Accountability report

On 23 March 2017, the Governing Board of the Swiss National Bank (SNB) submitted its accountability report for 2016 to the Federal Assembly in accordance with art. 7 para. 2 of the National Bank Act (NBA). The report provides information about how the SNB has fulfilled its mandate pursuant to art. 5 NBA – in particular as regards its conduct of monetary policy and its contribution to the stability of the financial system. It is submitted to the Federal Council and the General Meeting of Shareholders for information purposes.

SUMMARY

Monetary policy

The SNB pursues a monetary policy serving the interests of the country as a whole. It must ensure price stability, while taking due account of economic developments. The SNB's monetary policy strategy consists of the following elements: a definition of price stability, a medium-term conditional inflation forecast, and a target range for a benchmark interest rate – the three-month Libor (London Interbank Offered Rate).

The moderate global economic recovery continued in 2016. Following subdued growth in the first half of the year, the global economy gained momentum from mid-year, primarily stimulated by developments in the US. Favourable financing conditions, robust economic growth in China and the stabilisation of commodity prices contributed to the slight upturn in global manufacturing. However, the economic situation in many commodity-exporting countries remained challenging. Oil prices rose over the course of the year. Average annual inflation subsequently increased slightly in most advanced economies, but generally remained below the respective central bank targets.

Switzerland's economy gained some momentum in 2016, sustaining its recovery from the sharp appreciation of the Swiss franc at the beginning of 2015. GDP was up by 1.3%, following growth of 0.8% in the previous year. Despite this slightly stronger growth, aggregate economic capacity remained underutilised. The situation on the labour market continued to stabilise, however.

In 2016, the Swiss consumer price index (CPI) fell by 0.4% on average, declining less strongly than the year before (–1.1%). This was primarily due to the stabilisation of the nominal Swiss franc exchange rate and the pick-up in oil prices. It also became evident that the price-dampening effects of the Swiss franc appreciation had faded.

In 2016, the SNB continued to pursue an expansionary monetary policy aimed at stabilising price movements and thereby supporting the recovery of the economy. This took place against the backdrop of an economic recovery which was only slowly gathering pace, and a rate of inflation which was still negative. As in 2015, monetary policy was based on the interest rate of –0.75% on sight deposits held at the SNB (negative interest) and the SNB's willingness to intervene in the foreign exchange market as necessary. Both helped to prevent an appreciation of the Swiss franc and thereby an undesired tightening of monetary conditions.

Negative interest aims to make the Swiss franc less attractive and thus ease upward pressure on the currency. The SNB also left the target range for the three-month Swiss franc Libor unchanged, at between –1.25% and –0.25%. Like the other interest rates on the Swiss franc money market, the three-month Libor remained in negative territory. Aside from a few days in December, the same was also true for yields on ten-year Confederation bonds.

In 2016, the SNB again intervened in the foreign exchange market to counter an undesired tightening of monetary conditions. These interventions occurred mainly at times of heightened uncertainty, when the Swiss franc was particularly sought after as a safe investment. As in preceding years, the SNB did not generally comment on individual interventions, except for foreign currency purchases made in June 2016, when the UK's decision to leave the EU gave rise to uncertainty. The export-weighted nominal external value of the Swiss franc rose slightly in 2016. The Swiss franc was somewhat stronger against the euro at the end of the year than at the beginning, although this appreciation was partially offset by a mild depreciation against the US dollar.

Implementation of monetary policy

The SNB implemented its expansionary monetary policy by charging interest of –0.75% on sight deposits held by banks and other financial market participants at the SNB, and by intervening in the foreign exchange market as necessary. The negative interest rate continued to help maintain the traditional interest rate differential between Switzerland and foreign countries, and to make investments in Swiss francs less attractive. The relevant Swiss franc money market rates remained close to the negative interest rate throughout the year. At the end of 2016, both the Swiss Average Rate Overnight (SARON), i.e. the interest rate for secured overnight money, and the three-month Swiss franc Libor stood at –0.73%. In 2016, the SNB purchased a total of CHF 67.1 billion in foreign currency. Aside from these foreign currency purchases, the SNB did not conduct any monetary policy-related open market operations. The money market remained amply supplied with Swiss franc liquidity.

Cash supply and distribution

Banknote circulation in 2016 amounted to an average of CHF 72.2 billion. The year-on-year increase came to 7.2% and was thus lower than in 2015. On 12 April 2016, the 50-franc note was the first denomination of the new banknote series – the ninth series – to be released. The new note has since proved its worth, and its reception among the public and experts alike has been positive. The remaining banknotes in the new series will be issued at half-yearly or yearly intervals. The next one to be released is the 20-franc note; it will be issued on 17 May 2017. Issuance of the third denomination, the 10-franc note, is planned for autumn 2017. Further work on the series has proceeded according to plan. The eighth banknote series will continue to be legal tender until further notice.

Cashless payment transactions

In 2016, the Swiss Interbank Clearing (SIC) payment system settled a daily average of approximately 1.8 million transactions amounting to CHF 153 billion. Year-on-year, this represents a 1.3% increase in the number of transactions. Peak days saw up to 5.7 million transactions and turnovers of up to CHF 266 billion.

SIC is steered by the SNB, while the system is operated by SIX Interbank Clearing Ltd, a subsidiary of SIX Group Ltd. It is a central element of the Swiss financial market infrastructure, the Swiss value chain. Following a complete technical overhaul, 15 April 2016 saw the successful operational rollout of the fourth generation of the SIC system (SIC4). The project was managed by SIX Interbank Clearing, with the close involvement of the SNB and the banks. The new SIC system also provides a Swiss solution for the safety and integrity of SIC message transmission.

With digitalisation, the financial industry is currently experiencing a surge of innovation. The SNB is following these developments closely and, in 2016, participated in various relevant bodies and discussions, with particular focus on the possible impacts these innovations may have on the security and efficiency of the financial market infrastructure and thus on the SNB's ability to fulfil its statutory mandate. This concerns – first and foremost – providing the Swiss franc money market with liquidity, facilitating and securing the operation of cashless payment systems and contributing to the stability of the financial system.

Asset management

At the end of 2016, the SNB's assets amounted to CHF 747 billion, compared to CHF 641 billion the previous year. They consisted almost exclusively of currency reserves, that is gold and foreign currency investments (less liabilities from investment policy-related repo transactions). Currency reserves were up by CHF 89 billion year-on-year to CHF 692 billion, principally due to inflows from foreign currency purchases and valuation gains.

The return on currency reserves was 3.8%. Returns on gold and foreign exchange reserves were 11.1% and 3.3% respectively. As regards foreign exchange reserves, both fixed income investments and equities contributed to the positive result. On the other hand, the slight appreciation of the Swiss franc reduced the return.

In 2016, the SNB held 20% of its foreign exchange reserves in the form of equity investments. Measured in Swiss francs, the average annual return on equities since their introduction in 2005 has been 2.8%; the return on bonds has averaged 0.7%. The contribution of equities to preserving the value of the currency reserves and building the SNB's equity base has thus been very substantial during this period.

Financial system stability

The main focus in the area of financial stability continued to be on strengthening the resilience of the financial system and developments on the mortgage and real estate markets. The revision of the 'too big to fail' (TBTF) regulations, in which the SNB participated, was implemented by the Federal Council on 1 July 2016. The going-concern capital requirements under the revised regulations have been increased, thus strengthening the resilience of systemically important banks. The requirements for loss-absorbing instruments in the event of restructuring or resolution (gone concern) are likewise stricter, thereby improving the resolvability of the two big banks. Finally, the regulations stipulate that the two big banks must finalise their emergency plans by the end of 2019 to ensure the uninterrupted continuation of systemically important functions. These measures represent another crucial step in solving the TBTF issue in Switzerland, The definition of the gone-concern requirements for domestically focused systemically important banks was not part of the amended TBTF regulations of 1 July. The Federal Council is expected to formulate these requirements in 2017.

Despite continuing exceptionally low interest rates, price momentum in the Swiss real estate market and mortgage growth were less strong in 2016 than in previous years. Imbalances reduced slightly overall. Nevertheless, the SNB repeatedly pointed out that the low interest rate environment creates strong incentives for banks to take higher risks in their lending business, in particular in relation to mortgage interest rates and affordability. It emphasised that, in the current economic environment, a reduction in the imputed interest rate, used by banks to calculate affordability, would involve considerable risks for borrowers, lenders and the economy as a whole.

In its *Financial Stability Report* of June 2016, the SNB observed that the two Swiss big banks had further strengthened their resilience. In order to meet the requirements of the revised TBTF regulations, the banks must continue to increase their loss-bearing capacity over the coming years. The SNB confirmed that the domestically focused banks had maintained their resilience, although it also noted that the banks had again considerably increased their mortgage and real estate market exposures.

The SNB's focus in the oversight of systemically important financial market infrastructures was on efforts in connection with the implementation of the Financial Market Infrastructure Act, which came into force on 1 January 2016. In order to avoid overlaps in the execution of their tasks, the Swiss Financial Market Supervisory Authority (FINMA) and the SNB specified their respective responsibilities for the ongoing supervision and oversight of systemically important financial market infrastructures (FMIs). In addition, the SNB designated the systemically important business processes at SIX Interbank Clearing and SIX x-clear. Furthermore, it noted that the operators of systemically important FMIs had refined their stabilisation plans and taken various steps to improve their risk management.

International monetary cooperation

The SNB is involved in international monetary cooperation through its participation in the corresponding multilateral institutions and bodies, such as the International Monetary Fund (IMF), the Bank for International Settlements (BIS), the Financial Stability Board (FSB) and the Organisation for Economic Co-operation and Development (OECD).

Lending by the IMF remained high in 2016. Once again, a large proportion of the financial support provided by the IMF went to Ukraine. At the instruction of the Confederation, the SNB concluded a bilateral loan agreement with the National Bank of Ukraine for USD 200 million. This is part of a broad-based assistance effort by the community of nations, in which the IMF is also participating.

The quota reform decided upon in 2010 entered into force in 2016. It involves a doubling of all members' quotas, a realignment of quota shares in favour of emerging economies and developing countries, and a governance reform. As a result of the reform, Switzerland's quota increased from SDR 3.5 billion to SDR 5.8 billion, while its quota share decreased from 1.45% to 1.21%. In November, in accordance with the agreement concluded in 2012 between Switzerland and Poland, the position of executive director was handed over to Poland, for its first two-year tenure.

Within the context of its Article IV consultations, the IMF regularly reviews the economic policies of its member countries and issues recommendations. In November 2016, the IMF Executive Board finalised the relevant report for Switzerland. It recognised that the resilience of the Swiss economy was high, given the appreciation of the Swiss franc at the beginning of 2015. Owing to the gradual unwinding of the real franc appreciation, the Fund expected a sustained economic recovery in Switzerland. The IMF noted that the SNB's monetary policy, combining negative interest rates with a willingness to intervene in the foreign exchange market, had proved its worth.

As a member of the BIS and the FSB, the SNB participated in reforms to strengthen the global financial system. As regards the FSB, from the SNB's standpoint, efforts to resolve the TBTF issue were of central importance. The FSB drew up guiding principles on loss-absorbing capacity for material subsidiaries of global systemically important banks. It also published guiding principles on ensuring banks' liquidity in the event of restructuring or resolution.

The Federal Council submitted a dispatch on the revision of the Monetary Assistance Act to parliament on 30 September 2016. In particular, the maximum duration of monetary assistance in systemic crisis situations should increase from the current seven years to ten. The extension of the term would ensure that Switzerland can continue to participate in all measures to stabilise the international monetary and financial system. Moreover, the SNB should now be able to participate in monetary assistance for individual countries, even where there is no actual or potential disruption to the international monetary system.

Banking services for the Confederation

The SNB provides banking services to the Confederation. Details of the services and the remuneration are laid down in a joint agreement between the Confederation and the SNB.

In 2016, on behalf of and for the account of the Confederation, the SNB issued money market debt register claims by auction amounting to CHF 23.4 billion and Confederation bonds amounting to CHF 3.2 billion. The issues were effected on SIX Repo Ltd's trading platform. The SNB also carried out roughly 115,000 payments in Swiss francs and approximately 25,000 payments in foreign currencies on behalf of the Confederation.

Statistics

The SNB compiles statistical data on banks and financial markets, the balance of payments, direct investment, the international investment position and the Swiss financial accounts. In so doing, it collaborates with federal government bodies and FINMA as well as with authorities of other countries and international organisations.

In 2016, the SNB revised the survey on published interest rates for banks' new business and finalised preparatory work for the revision of the survey on new mortgage lending. In addition, reporting institutions will now be able to use the eSurvey internet platform for all of the SNB's statistical surveys.

The SNB publishes its statistics on its website and on the data portal as well as in the form of printed publications. In 2016, the data portal was further expanded with additional content.

1 Monetary policy

1.1 MANDATE AND MONETARY POLICY STRATEGY

Constitutional and legal mandate

Article 99 of the Federal Constitution entrusts the Swiss National Bank (SNB), as an independent central bank, with the conduct of monetary policy in the interests of the country as a whole. The mandate is explained in detail in the National Bank Act (art. 5 para. 1 NBA), which requires the SNB to ensure price stability and, in so doing, to take due account of economic developments.

Significance of price stability

Price stability is an important prerequisite for growth and prosperity. Inflation (a sustained increase in the price level) and deflation (a sustained decrease in the price level) both impair economic activity. They hinder the role of prices in allocating labour and capital to their most efficient use, and result in a redistribution of income and wealth.

Monetary policy strategy

In its monetary policy strategy, the SNB sets out the manner in which it intends to fulfil its statutory mandate. The strategy consists of the following three elements: a definition of price stability, a conditional inflation forecast over the subsequent three years, and a target range for the reference interest rate – the three-month Swiss franc Libor (London Interbank Offered Rate). In addition, from September 2011 to January 2015, a minimum exchange rate applied against the euro.

Definition of price stability

The SNB equates price stability with a rise in the Swiss consumer price index (CPI) of less than 2% per annum. Deflation is also regarded as a breach of the objective of price stability. With its definition of price stability, the SNB takes into account the fact that it cannot steer inflation precisely and that the CPI tends to overstate inflation slightly.

Conditional inflation forecast

The inflation forecast published quarterly by the SNB serves as the main indicator for monetary policy decisions and is a key element in communication. The forecast relates to the three subsequent years and reflects the medium-term focus of monetary policy. With this approach, the SNB takes account of the fact that output and prices sometimes react to monetary policy stimuli with a considerable time lag. Besides the inflation forecast, the SNB takes into consideration a large number of indicators of domestic and international economic and monetary developments and of financial stability for its monetary policy decisions.

The SNB's inflation forecast is based on the assumption that the reference interest rate communicated at the time of publishing will remain constant over the forecast horizon. In other words, it is a conditional forecast and shows how the SNB expects consumer prices to move, assuming an unchanged interest rate. The SNB thus enables the public to gauge the future need for action in monetary policy. The forecast published by the SNB cannot be compared with those provided by commercial banks or research institutions, as these generally factor in anticipated interest rate adjustments.

Target range for three-month Libor

The SNB defines a target range for its reference interest rate, the three-month Swiss franc Libor. The range usually spans 1 percentage point. As a rule, the SNB aims to keep the Libor in the middle of this range. The Libor rates correspond to the average current interest rates at major international banks operating in London.

Influencing the interest rate environment

The SNB ensures price stability by using its monetary policy operations to influence the interest rate environment and align it with the prevailing economic situation. Lowering real interest rates generally tends to have a stimulating effect on demand and on prices of goods and services, while raising them tends to have a dampening effect. Central banks steer short-term nominal interest rates. Because inflation changes very little in the short term, they also influence real interest rates in this way.

Role of exchange rate

An independent monetary policy that is geared towards the objective of price stability fundamentally requires flexible exchange rates. This does not mean, however, that the SNB disregards exchange rate developments. Changes to the exchange rate considerably influence the inflation and economic outlook and thus have an effect on the SNB's monetary policy decision. If the SNB adjusts the interest rate or intervenes in the foreign exchange market, this in turn has an impact on the exchange rate.

