

Financial Stability Report 2017

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Financial Stability Report 2017

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1

Overall assessment

MACROECONOMIC ENVIRONMENT

Economic and financial conditions for the Swiss banking sector have improved over the last 12 months, although substantial risks remain. Along with a pickup in global economic growth, credit quality has risen overall. In this environment, stock prices have also increased and volatility in stock, bond and foreign exchange markets has remained low for most of the time. However, investors' market assessment is fragile, as reflected in episodes of high volatility around political events such as the UK referendum on EU membership and the presidential elections in the US and France. Additionally, in a number of euro area member states, credit quality is still low and bank credit risk premia remain elevated. More generally, the prolonged period of low interest rates carries some risks for global financial stability. There are signs of imbalances on real estate markets in several countries. Furthermore, the profitability of financial institutions is under pressure, creating incentives to increase risk-taking.

The SNB's baseline scenario assumes that international and domestic economic conditions for the Swiss banking sector continue to improve. In the US, growth remains robust, supported by favourable labour market conditions. In the euro area, the recovery continues and unemployment recedes further. In China, growth slows in line with declining potential GDP growth, whereas Brazil and Russia return to positive growth. In Switzerland, growth picks up and the economy gradually returns to full employment. Monetary policy conditions normalise further in the US. Due to the ongoing moderate inflation dynamic, monetary policy remains rather expansionary in Japan and the euro area.

In addition to the baseline scenario, the SNB uses four adverse scenarios to assess the resilience of the Swiss banking sector against unlikely, highly unfavourable but possible developments in economic and financial conditions. Under the first adverse scenario, widespread financial and banking stress leads to a protracted recession in the euro area and an extended period of negative interest rates in the euro area and Switzerland. The second scenario assumes a major crisis in emerging markets, comparable to those during the second half of the 1990s. Under the third scenario, there is a severe recession in the US, which spreads to the rest of the world. The fourth scenario analyses the impact of an interest rate shock.

BIG BANKS

Total loss-absorbing capacity improved further

Since publication of the last *Financial Stability Report*, the two Swiss big banks – Credit Suisse and UBS – have further improved their total loss-absorbing capacity (TLAC), in terms of both going-concern capital and gone-concern instruments. Going-concern capital is loss-absorbing under regular operating conditions, whereas gone-concern instruments serve to recapitalise a bank in the event of impending insolvency.

With this further improvement in their TLAC, Credit Suisse and UBS are on track to meet the look-through requirements of the revised Swiss 'too big to fail' regulations (TBTF2) – i.e. the requirements after expiry of grandfathering and all other transitional provisions.¹ In a going-concern risk-weighted perspective, both banks are already fully compliant. However, they still have to improve their TLAC as defined in terms of the leverage ratio. Furthermore, the two banks satisfy the look-through requirements under the international Basel III capital framework. In an international comparison, the Swiss big banks' risk-weighted capital ratios are above the average for large globally active banks, while their leverage ratios are still below the average.

The Basel Committee on Banking Supervision is currently finalising the Basel III regulatory framework. A key objective in the finalisation of Basel III is to reduce unwarranted variability in risk-weighted assets (RWA) across banks, and thus improve consistency and comparability in bank capital ratios. The ongoing work by the Basel Committee is in line with the TBTF2 regulations and the expected increase in RWA has already been factored, as far as possible, into the recalibration of the 'too big to fail' requirements. The SNB supports and is committed to a swift finalisation of these reforms.

Resolving the 'too big to fail' issue in Switzerland

The TBTF2 regulations are designed to resolve the 'too big to fail' issue in Switzerland and prevent systemically important banks from having to be bailed out with taxpayers' money in the event of a crisis.² They rest on two complementary pillars. First, they are aimed at strengthening a systemically important bank's resilience, thereby reducing the likelihood of it getting into financial distress. Second, if a systemically important bank nevertheless gets into financial distress, the regulations provide a framework for orderly resolution without the use of public funds.

Regarding resilience, both big banks have improved their loss-absorbing capacity as described above. Achieving full compliance with the TBTF2 regulations will further

¹ The look-through perspective takes into account the final quality requirements for eligible going-concern and gone-concern instruments and the final quantitative requirements set by TBTF2.

² Cf. Federal Council, 'Too big to fail', 18 February 2015, and Federal Department of Finance, 'Erläuterungsbericht zu Änderungen der Eigenmittelverordnung und zur Bankenverordnung', 13 May 2016.

strengthen this capacity. This is necessary as the big banks' loss potential relative to their capitalisation continues to be substantial, when measured both on the basis of the losses experienced during the last financial crisis and according to the four adverse scenarios considered by the SNB. Given the big banks' significance to the Swiss economy, it is important that they remain adequately capitalised, even after incurring such losses.

Regarding resolution, the two big banks have already implemented key measures to meet the requirements. For example, they have set up Swiss subsidiaries that contain their systemically important functions and they are in the process of establishing separate service companies. Further progress must be made in drawing up robust resolution plans (cf. 'Resolution as an important pillar of the 'too big to fail' regulations: an overview', pp. 17–19). In particular, by end-2019, the big banks will need to demonstrate that they would be able to maintain their systemically important functions in Switzerland in the event of impending insolvency.³ They will also need to meet foreign regulatory requirements.

Overall, full implementation of the regulatory requirements in relation to both resilience and resolution is necessary to resolve the 'too big to fail' issue.

DOMESTICALLY FOCUSED COMMERCIAL BANKS

Increase in mortgage exposure, adequate resilience

In 2016, the exposure of domestically focused banks to the Swiss mortgage and residential real estate markets continued to increase. Mortgage growth at these banks has remained strong and the share of new loans with high loan-to-income (LTI) ratios has risen further, while interest rate risk from maturity transformation has stayed at a historically high level. These developments occurred against the background of high imbalances on the mortgage and residential real estate markets. While these imbalances have declined slightly overall, they are still at levels similar to those in 2014, when the sectoral countercyclical capital buffer (CCyB) was set at 2%.

After stabilising at a low level in 2015, the average interest rate margin on outstanding claims of domestically focused banks decreased further in 2016. This renewed reduction illustrates the ongoing pressure faced by these banks in their core business in an environment of exceptionally low interest rates. In 2016, as in previous years, domestically focused banks increased their net interest income, and consequently profits, despite the narrowing margin on new business. This is mainly because the growth in mortgage volume more than offset the reduction in the interest rate margin.

Domestically focused banks' resilience remains adequate. First, their available capital moved in step with both their RWA and their balance sheets in 2016. Their risk-weighted capital ratio remains significantly above the regulatory minimum requirement. Moreover, their leverage ratio is high by historical standards.

Second, stress test results suggest that most banks' capital surpluses, relative to the regulatory minimum requirements, are large enough to absorb the losses under the relevant adverse scenarios. Given the domestically focused banks' exposures, the interest rate shock scenario and protracted euro area recession scenario are of particular relevance. Under the interest rate shock scenario, a surge in write-downs on domestic mortgages and a decline in net interest income would lead to the depletion of a sizeable proportion of domestically focused banks' surplus capital. Most banks should be able to absorb these losses without seeing their capitalisation fall below the regulatory minimum. However, a number of banks with a significant cumulative market share are projected to fall near or below the regulatory minimum, unless they take counteracting measures. Under the protracted euro area recession scenario, the main impact on banks would come from eroding interest rate margins due to a period of persistently negative interest rates, as well as from higher corporate default rates as a consequence of a severe recession. This scenario would also result in losses at many domestically focused banks. Nevertheless, both the number of banks making losses and the aggregate size of these losses would be significantly smaller than under the interest rate shock scenario.

The stress test results highlight the importance of holding significant capital surpluses. These should be preserved going forward. The CCyB, the capital surcharge for systemically important banks⁴ and the prudent stance of many banks towards capital adequacy are all elements that play a key role in maintaining these surpluses.

Banks' lending policies and the market for residential investment property warrant continued attention

Going forward, if interest rates stay exceptionally low, incentives to increase risk-taking in the domestic credit and real estate markets will remain substantial for banks, commercial investors and households.

Banks, in particular, have strong incentives to take on more risk in mortgage lending as pressure on their margins and profitability is likely to remain high or to increase further, due to growing competitive pressure from banks and non-banks on the domestic mortgage market. Banks might respond to these incentives by further increasing affordability risk or interest rate risk. Such strategies may help to stabilise their short-term profitability, but would

³ Systemically important functions are those which are essential to the Swiss economy and include, in particular, domestic deposit and lending business as well as domestic payment transactions.

⁴ Among the domestically focused banks, this concerns PostFinance, the Raiffeisen Group and Zürcher Kantonalbank.

further increase their exposure to large upward interest rate shocks and to a correction on the mortgage and real estate markets in the medium term.

More generally, increased risk-taking might also lead to a renewed build-up of imbalances on the mortgage and real estate markets. In particular, upward pressure on prices for residential investment property is likely to remain strong in the near term. Even though yields in this segment are already very low by historical standards, they are still high compared to alternative investments. If interest rates increase at a later stage, there is the risk of a substantial price correction in this segment. Such a price correction would put leveraged investors – as well as the banks providing the funding for such investors – under pressure.

The SNB will continue to monitor developments on the mortgage and real estate markets closely, paying particular attention to developments in the residential investment property segment as well as to banks' risk-taking in mortgage lending. In parallel, the SNB will continue to regularly reassess the need for an adjustment of the CCyB.

2 Macroeconomic environment

2.1 KEY DEVELOPMENTS

Economic and financial conditions for the Swiss banking sector have improved over the last 12 months, although substantial risks remain. Along with a pickup in global economic growth, credit quality has risen overall. In this environment, stock prices have also increased and volatility in stock, bond and foreign exchange markets has remained low for most of the time.

However, investors' market assessment is fragile, as reflected in episodes of high volatility around political events such as the UK referendum on EU membership and the presidential elections in the US and France. Additionally, in a number of euro area member states, credit quality is still low and bank credit risk premia remain elevated.

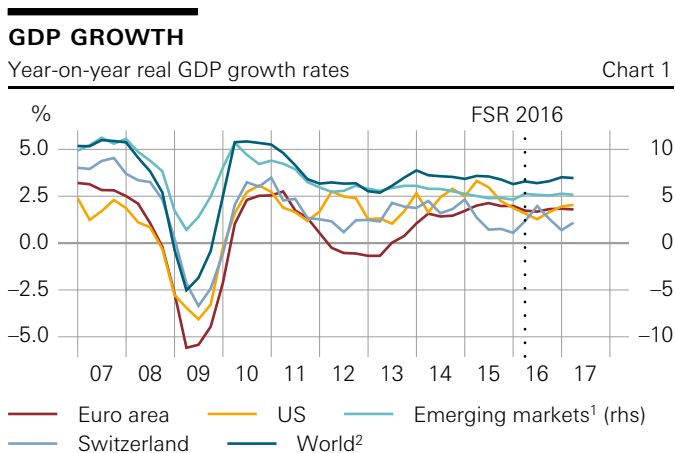
More generally, the prolonged period of low interest rates carries some risks for global financial stability. There are signs of imbalances on real estate markets in several countries. Furthermore, the profitability of financial institutions is under pressure, creating incentives to increase risk-taking.¹

¹ The IMF notes that banks' tail risk exposure could increase if interest rates are expected to remain low for a long time (cf. IMF, *Global Financial Stability Report*, April 2017, chapter 2, pp.51–52).

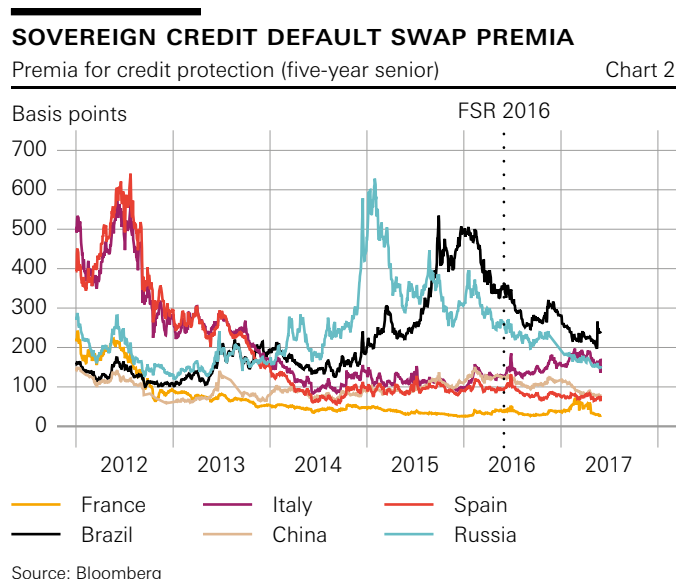
Pickup in economic growth: Economic growth has picked up slightly over the last 12 months in a number of countries, most notably the US (cf. chart 1). Meanwhile, the recovery in the euro area has maintained a broadly steady pace. In emerging markets, growth has also edged up overall, and has remained robust in China. In Switzerland, the recovery has continued on the back of solid net export growth.

