with 200 bp interest rate rise as percentage of Tier 1 capital, under different repricing assumptions Chart 40



1 Assumed repricing maturities of 1.5 years for savings deposits and variable rate mortgage claims, and of 15 days for sight deposits.

Source(s): FINMA, SNB

requirements and emergency planning requirements. This subchapter discusses the current status of DF-SIBs with regard to these additional requirements.

### **Gone-concern loss-absorbing capacity varies across DF-SIBs**

Gone-concern requirements for DF-SIBs entered into force in 2019 and are being phased in by 2026.<sup>15</sup> Eligible instruments for covering gone-concern requirements include contingent capital and bail-in instruments, excess Tier 1 capital, cantonal/state guarantees and similar mechanisms.<sup>16</sup> The extent of additional loss-absorbing capacity build-up resulting from these requirements will vary across banks and depends on the type of instruments used.

At end-2020, there was a shortfall with respect to the gone-concern requirements for PostFinance in a look-through perspective, meaning that the bank will have to build up gone-concern instruments to meet these requirements by 2026. Assuming that some of the going-concern Tier 1 capital accounted for in a phase-in perspective is used to fulfil gone-concern requirements,<sup>17</sup> ZKB and Raiffeisen Group would already comply with look-through gone-concern requirements. However, assuming that these banks' current phase-in Tier 1 capital continues to be reserved for going-concern loss absorption going forward, both banks would have to build up gone-concern instruments by 2026 to meet their look-through requirements. In a phase-in perspective, all three banks met the TBTF gone concern risk-weighted capital and leverage ratio requirements at end-2020.

### **DF-SIBs' emergency plans not yet accepted by FINMA**

As part of the TBTF requirements, the three DF-SIBs must demonstrate to FINMA that they have effective emergency plans. In conjunction with gone-concern requirements, such emergency plans ensure the safeguarding of systemically important functions in Switzerland in a crisis. By end-2020, the three DF-SIBs' emergency plans exhibited different degrees of implementability, but none of them had been approved by FINMA.<sup>18</sup>

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<sup>15</sup> Cf. Federal Council, CAO (*Eigenmittelverordnung*, not available in English).

<sup>16</sup> Excess Tier 1 capital not used to cover going-concern requirements may be used with preferential treatment for gone-concern purposes. As a result, depending on the amount of excess Tier 1 capital, the gone-concern risk-weighted requirement is reduced by up to one-third of the requirement. To avoid double-counting, such capital has to be deducted from Tier 1 going-concern capital ratios. Explicit cantonal/state guarantees or similar mechanisms are eligible for covering up to half of gone-concern requirements – or even all of them, subject to additional conditions.

<sup>17</sup> Cf. 'DF-SIBs comply with TBTF going-concern requirements' in subchapter 5.1.2.

<sup>18</sup> FINMA press release 'FINMA sees progress in recovery and resolution planning by the systemically important financial institutions – but there are still gaps', 19 March 2021.



# Abbreviations

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AT1	Additional Tier 1
Basel III	International regulatory framework for banks developed by the BCBS
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
CAO	Capital Adequacy Ordinance
CCyB	Countercyclical capital buffer
CDS	Credit default swap
CET1	Common Equity Tier 1
CoCos	Contingent capital
COVID-19	Coronavirus disease 2019
CPRS	Climate policy-relevant sectors
CRF	SNB COVID-19 refinancing facility
DFB	Domestically focused bank
DF-SIB	Domestically focused systemically important bank
FDf	Federal Department of Finance
FINMA	Swiss Financial Market Supervisory Authority
F-IRB	Foundation internal ratings-based approach
FMI	Financial market infrastructure
FSB	Financial Stability Board
FSO	Federal Statistical Office
GDP	Gross domestic product
G-SIB	Global systemically important bank
HT CoCos	High-trigger contingent capital
IMF	International Monetary Fund
LT CoCos	Low-trigger contingent capital
LTI	Loan-to-income
LTV	Loan-to-value
NBA	National Bank Act
NGFS	Network for Greening the Financial System
NII	Net interest income
NPV	Net present value
ROA	Return on assets
ROE	Return on equity
RWA	Risk-weighted assets
SECO	State Secretariat for Economic Affairs
TBTF	Too big to fail
TCFD	Task Force on Climate-related Financial Disclosures
ZKB	Zürcher Kantonalbank





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**Data and data sources**

The banking statistics used in this report are based on official data submitted and/or on data reported by individual banks. The analysis covers globally active banks and domestically focused commercial banks. The latter comprise banks (currently around 100) with a share of domestic loans to total assets exceeding 50% or with a prominent role in the domestic deposit market. Bank-specific data on the globally active banks and the DF-SIBs are analysed at a consolidated level. This document is based on data as at 31 May 2021.