Unconventional monetary policy measures

From 2008, following the onset of the financial and economic crisis, nominal interest rates in many countries fell to very low levels. This increasingly narrowed the scope for further interest rate reductions. Many central banks thus resorted to unconventional measures in order to maintain an appropriate monetary policy. The most important unconventional measures taken by the SNB in recent years were to intervene in the foreign exchange market, to temporarily set a minimum exchange rate against the euro, and to introduce negative interest on sight deposits at the SNB.

With the introduction of negative interest on sight deposits held by banks and other financial market participants at the SNB, the National Bank reduced the general level of interest rates. Assuming unchanged interest rates abroad, negative interest makes Swiss franc investments less attractive, thereby easing upward pressure on the currency. Furthermore, it creates an incentive to consume and invest more. However, the interest rate on SNB sight deposit balances cannot be lowered endlessly into negative territory by the SNB, as these balances can also be converted into banknotes. In addition, negative interest could potentially put the banking system under considerable strain, which is why the SNB grants banks exemption thresholds (cf. chapter 2.3, box 'How negative interest works').

Negative interest on sight deposits at the SNB

The SNB's willingness to intervene in the foreign exchange market as necessary also eases upward pressure on the Swiss franc because it influences market expectations and because the exchange rate is determined by supply and demand in the foreign exchange market. The SNB decides if and to what extent interventions should be conducted, while taking market conditions into consideration. Foreign exchange market interventions are mainly required in times of heightened uncertainty, when the Swiss franc is particularly sought after as a safe investment.

Willingness to intervene in foreign exchange market

As with price stability, financial stability is a prerequisite for sustainable economic growth. Experience from the financial crisis has shown that achieving price stability does not necessarily ensure the stability of the financial system. Yet, if central banks focus overly on the objective of financial stability, conflicts may arise with the objective of price stability. Central banks therefore need macroprudential instruments that can be applied in a targeted manner to address credit market imbalances which threaten financial stability (cf. chapter 6).

Macroprudential instruments

In November 2016, the Federal Council adopted its dispatch on the popular initiative 'For crisis-resistant money: end fractional-reserve banking' (*Vollgeldinitiative*). It requested that parliament recommend to the people and the cantons the rejection of the initiative without a counterproposal. Its justification for this stance was that the initiative would result in an extensive and untested transformation of the country's monetary system and the financial sector, and would entail substantial risks. Furthermore, the SNB would be more at the mercy of political ambitions, which would jeopardise the credibility of its monetary policy. The SNB agrees with the Federal Council's arguments and also rejects the initiative.

Swiss sovereign money initiative

Parliamentary procedural requests concerning the SNB
At its meeting on 21 December 2016, the Federal Council approved two reports which, in response to various postulates, deal wholly or partly with issues concerning the SNB.

The monetary policy report responds to the Bischoff postulates on negative interest rates and SNB governance, the Rechsteiner postulate on the role of the Swiss franc, and the Cramer postulate on the strong Swiss franc and 'shopping tourism'. The report concludes that the SNB has appropriate governance and can perform its mandate effectively with the existing legal framework. In its report, the Federal Council opposes an expansion of the three-member Governing Board and publication of the minutes of monetary policy decision meetings.

The report discusses in detail the impact of negative interest – introduced by the SNB – on various economic agents (social security and pension funds, banks, insurance companies, small savers, homeowners, cantons). It points out that negative interest poses huge challenges for many stakeholders. At the same time, it stresses that the measure is to be seen against the backdrop of the low interest rate environment worldwide and the overvaluation of the Swiss franc. Negative interest was introduced to make Swiss franc investments less attractive and is only effective when applied to all financial market players.

The report on the low interest rate environment, strong Swiss franc and the courses of action open to Switzerland responds to the Graber postulate on monetary and financial policy options in the context of low interest rates. The Federal Council report states that the Confederation is taking advantage of current monetary conditions to optimise the budget and debt situation. However, it rejects both an increase in debt and the creation of a sovereign wealth fund.

Research

In order to fulfil its mandate as a central bank, the SNB conducts research in relevant fields. This enhances understanding of complex interrelationships, promotes the further development of analytical methods and provides important information for monetary policy decisions. The SNB exchanges knowledge with other central banks and research institutes, and holds regular conferences and research seminars. Research work and studies by SNB employees are published in *SNB Working Papers* and *SNB Economic Studies*, as well as occasionally in specialist journals. The *SNB Research Report*, published for the first time in summer 2016, provides an annual overview of the SNB's research activities.

In 2016, the SNB launched a series of lectures – the 'Karl Brunner Distinguished Lecture Series' – in honour of the internationally acclaimed Swiss economist, Karl Brunner (1916–1989). Each year, a renowned expert, whose research has proven to be significant for central banking, will be invited to speak at the event. In 2016, Kenneth S. Rogoff was chosen to give the inaugural lecture, which was entitled 'Rethinking central bank design', on 22 September. Kenneth S. Rogoff is the Thomas D. Cabot Professor of Public Policy and Professor of Economics at Harvard University.

Since 2014, the SNB has sponsored a joint prize for excellence in research on monetary macroeconomics with the Deutsche Bundesbank and the Oesterreichische Nationalbank. The prize is named after the Austrian economist Carl Menger and is awarded every two years. At the annual conference of the Verein für Socialpolitik (a German-speaking economists' association) in 2016, the Carl Menger Prize was awarded to Klaus Adam, Professor of Economics at the University of Mannheim and Research Professor at the Deutsche Bundesbank.

1.2 INTERNATIONAL ECONOMIC DEVELOPMENTS

Moderate recovery in global economy

The moderate global economic recovery continued in 2016. However, the pace of expansion remained below expectations initially, mainly as a result of weak economic growth in the US in the first six months. From mid-year, the global economy gained momentum. Manufacturing registered a slight upturn, benefiting from factors such as favourable financing conditions, more stable commodity prices and robust economic growth in China. Unemployment receded further in most regions.

Outlook fraught with risk

Company surveys conducted towards the end of 2016 suggest that the global economic recovery is likely to continue. The world economy, however, is still subject to significant risks. Various advanced and emerging economies remain burdened by structural problems such as a fragile financial system, high public debt and low potential growth. Considerable uncertainty surrounding global economic developments also stems from the UK's decision in June 2016 to leave the EU (Brexit) and the fact that the new US government's economic policy course cannot be predicted yet.

Lacklustre global trade

In 2016, world trade in goods and services recorded its lowest growth since the financial crisis, reflecting both cyclical and structural factors. On the one hand, continuously low investment activity worldwide and the challenging economic situation in many commodity-exporting countries dampened goods trade activities. On the other, the slowdown in trade liberalisation and China's structural transition to an increasingly service-based economy led to a loss of momentum in the international flow of goods.

Recovery of commodity prices

Commodity prices, which had been declining for several years, registered a partial revival in 2016. This helped prevent the very low inflation rates in many countries from decreasing any further. The price for Brent crude, which had fallen below USD 30 per barrel at the beginning of 2016, picked up in the first half of the year. By the end of the year, it had reached USD 56 per barrel, following agreement among major countries – including both members and non-members of the Organization of the Petroleum Exporting Countries (OPEC) – to limit production from the beginning of 2017. Prices for industrial metals also rose as a result of improving global economic conditions.

In the euro area, GDP advanced by 1.7% in 2016, having grown by 2.0% the year before. The expansionary monetary policy of the European Central Bank (ECB) continued to bolster economic developments. In the course of the year, GDP climbed to the level it had attained in the first quarter of 2008, i.e. before the onset of the global economic crisis. The economy picked up in all euro area countries, with Germany remaining the driving force. Moreover, the economic advance in the euro area was broadly based. Low energy prices and favourable financing conditions contributed to domestic demand, while exports expanded slightly thanks to the improved global economy and the weak euro. Employment continued to gain momentum and, for the first time in five years, the unemployment rate dropped below 10%.

Broad-based economic recovery in euro area ...

However, various issues cast a shadow over the economic outlook in Europe, in particular the fragile state of the Italian banking sector and uncertainty regarding future economic relations between the EU and the UK.

... despite ongoing challenges

Economic growth in the US averaged 1.6% in 2016, significantly down on the previous year (2.6%). At the beginning of the year, equipment investment and exports were impaired by a strong US dollar as well as rising risk premia on corporate bonds. Furthermore, investment activity in the energy sector continued to decline owing to low oil prices. In the second half of the year, however, the US economy gained momentum. Private consumption was the key driver, buttressed by low energy prices and rising wages. The labour market edged closer to full employment with the unemployment rate down to 4.7% by the end of the year.

Slowdown in US growth

The unexpected outcome of the US presidential election on 8 November triggered strong reactions on the international financial markets. After a brief correction, the MSCI World Index reached its highest level of the year, while the US stock market index S&P 500 climbed to a new all-time high. Following a decline in the first half of the year, yields on long-term government bonds picked up again in nearly all advanced economies from November; in the US, they re-attained the level of mid-2015. These developments partially reflected expectations of an increase in public spending under the new US government.

Rising share prices and yields in wake of US elections

Further economic recovery in Japan

Japan's moderate economic recovery continued in 2016, with GDP advancing by 1.0%. Furthermore, revised data published in December presented a considerably more favourable picture of economic developments in the past few years. Private consumption in particular recovered more swiftly than initially assumed from the slump following the consumption tax hike in April 2014. The substantial appreciation of the yen in the first half of 2016 weighed significantly on the Japanese economy. The government therefore launched a comprehensive economic stimulus package and postponed the next consumption tax increase planned for April 2017 to October 2019. The labour market continued to improve. Employment figures were up, and the unemployment rate registered a further decline, dropping to 3.1% by December.

Slightly slower growth in China

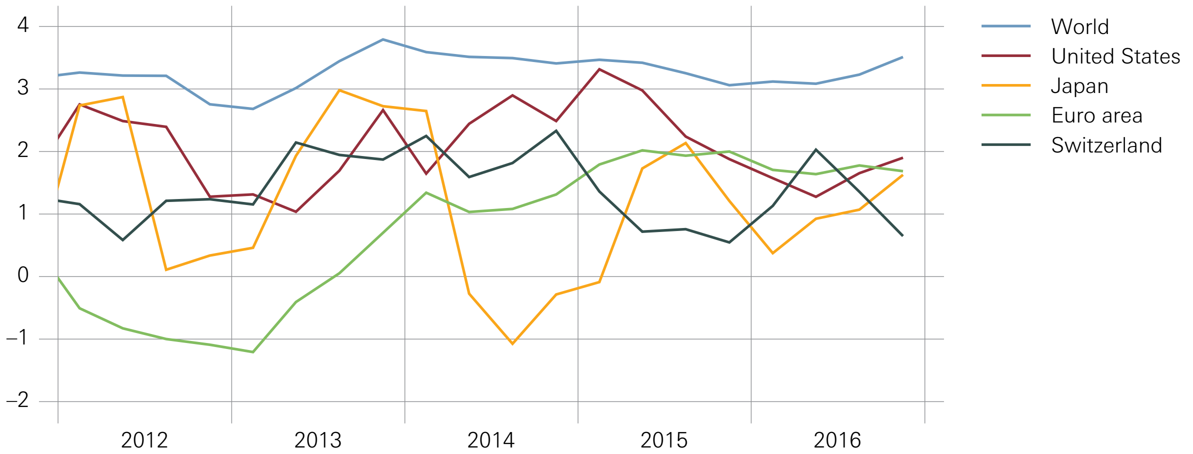
Disappointing manufacturing indicators in China at the beginning of the year raised concerns about the country's growth outlook, leading to turbulence on the international financial markets. Monetary and fiscal stimulus measures subsequently helped to stabilise the economy. GDP growth averaged 6.7% in 2016, thus remaining within the government's target range. Consumer demand was one of the main drivers, while construction and the real estate market benefited from public infrastructure spending and more generous lending. Despite such favourable developments, risks remain in the form of substantial overcapacity in heavy industry and high corporate debt levels. Moreover, trend growth in China, although still high, is likely to decline in view of developments towards a more service-oriented economy.

Above-potential growth in India

The Indian economy developed favourably overall. GDP grew slightly above potential (around 7%) in the first three quarters. In addition, the government made some headway with important reform packages, such as the nationwide harmonisation of the goods and services tax. In November, the government carried out a surprise currency reform, which declared a large part of the banknotes in circulation invalid. This move was aimed at curtailing the shadow economy and promoting cashless transactions. Bottlenecks in the supply and distribution of new banknotes subsequently put a considerable damper on economic growth.

GROWTH OF GROSS DOMESTIC PRODUCT

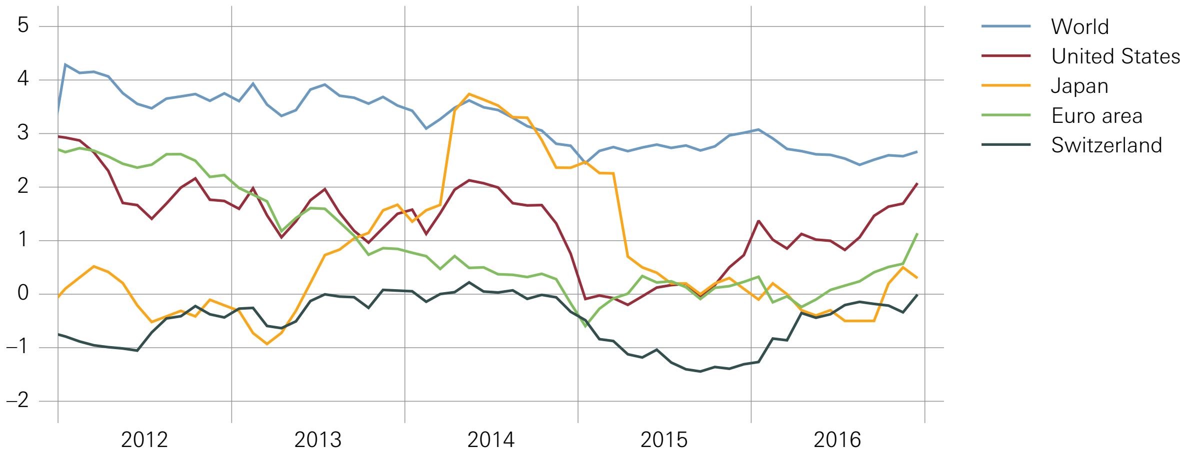
Year-on-year change in percent, in real terms



Sources: SECO, SNB, Thomson Reuters Datastream

INFLATION

Consumer prices, year-on-year change in percent



Sources: IMF, SFSO, Thomson Reuters Datastream

Ongoing recession in Brazil and Russia

Brazil and Russia both saw a continuation of the recession that began at the end of 2014. While higher energy prices provided some relief, domestic demand in both countries suffered from tight financing conditions and high inflation. Moreover, Brazil's economic prospects were weighed down by political uncertainty.

Modest pick-up in consumer prices in advanced economies

Inflation, as measured by the CPI, remained below central bank targets in most advanced economies. Compared to 2015, however, annual inflation recorded a slight increase in most cases, predominantly due to higher energy prices. In the euro area, inflation dropped to an average of 0.2%, remaining well short of the ECB's price stability objective of 'below, but close to 2%'. In the course of the year, the annual inflation rate initially hovered at around 0% before climbing to 1.1% by the end of the year. Core inflation, which excludes volatile categories of goods such as oil products and food, stood at just below 1%. Inflation expectations according to surveys and financial indicators rose somewhat, but persisted at a low level overall. In the US, inflation reached 2.1% in December 2016, its highest level since June 2014, and averaged 1.3% in 2016, following virtual price stagnation in the previous year. Influenced by a strong yen, inflation in Japan, by contrast, temporarily slipped into negative territory and also turned out slightly negative on average in 2016 (–0.1%). Despite highly expansionary monetary policy, longer-term inflation expectations, too, remained well below the Japanese central bank's target of 2%.

Differing inflation trends in emerging economies

In China, inflation increased somewhat over the course of the year. The annual average was 2.0%, falling short of the Chinese central bank's target of 3%. In India, inflation stood at 5.0% and thus remained within the target range of 2% to 6%. Inflation rates in Brazil and Russia receded noticeably over the course of the year, but continued to exceed their central banks' target values.

Tightening of US monetary policy at year-end

In view of low core inflation, central banks in many countries maintained their expansionary monetary policies. One exception was the US, where inflation had come in close to target. Given the favourable labour market situation and satisfactory inflation development, the US Federal Reserve raised the target range for its policy rate by 0.25 percentage points to between 0.5% and 0.75% in December. The last policy rate increase had been effected in December 2015. The Federal Reserve again emphasised that economic developments in the US would warrant only gradual increases in the policy rate.