Improved credit quality: Credit quality has improved overall. In the sovereign segment, risk premia have generally declined over the last 12 months (cf. chart 2). This is the case for most emerging markets, including large economies such as Russia and Brazil, where risk premia are still elevated by historical standards. For the euro area, the picture is mixed. Whereas risk premia have declined in Spain, they have increased in Italy, reflecting political uncertainty and vulnerabilities in the banking sector.

In the corporate and household segments, too, positive signs dominate. In both the US and Europe, corporate spreads have tightened (cf. chart 3) and the ratio of credit rating downgrades to total rating changes has decreased (cf. chart 4). Non-performing loan ratios in the corporate and household segments have stabilised or fallen in the major economies. However, in a number of euro area member states, these ratios are still elevated. In Switzerland, historically low non-performing loan ratios continue to indicate high levels of corporate and household credit quality. Furthermore, corporate spreads have tightened slightly. However, household indebtedness relative to GDP has risen further. High indebtedness increases the vulnerability of households to adverse macroeconomic and upward interest rate shocks.



¹ China, South Korea, India, Brazil and Russia.
² United States, euro area, United Kingdom, Japan, China, South Korea, India, Brazil and Russia.
 Sources: State Secretariat for Economic Affairs (SECO), Thomson Reuters Eikon, SNB calculations



Rising stock prices: In a climate of low financial market volatility, stock prices have risen over the last 12 months (cf. chart 5). Brief episodes of higher volatility occurred around the UK referendum on EU membership and the presidential elections in the US and France. The cyclically adjusted price/earnings ratio (a frequently used stock valuation measure) is currently above its long-term average for the US and below it for other major regions.²

Partial recovery in the global banking sector: Financial market indicators for banks over the last 12 months show a partial recovery from the turbulence observed in late 2015 and early 2016. In both the US and the euro area, bank stock prices have increased strongly, outperforming the overall market. Bank credit default swap premia (a market

² Based on a 40-year average of the ratio. For the US, the deviation of the price/earnings ratio from its long-term average is significantly larger when long-term data covering more than 100 years are used.

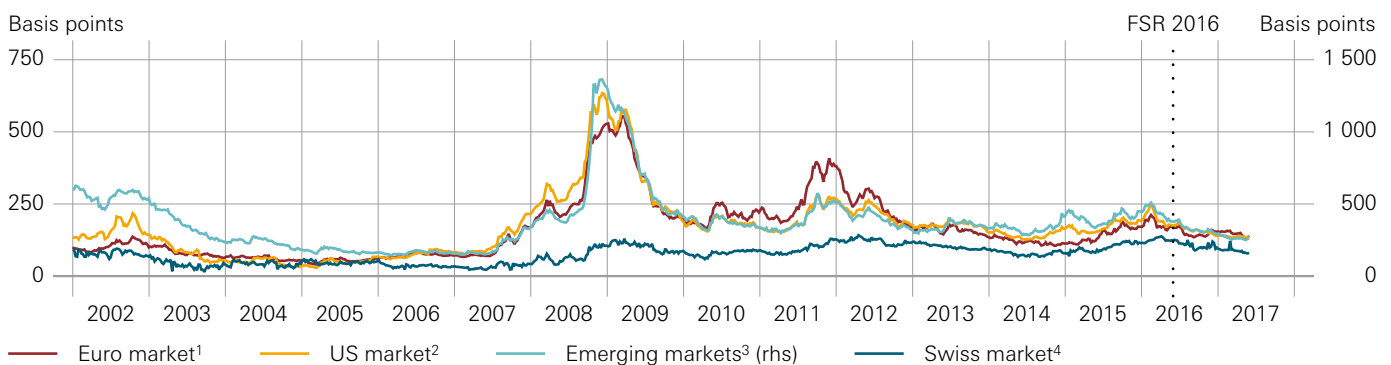
indicator for bank resilience) have generally improved as well (cf. chart 6). However, they continue to be higher for banks in southern member states of the euro area, indicating that these banks are still perceived as relatively more vulnerable to a deterioration in the economic and financial environment.

Interest rates remain low: Market interest rates remain at historically low levels and are close to or below zero in a number of European countries. Short-term interest rates have decreased further in the UK and the euro area, whereas they have increased in the US. Following the US presidential election, long-term interest rates rose in most countries and volatility temporarily increased (cf. chart 7). The prolonged period of very low interest rates might lead investors to underestimate the possibility of interest rates reverting to higher levels in the medium term. Historical experience shows that interest rates can increase abruptly and significantly overshoot their equilibrium levels.

BOND SPREADS

Yield spread between corporate and government bonds

Chart 3

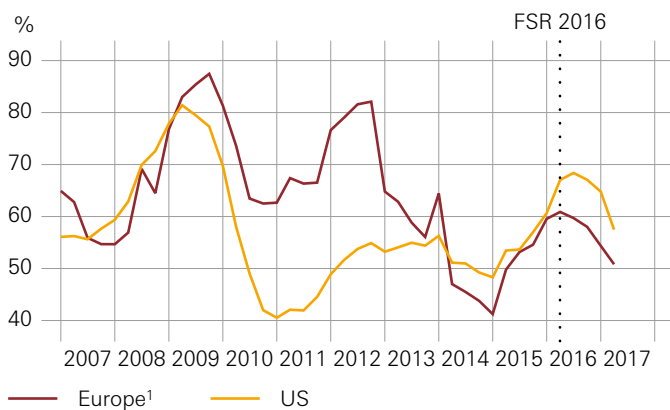


¹ Euro-Aggregate Corporate (investment grade, 7–10 year maturity, EUR-denominated) and German Government (7–10 year maturity), Bank of America Merrill Lynch.
² US Corporate (investment grade, 7–10 year maturity, USD-denominated) and US Treasury (7–10 year maturity), Bank of America Merrill Lynch.
³ Emerging Market Corporate (USD and EUR-denominated), option-adjusted spread, Bank of America Merrill Lynch.
⁴ Yields for Swiss investment grade corporate bonds and for Swiss Confederation bonds (10-year maturity), calculated by the SNB.
 Sources: SNB, Thomson Reuters Eikon

RATING DOWNGRADES RATIO

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

Chart 4

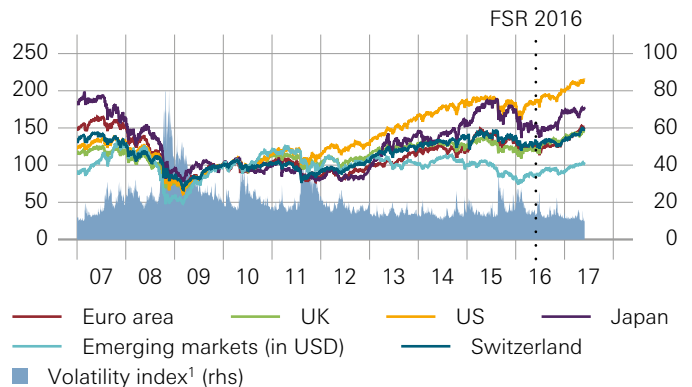


¹ EU-17 countries plus Switzerland, Norway and Iceland.
 Sources: Bloomberg, Moody's

STOCK MARKET INDICES

Datastream global indices (indexed to 1 Jan 2010 = 100) and volatility

Chart 5



¹ The index used is the Chicago Board Options Exchange Market Volatility Index (VIX), which measures the implied volatility of index options on the S&P 500 (in %).
 Source: Thomson Reuters Eikon

Real estate prices continue to rise: Against the background of very low interest rates, real estate prices have generally continued to rise over the last 12 months and there are signs of imbalances in a number of major economies. In Europe, real estate prices have increased, and at quite high rates in some countries, such as the UK or Germany (cf. chart 8). Price-to-rent ratios point to imbalances on the residential markets in France and the UK (cf. chart 9). There are also signs of imbalances on commercial real estate markets in the aggregate euro area and the UK.³ In the US, real estate prices have risen strongly. While residential price growth has been broadly in line with that of residential rents, commercial prices have increased considerably faster than office or retail rents, indicating a build-up of imbalances. In Switzerland, price momentum

on the residential real estate market has slowed further, whereas imbalances remain at high levels (cf. chapter 3).

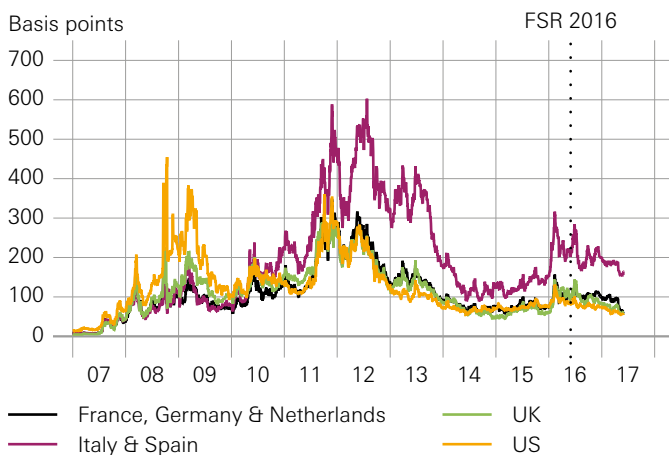
2.2 SCENARIOS

To capture the different sources of risk to the Swiss banking sector, the SNB considers a baseline scenario and four adverse scenarios for developments in the economic environment and in financial market conditions. The baseline scenario describes the most likely outcome given currently available information. By contrast, the adverse scenarios are designed to assess the resilience of the Swiss banking sector against unlikely, highly unfavourable but possible developments in economic and financial conditions. All four adverse scenarios concentrate on macroeconomic and financial risks, but exclude operational and legal risks for banks. This is because the materialisation of operational and legal risks is largely independent of the underlying economic scenario. The

3 Cf. European Central Bank, *Financial Stability Review*, November 2016, p. 42; and Bank of England, *Financial Stability Report*, November 2016, p. 9.

BANK CREDIT DEFAULT SWAP PREMIA

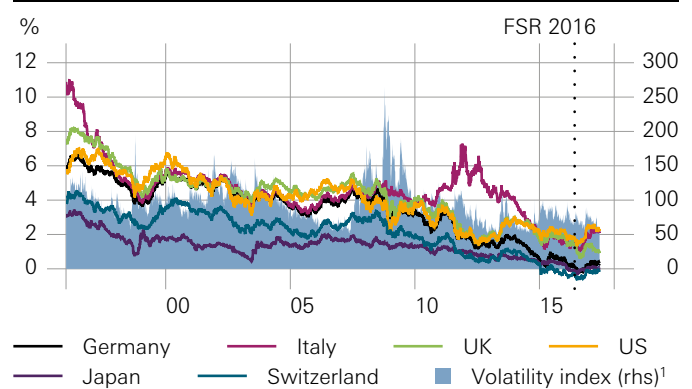
Average of biggest banks (five-year senior) Chart 6



Sources: Bloomberg, SNB calculations

LONG-TERM INTEREST RATES: TEN-YEAR GOVERNMENT BONDS

Chart 7

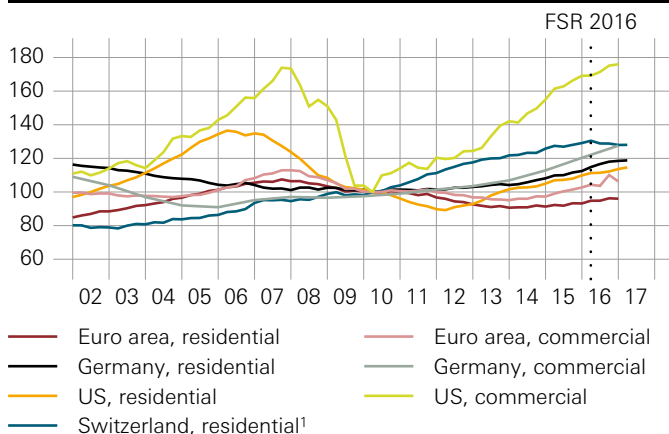


¹ The index used is the MOVE Index, which measures the implied volatility of US Treasury options.

Sources: Bloomberg, Thomson Reuters Eikon

REAL ESTATE PRICES

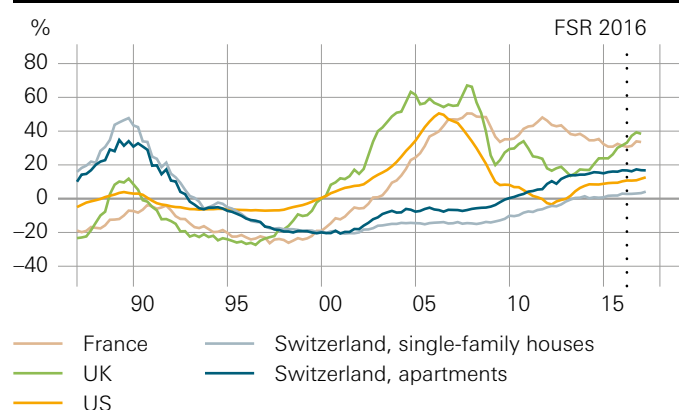
In real terms (deflated by total CPI), Q1 2010 = 100 Chart 8



¹ Weighted average of transaction prices for single-family houses and apartments. Sources: BIS, SFSO, Thomson Reuters Eikon, Wüest Partner

RESIDENTIAL REAL ESTATE: PRICE-TO-RENT RATIOS

Deviation from long-term average¹ Chart 9



¹ The average is calculated over the period from 1970 to 2017, or over the period for which data is available. For Switzerland, asking prices are used. Sources: BIS, OECD, SFSO, Thomson Reuters Eikon, Wüest Partner

impact of the different scenarios on the Swiss banking sector as regards banks' loss potential and resilience is examined in chapter 3.