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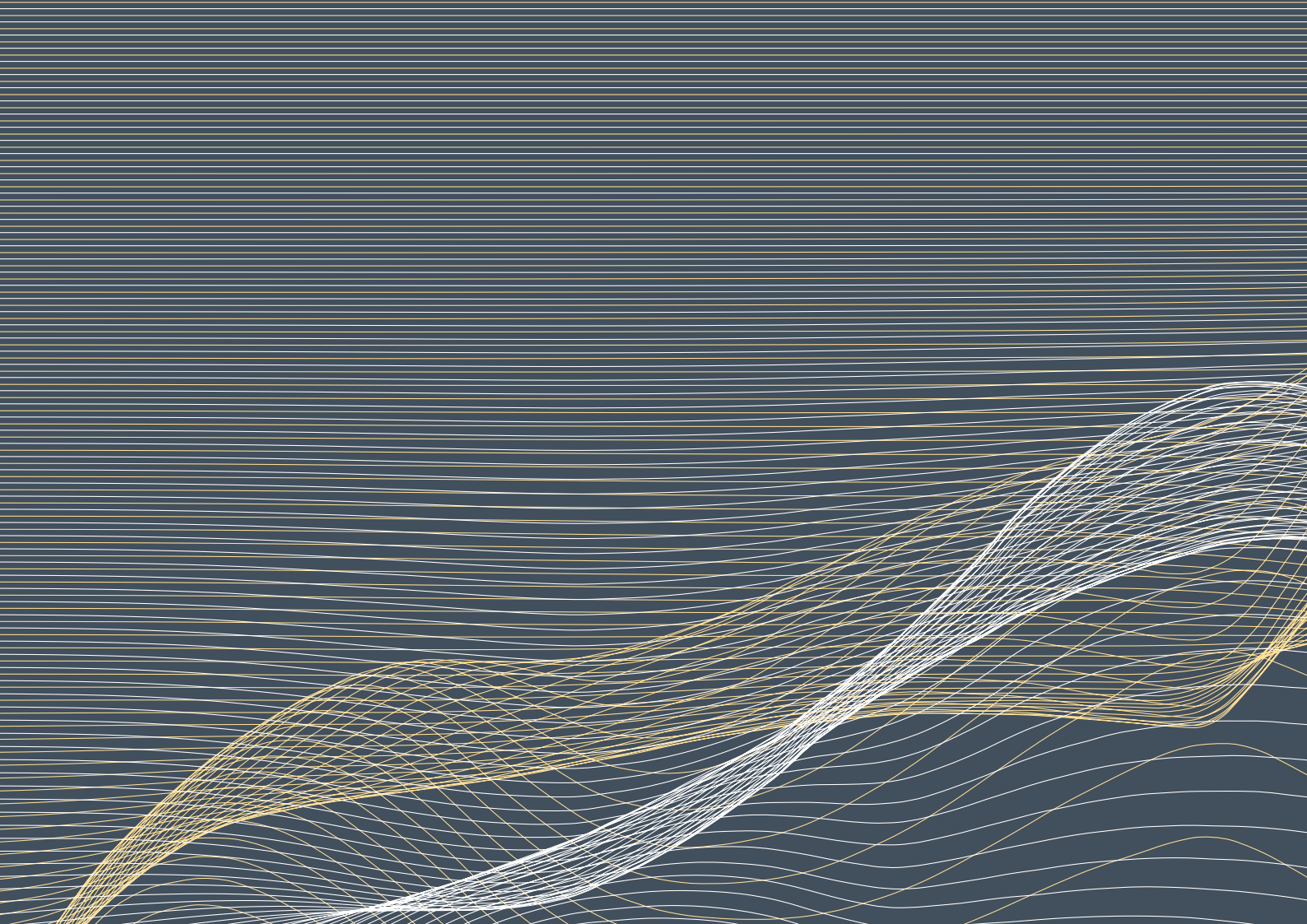
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