Further easing of monetary policy in euro area

The ECB, by contrast, introduced further substantial easing measures. In March, it lowered its deposit rate by 0.1 percentage points to –0.4%, and the main refinancing rate by 0.05 percentage points to 0%. In April, moreover, it increased its monthly asset purchases by EUR 20 billion to EUR 80 billion, and, in June, purchased corporate bonds for the first time. Furthermore, the ECB again granted special loans to banks from mid-year onwards in order to encourage lending to the private sector. In December, the ECB announced its plans to continue purchasing securities at least up to the end of 2017, albeit reducing the purchase volume to EUR 60 billion a month as of April 2017.

New monetary policy measures in Japan

Persistently low inflation induced the Bank of Japan to adopt new monetary policy measures. In February, it introduced an interest rate of –0.1% on certain deposits held by commercial banks at the central bank. In September, it then placed yield curve control at the core of its quantitative and qualitative monetary easing policy. This includes a target yield of around 0% for ten-year Japanese government bonds. In addition, the Bank of Japan pledged to continue purchasing securities until inflation exceeded 2% and also reiterated its willingness to ease monetary policy further if necessary.

Monetary policy easing in emerging economies

As a result of disappointing economic developments in the winter half-year of 2015/2016, the People's Bank of China lowered its reserve requirement ratio in February by 0.5 percentage points to 16.5%. In India, the central bank made the most of the monetary policy latitude afforded by a favourable inflation trend to cut its key interest rate by a total of 0.5 percentage points. Unlike the year before, the central banks of Brazil and Russia also eased their monetary policies in the second half of the year in order to boost the economy. This was a partial reversal of the restrictive measures previously taken in support of their respective currencies.

1.3 ECONOMIC DEVELOPMENTS IN SWITZERLAND

Moderate economic growth …

Switzerland's economy gained some momentum in 2016, sustaining its recovery from the sharp appreciation of the Swiss franc at the beginning of 2015. According to the State Secretariat for Economic Affairs (SECO), GDP was up by 1.3%, following growth of 0.8% in the previous year. Numerous indicators confirmed this increase in economic activity. Both the purchasing managers' index (PMI) for the manufacturing sector and the KOF economic barometer recorded improvements in the course of the year. The labour market also stabilised, with seasonally adjusted figures showing unemployment beginning to fall slightly from September.

… but negative output gap persists

However, economic growth was not sufficient to effect a palpable improvement in the utilisation of overall production capacity. The output gap, which is defined as the percentage deviation of GDP from estimated aggregate potential output, thus remained negative. Surveys suggest that technical capacity was underutilised in manufacturing and retailing. By contrast, capacity utilisation in construction was significantly above the long-term average.

Solid export demand

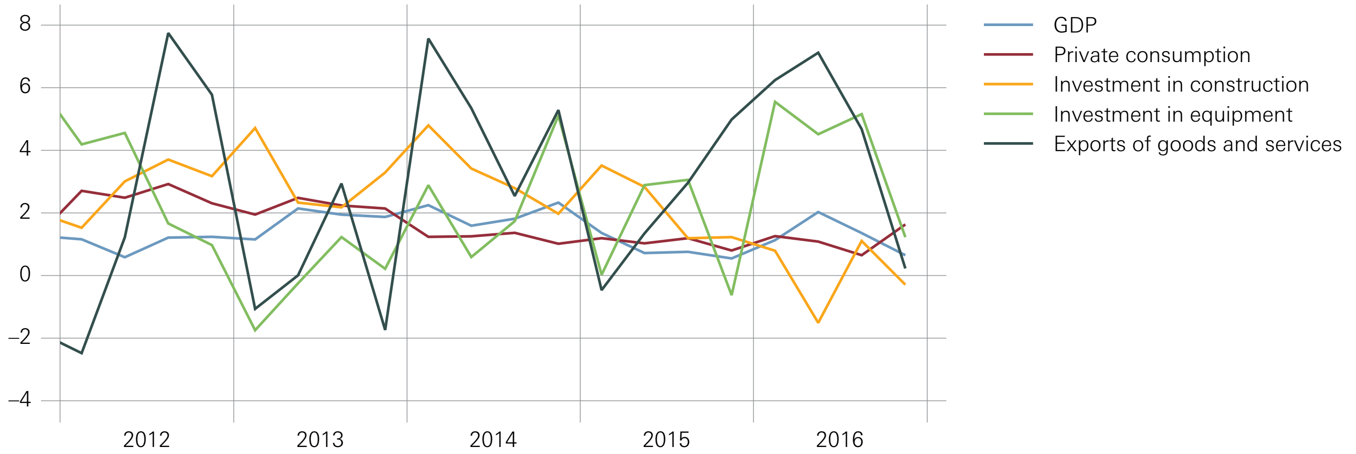
Exports of goods and services increased by 4.5% in 2016. Boosted by higher demand from the advanced economies, goods exports gained momentum compared to the previous year when they had been held back by Swiss franc appreciation. Growth was principally driven by exports of chemical and pharmaceutical products. These segments once again made major gains, recording their strongest growth since 2006. While exports of metals and agricultural products recovered, exports in other lines of manufacturing were predominantly weak; exports of watches once again declined.

Uneven developments in value added

Thanks to the favourable performance of the pharmaceutical industry, manufacturing again recorded increases in value added, thereby contributing significantly to GDP growth. Healthcare and energy also made positive contributions, while developments in other industries remained lacklustre. Value added continued to contract in financial services and tourism. Given only modest consumer demand and intense competition from foreign suppliers, the situation in retailing remained challenging.

GROSS DOMESTIC PRODUCT AND COMPONENTS

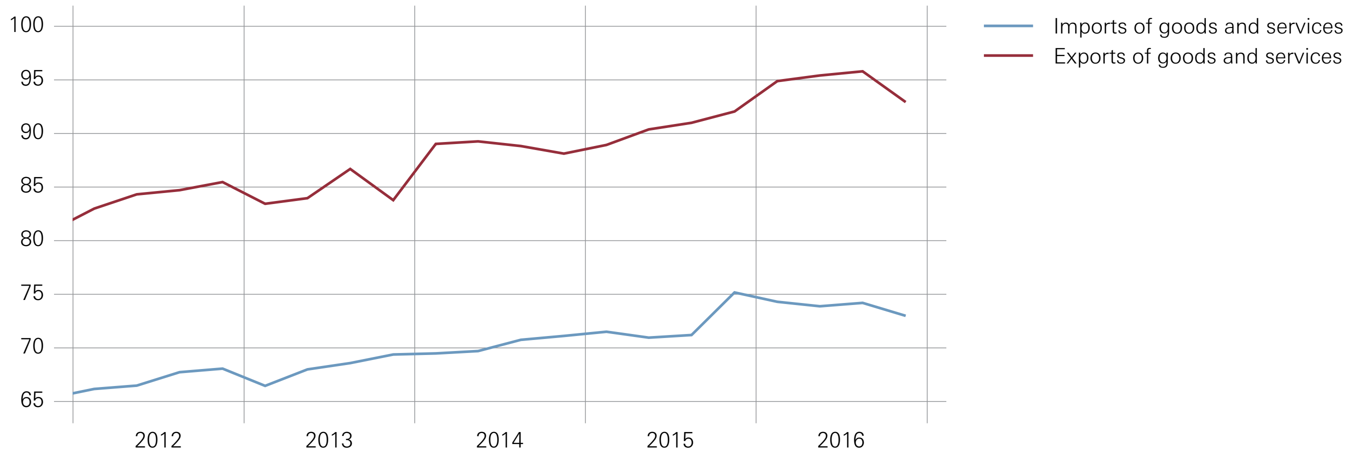
Year-on-year change in percent, in real terms



Source: SECO

FOREIGN TRADE

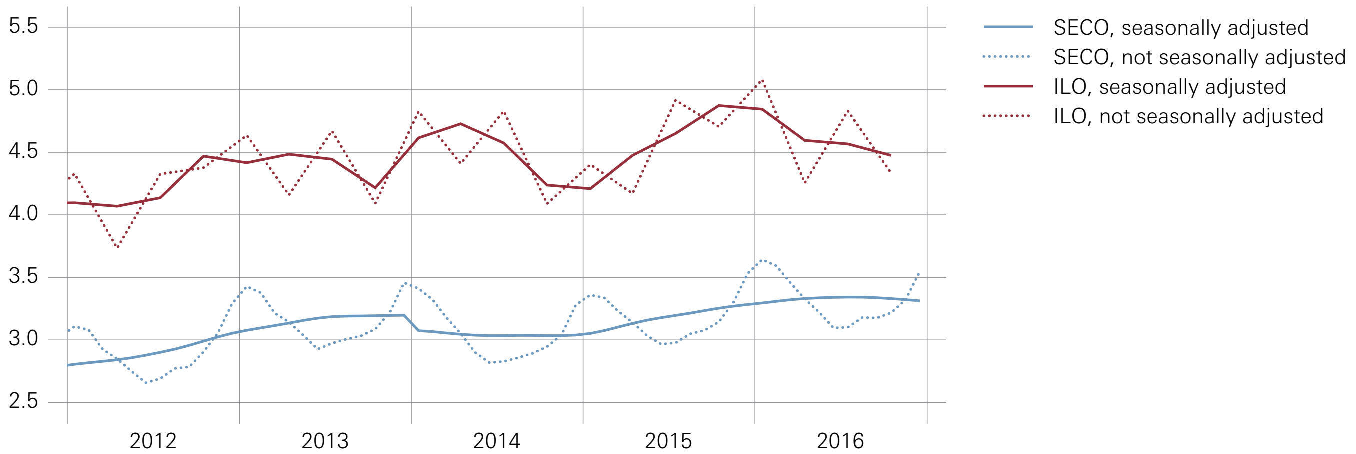
In CHF billions, in real terms, seasonally adjusted



Source: SECO

UNEMPLOYMENT RATE

In percent



Sources: SECO, SFSO

Economic picture derived from discussions with companies
The SNB bases its economic assessment on a wide range of information sources. This includes information gathered by the SNB's delegates for regional economic relations during regular discussions with companies from a range of sectors. The results of these discussions are summarised in the section on business cycle trends of the SNB's *Quarterly Bulletin*.

Overall, the discussions with companies in 2016 indicated a gradual firming of the economic situation. They suggested that turnover had been increasing incrementally and that expected staff numbers and planned investments were also trending slightly upwards. Relatively stable exchange rates and favourable economic signals from abroad, especially Europe, contributed substantially to improved sentiment. Nonetheless, on the whole, capacity utilisation remained unsatisfactory.

Developments varied from one industry to another. Furthermore, companies from many sectors noted that profit margins remained under pressure despite efficiency gains. Banking, retailing and broad swathes of manufacturing reported that they were facing far-reaching structural change.

Modest consumption growth

With consumer confidence remaining muted, private consumption again grew only modestly in 2016. One exception was expenditure on healthcare, which increased considerably. In most other areas, expenditure was restrained due to the dampening effects of slightly higher unemployment and weaker income growth year-on-year.

Stagnating construction investment

Construction investment stagnated in 2016. According to a survey by the Swiss Federation of Master Builders (SBV/SSE), residential construction investment continued to grow. As a result, the share of empty housing units in the housing stock rose further, reaching 1.3% as at 1 June 2016, the highest level since June 2000. Investment decreased in other areas of construction.

Higher equipment investment

Equipment investment increased more strongly in 2016 than in the previous years, helped by favourable economic developments abroad, low interest rates and a one-off effect: significantly more aircraft were procured in 2016 than a year earlier.

REAL GROSS DOMESTIC PRODUCT

Year-on-year change in percent

	2011	2012	2013	2014	2015	2016
Private consumption	0.8	2.6	2.2	1.2	1.1	1.2
Government consumption	2.1	2.1	2.3	1.5	2.2	1.9
Investment	4.3	2.9	1.1	2.8	1.6	2.4
Construction	2.5	2.9	3.1	3.2	2.2	0.0
Equipment	5.3	2.8	–0.2	2.6	1.3	4.1
Domestic final demand[1]	**1.9**	**2.6**	**1.9**	**1.7**	**1.3**	**1.6**
Exports of goods and services[1]	3.5	3.0	0.0	5.2	2.2	4.5
Aggregate demand[1]	**2.5**	**2.7**	**1.2**	**3.0**	**1.7**	**2.7**
Imports of goods and services[1]	4.7	4.4	1.4	3.2	3.0	2.1
Gross domestic product	**1.8**	**1.0**	**1.8**	**2.0**	**0.8**	**1.3**

1 Excluding valuables (non-monetary gold and other precious metals, precious stones and gems as well as objets d'art and antiques).
Sources: SECO, SFSO

Stabilising labour market

There was a gradual stabilisation on the labour market in the year under review. Excluding seasonal fluctuations, the number of people registered as unemployed with regional employment offices edged up slightly until August, before slowly falling back again. The seasonally adjusted unemployment rate published by SECO stood at 3.3% throughout 2016, having risen continuously during the previous year.

In addition to this, the Swiss Federal Statistical Office (SFSO) calculates an unemployment rate in line with the International Labour Organization (ILO) definition using data from the Swiss Labour Force Survey (SLFS), a quarterly survey of households. As this survey includes unemployed people who are not (or no longer) registered with regional employment offices, the ILO's unemployment rate is generally higher than that published by SECO. However, the ILO and SFSO statistics give similar economic signals. As SECO's unemployment rate is based on a monthly survey that is available promptly and is widely recognised, the SNB references these statistics in its communications. Excluding seasonal fluctuations, the SFSO's unemployment rate measured according to the ILO's definition fell in 2016 and stood at 4.5% in the last quarter of the year, compared to 4.9% a year earlier.

Rising employment

The number of employed persons rose by 1.8% in 2016 – a somewhat stronger increase than the year before. Employment growth was limited to the services sector. Jobs were once again cut in construction and manufacturing.

Higher total wage bill

According to the System of National Accounts (SNA), the total real wage bill was up by 1.3%, a smaller increase than in the previous year (2.5%). This was largely a reflection of significantly weaker real wage growth.

Stable producer and import prices

Producer and import prices were more or less flat in 2016, due mainly to the stability of the nominal Swiss franc exchange rate. Despite this stabilisation, producer and import prices were down 1.8% year-on-year on average. The negative inflation rate is principally attributable to the decline in prices in 2015 – and hence to statistical base effects.

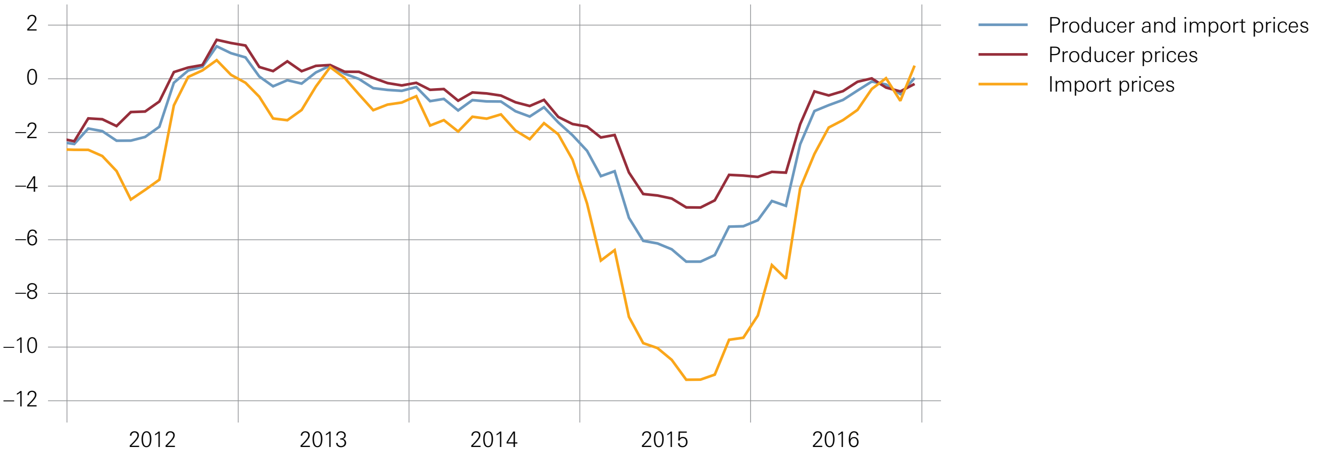
CPI inflation close to zero in fourth quarter

In 2016, the CPI fell by 0.4% on average, as against a 1.1% decline the year before. Having bottomed out in the second half of 2015, the CPI annual inflation rate then rose continuously. At –0.2%, it had moved close to zero by the fourth quarter of 2016, primarily due to the stabilisation of the nominal Swiss franc exchange rate and the pick-up in oil prices. It is also becoming evident that the impact on CPI inflation of the Swiss franc's appreciation following the discontinuation of the minimum exchange rate has now dissipated.