Baseline scenario

Under the baseline scenario, international and domestic economic conditions for the Swiss banking sector continue to improve. In the US, growth remains robust, supported by favourable labour market conditions. In the euro area, the recovery continues and unemployment recedes further. In China, growth slows in line with declining potential GDP growth, whereas Brazil and Russia return to positive growth. In Switzerland, growth picks up and the economy gradually returns to full employment. Monetary policy conditions normalise further in the US. Due to the ongoing moderate inflation dynamic, monetary policy remains rather expansionary in Japan and the euro area.

Adverse scenarios

Protracted euro area recession: Rising concerns about the sustainability of public finances and the soundness of the banking system cause widespread financial and banking stress, resulting in increased risk premia for euro area banks and southern member states. Confidence declines and the euro area falls into recession. Stress in the euro area banking sector and financial markets spills over to the US and Switzerland, triggering a fall in share prices and a widening of corporate spreads. In many countries, including Switzerland, real estate prices drop sharply. Compared to the euro area debt crisis scenario in last year's *Financial Stability Report*, the recession in the euro area and Switzerland is less deep, but more protracted and followed by a weaker recovery. Furthermore, interest rates in Switzerland and the euro area remain negative for an extended period.

Emerging market crisis: A major crisis erupts in emerging markets, comparable to those during the second half of the 1990s. There are heavy capital outflows, emerging market bond spreads rise abruptly and stock markets collapse. The severe deterioration in financial conditions causes economic growth in these countries to decline sharply, and default rates on corporate and household debt to increase substantially, leading to a pullback in bank lending. Financial stress is transmitted to advanced economies, including Switzerland, and stock markets fall sharply. Short-term financing conditions for banks are impaired. Advanced economies experience a mild recession. This scenario is similar to the emerging market crisis scenario in last year's *Financial Stability Report*.

US recession: There is a severe recession in the US, which spreads to the rest of the world. US unemployment surges to historically high levels. Financial stress increases significantly, and US real estate and share prices drop sharply. Switzerland, Europe and Japan fall into a deep recession and there is a slowdown in emerging markets. This scenario specification is similar to the 'severely adverse scenario' of the US Federal Reserve's 2017 stress test.⁴ Compared to the US recession scenario in last year's *Financial Stability Report*, the recession is more severe in Europe and Switzerland, whereas growth is less affected in emerging markets.

Interest rate shock: Global potential output is overestimated and inflationary pressures start to build. As firms run into capacity constraints and labour markets run dry, inflation expectations suddenly jump. Central banks raise interest rates quickly in an effort to reduce inflationary pressures and re-anchor inflation expectations. Longer-term interest rates overshoot as term premia surge on the back of soaring inflation risk premia. Economic growth subsequently slows significantly. Real estate prices fall because of both the interest rate hikes and the drop in income growth. This scenario is more severe than the interest rate shock scenario in last year's *Financial Stability Report*. In particular, in order to better capture tail risks and non-linearities in the impact of shocks on the banking system, the new scenario features larger shocks to long-term interest rates and real estate prices. While this is a rather severe scenario, events of a similar or even greater magnitude have been observed in the past (e.g. in the UK in the 1970s, in the Netherlands around 1980, or in Japan and Switzerland in the 1990s).

4 www.federalreserve.gov/newsevents/press/bcreg/20170203a.htm.

3

Exposures and resilience

The activities of banks as intermediaries involve risks. These risks can materialise in particular when the economic environment and financial market conditions deteriorate. The ensuing loss potential (i.e. the projected losses) depends on the scenario and on banks' exposures. From a financial stability perspective, it is essential that banks hold sufficient capital to absorb potential losses resulting from their activities, even under a very adverse scenario.

The SNB analyses the resilience of the Swiss banking sector by estimating the loss potential under the scenarios described in chapter 2.2 and then comparing this loss potential to banks' capital. The analysis is performed separately for big banks and domestically focused commercial banks. The big banks consist of Credit Suisse and UBS, while domestically focused commercial banks 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.

3.1 BIG BANKS

Since publication of the last *Financial Stability Report*, the two Swiss big banks have further improved their total loss-absorbing capacity (TLAC), in terms of both going-concern capital and gone-concern instruments. Going-concern capital is loss-absorbing under regular operating conditions, whereas gone-concern instruments serve to recapitalise a bank in the event of impending insolvency.

With this further improvement in their TLAC, Credit Suisse and UBS are on track to meet the look-through requirements of the revised Swiss 'too big to fail' regulations (TBTF2) – i.e. the requirements after expiry of grandfathering and all other transitional provisions.¹ In a going-concern risk-weighted perspective, both banks are already fully compliant. However, they still have to improve their TLAC as defined in terms of the leverage ratio.

The next section outlines the exposures and loss potential of the Swiss big banks. This is followed by a description of the regulatory capital figures, as well as the market's assessment and an appraisal of the state of implementation of the 'too big to fail' regulations.

¹ The look-through perspective takes into account the final quality requirements for eligible going-concern and gone-concern instruments and the final quantitative requirements set by TBTF2.

3.1.1 EXPOSURES AND IMPACT OF SCENARIOS

The assessment of loss potential is based on the big banks' risk exposures and on the analysis of these exposures' sensitivity to the combination of shocks assumed in each scenario. The results are described in qualitative terms and illustrated with publicly available exposure and balance sheet data. This takes into account, in particular, the fact that risk exposures and sensitivities can be measured in a number of different ways. The risk exposures and sensitivities used to calculate the loss potential cannot be disclosed, as they are based on confidential bank-internal data.

Both big banks publish their own risk assessments, which cannot, however, be directly compared with the SNB's loss potential estimates, for two reasons. Either the assessments provide statistical measures that are not based on scenarios, or the big banks do not publish information on the severity of the stress scenario applied.

As regards statistical measures of loss potential, Credit Suisse reported a 'position risk' of CHF 19 billion,² or CHF 34 billion if operational and other risks are included, and UBS reported 'risk-based capital' of CHF 34 billion, including operational risks.³ Owing to different methodologies, these two statistical measures are not directly comparable.

Loss potential

The loss potentials resulting from the US recession scenario, the protracted euro area recession scenario and the interest rate shock scenario are of similar magnitudes. The emerging market crisis scenario results in a somewhat lower loss potential. In all four scenarios, the loss potential stems primarily from loans in Switzerland and the US, counterparty exposure from derivatives and securities financing transactions, and equity and bond positions. Irrespective of the scenarios considered, losses can also result from operational and legal risks.

Loans in Switzerland: A deterioration of credit quality in Switzerland, as described in the interest rate shock, US recession and protracted euro area recession scenarios, could lead to substantial losses at Switzerland's two big banks, owing to write-downs and credit defaults. At end-2016, they had loans outstanding against domestic clients totalling CHF 310 billion, of which CHF 261 billion were in the form of mortgage loans.⁴

Loans in the United States: A deterioration of credit quality in the US, as described in the US recession scenario, would lead to substantial losses for the big banks in connection with corporate loans. At end-2016, the big banks together

² Source: Credit Suisse, quarterly report for Q1 2017. Credit Suisse bases its calculation of position risk on its Economic Capital Model. The position risk figures used here correspond to the statistical loss potential over a one-year horizon. The probability that this level of losses will not be exceeded is 99.97%.

³ Source: UBS, *Annual Report*, 2016. UBS bases its calculation of risk-based capital on its statistical risk framework. The risk-based capital figures correspond to the statistical loss potential over a one-year horizon. The probability that this level of losses will not be exceeded is 99.90%.

⁴ Source: SNB.

had unsecured claims outstanding against the private sector in the US (excluding banks) totalling around CHF 59 billion.⁵

Derivatives and securities financing transactions: The protracted euro area recession scenario and the US recession scenario could lead to substantial losses from counterparty credit exposures, arising out of derivatives and securities financing transactions, largely with financial institutions. At end-2016, regulatory counterparty credit risk exposures amounted to CHF 244 billion.⁶

Equities and bonds: A sharp decrease in share prices around the world and a sharp increase in corporate bond spreads could lead to substantial losses, depending on the effectiveness of hedging. At end-2016, the big banks' gross trading portfolios in equities and corporate bonds totalled CHF 137 billion.⁷ These holdings are partly hedged with derivatives positions. As an indication of loss potential, Credit Suisse reports a position risk for equities and bonds of around 17% of its total position risk.⁸

3.1.2 RESILIENCE

The analysis of resilience focuses on going-concern loss-absorbing capital and on gone-concern instruments as defined in the Swiss 'too big to fail' regulations. Going-concern loss-absorbing capital is capital that is loss-absorbing under regular operating conditions, whereas gone-concern loss-absorbing instruments serve to recapitalise a bank in the event of impending insolvency. This is achieved by writing off designated debt instruments or converting them into equity.

At both national and international level, regulatory reforms to further improve bank resilience and resolvability have either been passed or are underway. The Swiss 'too big to fail' regulations have been revised (TBTF2) and entered into force on 1 July 2016.⁹ At international level, the Basel Committee is currently finalising the Basel III regulatory framework. This work involves calibrating the leverage ratio, reviewing the Basel standardised approach for calculating risk-weighted assets (RWA), restricting the use of internal bank models to calculate RWA, and revising the definition and calibration of the floor for model-based RWA.

A key objective in the finalisation of Basel III is to reduce unwarranted variability in RWA across banks, and thus improve consistency and comparability in bank capital ratios. Equally, the revised set of rules is intended to ensure

that the model-based capital requirements do not fall below prudent levels.¹⁰

The ongoing work by the Basel Committee is in line with the TBTF2 regulations and the expected RWA increase has already been factored, as far as possible, into the calibration of the TBTF2 requirements by assuming an RWA density (ratio of RWA to total exposure) of 35%.¹¹ The SNB supports and is committed to a swift finalisation of the Basel III reform.

Total loss-absorbing capacity improved further

Since publication of the last *Financial Stability Report*, the two Swiss big banks have further improved their TLAC, in terms of both going-concern capital and gone-concern instruments. The big banks' loss-absorbing capacity is assessed based on two perspectives, the look-through and the grandfathered perspectives. The two perspectives differ in their definition of the quality requirements for eligible going-concern and gone-concern instruments.

In the look-through perspective, eligible going-concern and gone-concern instruments are defined according to the final quality requirements set by TBTF2, i.e. after expiry of grandfathering and all other transitional provisions. These final quality requirements are the appropriate benchmark to assess banks' resilience, as they reflect the ability of the various types of instruments to absorb losses. In this perspective, going-concern capital includes Common Equity Tier 1 (CET1) and high-trigger contingent capital instruments (HT CoCos) with additional Tier 1 (AT1) capital quality, while gone-concern instruments include bail-in bonds, low-trigger (LT) CoCos and HT CoCos with Tier 2 capital quality.

Based on this look-through perspective, the going-concern risk-weighted TBTF2 capital ratios of Credit Suisse and UBS increased from the first quarter of 2016 and amounted to 14.5% and 17.1%, respectively, as at the first quarter of 2017 (cf. table 1). The going-concern leverage ratios increased to 4.1% and 4.3% respectively. In addition, Credit Suisse raised more than CHF 4 billion CET1 capital at the beginning of June 2017. Taking this rights issue into account, the going-concern risk-weighted capital ratio of Credit Suisse increases by 1.7 percentage points to 16.2% and the going-concern leverage ratio by 0.5 percentage points to 4.6% (cf. table 1, column 'Q1 2017 (pro forma)'). The gone-concern ratios for both banks improved by the biggest margin. Between the first quarter of 2016 and the first quarter of 2017, the gone-concern ratios for Credit Suisse increased by approximately one-third and for UBS by approximately half.

5 Source: SNB. Alongside claims against companies, this also includes claims against private households. Unsecured claims may include trading and other liquid assets with comparatively low risk.

6 Sources: UBS, *Basel III Pillar 3*, 2016; and Credit Suisse, *Basel III – Pillar 3 and regulatory disclosures*, 2016.

7 Sources: Annual reports for 2016.

8 Source: Credit Suisse, quarterly report for Q1 2017. Since Credit Suisse does not disclose any breakdown of the total position risk based on a confidence level of 99.97%, the breakdown of position risk published by Credit Suisse – which is based on a confidence level of 99% – is used here.