The inflation rates for the key domestic CPI components were close to zero in the fourth quarter. Prices for domestic goods were only marginally lower than a year earlier, while they fell by 0.7% on average in 2015. Prices for domestic services were up slightly year-on-year, mainly due to housing rents where annual inflation rose again in the fourth quarter after a year of very low values. Inflation rates for oil products, which had been clearly negative into the third quarter, also approached zero towards the end of the year. Conversely, the prices of imported goods and services (excluding oil products) continued to decline. However, at –1.2%, the decline in prices was considerably weaker than it had been in the fourth quarter of 2015 (–2.7%).

PRODUCER AND IMPORT PRICES

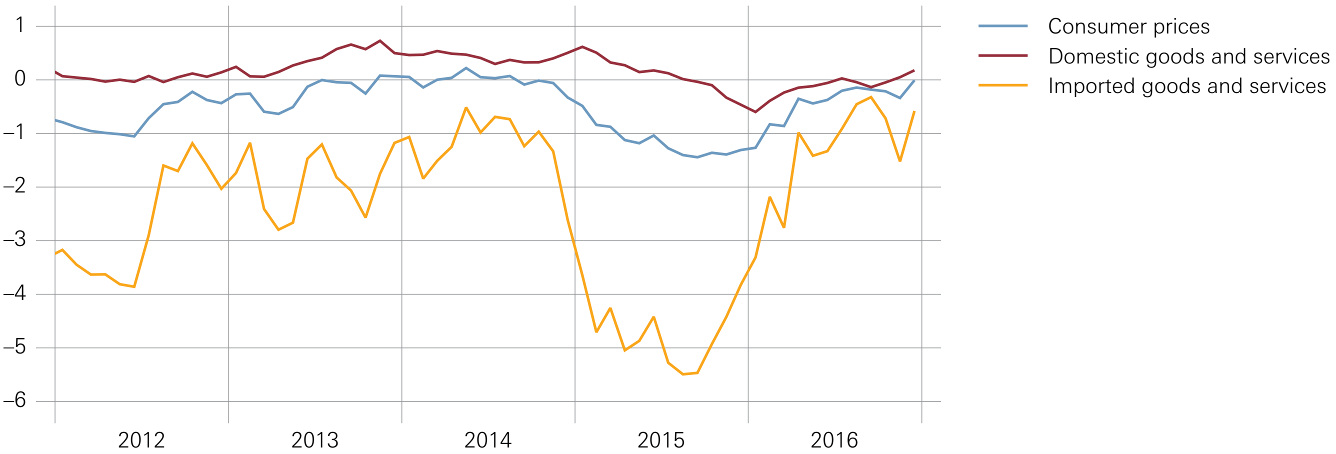
Year-on-year change in percent



Source: SFSO

CONSUMER PRICES

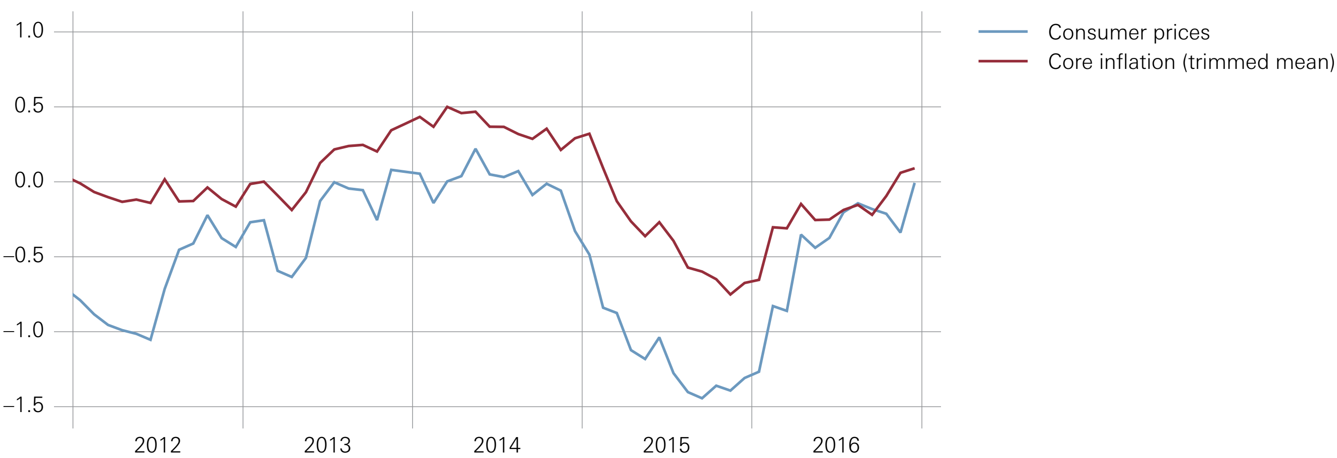
Year-on-year change in percent



Source: SFSO

CORE INFLATION

Year-on-year change in percent



Sources: SFSO, SNB

Positive core inflation rate in fourth quarter

CPI headline inflation may be significantly affected by fluctuations in specific price components. In order to analyse the underlying trend of inflation, the SNB therefore calculates the core inflation rate using a trimmed mean. The trimmed mean method involves excluding, each month, those CPI components with the highest and lowest price changes compared to the same month one year earlier (15% from either end of the distribution). As was the case for headline inflation, core inflation rose continuously throughout 2016, reaching 0.1% in the fourth quarter, compared with –0.7% a year earlier. Averaged over the year, core inflation was –0.2% (2015: –0.4%).

SWISS CONSUMER PRICE INDEX AND COMPONENTS

Year-on-year change in percent

	2015	2016	2016 Q1	Q2	Q3	Q4
Consumer price index, overall	**–1.1**	**–0.4**	**–1.0**	**–0.4**	**–0.2**	**–0.2**
Domestic goods and services	0.1	–0.1	–0.4	–0.1	–0.1	0.1
Goods	–0.7	–0.6	–1.3	–0.7	–0.2	–0.1
Services	0.3	0.0	–0.2	0.1	0.0	0.1
Private services (excluding rents)	0.4	0.0	–0.2	0.2	0.1	–0.1
Rents	0.8	0.3	0.1	0.2	0.2	0.8
Public services	–0.8	–0.5	–0.5	–0.4	–0.6	–0.6
Imported goods and services	–4.7	–1.4	–2.8	–1.2	–0.6	–0.9
Excluding oil products	–2.5	–0.7	–1.5	–0.1	0.2	–1.2
Oil products	–17.4	–6.1	–11.3	–8.5	–5.7	1.4
Core inflation						
Trimmed mean	–0.4	–0.2	–0.4	–0.2	–0.2	0.1

Sources: SFSO, SNB

1.4 MONETARY POLICY IN 2016

Expansionary monetary policy unchanged

In 2016, the SNB continued to pursue an expansionary monetary policy aimed at stabilising price movements and thereby supporting the recovery of the economy. This took place against a backdrop of an economic recovery which was only slowly gathering pace, and a rate of inflation which was still negative. As in 2015, monetary policy implementation was based on the negative interest rate on sight deposits held at the SNB and the SNB's willingness to intervene in the foreign exchange market as necessary. Both helped to ease upward pressure on the Swiss franc and thereby prevent an undesired tightening of monetary conditions.

Negative interest on SNB sight deposits

The SNB left the interest rate on sight deposits unchanged at –0.75%. As previously, this interest rate was charged on the sight deposits held by banks and other financial market participants at the SNB which exceeded a given exemption threshold. The introduction of negative interest was announced in December 2014. Concurrently with the discontinuation of the minimum exchange rate in January 2015, the interest rate was lowered from –0.25% to –0.75%. This rate became effective on 22 January 2015 and has since remained unchanged. It aims to make the Swiss franc less attractive and thus ease upward pressure on the currency.

Target range for three-month Libor unchanged

In 2016, the SNB also left the target range for the three-month Libor unchanged, at between –1.25% and –0.25%. It thereby ensured that money market rates were again clearly below corresponding interest rates abroad, particularly those in the euro area. In 2016, the three-month Libor in Swiss francs remained consistently close to the middle of the target range, namely –0.75%. It deviated between 0.4 and 0.6 percentage points from the three-month Euribor. The other interest rates on the Swiss franc money market also remained within negative territory.

Low capital market yields

The yields on long-term fixed-interest bonds fluctuated moderately while declining overall until July 2016. They then increased slightly, especially in the wake of the US presidential and congressional elections of November 2016, whose outcome aroused expectations of a more expansionary economic policy. Aside from a few days in December, yields on ten-year Confederation bonds remained in negative territory. In the interim, they have reached an all-time low of –0.6%. At times, yields on corporate bonds were also negative.

Low capital market interest rates around the world reflect the relative weakness of global growth by historical standards, as well as the persistently depressed inflation expectations. Low long-term interest rates also suggest that market participants anticipate a lengthy period of low money market interest rates.

Stable deposit and lending rates

In 2016, banks' deposit and lending rates in Switzerland remained largely stable. Thus their reaction to the decline in money and capital market interest rates evident since January 2015 was generally mild. Interest charged on savings deposits, which was lowered by 0.1 percentage point in 2015, remained unchanged. Following the introduction of negative interest, interest rates on mortgages initially edged up slightly, before declining in 2016. At the end of 2016, they were almost at the same level as at end-2014.

Interventions in foreign exchange market

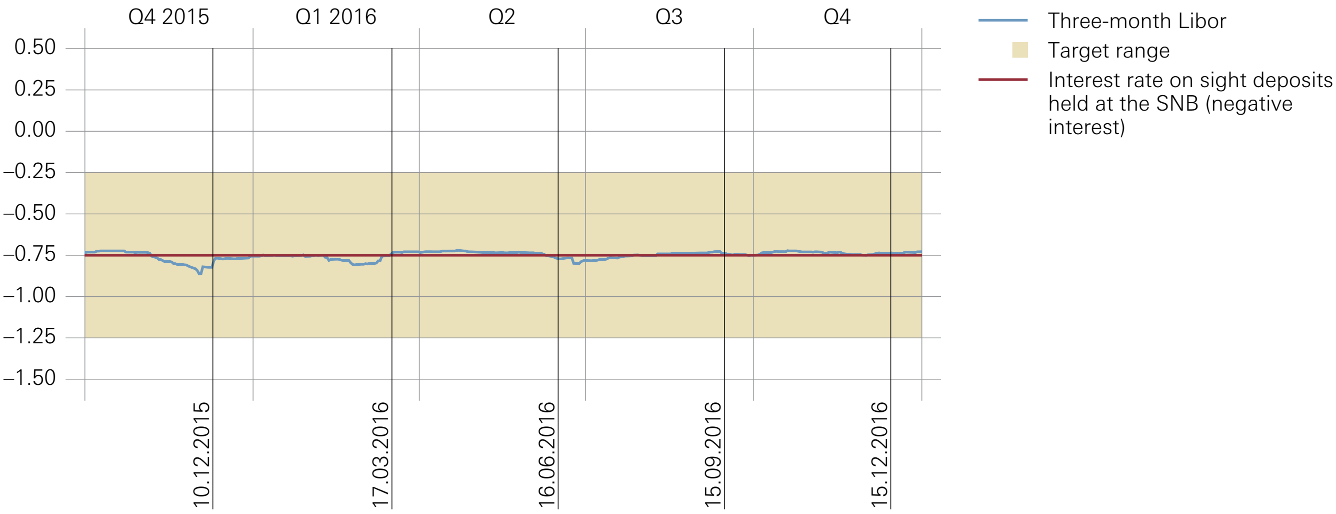
Alongside charging negative interest, the SNB helps to create appropriate monetary conditions through its willingness to intervene in the foreign exchange market. In recent years, the SNB has regularly drawn attention to the fact that it considers the Swiss franc significantly overvalued. In 2016, the SNB carried out interventions totalling CHF 67.1 billion in the foreign exchange market to counter an undesired tightening of monetary conditions. These interventions occurred mainly at times of heightened uncertainty, when the Swiss franc was particularly sought after as a safe investment. As in preceding years, it did not generally comment on individual interventions, except for foreign currency purchases made in June 2016, when the UK's decision to leave the EU gave rise to uncertainty.

Minor exchange rate fluctuations

The export-weighted nominal external value of the Swiss franc changed only slightly in 2016. The Swiss franc was somewhat stronger against the euro at the end of the year than at the beginning, although this appreciation was partially offset by a mild depreciation against the US dollar. The export-weighted real external value of the Swiss franc developed slightly more weakly than the nominal value, reflecting lower inflation rates than those abroad. Nevertheless, at year-end it was well above its long-term average. The trade-weighted real external values of the euro and US dollar diverged considerably in the last months of the year. While the US dollar and Swiss franc indices exceeded their long-term averages by roughly the same extent, the euro index was clearly below its long-term average. By historical standards, therefore, the euro remained weak in 2016.

MONETARY POLICY INTEREST RATES

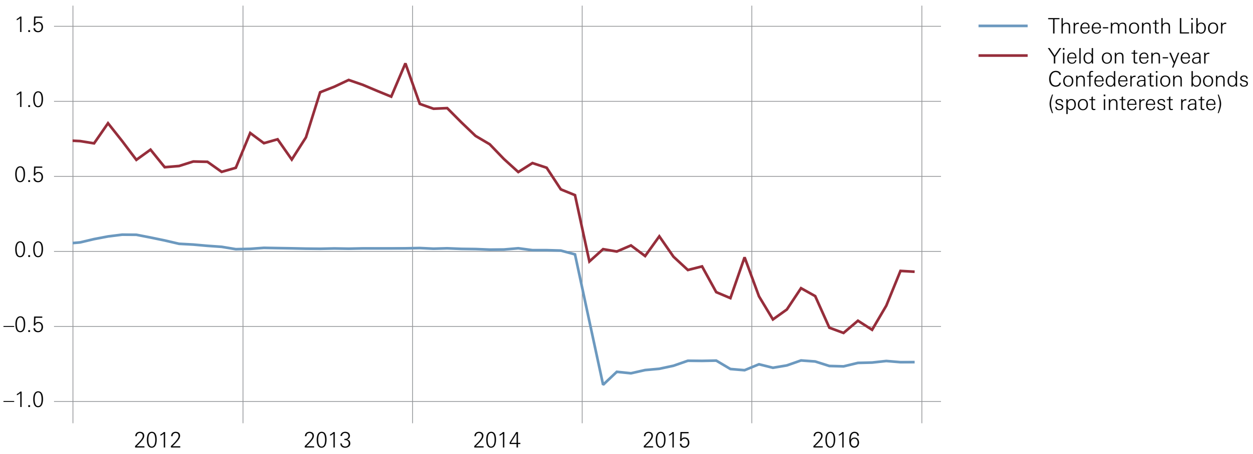
Daily values in percent, dates of monetary policy assessments



Source: SNB

MONEY AND CAPITAL MARKET RATES

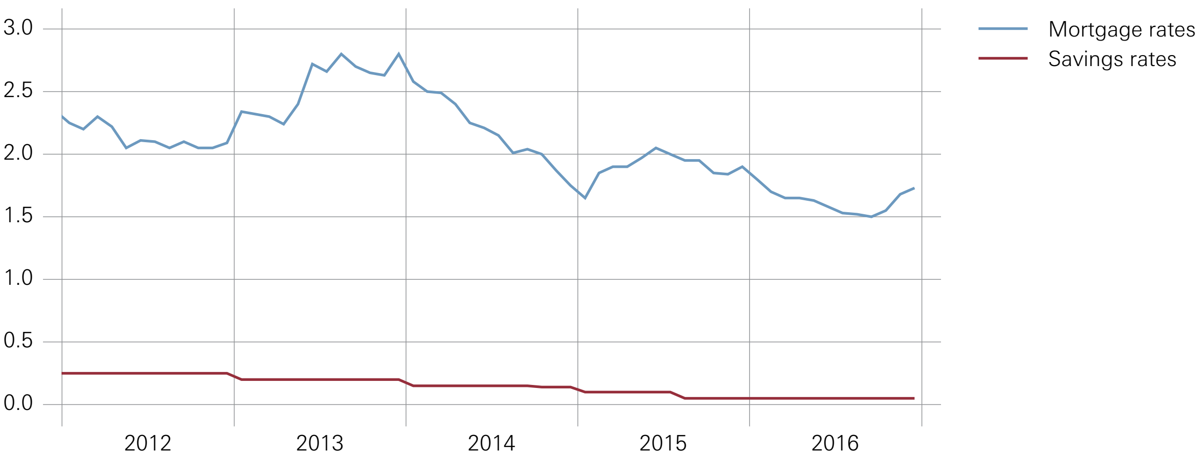
Monthly averages in percent



Source: SNB

BANK INTEREST RATES

Month-end values in percent



Source: SNB

Further rise in monetary base

In December 2016, the monetary base – consisting of banknotes in circulation and domestic banks' sight deposits held at the SNB – was up approximately CHF 62 billion year-on-year. The increase was mainly due to foreign currency purchases conducted by the SNB to ease upward pressure on the Swiss franc. Banks' sight deposits increased by roughly the same amount as the monetary base, while banknote circulation contributed only modestly to growth in the monetary base. Trends in banknote circulation show that negative interest did not result in any meaningful shift from SNB sight deposits to banknotes. Following the announcement of the introduction of negative interest in December 2014, the seasonally adjusted figure for the number of banknotes in circulation initially rose significantly; since then, however, growth has been more moderate.