9 Cf. SNB, *Financial Stability Report*, 2016, for an overview of the reform of the 'too big to fail' regulations.

10 Cf. SNB, *Financial Stability Report*, 2013 to 2015, on the issues related to model-based RWA.

11 Cf. Federal Department of Finance, 'Erläuterungsbericht zu Änderungen der Eigenmittelverordnung und zur Bankenverordnung', 13 May 2016.

REGULATORY CAPITAL RATIOS AND REQUIREMENTS

Table 1

	Credit Suisse			UBS		Requirement
	Q1 2016 (as at FSR 2016)	Q1 2017	Q1 2017 (pro forma) ⁵	Q1 2016 (as at FSR 2016)	Q1 2017	
TBTF2 ratios (look-through, in percent)¹						
TBTF2 CET1 capital ratio	11.3	11.6	13.3	14.0	14.1	10.0
TBTF2 going-concern capital ratio	13.3	14.5	16.2	16.4	17.1	14.3
TBTF2 gone-concern capacity ratio	9.7	13.1	13.1	10.9	16.1	14.3 ²
TBTF2 CET1 leverage ratio	3.3	3.3	3.8	3.3	3.6	3.5
TBTF2 going-concern leverage ratio	3.9	4.1	4.6	3.9	4.3	5.0
TBTF2 gone-concern leverage ratio	2.8	3.7	3.7	2.6	4.0	5.0 ²
TBTF2 ratios (with grandfathering as at 1 January 2020, in percent)³						
TBTF2 CET1 capital ratio	11.3	11.6	13.3	14.0	14.1	10.0
TBTF2 going-concern capital ratio	15.0	16.3	17.9	17.5	18.2	14.3
TBTF2 gone-concern capacity ratio	8.0	11.4	11.3	9.8	15.0	14.3 ²
TBTF2 CET1 leverage ratio	3.3	3.3	3.8	3.3	3.6	3.5
TBTF2 going-concern leverage ratio	4.3	4.6	5.1	4.1	4.6	5.0
TBTF2 gone-concern leverage ratio	2.3	3.2	3.2	2.3	3.8	5.0 ²
Basel III ratios (look-through, in percent)⁴						
Basel III CET1 capital ratio	11.4	11.7	13.4	14.0	14.1	8.5 / 8.0 ⁶
Basel III Tier 1 capital ratio	15.2	16.5	18.1	17.5	18.2	10.0 / 9.5 ⁶
Basel III Tier 1 leverage ratio	4.4	4.6	5.1	4.1	4.6	3.0
Levels (look-through, in CHF billions)						
TBTF CET1 capital	31.7	30.8	35.3	29.9	31.3	–
High-trigger contingent capital (HT CoCos)	8.3	7.6	7.6	6.1	6.9	–
Of which additional Tier 1	5.7	7.6	7.6	5.2	6.7	–
Of which Tier 2	2.6	–	–	0.9	0.2	–
Low-trigger contingent capital (LT CoCos)	9.2	9.1	9.1	12.6	10.6	–
Of which additional Tier 1	5.0	5.0	5.0	2.4	2.3	–
Of which Tier 2	4.2	4.1	4.1	10.2	8.2	–
Bail-in bonds	15.3	25.6	25.6	6.9	23.5	–
TBTF RWA	281	264	265	214	222	–
TBTF total exposure	970	936	940	906	881	–

1 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. The requirements do not include a countercyclical buffer requirement.

2 Possible reductions on gone-concern requirements for the two big banks of 5% (leverage ratio) and 14.3% (risk-weighted) – such as reductions due to holdings of CoCos to meet these requirements and potential future rebates granted by FINMA – are not taken into account.

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, whereas LT CoCos with AT1 capital quality and a first call date before 1 January 2020 and Tier 2 CoCos are counted as gone-concern instruments. The requirements do not include a countercyclical buffer requirement.

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 global systemically important banks of 1.5% (Credit Suisse) and 1% (UBS). 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 requirements do not include a countercyclical buffer requirement.

5 SNB calculations taking into account the capital increase of more than CHF 4 billion (cf. Credit Suisse, press release, 26 April 2017).

6 The first number indicates the requirement for Credit Suisse, the second one the requirement for UBS.

Sources: Big banks' quarterly reports/presentations, SNB calculations

In the grandfathered perspective, eligible going-concern and gone-concern instruments are defined according to the regulations that will apply from 1 January 2020. This perspective allows an assessment of how close the big banks are to achieving compliance with the quantitative requirements of 5% (leverage ratio) and 14.3% (risk-weighted), on both a going-concern and a gone-concern basis,¹² applicable as of that date. Under the grandfathering clause as at the beginning of 2020, banks may temporarily also take into account instruments that are not eligible as going-concern capital according to the final quality requirements set by TBTF2. Specifically, banks are allowed to use LT CoCos with AT1 capital quality to meet the going-concern capital requirements applicable from 2020, up to the first call date of these instruments.^{13, 14}

Based on this perspective, the going-concern risk-weighted TBTF2 capital ratios of Credit Suisse and UBS increased from the first quarter of 2016 and amounted to 16.3% and 18.2%, respectively, as at the first quarter of 2017 (cf. middle section of table 1). The going-concern leverage ratios increased to 4.6% for both banks. Taking

12 Possible reductions on the quantitative gone-concern requirements of 5% (leverage ratio) and 14.3% (risk-weighted) applicable as from 2020 – such as reductions due to holdings of CoCos to meet these requirements and potential future rebates granted by FINMA – are not taken into account.

13 As at Q1 2017, the two big banks have disclosed such instruments with first call dates in 2024 (Credit Suisse) and 2025 (UBS) at the latest.

14 In their disclosures, the big banks use different terms when referring to this grandfathered perspective. UBS calls this perspective 'fully applied'. Credit Suisse calls a similar grandfathered perspective 'look-through'. However, Credit Suisse's disclosure counts all LT AT1 CoCos and HT CoCos with Tier 2 capital quality as going-concern capital.

Credit Suisse's rights issue into account, the bank's going-concern ratios rise to 17.9% (risk-weighted) and 5.1% (leverage ratio). The gone-concern ratios for both banks also improved by the biggest margin in the grandfathered perspective. Compared to the look-through perspective, the going-concern ratios are higher to the same extent that the gone-concern ratios are lower. TLAC is the same in both perspectives.

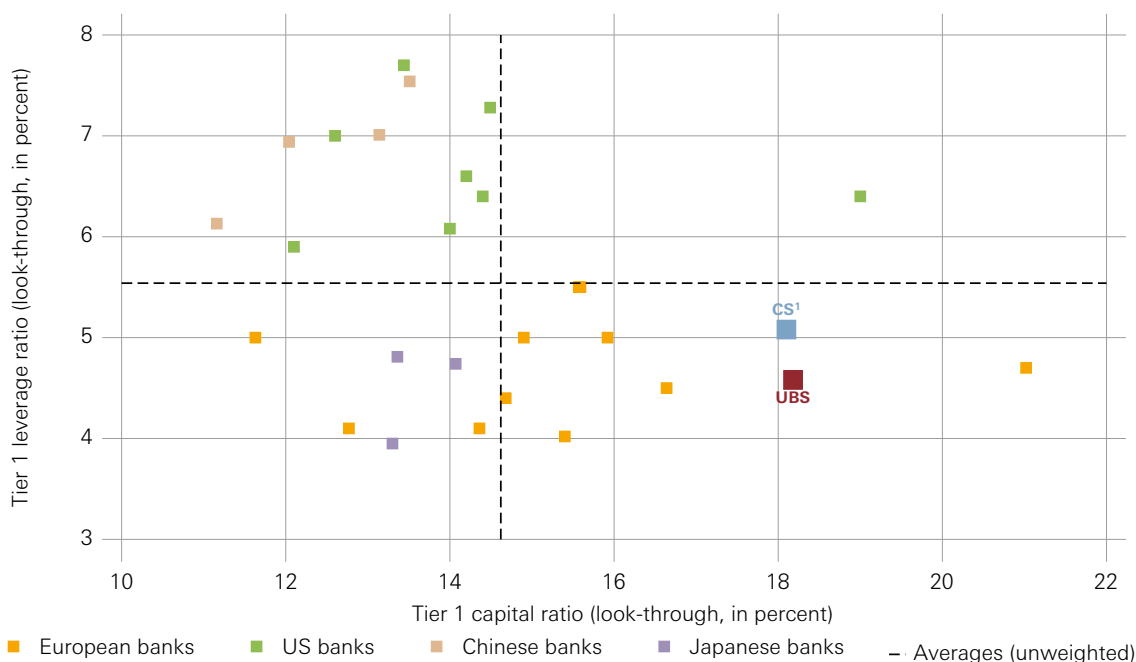
The two big banks are on track with regard to the TBTF2 requirements. In the look-through perspective, both banks are already fully compliant with the going-concern risk-weighted requirements. However, they still have to improve their TLAC as defined in terms of the leverage ratio. In the grandfathered perspective, overall compliance with the requirements is virtually the same as in the look-through perspective, with Credit Suisse already meeting the going-concern leverage ratio requirement.

As at the end of the first quarter of 2017, the two big banks also satisfy the look-through requirements under the international Basel III capital framework. This applies to both risk-weighted and unweighted capital ratios (cf. table 1). In an international comparison, the Swiss big banks' risk-weighted Basel III Tier 1 capital ratios are above the average of 14.6% for global systemically important banks (G-SIBs), while their Basel III Tier 1 leverage ratios are below the corresponding average of 5.5% (cf. chart 10).

INTERNATIONAL COMPARISON OF TIER 1 CAPITAL

Global systemically important banks (G-SIBs), Q1 2017

Chart 10



¹ Taking the capital increase into account. Sources: SNL Financial, bank disclosures

Market assessment

Market prices (e.g. CDS premia¹⁵) and ratings reflect the market's or rating agencies' assessment of a bank's resilience. After rising sharply at the beginning of 2016, CDS premia have fallen again and are back to their levels before the rise. As at end-May 2017, the market assesses the resilience of Credit Suisse as below, and that of UBS as above the median of large globally active banks (cf. chart 11).

The rating agencies' assessment of banks' resilience is reflected in stand-alone ratings, which evaluate the intrinsic financial strength of the banks, assuming no external support is forthcoming. Overall, the resilience of Credit Suisse is rated as unchanged and that of UBS as slightly higher compared to last year's *Financial Stability Report*.¹⁶ By international standards, the stand-alone ratings of both Swiss big banks are comparable to those of other large globally active banks (cf. chart 12 for an international comparison based on Moody's stand-alone ratings).

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, agencies no longer assume such a government support uplift. This is in line with most bank resolution strategies, which typically foresee a bail-in at the holding company level. An essential part of funding, however, takes place at the operational level, where typically no bail-in provisions exist. To assess the existence of any implicit government support, therefore, the rating at the operational level is more relevant. In contrast to Standard & Poor's (S&P) and Fitch, Moody's is still assuming that Credit Suisse and UBS, along with most other European and US G-SIBs, benefit at operational level from a 'too big to fail' rating uplift (1 notch).

Rating agencies justified the removal of the government support uplift with reference to stricter conditions on the government's use of public funds for bank rescues and improved resolvability at banks. However, they did not rule out the possibility of changing their assessments regarding the likelihood of government support and reintroducing this uplift in the future.¹⁷

15 The greater the credit risk and the lower the assessment of resilience, the higher the premium on a given CDS. However, market prices include market expectations of government support in a crisis ('too big to fail' issue). CDS premia thus reflect the market's view of the likelihood that the underlying credit will be repaid. It is irrelevant who repays the investment – the bank or a third party, such as the government.

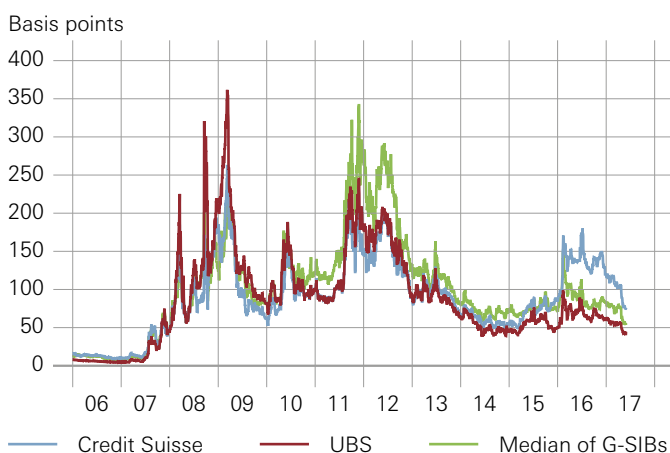
16 Credit Suisse: Moody's, S&P and Fitch rate the resilience of Credit Suisse as unchanged compared to last year's *Financial Stability Report*. UBS: Moody's and Fitch rate the resilience of UBS as unchanged compared to last year's *Financial Stability Report*, while S&P rates it as slightly higher (+1 notch).

17 Cf., for example, S&P, 'Most European Bank Ratings Affirmed Following Government Support And ALAC Review', December 2015, p. 5: "That said, if a systemic bank came under stress and we saw clear evidence that government support would be forthcoming, we could still reflect this 'additional short-term support' in the ratings on the bank." Or, Moody's, 'FAQ: European Resolution Regime Tested by Proposed Montepaschi Bail-Out', 9 January 2017, p. 1: "However, should such a bail-out be replicated, we would likely revisit our determination of the BRRD [Bank Recovery and Resolution Directive] as an effective operational resolution regime, and consider whether government support for European banks could be more widespread than we currently anticipate."

INTERNATIONAL COMPARISON OF CDS PREMIA

Premia for credit protection (five-year senior)

Chart 11



Source: Bloomberg

Resolving the ‘too big to fail’ issue in Switzerland

The TBTF2 regulations are designed to resolve the ‘too big to fail’ issue in Switzerland and prevent systemically important banks from having to be bailed out with taxpayers’ money in the event of a crisis.¹⁸ They rest on two complementary pillars. First, they are aimed at strengthening a systemically important bank’s resilience, thereby reducing the likelihood of it getting into financial distress. Second, if a systemically important bank nevertheless gets into financial distress, the regulations provide a framework for orderly resolution without the use of public funds.

Regarding resilience, both big banks have improved their loss-absorbing capacity. Achieving full compliance with the TBTF2 regulations will further strengthen this capacity. This is necessary as the big banks’ loss potential relative to their capitalisation continues to be substantial, when measured both on the basis of the losses experienced during the last financial crisis and according to the four adverse scenarios considered by the SNB. Given the big banks’ significance to the Swiss economy, it is important

that they remain adequately capitalised, even after incurring such losses.

Regarding resolution, the two big banks have already implemented key measures in order to meet the requirements. For example, they have set up Swiss subsidiaries that contain their systemically important functions and they are in the process of establishing separate service companies. Further progress must be made in drawing up robust resolution plans (cf. ‘Resolution as an important pillar of the ‘too big to fail’ regulations: an overview’, pp. 17–19). In particular, by end-2019, the big banks will need to demonstrate that they would be able to maintain their systemically important functions in Switzerland in the event of impending insolvency. They will also need to meet foreign regulatory requirements. For instance, in the US they have to submit revised local resolution plans by mid-2018.

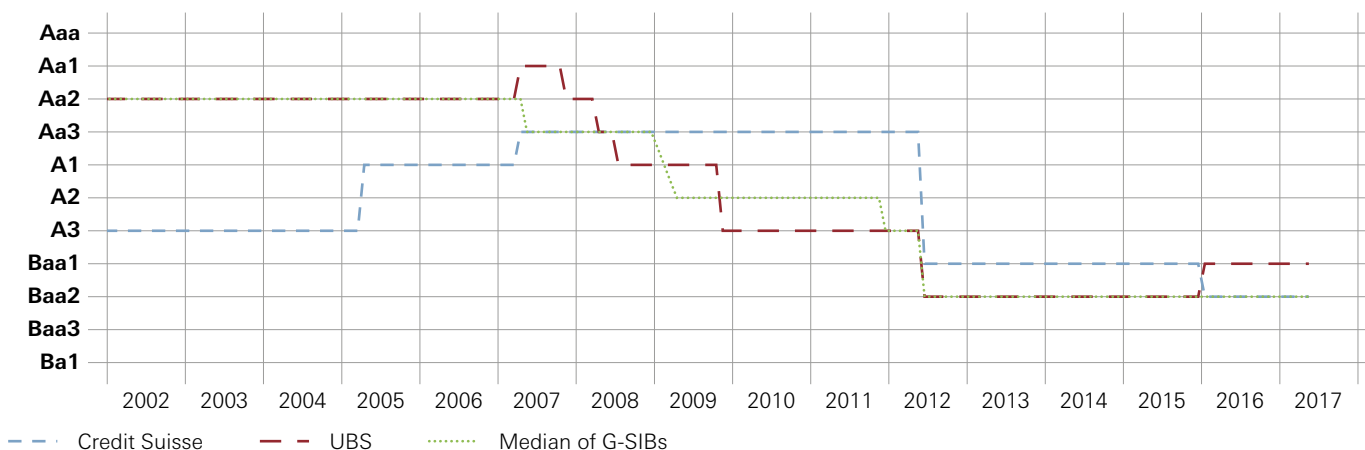
Overall, full implementation of the regulatory requirements in relation to both resilience and resolution is necessary to resolve the ‘too big to fail’ issue.

18 Cf. Federal Council, ‘Too big to fail’, 18 February 2015, p. 11 (unofficial translation of German original): “However, it has also shown that certain adjustments within this model are necessary to truly eliminate the implicit government guarantee for the long term – which represents the core of the TBTF problem.” Cf. also Federal Department of Finance, ‘Erläuterungsbericht zu Änderungen der Eigenmittelverordnung und zur Bankenverordnung’, 13 May 2016.

INTERNATIONAL COMPARISON OF STAND-ALONE RATINGS

Moody’s, baseline credit assessment

Chart 12



Sources: Bloomberg, Moody’s

Resolution as an important pillar of the ‘too big to fail’ regulations: an overview

The ‘too big to fail’ regulations aim to prevent systemically important banks from having to be bailed out with taxpayers’ money in the event of a crisis.¹ A case like UBS in 2008, when the Confederation and the SNB had to decide on a package of measures in order to stabilise the bank, must not be repeated. In future, the orderly resolution of a systemically important bank must be possible, without financial risk to the taxpayer.

National framework

The ‘too big to fail’ regulations rest on two complementary pillars. First, higher requirements for going-concern capital, liquidity and risk diversification are aimed at strengthening the resilience of a systemically important bank, thereby reducing the likelihood of it getting into financial distress.² Second, if a systemically important bank nevertheless gets into financial distress, the regulations provide a framework for orderly resolution without the use of public funds. To this end, the regulations stipulate requirements for going-concern loss-absorbing capacity, as well as for resolution planning.

In its role as Switzerland’s resolution authority, FINMA is responsible for the planning and implementation of a bank’s resolution. The planning is carried out in close cooperation with the systemically important banks and – in the case of the global systemically important banks Credit Suisse and UBS – in close collaboration with foreign authorities. FINMA possesses wide-ranging powers. In particular, it can make investors in certain bank debt securities bear losses (bail-in), it can issue instructions to the bank or it can limit the bank’s business activities.

The SNB has the statutory mandate of contributing to the stability of the financial system.³ In the event of a banking crisis, it may act as a lender of last resort. It does not, however, exercise any bank supervisory function, nor does it have any formal authority in the area of resolution.

International framework

At international level, the G20 heads of state and government agreed on the resolution standards of the Financial Stability Board (FSB) in 2011.⁴ These

standards describe the key attributes of an effective resolution regime for global systemically important banks, and form the basis of the close cooperation between FINMA and major foreign authorities. The aim of this cooperation is to coordinate resolution planning between FINMA and the host authorities of Credit Suisse and UBS. This cooperation takes place in crisis management groups headed by FINMA, with representatives from UK and US authorities and the SNB as the home central bank.

On behalf of the G20, the FSB also finalised a standard on total loss-absorbing capacity (TLAC), which supplements the existing Basel III going-concern capital requirements.⁵ The objective of the TLAC standard is that global systemically important banks have sufficient loss-absorbing capacity for an orderly resolution without the use of public funds. In addition, the FSB guiding principles on internal TLAC determine the framework for the distribution of TLAC within a banking group.⁶ Internal TLAC aims to ensure that individual group entities can be recapitalised with legal certainty.

Resolution plan

FINMA draws up a resolution plan for each systemically important bank, outlining how a resolution can be implemented operationally in a crisis.⁷ The plan must comply with all the requirements applicable in Switzerland. In the case of the global systemically important banks Credit Suisse and UBS, it must also take foreign regulatory requirements into account.⁸

As a first line of defence, banks must have sufficient liquidity and capital instruments to enable a resolution using their own resources. In particular, banks must not count on the support of central banks or governments, nor must they create expectations that such support will be available in the event of a crisis.⁹ In case a bank in resolution runs into liquidity problems that are worse than expected in the resolution scenario, the SNB may – in line with its statutory mandate and the FSB guiding principles on public sector backstop funding – act as lender of last resort.¹⁰

FINMA’s preferred resolution strategy is the ‘single point of entry’ bail-in, for which it has the global lead.¹¹ In accordance with the TLAC standard, this bail-in approach calls for debt securities at the top holding

1 Cf. Federal Department of Finance, ‘Erläuterungsbericht zu Änderungen der Eigenmittelverordnung und der Bankenverordnung’, 13 May 2016.

2 Cf. SNB, *Financial Stability Report*, 2016, for an overview of the capital requirements for strengthening resilience under TBTF2.

3 Cf. National Bank Act, art. 5 para. 2 (e).

4 Cf. communiqué of G20 Leaders’ Summit, Cannes, 3/4 November 2011, section 13; and FSB, ‘Key attributes of effective resolution regimes for financial institutions’, 2011 (updated in 2014).

5 Cf. FSB, ‘Principles on loss-absorbing and recapitalisation capacity of G-SIBs in resolution’ and ‘Total loss-absorbing capacity (TLAC) term sheet’, 2015.

6 Cf. FSB, ‘Guiding principles on the internal total loss-absorbing capacity of G-SIBS’, 2016.

7 Cf. FINMA, *Annual Report*, 2016, p. 32, where FINMA outlines its role and organisational set-up regarding resolution planning.

8 Cf. Banking Ordinance, art. 64 para. 3.

9 Cf. Federal Department of Finance, ‘Kommentar zur Änderung der Bankenverordnung und der Eigenmittelverordnung’, 2012, p. 12; and FSB, ‘Key attributes of effective resolution regimes for financial institutions’, 2014, p. 3.

10 Cf. FSB, ‘Guiding principles on the temporary funding needed to support the orderly resolution of a global systemically important bank’, 2016, p. 11.

11 Cf. FINMA, ‘Resolution of global systemically important banks’, 2013.

company level to be written off or converted into equity at the behest of FINMA. In this way, the entire group, in particular the entities affected by the losses, are to be recapitalised. Resolving a bank's problems will in general also require restructuring measures, such as the sale of entities and business lines or a wind-down of non-viable parts of the group.

Swiss emergency plan

Specific requirements apply to the safeguarding of the systemically important functions in Switzerland, as they are essential for the functioning of the Swiss economy. Systemically important banks must draw up a Swiss emergency plan that demonstrates their ability to continue their systemically important functions in the event of impending insolvency – independently of the remaining bank units and without government support. The systemically important functions comprise, in particular, domestic deposit and lending business as well as domestic payment transactions.¹² FINMA reviews the emergency plan and, if necessary, orders measures to be taken to remedy any shortcomings.¹³ The bank's global resolvability, provided it is necessary for the plan's implementation, is part of the review of the Swiss emergency plan.¹⁴

Rebates

The regulations stipulate that FINMA grants rebates on gone-concern requirements if a systemically important bank exceeds the minimum requirements regarding the continuation of systemically important functions, and thus improves its resolvability in Switzerland and abroad. The rebates are not granted automatically and are subject to strict conditions. Measures such as establishing legally independent service companies or reducing unsecured loans and guarantees between entities at the same group level may qualify for rebates.¹⁵ The rebates must not threaten the implementability of the emergency plan or lead to a shortfall relative to international TLAC requirements.¹⁶ Moreover, rebates must not be granted for compliance with the requirements on the Swiss emergency plan.

¹² Cf. Banking Act, art. 8 para. 1.

¹³ The criteria by which FINMA assesses the Swiss emergency plans are defined in art. 61 Banking Ordinance. They specify, for example, that the legal and economic relationships within the financial group concerned must be structured in a way that does not impede the continuation of systemically important functions. In order to operate these systemically important functions, the bank must set up suitable processes and the necessary infrastructure. Access to required resources must be guaranteed at all times, independently of bank units that are not systemically important. In addition, the bank must demonstrate that its emergency plan makes adequate provision for the capital and liquidity needed to implement the plan. The creation of a separate legal entity comprising the systemically important functions does not automatically fulfil the criteria in art. 61 Banking Ordinance.

¹⁴ Cf. Banking Ordinance, art. 61 para. 2.

¹⁵ Cf. Banking Ordinance, art. 66.

¹⁶ Cf. Capital Adequacy Ordinance, art. 133 para. 3; and FSB, 'Principles on loss-absorbing and recapitalisation capacity of G-SIBs in resolution', 2015. The TLAC term sheet, item 4, stipulates the following minimum requirements: As of 2019, a leverage ratio of 6% and a risk-weighted ratio of 16% will apply. As of 2022, a leverage ratio of 6.75% and a risk-weighted ratio of 18% will apply.

Current status of resolution planning and deadlines

Since the 'too big to fail' regulations came into force in 2012, both Credit Suisse and UBS have implemented important measures as part of their resolution planning.¹⁷ Each of them has a non-operational holding company at the top of the group. Such a structure facilitates compliance of the above-mentioned 'single point of entry' approach with the FSB standard. Moreover, both banks have set up Swiss subsidiaries that provide most of the systemically important functions. They are also in the process of establishing separate service companies. This measure is intended to strengthen operational independence within the group by ensuring that the services necessary for maintaining business activities are not impeded by the failure of one or several group entities.