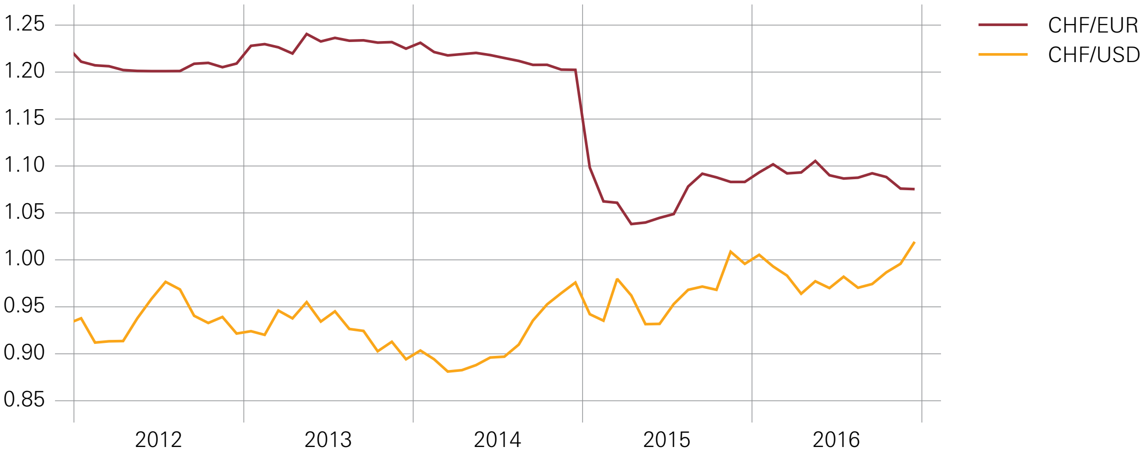
Banks' excess liquidity at high level

Since the onset of the financial and economic crisis, banks' customer deposits have been increasing at a noticeably slower pace than the banks' sight deposits held at the SNB. The banks' excess liquidity – i.e. the difference between liquid assets (sight deposits held at the SNB, banknotes and coins) and the statutory minimum reserve requirement – is correspondingly high. In 2016, the banks' excess liquidity increased further.

High excess liquidity can be absorbed should the threat of inflation materialise. The SNB has at its disposal the requisite instruments to achieve this: it can sell assets, conduct liquidity-absorbing repo transactions, issue SNB Bills and adjust the interest rate on sight deposits held at the SNB.

EXCHANGE RATES

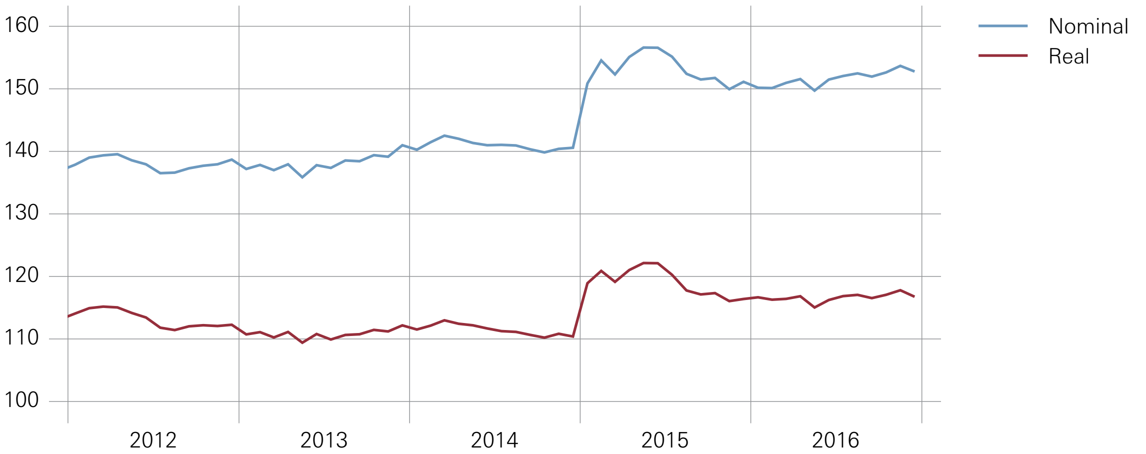
Monthly averages



Source: SNB

EXPORT-WEIGHTED SWISS FRANC EXCHANGE RATES

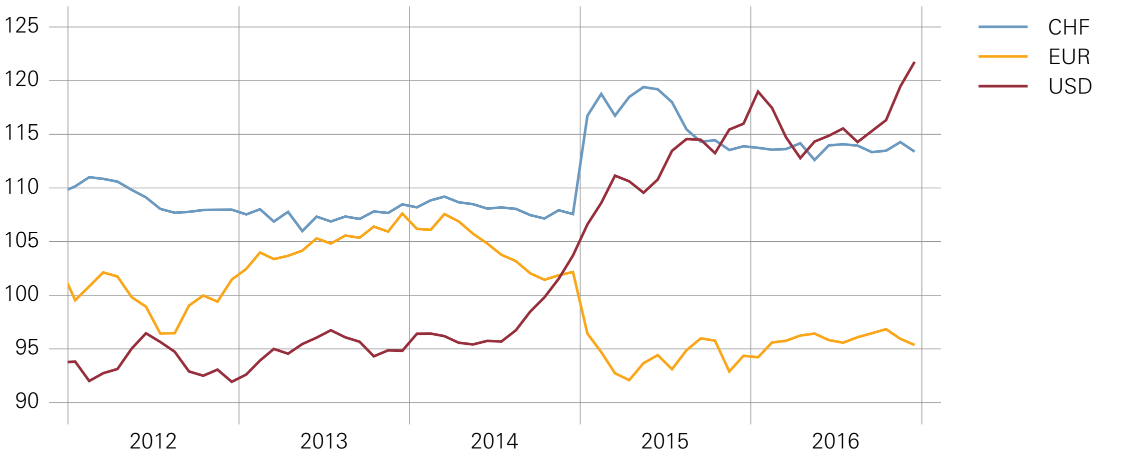
40 trading partners, index: January 1999 = 100



Source: SNB

TRADE-WEIGHTED EXCHANGE RATES IN INTERNATIONAL COMPARISON

Real, index: average since 1990 = 100



Sources: BIS, SNB

Moderate growth in broad monetary aggregates and bank loans

The M1, M2 and M3 monetary aggregates, which measure the liquidity of households and companies, increased moderately in 2016. As in the previous year, they rose largely parallel to the growth in lending by domestic banks. Banks' mortgage claims rose again, while other bank loans were down year-on-year. As in the preceding year, negative interest did not lead to growth in lending. Nevertheless, imbalances on the mortgage and real estate markets for residential property remained high (cf. chapter 6.4).

Lower forecast for international growth

The inflation forecasts published by the SNB as part of its quarterly monetary policy assessments are based on scenarios for the global economy. In December 2015, the SNB predicted that the global economy would continue to recover, with a mild increase in year-on-year growth. These expectations were revised slightly downwards in March and September. The SNB subsequently forecast that global economic growth in 2016 would be roughly equivalent to that of the previous year. For 2017, the SNB expects a slight rise in growth.

Oil price assumption reduced briefly

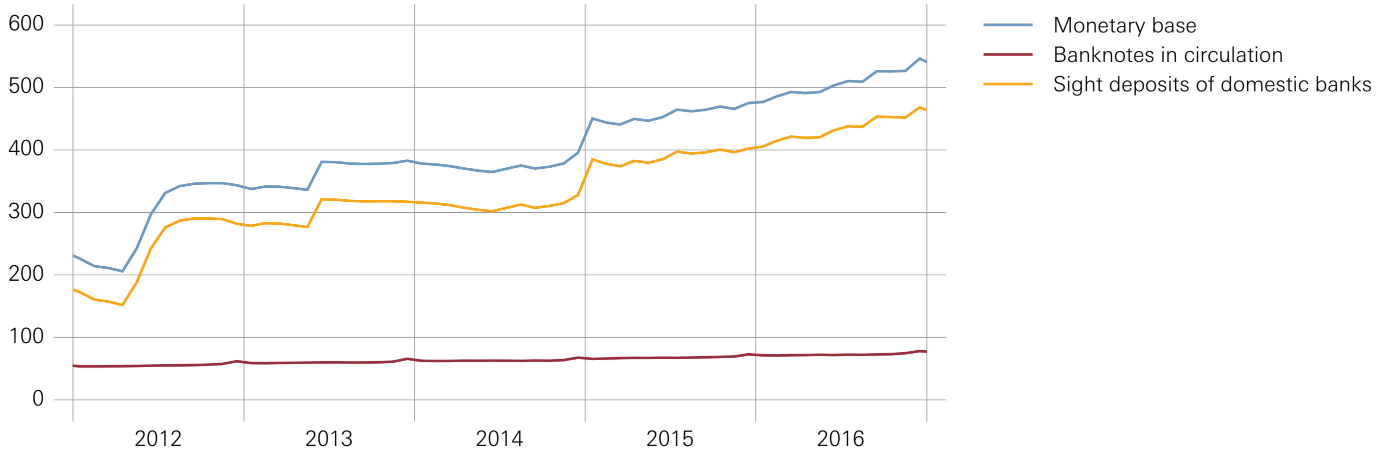
The assumption on oil prices that flows into the SNB's inflation forecast is based on the current price of Brent crude. Aside from a temporary downward correction early in the year, the assumption remained almost unchanged in 2016. The monetary policy assessment in December 2015 assumed an oil price of USD 48 per barrel. In March 2016, it was lowered to USD 33. At subsequent monetary policy assessments, it was raised to USD 46 (June and September) and USD 47 (December).

Largely unchanged growth forecast for Switzerland

At the beginning of 2016, the SNB forecast GDP growth in Switzerland of 1.5% over the preceding year's figures. Due to a deterioration in the global economic outlook, the SNB lowered its growth forecast in March to between 1% and 1.5%, and maintained this forecast in the monetary policy assessment in June. After revised quarterly estimates had suggested a somewhat stronger revival in the Swiss economy since mid-2015, the SNB returned to its growth estimate of 1.5% for 2016 at the monetary policy assessments in September and December. For 2017, the SNB's year-end growth forecast was also 1.5%.

MONETARY BASE AND COMPONENTS

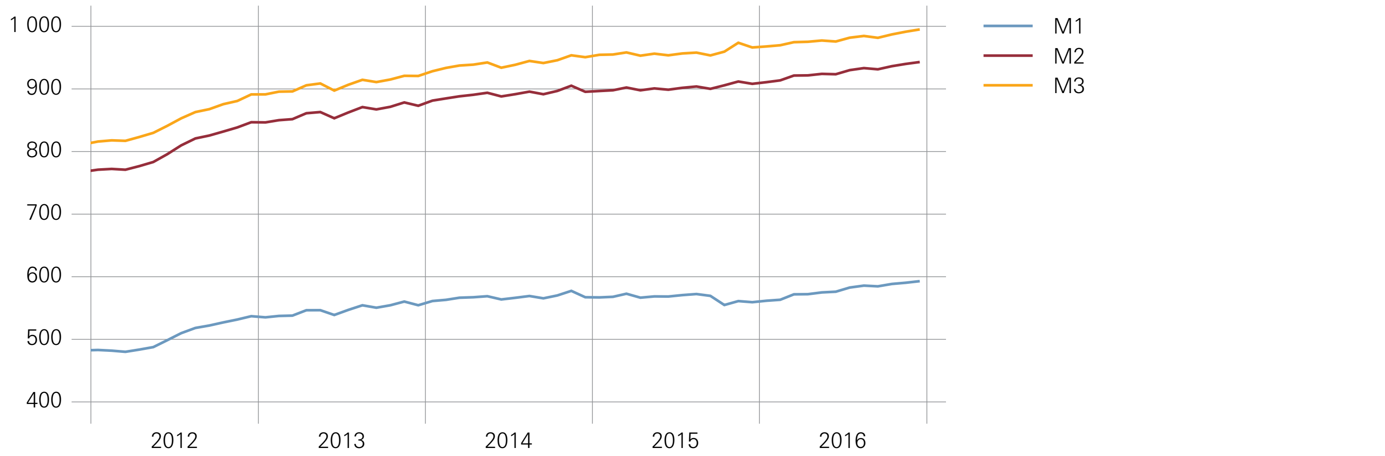
Monthly averages in CHF billions



Source: SNB

LEVEL OF MONETARY AGGREGATES

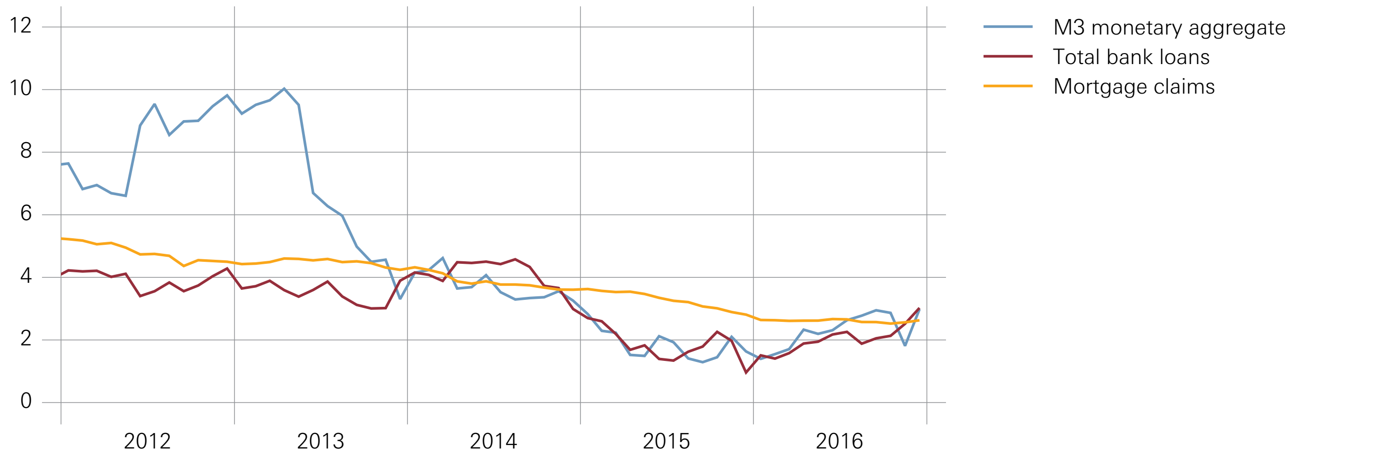
Month-end values in CHF billions



Source: SNB

GROWTH OF MONETARY AND CREDIT AGGREGATES

Year-on-year change in percent



Source: SNB

Conditional inflation forecasts indicate slight increase

The conditional inflation forecasts published at the quarterly monetary policy assessments are based on the assumption that the three-month Libor remains constant over the three-year forecast horizon. The December 2015 forecast assumed a three-month Libor of –0.75%. This assumption remained unchanged in 2016, i.e. the inflation forecasts published in March, June, September and December 2016 all assumed a three-month Libor of –0.75%.