Regarding the Swiss emergency plans, the systemically important banks still need to achieve compliance with the requirements, i.e. they need to demonstrate that they would be able to maintain systemically important functions in the event of impending insolvency.¹⁸ The big banks have been granted a deadline until the end of 2019. The deadline for the domestically focused systemically important banks has been set at three years after their designation as systemically important by the SNB.

Regarding resolution plans, the Swiss regulations do not define an explicit deadline. However, since credible and workable resolution plans are necessary to resolve the 'too big to fail' issue, their timely development is crucial. In addition, foreign regulators may set deadlines for the local resolution plans of Credit Suisse and UBS which concern their jurisdiction. For instance, the big banks have been given a new deadline by the US authorities of mid-2018 to improve their US resolution plans in accordance with published guidance.¹⁹

¹⁷ Cf. FINMA, *Annual Report*, 2016, p. 32, where FINMA describes the progress being made by the big banks in the area of resolution planning.

¹⁸ Cf. FINMA, *Annual Report*, 2016, p. 33, where FINMA notes that the strong operational and financial dependence of the big banks' Swiss subsidiaries on their parent companies significantly affects the viability of the emergency plans.

¹⁹ Cf. joint press release of the Board of Governors of the Federal Reserve System and the Federal Deposit Insurance Corporation, 24 March 2017, as well as the guidance included therein.

Outlook

In view of the significance of resolution as a means of resolving the ‘too big to fail’ issue in Switzerland, it is essential that further progress be made in drawing up robust resolution plans. To achieve this, the systemically important banks need to further improve their gone-concern capacity and ensure that their emergency plans are credible and workable.

The development of robust resolution plans is even more demanding for the big banks due to the international dimension. First, the plans have to be compatible with the requirements and plans in other countries. Second, the plans need to convince both the international financial markets and the foreign authorities – the latter is vital for ensuring cooperative relations between authorities and, thus, for a successful resolution.

3.2 DOMESTICALLY FOCUSED COMMERCIAL BANKS

In 2016, the exposure of domestically focused banks to the Swiss mortgage and residential real estate markets continued to increase. Mortgage growth at these banks has remained strong and the share of new loans with high loan-to-income (LTI) ratios has risen further, while interest rate risk from maturity transformation has stayed at a historically high level. These developments occurred against the background of high imbalances on the mortgage and residential real estate markets. While these imbalances have declined slightly overall, they are still at levels similar to those in 2014, when the sectoral countercyclical capital buffer (CCyB) was set at 2%.

Despite this increase in exposure and the pressure on profitability exerted by historically low interest rate margins, domestically focused banks’ resilience remains adequate. First, their available capital has moved in step with their RWA and the size of their balance sheets. As a result, their risk-weighted capital ratio has remained

broadly unchanged and is significantly above the regulatory minimum requirement. Moreover, their leverage ratio is unchanged compared to 2015, and remains high by historical standards.

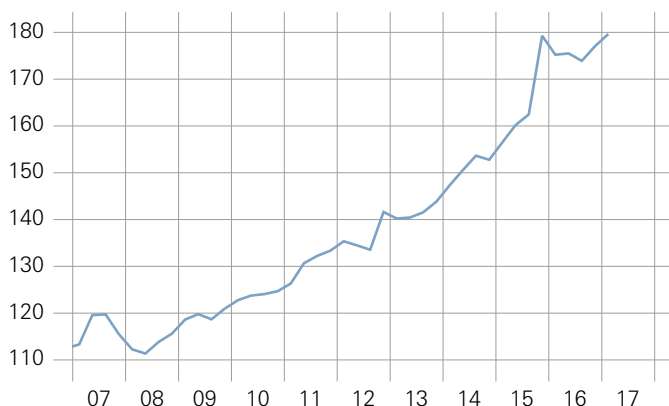
Second, stress test results suggest that most domestically focused banks’ capital surpluses, relative to the regulatory minimum requirements, are large enough to absorb the losses under the relevant adverse scenarios. These results highlight the importance of preserving these capital surpluses going forward. The CCyB, the capital surcharge for systemically important banks and the prudent stance of many banks towards capital adequacy are all elements that play a key role in maintaining these surpluses.

The next section examines the exposures of domestically focused banks and the impact of adverse scenarios. Chapter 3.2.2 provides an assessment of these banks’ resilience, focusing on the development of regulatory capital figures and an appraisal of the banks’ capital situation from an economic point of view.

PRICE INDEX RESIDENTIAL INVESTMENT PROPERTY

Hedonic transaction price index, in nominal terms
Q1 2005 = 100

Chart 13



Source: Wüest Partner

3.2.1 EXPOSURES AND IMPACT OF SCENARIOS

Low momentum on Swiss mortgage and residential real estate markets

In contrast to the persistently strong mortgage growth at domestically focused banks, momentum on the mortgage market as a whole has remained low and is almost unchanged. Year-on-year mortgage growth was 2.7% at end-2016. Meanwhile, growth in supply and transaction prices suggests that momentum on the owner-occupied residential real estate market slowed further in 2016.

Growth in transaction prices for apartments declined from 0.9% (end-2015) to -3.0% (end-2016), growth in supply prices from 1.6% to 1.2%.¹⁹ For single-family houses, transaction price growth declined from 1.6% to 0.5% and supply price growth from 2.3% to 1.5%. In the residential investment segment, transaction price growth came to a halt after several years of strong growth (17.3% at end-2015, -1.2% at end-2016, cf. chart 13).²⁰

Imbalances on the mortgage and residential real estate markets remain high

Overall, imbalances on the mortgage and owner-occupied residential real estate markets have declined slightly since the last *Financial Stability Report*. However, they are still at levels similar to those in 2014, when the sectoral CCyB was set at 2%.

On the mortgage market, the decline in imbalances reflects relatively low mortgage growth and an upward revision of GDP estimates. Both elements have contributed to reducing the difference between the mortgage-to-trend GDP ratio and its long-term trend, a measure of imbalances. In spite of this decline, imbalances remain high.

In the owner-occupied residential real estate segment, imbalances also appear to have decreased slightly from high levels, even if there is some heterogeneity between price indicators. When assessed according to supply prices, imbalances are broadly unchanged compared to 2015, as these prices have developed in line with fundamentals such as rents, GDP and population growth. Meanwhile, transaction prices point to decreasing imbalances in 2016, albeit from higher levels than according to supply prices. Irrespective of the price indicators considered, the level of imbalances remains high.

In the residential investment property segment, low initial yields and sustained construction activity point to an elevated risk of substantial price corrections in the future. In the prime segment, initial yields declined even further from already historically low levels in 2016.²¹ The search for yield led to strong demand for investments in rental apartments and to sustained construction activity in this segment. From an investor's perspective, investment property may seem attractive in the short term given the higher yield compared to alternative investments. However, if interest rates increase at a later stage, prices might fall, putting leveraged investors – as well as the banks providing the funding for such investors – under pressure. The current level of construction activity increases the potential for future price corrections.

Strong mortgage growth at domestically focused banks

Mortgage growth at domestically focused banks continues to be strong and was almost unchanged at 4.1% at end-2016 (4.3% at end-2015). As such, it remained well above the mortgage growth of big banks and of the market as a whole. Mortgage volume at domestically focused banks

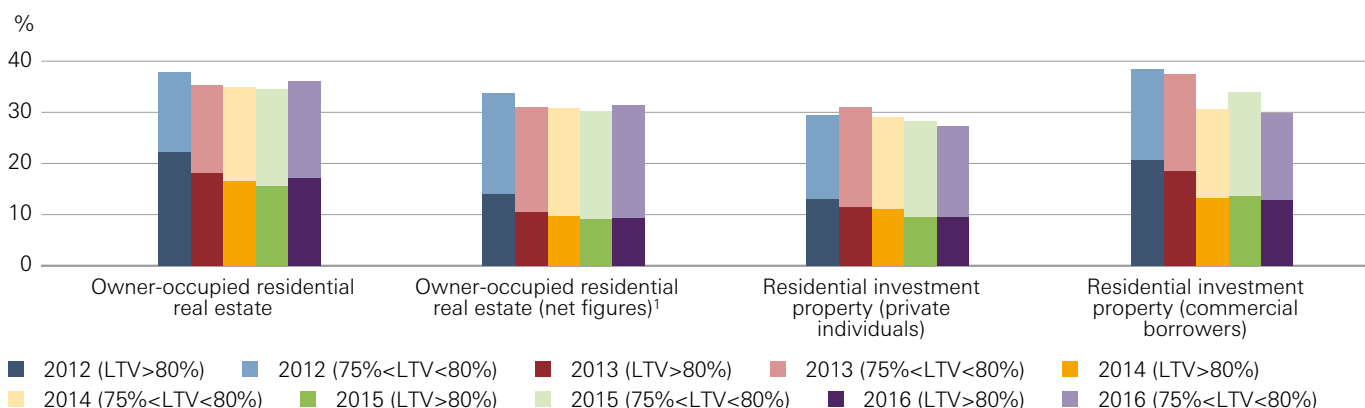
¹⁹ Source: Wüest Partner.
²⁰ Ibid.

²¹ Ibid.

LOAN-TO-VALUE: NEW MORTGAGES

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

Chart 14



¹ When calculating net figures, 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.

Source: SNB

has been growing significantly faster than at big banks since the onset of the global financial crisis in 2007.

The share of new mortgage loans with high LTV ratios has remained broadly unchanged ...

According to the survey of mortgage lending conducted by the SNB, the share of new mortgage loans with a high loan-to-value (LTV) ratio remained broadly unchanged in 2016 compared to 2015 (cf. chart 14).²² In 2016, the share of new mortgages with an LTV ratio of more than 80% was 17% in the owner-occupied residential property segment, or 9% in net terms.²³ For residential investment property held by private individuals and commercial borrowers, the share of new mortgages with an LTV ratio of more than 80% was 9% and 13% respectively.

Since 2012, the share of mortgage loans with an LTV ratio of more than 80% has decreased significantly. However, credit risk did not decrease by as much as might be inferred from this decline. In fact, the concentration of new mortgages with an LTV ratio of slightly below 80% has risen. For example, in the owner-occupied residential segment, the share of new mortgages with an LTV ratio of

between 75% and 80% increased from 16% to 19% between 2012 and 2016. Moreover, imbalances on the residential real estate market increased during the same period. This means that, for any given LTV ratio, the riskiness of new mortgages rose over that period.

... but affordability risks have reached a new high
Affordability risks as measured by the LTI ratio have increased further from already elevated levels. In 2016, the share of new mortgages with high LTI ratios reached a new peak since the launch of the SNB survey in 2011 (cf. chart 15).

In the owner-occupied residential property segment, the share of new mortgages where imputed costs would exceed one-third of gross wage or pension income at an interest rate of 5% rose from 44% in 2015 to 46% in 2016.²⁴ In the segment of residential investment property held by private individuals, the share of new mortgages where imputed costs would no longer be covered by net rents at an interest rate of 5% rose from 44% to 49% over the same period. By contrast, in residential investment property held by commercial borrowers, the corresponding share has remained constant at 37%. The increase in affordability risks in the segments of owner-occupied residential property and residential

22 The survey covers the 25 largest banks (including the two big banks), with a cumulative share of the domestic mortgage market of over 80%. For the purpose of the survey, new lending comprises both refinancing of an existing mortgage from another lender and newly granted loans for the purchase or construction of real estate. LTV and LTI data are collected for new mortgages in the segments of owner-occupied residential property (2016: CHF 29.0 billion) and residential investment property held by commercial borrowers (CHF 9.9 billion) or private individuals (CHF 10.2 billion). The values displayed are aggregated over the calendar year according to mortgage lending volume.

23 The reported LTV is the ratio between the mortgage and the value of the pledged property. The mortgage is the credit limit approved by the bank. The value of the pledged property is the market value. At most banks, LTVs calculated in this manner differ only slightly from reported LTVs based on banks' internal valuations of the pledged property. Net figures include pledges from pillar 2 and 3a pension funds (used as part of the scheme to encourage home ownership) as additional collateral in the LTV calculation. It should, however, be noted that the effectiveness of the protection provided by such additional collateral against credit losses in the banking sector in the event of a major price correction in the Swiss real estate market remains untested.

24 The imputed costs used for this estimate comprise the imputed interest rate (5%) plus maintenance and amortisation costs (1% each). The average mortgage rate between 1960 and 2008 (i.e. prior to the beginning of the low interest rate period) is almost 5%. When interpreting these figures, it should be borne in mind that they are based on a standardised definition of income and hence can deviate from a bank's internal measure of affordability risk based on internal definitions. The standardised definition of income uses only the borrower's employment or pension income. Other elements which have a positive impact on affordability (e.g. bonuses and investment income), as well as those which have a negative impact (e.g. leasing or interest payments on other bank loans), are not taken into consideration. On average, eligible income according to internal bank guidelines exceeds standardised income by 15–20%; however, differences between banks are considerable. As banks apply different credit policies, the income calculated according to banks' internal guidelines – as opposed to standardised income – is neither directly comparable between banks, nor can it be used for calculating aggregate LTI values.

LOAN-TO-INCOME: NEW MORTGAGES

Proportion where imputed costs exceed one-third of income (owner-occ.) or rents (inv. prop.) at an interest rate of 5%

Chart 15



Source: SNB

investment property held by private individuals is also visible when different imputed interest rates are used.

There has been a persistent upward trend in the share of new mortgages with high LTI ratios over the last few years. Affordability risks have been rising since 2012 for residential investment property and since 2013 for owner-occupied residential property. According to banks' reporting, there has been no broad-based easing of their internal lending standards. However, the upward trend in the share of new mortgages with high LTI ratios suggests that banks have become more lenient in applying these standards. This indicates that they are slowly but steadily increasing their risk appetite in mortgage lending. Developments in new mortgages also translate into higher affordability risks in the volume of outstanding mortgages in a relatively short time. Over the last five years, the banks participating in the mortgage lending survey have reported new residential mortgages amounting to CHF 244 billion, which corresponds to more than one-third of their outstanding residential mortgage volume at end-2016.

Against the background of rising affordability risks, it is important to note that a change in the general level of interest rates would lead to an interest rate adjustment for a very high proportion of the outstanding mortgage volume in the short or medium term. Loans with a repricing maturity of more than five years make up around one-quarter of the outstanding mortgage volume. Consequently, around three-quarters of the mortgage volume would be affected by an interest rate rise over a five-year horizon. Moreover, around one-third of the mortgage volume has a repricing maturity shorter than 12 months.

Affordability risks may materialise not only in the event of an interest rate rise, but also in the event of a price correction on the real estate market. Banks may react to a fall in real estate prices by demanding additional collateral from borrowers or by including a higher risk premium in the lending rate. In principle, leveraged investors in all segments of the real estate market may face such margin calls. However, banks are more likely to adopt a strict margin call policy for no-recourse loans to firms in the residential investment property segment.

Renewed narrowing of interest rate margins

After stabilising at a low level in 2015, the average interest rate margin²⁵ on outstanding claims of domestically focused banks decreased by 3 basis points, or 2.5%, in 2016 (cf. chart 16). This renewed reduction illustrates the ongoing pressure on profitability faced by domestically focused banks in their core business as a result of exceptionally low interest rates.

The decrease in the interest rate margin is mainly attributable to a further decline in the average interest rates on outstanding loans. Average lending rates have continued to decline, as loans taken out in the past are renewed at lower interest rates. Moreover, lending rates for new loans with medium to long-term maturity have declined further and have moved largely in parallel with capital market interest rates. By contrast, interest rates on sight and savings deposits for retail customers have remained almost unchanged at levels close to zero.²⁶

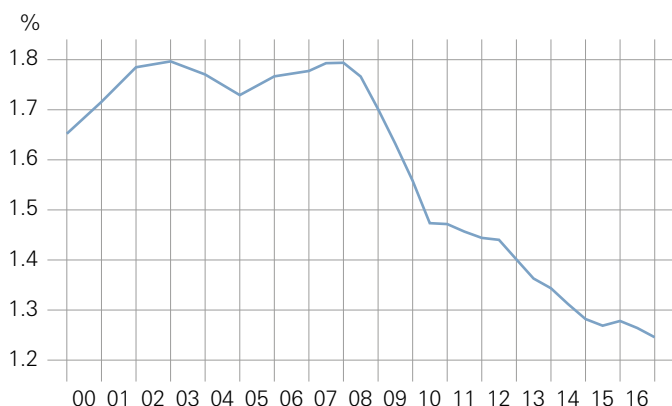
²⁵ Interest rate margins are approximated as net interest income divided by the sum of mortgage claims, claims against customers and financial claims.

²⁶ Overall, negative interest levied on sight deposits at the SNB had no significant direct impact on the interest rate margins of domestically focused banks. Most of these banks' sight deposits remain below or at the exemption threshold, in spite of the steady increase observed since the introduction of negative interest. However, for some of these banks and for banks belonging to other bank categories, such as private banks, the direct impact of negative interest on sight deposits at the SNB has been significant.

INTEREST RATE MARGIN OF DOMESTICALLY FOCUSED COMMERCIAL BANKS

Weighted average

Chart 16

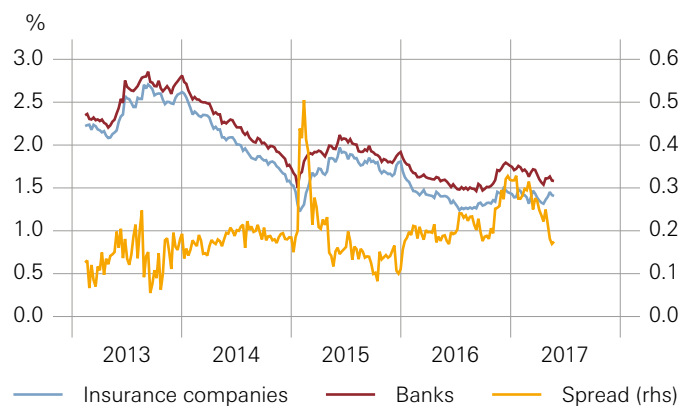


Sources: FINMA, SNB

AVERAGE MORTGAGE RATES OF BANKS AND INSURANCE COMPANIES

Fixed rate mortgages, ten-year maturity

Chart 17



Sources: VZ Vermögenszentrum and Comparis (February 2013 to December 2013), insurance company websites (from December 2013) and bank websites

In 2016, as in previous years, domestically focused banks increased their net interest income, and consequently profits, despite the narrowing margin on new business. This is mainly because the growth in mortgage volume of 4.1% more than offset the 2.5% reduction in the interest rate margin. Moreover, through lower credit losses, value adjustment and provisions, and greater cost efficiency, they maintained their return on assets at levels similar to those in 2015.

However, between 2007 and 2016, the average return on assets of these banks declined in parallel with the interest rate margin, despite improved cost efficiency. Over this period, both the return on assets and the interest rate margin declined by about one-third (cf. *Financial Stability Report*, 2015 and 2016). While the return on assets receded from 0.65% to 0.42%, the interest rate margin eroded from 1.79% to 1.25%.

Strong pressure on banks' margins and profitability

If interest rates stay exceptionally low, downward pressure on domestically focused banks' interest rate margins will remain strong. This applies, in particular, to banks' asset margins²⁷ on new mortgages. Banks widened these margins after the introduction of negative interest in early 2015. A decrease in asset margins, due for example to greater competitive pressure from banks and non-banks in the search for positive yield, could lead to a further significant reduction in their overall interest rate margin.

27 The interest rate margin has three components: the asset margin, the liability margin and the structural margin (margin from maturity transformation). 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. For new mortgages, the asset margin is approximated as the difference between the mortgage rate and the swap rate for the same maturity (cf. SNB, *Financial Stability Report*, 2016, pp. 26–30).

The increase in the spread between the published average rates for medium to long-term mortgages of larger banks and insurers in 2016 is a sign that pressure from insurers on the mortgage market has indeed increased (cf. chart 17). To date, asset margins have remained significantly above the level observed in 2014, before the introduction of negative interest (cf. *Financial Stability Report*, 2016). However, the decrease in the spread between banks and insurers in early 2017 – as banks adjusted their mortgage rates downwards, thereby accepting a lower asset margin – illustrates the difficulties banks will face in maintaining these margins going forward.

Moreover, assuming unchanged repricing maturities on the assets and liabilities sides, the positive contribution of maturity transformation to the interest rate margin will decrease in an environment of persistently low interest rates, as mortgages and other loans taken out in the past are renewed at a lower interest rate level. The longer the period of exceptionally low rates, the stronger the impact on the interest rate margin.

High level of maturity transformation exposes banks to large upward interest rate shocks

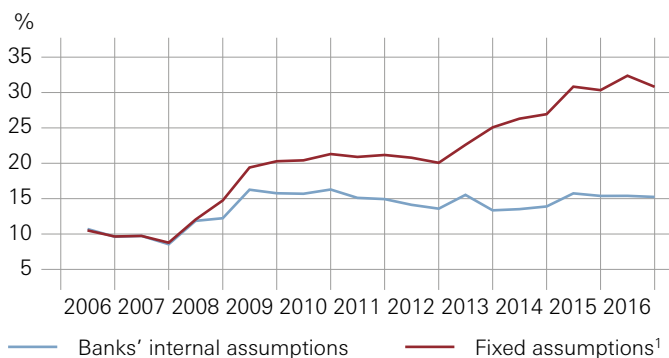
Interest rate risk²⁸ from maturity transformation in the banking book²⁹ of domestically focused banks – as measured by the impact of an upward interest rate shock on the banks' net present value (NPV) relative to its Tier 1

28 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 to refinance long-term loans. As a result of such maturity transformations, interest rates on assets are locked in for longer than interest rates on liabilities. If a bank is in this position, a rise in the interest rate level will reduce the present value (cf. footnote 30) of assets more substantially than the present value of liabilities.

29 The interest rate risk measure includes all positions in the banking book (excluding non-linear derivatives), plus the securities and precious metals trading portfolio, less short securities positions.

INTEREST RATE RISK OF DOMESTICALLY FOCUSED COMMERCIAL BANKS

Losses in NPV with 200 bp interest rate rise and different replication assumptions; as percentage of Tier 1 capital Chart 18

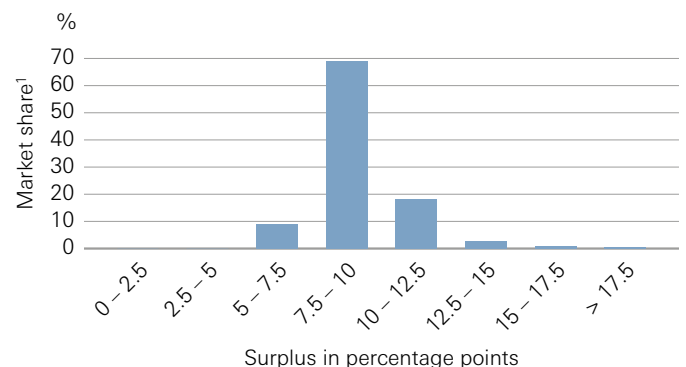


¹ Assumed repricing maturities of 1.5 years for savings deposits and variable rate mortgage claims, and 15 days for sight deposits.

Sources: FINMA, SNB

SURPLUS CAPITAL OF DOMESTICALLY FOCUSED COMMERCIAL BANKS

Capital surplus with respect to the Basel III 8% minimum requirement for risk-weighted total capital ratios Chart 19



¹ Share of domestically focused banks' total leverage ratio exposure.

Sources: FINMA, SNB

capital³⁰ – remained at a historically high level in 2016 (cf. chart 18). This observation is valid irrespective of whether banks’ internal assumptions or fixed replications for positions without contractually defined repricing maturities³¹ are used.

Using banks’ internal assumptions, the NPV of domestically focused banks would have declined by 15.2% of their Tier 1 capital, following a 200 basis point increase in the general level of interest rates (average estimate for end-2016). Using fixed assumptions, the NPV would have declined by roughly twice as much (cf. chart 18).³²

The NPV analysis as documented in chart 18 does not fully reflect the fact that, in the current environment, banks would benefit from the restoration of liability margins³³ if interest rates moved up (cf. *Financial Stability Report*, 2016, pp. 26–30). Driven by the restoration of the liability margin, banks’ total interest rate margin and their earnings would increase, on average, in the event of a small to moderate upward interest rate shock. Starting from the current low level, the banks’ total interest rate margin is estimated to reach levels last observed around 2010 in the event of a 200 basis point shift of the interest rate curve.

30 The present value of a balance sheet position corresponds to its expected future cash flow discounted by the relevant risk-free interest rate.

31 Positions with undefined repricing maturities include: on the assets side, sight claims, claims against customers and variable rate mortgage claims; on the liabilities side, sight liabilities and savings deposits.

32 PostFinance has been included in the chart sample since end-2013.

33 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.

Nevertheless, the NPV analysis highlights banks’ substantial exposure to large upward interest rate shocks. Given banks’ high level of maturity transformation, their net interest income would significantly decline in the event of a large upward shock – such as a 400 basis point shift of the interest rate curve – despite the restoration of their liability margins. While an upward shock of 400 basis points is substantial and unlikely to occur over the short to medium term, it should be borne in mind that, up to 2008, interest rate levels in Switzerland were typically 300 to 400 basis points higher than today. Furthermore, experience shows that interest rates can increase abruptly, and may significantly overshoot their equilibrium levels.