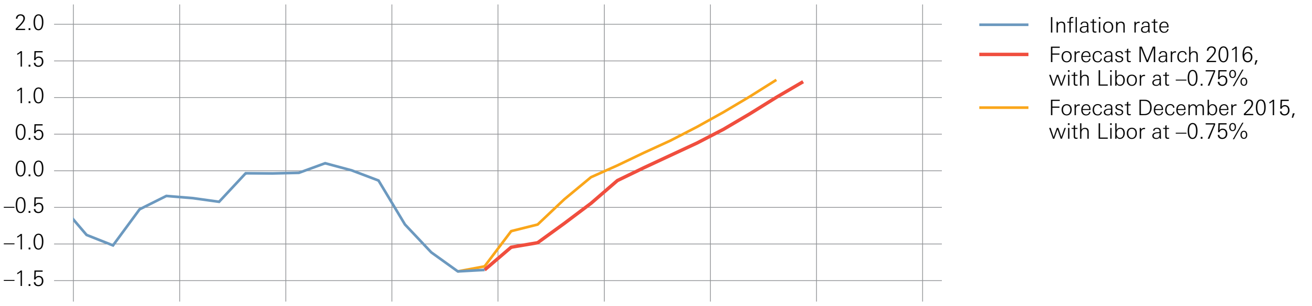
The SNB's quarterly monetary policy assessments in 2016 all expected that price stability would be maintained over the forecast horizon, even should the low short-term interest rate persist. The conditional inflation forecast of December 2015 had showed slightly negative annual inflation in 2016, followed by a trend upwards into positive territory in the first quarter of 2017. Corrections undertaken during 2016 were minor. In March, the forecast was adjusted slightly downwards, due in the short term mainly to the influence of oil prices and, in the medium term, to the deterioration in the economic outlook abroad. The forecast in June was again higher than in March, owing to a renewed rise in oil prices in the short term. A decline in global economic prospects in September led to another slight downward revision of the medium-term forecast. At its monetary policy assessment in December 2016, the SNB anticipated a somewhat slower increase in the inflation rate overall than a year earlier. However, inflation was still forecast to be in low positive territory for the next three years.

New uncertainties – simulation of alternative scenarios

In 2016, the Swiss economy was faced with new uncertainties following the surprise outcome of the UK's referendum on EU membership and the lack of clarity surrounding the economic policy of the new US government. The SNB regularly used its models to simulate the impact of alternative scenarios of economic developments abroad on inflation in Switzerland, in order to assess the sensitivity of its forecasts and the range of potential results.

CONDITIONAL INFLATION FORECAST OF MARCH 2016

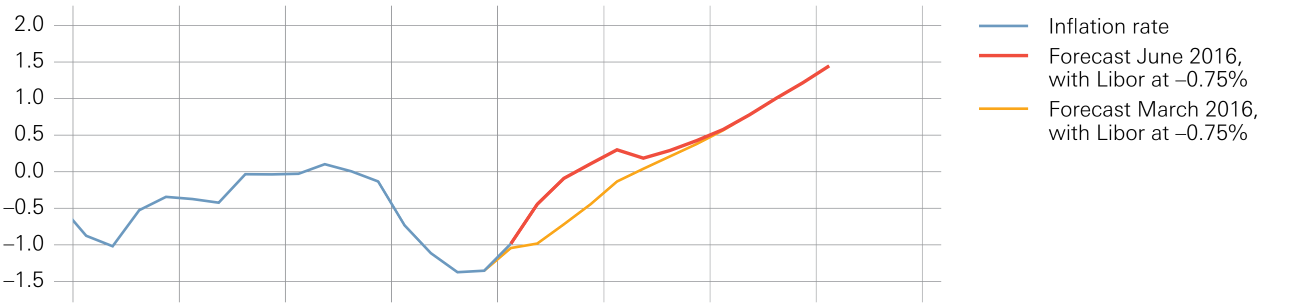
Year-on-year change in Swiss consumer price index in percent



Source: SNB

CONDITIONAL INFLATION FORECAST OF JUNE 2016

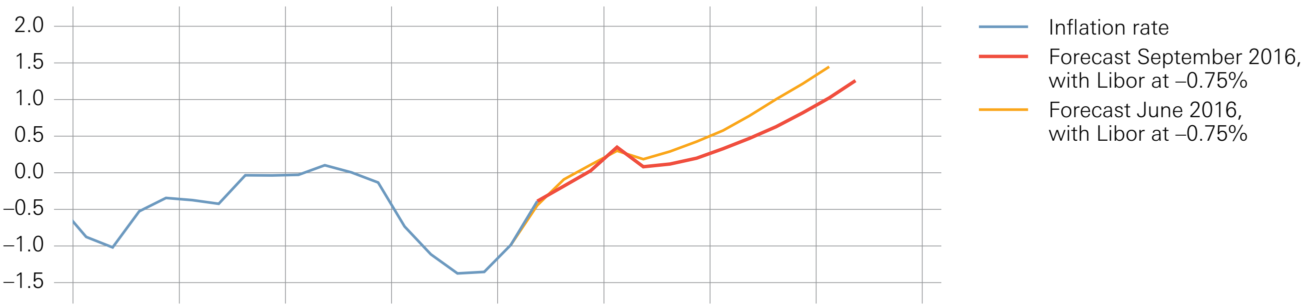
Year-on-year change in Swiss consumer price index in percent



Source: SNB

CONDITIONAL INFLATION FORECAST OF SEPTEMBER 2016

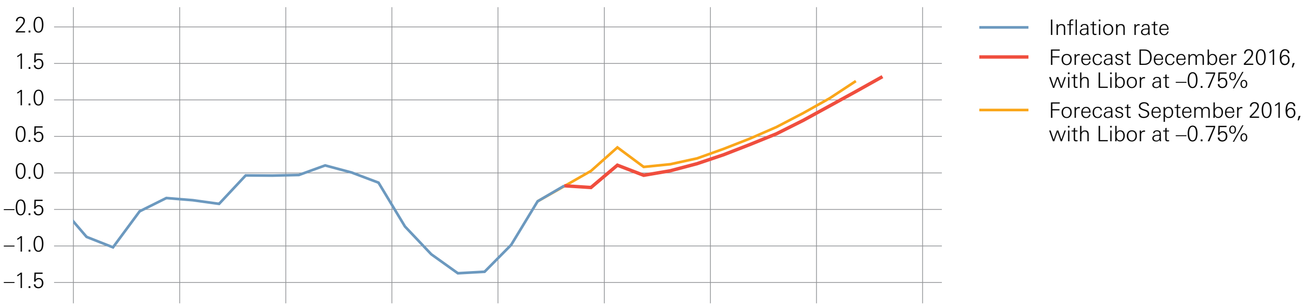
Year-on-year change in Swiss consumer price index in percent



Source: SNB

CONDITIONAL INFLATION FORECAST OF DECEMBER 2016

Year-on-year change in Swiss consumer price index in percent



Source: SNB

Impact of negative interest

In recent years, a number of central banks have expanded their set of monetary policy instruments to include negative interest on banks' sight deposits. In 2016, besides the SNB, the ECB as well as the central banks of Japan, Sweden and Denmark all charged negative interest, although for different reasons. In Switzerland and Denmark, the central aim was to ease upward pressure on the national currencies and thereby prevent an undesired tightening of monetary policy. The primary intention of the other central banks was to stimulate aggregate demand and lift the inflation rate into the target range.

Negative interest on banks' sight deposits held at the central bank has an impact on the economy primarily through the general level of interest rates and the exchange rate. Money market interest rates are the most directly affected. On the one hand, the central bank's negative interest rate establishes a lower bound for the call money rate on the interbank market. Banks generally have no incentive to invest call money at a rate below the negative interest rate charged on their deposits by the central bank. On the other, the interest rate on the interbank market is unlikely to exceed the negative interest rate as long as the banks have a very large amount of liquidity, as is currently the case. While banks would like to lend money on the interbank market at an interest rate higher than the negative interest rate, competition ensures that downward pressure is exerted on the market rate until it is at the level of the negative interest rate, thereby eliminating this profit opportunity. Among other things, longer-term interest rates reflect expectations about the course of short-term interest rates. When market participants expect that the negative interest rate on sight deposits held at the central bank will persist at the current level for some considerable time, longer-term rates will also approach this level. Indeed, in all countries with negative interest, money market interest rates declined to the level of the negative interest rate. The longer-term interest rates also fell significantly, suggesting that markets anticipate a prolonged phase of negative short-term interest rates.

In contrast to money and capital market interest rates, banks' deposit and lending rates reacted relatively weakly to negative interest rates. On the one hand, banks left interest rates on most private customer deposits in positive territory to avoid widespread withdrawals. On the other, they only partly adjusted credit rates to the reduced interest rate level in order to counter the pressure on margins. They were able to do so because many of their customers are unable to borrow from the capital market instead.

Negative interest affects the exchange rate via the interest rate differential against other currencies. Given unchanged interest rates abroad, reducing the interest rate increases the interest rate differential and thereby exerts downward pressure on the national currency. Historically, Switzerland has invariably had lower interest rates than most other countries, particularly within the euro area. However, since the financial crisis, this interest rate differential has increasingly narrowed, and even reversed for very short maturities following the introduction of negative interest by the ECB in June 2014. Negative interest in Switzerland partially restored the original interest rate differential against other currencies, thereby easing upward pressure on the Swiss franc.

Bank deposits can be converted into cash. For this reason, there are limits to the extent that a central bank can lower the interest rate. The lower bound of the interest rate is not zero, but lies rather in negative territory, since holding, transporting, safekeeping and insuring banknotes is associated with high costs and risk. Furthermore, sight deposits are better suited for settling large numbers of transactions than banknotes. Experience with negative interest in Switzerland has shown that an interest rate of –0.75% does not lead to any substantial shifts from sight deposits to banknotes. This suggests that the lower bound has not yet been reached.

2
Implementation of monetary policy

2.1 BACKGROUND AND OVERVIEW

Mandate

It is the task of the Swiss National Bank (SNB) to provide the Swiss franc money market with liquidity (art. 5 para. 2 (a) National Bank Act (NBA)). It implements its monetary policy by steering the interest rate level on the money market. The three-month Swiss franc Libor serves as its reference interest rate. The SNB can influence money market rates by means of its open market operations or adjust the interest rate on sight deposits held by banks and other financial market participants at the SNB. The SNB may also intervene in the foreign exchange market.

Implementation of monetary policy using negative interest and foreign exchange market interventions

Since January 2015, monetary policy has been implemented via negative interest rates and, where necessary, foreign exchange market interventions. In 2016, the target range for the three-month Libor remained unchanged at between –1.25% and –0.25%, and the interest rate on sight deposits held by banks and other financial market participants at the SNB was –0.75%. In order to maintain appropriate monetary conditions for the economy, the SNB again made foreign currency purchases in the year under review.

Sight deposits at the SNB

The SNB maintains sight deposit accounts for banks and other financial market participants. The balances on these accounts at the SNB are a financial market participant's most liquid assets, since they can be used immediately to effect payments and are deemed to be legal tender. Domestic banks hold sight deposits to satisfy minimum reserve requirements. Banks also need them for payment transactions and as liquidity reserves. The SNB influences the level of sight deposits by deploying its monetary policy instruments. In addition to sight deposits held by domestic banks, total sight deposits include sight liabilities towards the Confederation, sight deposits of foreign banks and institutions, as well as other sight liabilities.

The level of sight deposits influences activity on the money market. If the supply of liquidity to the financial system is kept tight, the individual financial market participants adjust their liquidity positions on the money market. Banks seeking to place funds on a short-term basis provide liquidity in the form of a loan to other banks that require short-term refinancing. These loans can be granted on a secured or unsecured basis. If there is ample liquidity in the financial system, the need for banks to adjust their liquidity positions declines and so too does trading activity on the money market. Under certain circumstances, negative interest on sight deposits subject to exemption thresholds stimulates trading on the money market. The reason for this is that institutions with sight deposits over and above the exemption threshold conclude money market operations with institutions which have not yet exceeded their threshold.

2.2 DEVELOPMENTS IN THE MONEY AND FOREIGN EXCHANGE MARKETS

Increase in sight deposits due to foreign currency purchases

As a result of foreign currency purchases during 2016, sight deposits held at the SNB rose to CHF 529 billion by the end of the year, a year-on-year increase of CHF 61 billion.

Money market rates close to negative interest rate

The interest rate of –0.75% charged by the SNB on sight deposits helped to maintain the traditional interest rate differential between Switzerland and foreign countries and to make investments in Swiss francs less attractive. This eased upward pressure on the currency. In 2016, the relevant money market rates remained close to the interest rate on sight deposits. At the end of 2016, both the Swiss Average Rate Overnight (SARON), i.e. the interest rate for secured overnight money, and the three-month Swiss franc Libor stood at –0.73%.

Slightly lower turnover on repo market

When calculating negative interest on sight deposits, the SNB grants banks exemption thresholds (cf. chapter 2.3, box ‘How negative interest works’). In 2016, activity on the repo market was once again shaped to some extent by trade in sight deposits between account holders with balances above or below their respective exemption thresholds. Institutions whose sight deposits at the SNB were above the relevant exemption threshold reduced their account balances (e.g. via repo transactions), while other institutions who had not yet exhausted their exemption threshold increased their balances. At CHF 5 billion, the average daily turnover on the repo market was lower than in the previous year (February to December 2015: CHF 5.9 billion).

New money market trading platform becomes operational

A secure and efficient money market infrastructure that runs smoothly at all times is vital for the implementation of monetary policy, as well as for market participants' access to central bank liquidity. Since 2013, the SNB and SIX Group Ltd (SIX) have been overhauling important parts of the so-called Swiss money market value chain. In February 2016, the new electronic money market trading platform, CO:RE, became operational and has replaced the previous system. The new trading platform gives more than 160 national and international participants centralised access to the repo market, enabling them to procure and invest liquidity in Swiss francs and other currencies as well as to manage securities used as collateral in repo transactions. In addition, the SNB uses the trading platform to carry out its open market operations on the money market (repo transactions as well as the issuance, purchase and sale of SNB Bills), transactions as part of the standing facilities and auctions on behalf of the Confederation.

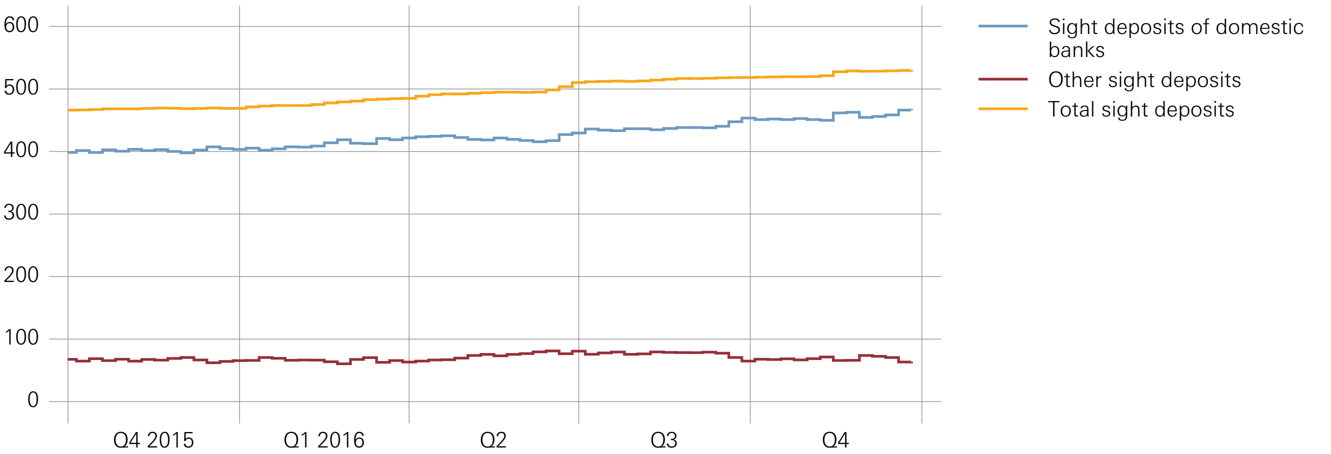
Interest benchmark reforms at international level

The interest rate benchmark reforms which the Financial Stability Board (FSB) has been coordinating since 2014 saw further advances at both international and national level. In July 2016, the FSB published an interim report on the reforms, noting that the benchmark administrators of the interbank offered rates (IBORs) had taken major steps, but that more progress remained to be achieved in some areas. The report further stated that, despite substantial efforts, there were still no alternative benchmarks in most currency areas.