Substantial losses under interest rate shock scenario

Two of the scenarios discussed in chapter 2.2 are of particular relevance for domestically focused banks: the interest rate shock scenario and the protracted euro area recession scenario.³⁴

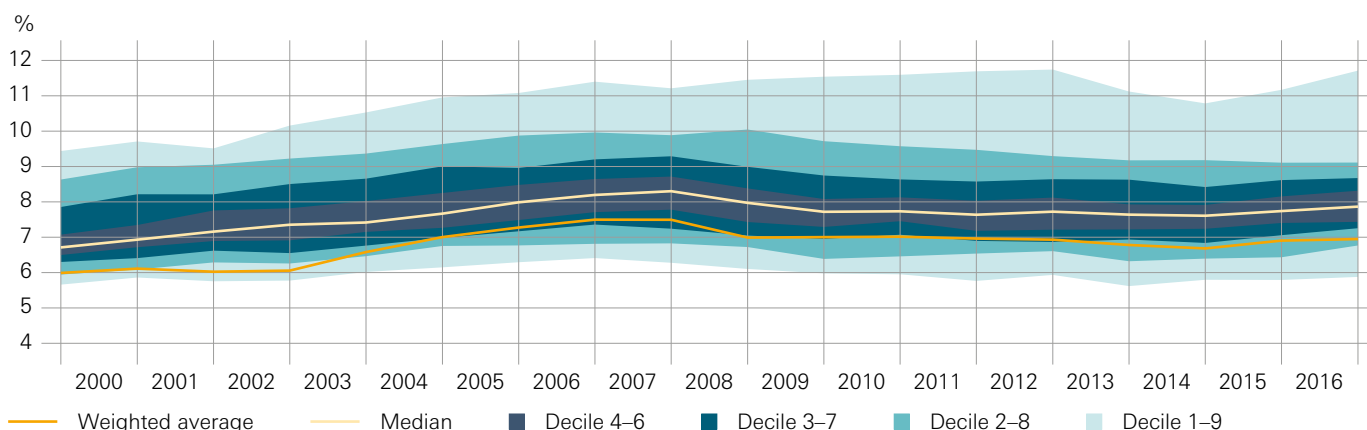
Under the interest rate shock scenario, most domestically focused banks would experience substantial losses; aggregate cumulative earnings would be negative. A sharp increase in mortgage interest rates combined with a pronounced drop in real estate prices would lead to a surge in write-downs on domestic mortgages. Moreover, due to their high level of maturity transformation, banks would suffer a decline in net interest income, despite the restoration of their liability margins. The losses estimated

34 Irrespective of the scenarios considered, losses can also result from operational and legal risks.

TIER 1 LEVERAGE RATIO OF DOMESTICALLY FOCUSED COMMERCIAL BANKS

Distribution of Tier 1 capital to leverage ratio exposures¹

Chart 20



¹ Until 2013, Tier 1 divided by total assets. From 2014, Tier 1 divided by Basel III leverage ratio exposure.

Sources: FINMA, SNB

for the interest rate shock scenario are significantly higher than in the last *Financial Stability Report*. This is mainly the result of changes in the scenario design rather than a change in banks' exposure (cf. chapter 2.2).

The protracted euro area recession scenario would also lead to losses at many domestically focused banks. First, earnings would decrease significantly, mainly reflecting an erosion of interest margins due to a period of persistently negative interest rates. Second, a severe recession extending over several quarters would result in a considerable increase in default rates on claims against corporates and financial institutions. As interest rates remain low under this scenario, however, the need for write-downs on residential and commercial mortgage loans would be moderate. Overall and for most banks, the negative impact of this scenario would be smaller than that of the interest rate shock scenario.

3.2.2 RESILIENCE

Capital ratios significantly above regulatory minimum

Overall, the regulatory capital situation of domestically focused commercial banks has remained broadly unchanged compared to last year. Measured against the regulatory minimum requirements, these banks are holding substantial capital surpluses. At end-2016, all domestically focused banks met the Basel III minimum requirement of 8% for the risk-weighted total capital ratio, and all of them had a capital surplus of more than 5 percentage points. This capital surplus exceeded 10 percentage points for domestically focused banks with a cumulative market share of 22% (cf. chart 19).

At end-2016, all domestically focused banks also complied with the additional capital requirements associated with the CCyB and the institution-specific capital buffer target levels set by the Capital Adequacy Ordinance.³⁵ Depending on the bank, these additional capital buffer requirements effectively range between 3.1% and 7.6% of RWA. Moreover, the domestically focused systemically important banks – PostFinance, the Raiffeisen Group and Zürcher Kantonalbank – met the higher institution-specific look-through leverage ratio requirements that took effect in July 2016.³⁶

In 2016, domestically focused banks' capital moved in step with the size of their balance sheets. Hence, despite pressure from historically low interest rate margins on profitability, and the continued expansion of their balance sheets, their average Tier 1 leverage ratio was unchanged at 6.9% at end-2016 (cf. chart 20) and has remained high by historical standards. The growth in the capital base was almost exclusively the result of profit retention.

The risk-weighted capital ratio was broadly unchanged in terms of total eligible capital (2015: 17.4%; 2016: 17.5%) and in terms of Tier 1 capital (2015: 16.5%; 2016: 16.6%). In 2016, domestically focused banks' capital thus also moved in step with their RWA.

Stress test results highlight importance of large capital surpluses

Regulatory capital ratios may overestimate the actual resilience of domestically focused banks in the current environment, as they do not fully capture risks associated with exposures to the mortgage and real estate markets and to movements in interest rates. In particular, risk-weighted capital ratios only partially account for the imbalances on Swiss mortgage and real estate markets (cf. *Financial Stability Report*, 2012 to 2015). For this reason, the adequacy of domestically focused banks' capital buffers is also assessed by means of stress tests, with a focus on the interest rate shock scenario and the protracted euro area recession scenario.

Under the interest rate shock scenario, domestically focused banks' losses would lead to the depletion of a sizeable proportion of their surplus capital. Many banks would fall below the specific capital buffer target levels set by the Capital Adequacy Ordinance. Moreover, a number of banks with a significant cumulative market share are projected to fall near or below the regulatory minimum, unless they take counteracting measures. By contrast, the protracted euro area recession scenario would only deplete a small proportion of these banks' surplus capital. Under this scenario, only a few banks would fall below the specific capital buffer target levels set by the Capital Adequacy Ordinance or below the regulatory minimum, unless they take counteracting measures.

³⁵ These include the capital buffer target levels set according to supervisory category (applicable from July 2016, cf. Capital Adequacy Ordinance) as well as the institution-specific capital buffer requirements applying to systemically important banks (with effect from July 2016). 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.

³⁶ Since July 2016, systemically important banks have been subject to revised 'too big to fail' requirements. For the three domestically focused systemically important banks, these revisions entail, in particular, higher requirements for the leverage ratio in terms of the ratio of Tier 1 capital to Basel III leverage ratio exposure. A bank's Basel III leverage ratio exposure measure incorporates on and off-balance-sheet exposures (for further details, cf. Basel Committee on Banking Supervision, 'Basel III leverage ratio framework and disclosure requirements', January 2014). The look-through leverage ratio requirement amounts to 4.5% for PostFinance and Zürcher Kantonalbank, and 4.625% for the Raiffeisen Group. According to their respective 2016 annual reports, PostFinance's leverage ratio stood at 4.5%, Zürcher Kantonalbank's at 6.3%, and the Raiffeisen Group's at 6.8%.

Overall, these results suggest that, owing to the size of their capital surpluses, most banks should be able to continue fulfilling their role as credit providers to the real economy even under such adverse scenarios. This highlights the importance of banks' existing capital surpluses relative to the regulatory minimum requirements. The CCyB, the capital surcharge for systemically important banks and the prudent stance of many banks towards capital adequacy are all elements that play a key role in maintaining these surpluses.

Banks' lending policies and the market for residential investment property warrant continued attention

As discussed in chapter 3.2.1, imbalances on the mortgage and residential real estate markets remain high. Going forward, if interest rates stay exceptionally low, incentives to increase risk-taking in the domestic credit and real estate markets will remain substantial for banks, commercial investors and households.

Banks, in particular, have strong incentives to take on more risk in mortgage lending as pressure on their margins and profitability is likely to remain high or to increase further, due to growing competitive pressure from banks and non-banks on the domestic mortgage market. The longer the period of exceptionally low interest rates, the stronger the incentives. Banks might respond to these incentives by further increasing affordability risk or interest rate risk. Such strategies may help to stabilise short-term profitability, but would further increase banks' exposure to large upward interest rate shocks and to a correction on the mortgage and real estate markets in the medium term.

More generally, increased risk-taking might also lead to a renewed build-up of imbalances on the mortgage and real estate markets. The residential investment property segment continues to merit particular attention in this context. Even though yields in this segment are already very low by historical standards, they are still high compared to alternative investments. Upward pressure on prices for residential investment property is therefore likely to remain strong in the near term. In the event of an interest rate increase at a later stage, there is the risk of a substantial price correction in this segment. The current sustained level of construction activity increases the potential for future price corrections. Such a correction would put leveraged investors – as well as the banks providing the funding for such investors – under pressure.

The SNB will continue to monitor developments on the mortgage and real estate markets closely, paying particular attention to developments in the residential investment property segment as well as to banks' risk-taking in mortgage lending. In parallel, the SNB will continue to regularly reassess the need for an adjustment of the CCyB.

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**Data and data sources**

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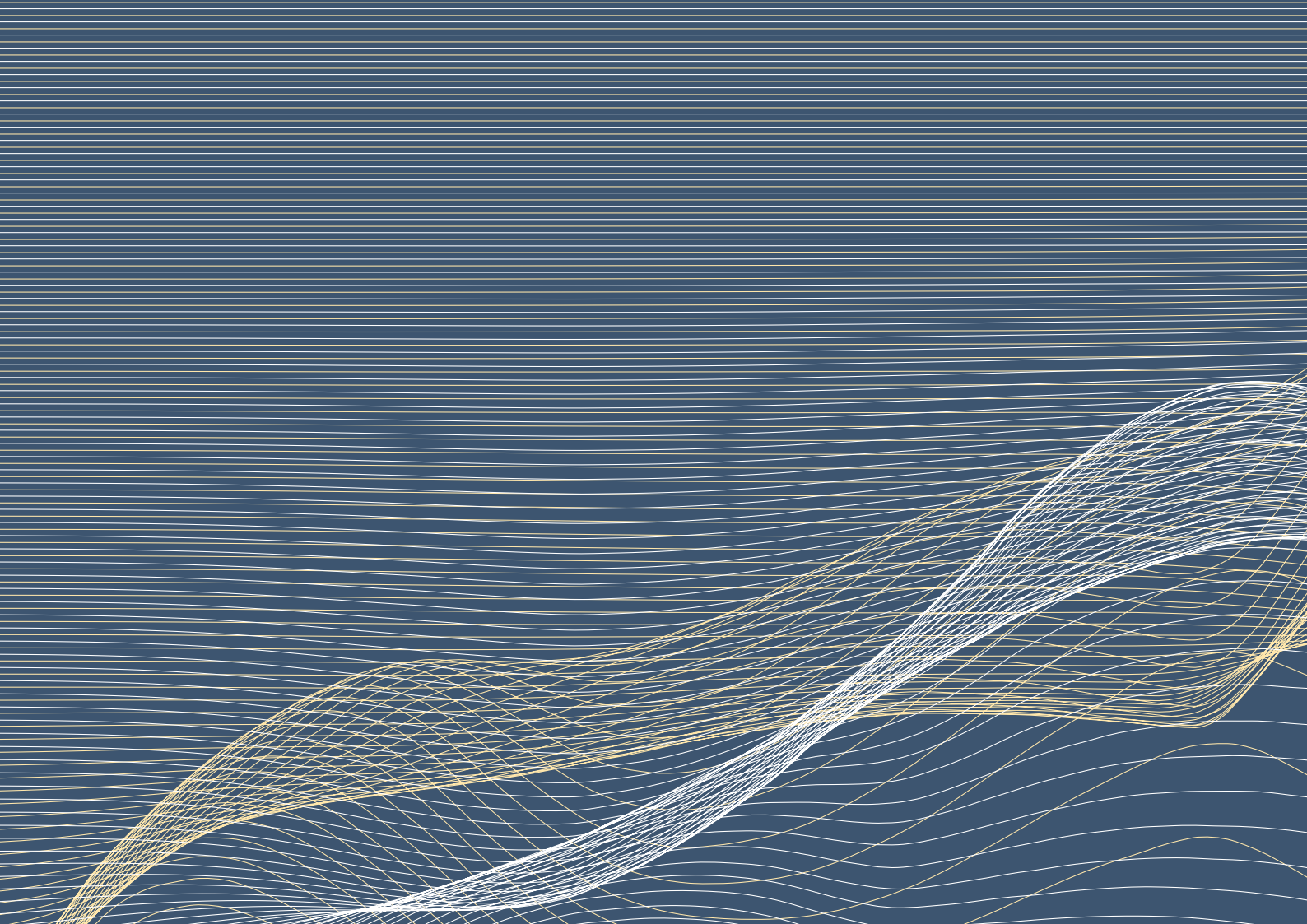
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