At the beginning of 2016, the Libor administrator, the ICE Benchmark Administration (IBA), announced additional reforms after prior market consultations. At the heart of these reforms were efforts to standardise the interest reports of banks on the Libor panel. The main problem is still that the trading volume underlying the Libor benchmark interest rates is very small. According to the internationally accepted minimum standards (IOSCO standards), benchmark interest rates should be based on the broadest possible dataset derived from actual transactions.

SIGHT DEPOSITS AT THE SNB

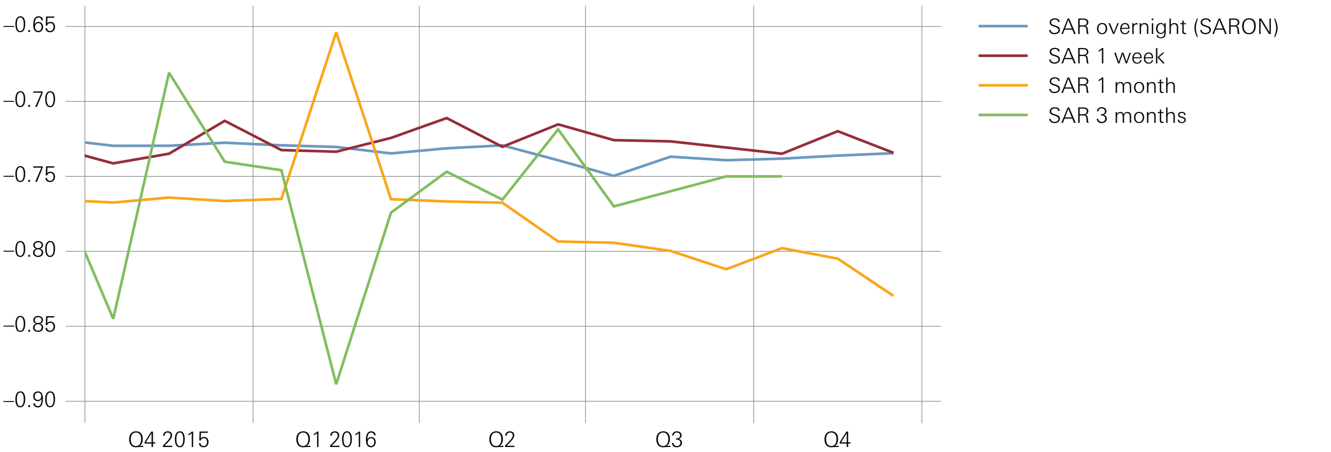
Weekly averages in CHF billions



Source: SNB

SWISS FRANC REFERENCE RATES (SWISS AVERAGE RATES, SAR)

Monthly averages of daily figures in percent



Source: SIX Swiss Exchange Ltd

Progress on reforms in Switzerland

In Switzerland, the national working group on Swiss franc reference rates (NWG), founded in 2013, is the forum for considering proposals to reform reference interest rates in Switzerland and discussing the latest international developments. Meetings of the working group are co-chaired by a representative from the private sector and the SNB respectively. Because responsibility for benchmark interest rates lies with the market participants, the SNB primarily takes on the role of moderator. In 2016, the SNB for the first time published information on its website on the progress of the reforms.

At the beginning of the year, the NWG recommended replacing the TOIS fixing, i.e. the rate for the unsecured overnight money market, with SARON, the counterpart for the secured money market (based on CHF repo transactions). Over the course of the year, it held consultations to clarify questions regarding the current use of TOIS fixing, the changeover to the new benchmark and any necessary reform requirements for SARON. The consultations showed that there are no fundamental obstacles to a replacement. The NWG subsequently drew up a work schedule for the changeover to SARON and the discontinuation of TOIS fixing, which is to be abandoned as of end-2017.

Principles of collateral policy

The SNB requires that the banks and other financial market participants with whom it conducts credit transactions provide sufficient collateral (art. 9 NBA). In so doing, the SNB protects itself against losses and ensures equal treatment of its counterparties. The 'Guidelines of the Swiss National Bank on monetary policy instruments' outline the types of securities that are eligible as collateral for SNB transactions. The 'Instruction sheet on collateral eligible for SNB repos' details the criteria which securities must meet in order to be eligible as collateral in repo transactions with the SNB. Only securities included in the 'List of collateral eligible for SNB repos' are accepted. Since the SNB also admits banks headquartered abroad to its monetary policy operations, and since the stocks of Swiss franc securities are limited, it also accepts securities in foreign currencies. The SNB sets high minimum requirements with regard to the marketability and credit rating of securities. This obliges banks to hold recoverable and liquid assets. In turn, this is essential if banks are to be able to refinance their operations on the money market, even under difficult conditions.

Translated into Swiss francs, the volume of collateral eligible for SNB repos at the end of 2016 amounted to CHF 8,915 billion, almost CHF 300 billion less than at the end of the previous year.

BIS survey on foreign exchange market trading and structure

The Triennial Central Bank Survey conducted by the Bank for International Settlements (BIS) provides the most comprehensive picture of the global trading patterns and structure of the foreign exchange market (cf. chapter 7.2.2). The most recent survey, in which the SNB also participated, was conducted in April 2016, and covered 52 countries.

The results of the survey show that trading volumes on the foreign exchange markets have declined for the first time in 15 years. Global daily turnover contracted from USD 5.4 trillion in 2013 to USD 5.1 trillion in 2016. The decline was especially pronounced in spot transactions, which fell from USD 2.0 trillion to USD 1.7 trillion. According to the BIS, hedge funds and 'fast money' traders as well as the generally lower risk appetite of banks active in foreign exchange trading contributed to this development. At the same time, new technologically driven non-bank players have gained a firmer footing as market-makers and liquidity providers.

The US dollar was still the most important currency. The euro and the yen lost market share, while emerging market currencies made gains. At USD 243 billion (USD 57 billion of which in spot transactions), or 5% of global trading volume, the Swiss franc's share dropped from sixth to seventh place. The average daily turnover in foreign exchange transactions in Switzerland amounted to USD 156 billion, 28% lower than was reported in the last survey three years ago.

Once again, one-third of foreign exchange transactions was executed by telephone and two-thirds via electronic trading platforms. On the electronic interbank market, which is key in determining prices, turnover declined further. SNB analyses show that this development was not accompanied by significantly higher transaction costs (bid-ask spreads). However, events not anticipated by market participants, such as the outcome of the UK's referendum on EU membership and the US presidential election, had a major temporary effect on market conditions.

2.3 USE OF MONETARY POLICY INSTRUMENTS

Foreign exchange transactions and foreign exchange swaps

In order to fulfil its monetary policy mandate, the SNB may purchase and sell foreign currency against Swiss francs on the financial markets. Most foreign exchange transactions conducted by the SNB are either spot or swap transactions. In a foreign exchange swap, the purchase (sale) of foreign currency at the current spot rate and the sale (purchase) of the foreign currency at a later date are simultaneously agreed. The SNB concludes foreign exchange transactions with a wide range of domestic and foreign counterparties.

In 2016, the SNB continued to influence exchange rate developments where necessary. It purchased a total of CHF 67.1 billion in foreign currency, but did not conclude any foreign exchange swaps for monetary policy purposes.

Interest on sight deposits at the SNB

Since 22 January 2015, the SNB has been charging interest of –0.75% on sight deposits held by banks and other financial market participants at the SNB. By setting the interest rate and defining other conditions, the SNB influences the interest rate level on the money market (cf. chapter 1.4, box 'Impact of negative interest'). At the end of December 2016, the institutions' total sight deposits stood at CHF 529 billion, well above the maximum exempted amount of CHF 291 billion. At the end of December, sight deposits of CHF 234 billion were subject to negative interest. Negative interest rate income totalled CHF 1.5 billion in 2016. Due to account holders' efforts to 'trade' sight deposits among themselves via the money market, exemption thresholds have now been almost entirely exhausted.

Repo transactions

In the case of liquidity-providing repo transactions, the SNB purchases securities from a bank (or other financial institution admitted to the repo market) and credits the associated sum in Swiss francs to the counterparty's sight deposit account with the SNB. At the same time, it is agreed that the SNB will resell securities of the same type and quantity at a later date. The bank generally pays interest (repo rate) to the SNB for the term of the repo agreement. In the case of liquidity-absorbing repo transactions, the SNB sells securities to a bank and debits the associated sum in Swiss francs to the latter's sight deposit account. At the same time, it is agreed that the SNB will repurchase the securities from the bank at a later date. The SNB pays interest (repo rate) to the bank for the term of the repo agreement. From an economic perspective, a repo transaction is thus regarded as a secured loan. In the case of the SNB's repo transactions, the repo rate, the volume and the term of the transactions are dictated by monetary policy requirements. Repo transactions can be conducted by way of auction or on a bilateral basis with a wide range of counterparties.

There was no need to conduct repo transactions as part of open market operations in 2016. As part of test operations, the SNB conducted liquidity-providing and liquidity-absorbing repo transactions from May to July. The number of institutions participating amounted to 106 and 100 respectively, with CHF 125 million allotted to liquidity-providing and CHF 116 million to liquidity-absorbing repo transactions. The test operations should ensure that business partners (SNB, counterparties and infrastructure operators) are always able to carry out transactions that are important for the implementation of monetary policy.

Monetary policy instruments

The framework within which the SNB may conduct transactions on the financial market is defined in art. 9 NBA. The 'Guidelines of the Swiss National Bank on monetary policy instruments' describe the instruments and procedures which the SNB uses to implement its monetary policy. These guidelines are supplemented by instruction sheets for the SNB's counterparties. As lender of last resort, the SNB also provides emergency liquidity assistance.

Within its set of monetary policy instruments, the SNB distinguishes between open market operations and standing facilities. In the case of open market operations, the SNB takes the initiative in the transaction. Where standing facilities (i.e. the liquidity-shortage financing facility and the intraday facility) are concerned, it merely sets the conditions under which counterparties can obtain liquidity.

Open market operations include repo transactions, the issuance, purchase and sale of its own debt certificates (SNB Bills), as well as foreign exchange transactions and foreign exchange swaps. The SNB can carry out open market operations in the form of auctions or bilateral transactions. Transactions on the money market are mostly conducted via an electronic trading platform.

In principle, all banks domiciled in Switzerland and the Principality of Liechtenstein are admissible as counterparties in monetary policy operations. Other domestic financial market participants such as insurance companies, as well as banks headquartered abroad, may be admitted, provided there is a monetary policy interest in doing so and they contribute to liquidity on the secured Swiss franc money market.

One of the monetary policy instruments of the SNB is the interest rate on sight deposit accounts. Art. 9 NBA authorises the SNB to keep interest-bearing and non-interest-bearing accounts for banks and other financial market participants. Until January 2015, the sight deposit accounts were non-interest-bearing. By setting the interest rate on sight deposit accounts and defining other conditions, the SNB influences the interest rate level on the money market.

SNB debt certificates

The issuance of its own debt certificates in Swiss francs (SNB Bills) allows the SNB to absorb liquidity. It can repurchase SNB Bills via the secondary market in order to increase the supply of liquidity to the financial system where necessary.

In 2016, no SNB Bills were issued or repurchased for monetary policy reasons. To ensure the execution and settlement of monetary policy transactions in the event of a failure of the electronic trading platform, the SNB tested its backup procedure in January 2016, using phone trading to issue one-day SNB Bills totalling CHF 207 million. In July, as part of test operations on the trading platform, it issued SNB Bills with a term of one week. A total of 78 institutions participated in these issues with a subscription volume of CHF 237 million.

How negative interest works

When calculating negative interest on sight deposits held by banks and other financial market participants, the SNB grants account holders exemption thresholds according to the following rules. For banks subject to minimum reserve requirements, the exemption threshold, based on the reference period of November 2014, is 20 times the minimum reserve requirement, and at least CHF 10 million. For account holders not subject to any minimum reserve requirements, for example foreign banks, the exemption threshold has also been set at a minimum of CHF 10 million. In the case of an increase (decrease) in the amount of cash held by a bank subject to minimum reserve requirements, the exemption threshold is reduced (increased) accordingly.

The level of minimum reserves is calculated for each bank according to its short-term liabilities towards third parties in Swiss francs by using a uniform method (cf. chapter 2.4). Banks holding higher sight deposits in proportion to their minimum reserves are charged more than other banks. Using minimum reserves as the basis for calculating the exemption thresholds ensures that sight deposits being held to comply with the duty to hold minimum reserves are not subject to negative interest. The fact that 20 times the minimum reserve requirement is exempt from negative interest takes the very high level of liquidity in the banking system into account. This measure ensures that the banking system does not have to carry the full interest burden on all of its sight deposits.

Negative interest is applied across the board, with as few exceptions as possible. This approach respects the principle of equal treatment and ensures that the instrument remains effective. The only sight deposit accounts exempted from negative interest are those of the central Federal Administration and the compensation funds for old age and survivors' insurance, disability insurance and the fund for loss of earned income (AHV/AVS; IV/AI; EO/APG). However, the SNB will continue to monitor the development of the balances on these accounts.

Intraday facility

During the day, the SNB provides its counterparties with interest-free liquidity (intraday liquidity) through repo transactions so as to facilitate the settlement of payment transactions via the Swiss Interbank Clearing (SIC) system and the settlement of foreign exchange transactions via Continuous Linked Settlement, the multilateral payment system. The funds received must be repaid by the end of the same bank working day at the latest.

Average utilisation of the intraday facility fell to CHF 1.1 billion in 2016, compared with CHF 1.6 billion a year earlier.

Liquidity-shortage financing facility

To bridge unexpected liquidity bottlenecks, the SNB offers a liquidity-shortage financing facility. For this purpose, it grants its counterparties a limit which must be covered at all times by at least 110% collateral eligible for SNB repos. Counterparties can obtain liquidity up to the limit granted until the following bank working day. The liquidity-shortage financing facility is granted in the form of a special-rate repo transaction. The special rate lies 0.5 percentage points above the overnight rate and is no less than 0.5%. The basis for the rate is the SARON of the current bank working day. The special rate is valid until 12.00 noon on the following bank working day.

In 2016, the liquidity-shortage financing facility was hardly used; averaged over the year, volume was close to zero. The limits for the liquidity-shortage financing facility amounted to CHF 40.9 billion; at the end of the year, 84 financial market participants held corresponding limits.

SUPPLYING THE MONEY MARKET WITH LIQUIDITY

Liquidity-related operations in CHF millions[1]

Terms	2016	2015
Open market operations		
Repo transactions[2]	–	–
Up to 3 days	–	–
4 to 11 days	+9	–
12 to 35 days	–	–
36 days to 1 year	–	–
Foreign exchange swaps[2]	–	–
Up to 7 days	–	–
8 to 28 days	–	–
29 to 94 days	–	–
SNB Bills[2]	–	–
Up to 7 days	–444	–
8 to 28 days	–	–
29 to 84 days	–	–
85 to 168 days	–	–
169 to 336 days	–	–
Foreign exchange transactions	+67 062	+86 075
Total	**+66 627**	**+86 075**
Standing facilities		
Intraday facility[3]	+1 060	+1 629
Liquidity-shortage financing facility[2]	0	0
Other monetary policy instruments		
Negative interest on sight deposit account balances	–1 523	–1 164

1 A plus sign (+) indicates liquidity-providing; a minus sign (–) indicates liquidity-absorbing.
2 Average level of liquidity-providing operations outstanding at the end of the day.
3 Average daily turnover.

2.4 MINIMUM RESERVES

Main features of the regulation

The duty to hold minimum reserves (arts. 17, 18, 22 NBA) ensures that banks have a minimum demand for base money; it thus fulfils a monetary policy objective. Eligible assets in Swiss francs comprise coins in circulation, banknotes and sight deposits held at the SNB. The minimum reserve requirement currently amounts to 2.5% of the relevant short-term liabilities, which are calculated as the sum of short-term liabilities in Swiss francs (up to 90 days) plus 20% of liabilities towards customers in the form of savings and investments.

If a bank fails to fulfil the minimum reserve requirement, it is obliged to pay the SNB interest on the shortfall for the number of days of the reporting period during which the minimum reserve requirement was not observed. The interest rate is 4 percentage points higher than the average overnight rate (SARON) over the reporting period in question.

MINIMUM RESERVES

In CHF millions

	2016 Outstanding Average	2015 Outstanding Average
Sight deposits at the SNB	429 081	385 663
Banknotes	6 641	6 540
Coins in circulation	124	130
Eligible assets	435 846	392 333
Requirement	15 047	14 508
Compliance in excess of requirement	420 799	377 825
Compliance in percent	2 897	2 704

In 2016 (between 20 December 2015 and 19 December 2016), statutory average minimum reserves amounted to CHF 15 billion. This is a 4% increase year-on-year. Eligible assets rose to CHF 435.8 billion on average, compared with CHF 392.3 billion a year previously. Banks exceeded the requirement by an annual average of CHF 420.8 billion; the average degree of compliance was 2897% (2015: 2704%).With a few exceptions, the statutory minimum reserve requirement was met by all of the 245 banks. As regards the shortfalls, the amounts involved were negligible.

2.5 LIQUIDITY IN FOREIGN CURRENCIES

Swap arrangements

Since October 2013, standing bilateral liquidity swap arrangements have been in place between the SNB, the Bank of Canada, the Bank of England, the Bank of Japan, the European Central Bank and the US Federal Reserve. This permanent network of swap arrangements allows the participating central banks, where necessary, to provide banks in their jurisdiction with liquidity in any of the relevant currencies, thus serving as a prudent liquidity backstop.

In 2016, the SNB offered weekly repo transactions in US dollars with a term of one week, for which – as in the previous year – there was no demand. Furthermore, it was not necessary to provide liquidity in the other foreign currencies or in Swiss francs in the context of these arrangements.

A swap agreement has also been in operation between the SNB and the Chinese central bank since 2014.

2.6 EMERGENCY LIQUIDITY ASSISTANCE

SNB as lender of last resort

The SNB can act as lender of last resort. Within the context of this emergency liquidity assistance, the SNB can provide liquidity to domestic banks if they are no longer able to obtain sufficient liquidity on the market.

Conditions

Certain conditions apply in order for emergency liquidity assistance to be granted. The bank or group of banks requesting credit must be important for the stability of the financial system and solvent. Furthermore, the liquidity assistance must be fully covered by sufficient collateral at all times. The SNB determines what securities it will accept as collateral for liquidity assistance. To assess the solvency of a bank or group of banks, the SNB obtains an opinion from the Swiss Financial Market Supervisory Authority (FINMA).

3
Ensuring the supply and distribution of cash

3.1 BACKGROUND

Mandate

The Swiss National Bank (SNB) is entrusted with the note-issuing privilege. Pursuant to art. 5 para. 2 (b) of the National Bank Act, it is responsible for ensuring the supply and distribution of cash (banknotes and coins) in Switzerland. It works to ensure an efficient and secure payment system. The SNB is also charged by the Confederation with the task of putting coins into circulation.

Role of the SNB

Banknotes and coins are supplied to the economy via the two cash offices at the Berne and Zurich head offices, as well as 14 agencies operated by cantonal banks on behalf of the SNB. The National Bank issues banknotes and coins commensurate with demand for payment purposes, offsets seasonal fluctuations and withdraws banknotes and coins no longer fit for circulation. Local distribution and redemption of banknotes and coins are performed by commercial banks, Swiss Post and cash processing operators, i.e. companies specialised in the processing of cash (transport, sorting, etc.).

3.2 CASH OFFICES, AGENCIES AND CASH DEPOSIT FACILITIES

Turnover at cash offices

In 2016, the turnover (incoming and outgoing) of the cash offices in Berne and Zurich amounted to CHF 94.7 billion (2015: CHF 101.5 billion). They received a total of 397.6 million banknotes (2015: 408.9 million) and 241.5 million coins (2015: 251.5 million). The SNB examined the quantity, quality and authenticity of the notes and coins. The incoming banknotes and coins were offset by an outflow of 420.8 million banknotes (2015: 420.9 million) and 327.6 million coins (2015: 378.7 million).

Temporary relocation of public counter

The head office at Bundesplatz 1 in Berne currently undergoing renovation and alteration work. During this period, the bank counter, which is open to the public, will be transferred to Bank EEK on Amthausgasse 14/Marktgasse 19 in Berne, where the full range of services will continue to be offered. Payment transactions by bigger customers, such as commercial banks and cash processing operators, will be settled at a separate location.

The 14 agencies assist the SNB's cash offices by distributing and redeeming cash. They play an important role in ensuring the regional supply and distribution of cash. In order for the agencies to do this, the SNB provides them with cash, which remains the property of the SNB.

Turnover at agencies

The agencies' turnover (incoming and outgoing) amounted to CHF 11.9 billion (2015: CHF 12.2 billion). The share of agency turnover in the SNB's overall turnover was 12.6% (2015: 12.1%).

Cash distribution services

The SNB's main partners with respect to cash distribution services are commercial banks, Swiss Post and cash processing operators. They conduct their cash handling activities at separate locations around the country. To ensure the supply of cash in Switzerland at all times, the SNB operates cash distribution centres at the head offices in Zurich and Berne and issues regulations on the manner, place and time for the receipt and delivery of banknotes and coins. Its activities in this field are based on the Federal Act on Currency and Payment Instruments (CPIA).

Cash deposit facilities

Cash processing operators can apply for cash deposit facilities with the SNB. These storage facilities contain stocks of notes and coins. The SNB sets up the facilities with third parties, while retaining ownership. The cash processing operators deposit surplus banknotes and withdraw them as required. The corresponding bookings are made to their sight deposit accounts at the SNB. Cash deposit facilities reduce the amount of incoming and outgoing cash at the SNB, as well as the number of transports made by the operators of cash deposit facilities, which makes for a more efficient supply and distribution of cash. In 2016, as in the previous year, there were a total of three cash deposit facilities.

3.3 BANKNOTES

Mandate

Pursuant to art. 7 CPIA, the SNB issues banknotes commensurate with demand for payment purposes and takes back any banknotes which are worn, damaged or surplus to requirements due to seasonal fluctuations. It also determines the denomination and design of the notes. Particular attention is paid to banknote security.

Banknotes in circulation

In 2016, banknote circulation averaged CHF 72.2 billion (2015: CHF 67.4 billion). The total number of notes in circulation amounted on average to 425.9 million (2015: 406.5 million). In value terms, the increase came to 7.2% (2015: 7.5%). It was thus slightly below the year-back growth rate, but within the range of average growth over the last five years. Although all denominations registered growth, the increased demand for large-denomination banknotes observed since the financial crisis has continued.

Issue and disposal

In 2016, the SNB put 180.7 million freshly printed banknotes (2015: 107.7 million) with a face value of CHF 12.4 billion into circulation (2015: CHF 10.3 billion). This high growth can be attributed to the release of the new 50-franc note from the ninth banknote series. Meanwhile, it destroyed 172.3 million damaged or recalled notes (2015: 70.8 million) with a face value of CHF 8.2 billion (2015: CHF 4.4 billion).

Counterfeits

In Switzerland, 2,370 counterfeit banknotes were confiscated in 2016 (2015: 2,400). This corresponds to 6 counterfeit notes per million Swiss franc notes in circulation (2015: 6); a low figure by international standards.

NUMBER OF BANKNOTES IN CIRCULATION

In millions

CHF 10s **75**
CHF 20s **84**
CHF 50s **52**
CHF 100s **118**
CHF 200s **51**
CHF 1000s **45**

Annual average for 2016

New banknote series

A banknote series must meet high standards with regard to security and production – and must continue to do so for around 15 years after its release. Given that the life cycle is rather long compared to other countries, it is important that the cost for the economy connected with exchanging banknotes should be kept to a minimum.

On 12 April 2016, the 50-franc note was first denomination of the new banknote series – the ninth series – to be released. The new note has since proved its worth and its reception among the public and experts alike has been broadly positive. At year-end, the share of new notes in the total circulation of 50-franc notes was around 65%. Thus, as expected, a large proportion of eighth-series 50-franc notes has already been exchanged.

The remaining banknotes in the new series will be issued at half-yearly or yearly intervals. The next denomination to be released will be the 20-franc note. It will be presented on 10 May 2017, and the first notes will be issued one week later, on 17 May 2017. Issuance of the third denomination, the 10-franc note, is planned for autumn 2017. Work on the other denominations in the series has proceeded according to plan. The eighth banknote series will continue to be legal tender until further notice.

3.4 COINS

Mandate

The SNB is entrusted by the Confederation with the task of coin circulation. Its role is defined in art. 5 CPIA. It takes over the coins minted by Swissmint and puts into circulation the number required for payment purposes. Coins that are surplus to requirements are taken back against reimbursement of their face value. The SNB's coinage services are not remunerated, as they constitute part of its mandate to supply the country with cash. In its efforts to ensure the supply of coins, the SNB is supported by Swiss Post and Swiss Federal Railways in accordance with the Coinage Ordinance.

Coin circulation

In 2016, the value of coins in circulation averaged CHF 3,062 million (2015: CHF 3,018 million), which corresponds to 5,442 million coins (2015: 5,351 million). At 1.5%, the growth rate in value terms of coins in circulation was below that of previous years, which had increased fairly consistently by between 2% and 2.5% annually.

Challenges associated with issuing a new banknote series

Issuing a new banknote series is a challenging task for all involved. While the public is primarily interested in the development and design of the banknotes, the successful launch of a new series also demands a lot in terms of logistics and communication. The two main challenges are informing the public quickly and comprehensively and ensuring the smooth processing of the new banknotes.

For security reasons, the design of a new banknote series is not disclosed until shortly before its issue. When the time comes, the communication surrounding the new banknote must ensure that the public can familiarise itself as quickly as possible with the design elements and security features of the new note, so that it can easily recognise the new banknotes on the day of issue. To achieve this, a broad and comprehensive information campaign is required when the first denomination in a new series is released. The campaign needs to include different media channels and platforms.

In the supply and distribution of cash, the public is increasingly using cash machines (ATMs) rather than bank counters for withdrawals. For cash deposits, too, ATMs are being used to an ever greater extent. Banknotes are being processed more and more by sorting machines. In order to ensure that all cash-processing machines can accept the new banknotes and that the changeover is unproblematic and on time, machine manufacturers are already contacted by the SNB during the development stage and are kept abreast of the progress of the new banknote series. Furthermore, prior to the release of each new denomination, they are given the opportunity to bring their machines (sorting machines, ATMs, etc.) to the SNB's premises for a series of tests and fine-tuning

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4
Facilitating and securing cashless payments

4.1 BACKGROUND

Mandate

In accordance with art. 5 para. 2 (c) of the National Bank Act (NBA), the Swiss National Bank (SNB) facilitates and secures the operation of cashless payment systems. Art. 9 NBA empowers the SNB to maintain sight deposit accounts for banks and other financial market participants.

Main feature of SIC

A large part of the cashless payment transactions in Swiss francs of banks and other eligible financial market participants are settled via the Swiss Interbank Clearing (SIC) system. SIC is a real-time gross settlement system. This means payment orders are executed irrevocably and individually in real time through the participants' SIC settlement accounts and are therefore comparable to cash payments. The prerequisite for participating in SIC is the opening of an SNB sight deposit account.

The SNB's role in SIC

The SNB steers the SIC system and ensures that there is sufficient liquidity by granting, when necessary, intraday loans to banks against collateral. It transfers liquidity from the SIC participants' sight deposit accounts at the SNB to their settlement accounts in SIC at the beginning of each settlement day and transfers the turnover balances from the individual settlement accounts back to the respective sight deposit accounts at the end of the settlement day. Legally, the two accounts form a unit. The settlement day in SIC starts at approximately 5.00 pm on the evening before the corresponding calendar day and ends at 4.15 pm on the respective calendar day (cf. chapter 4.3).

As a systemically important financial market infrastructure, SIC is overseen by the SNB (cf. chapter 6.6).

Operation by SIX Interbank Clearing Ltd

The SNB has transferred the operation of the SIC system to SIX Interbank Clearing Ltd, a subsidiary of SIX Group Ltd (SIX). The provision of services for the SIC system is laid down in an agreement between the SNB and SIX Interbank Clearing. The relationship between the SNB and the SIC participants is governed by the SIC giro agreement.

Involvement in SIC

Based on the SIC agreement, the SNB requests and approves modifications and upgrades to the SIC system. Furthermore, it has a seat on the Board of Directors of SIX Interbank Clearing, and also exerts its influence by participating in various payment system bodies.

Eligibility for SIC

Besides banks, the SNB can also grant other participants operating commercially on the financial markets access to the SIC system. These include securities dealers, insurance companies and institutions such as cash processing operators and financial market infrastructures which play a significant role in implementing monetary policy, settling payments or maintaining the stability of the financial system. Subject to certain conditions, banks domiciled abroad can also gain access to SIC. While all SIC participants must hold a sight deposit account at the SNB, some sight deposit account holders are not connected to SIC.

4.2 THE SIC SYSTEM IN 2016

Transactions and turnover

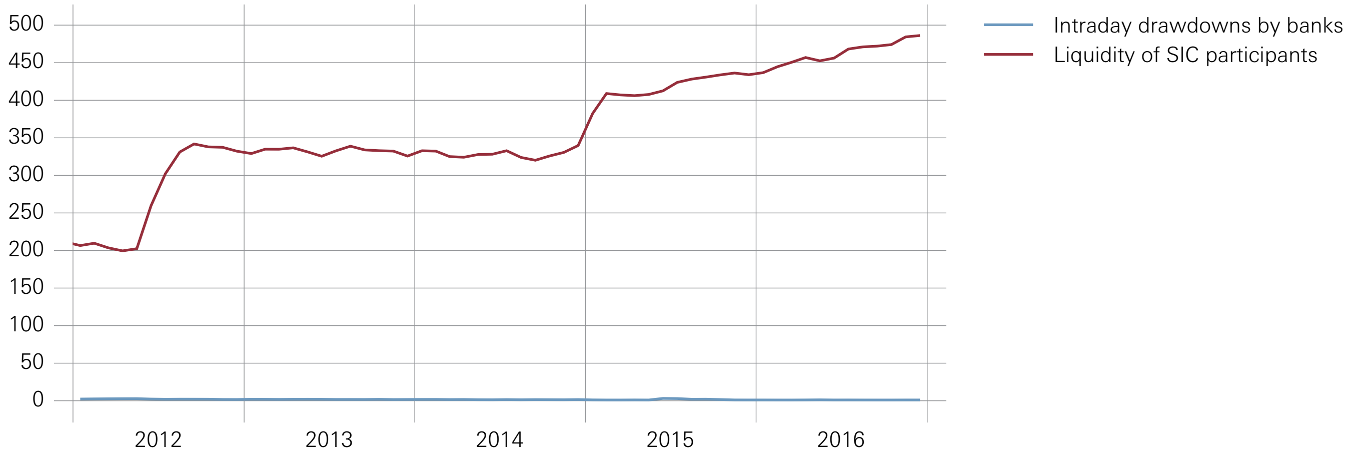
In 2016, SIC settled a daily average of approximately 1.8 million transactions amounting to CHF 153 billion. Compared to the previous year, this represents a 1.3% increase in the number of transactions and a 0.6% decrease in the value of transactions. Peak days saw up to 5.7 million transactions, with turnover of up to CHF 266 billion.

KEY FIGURES ON SIC

	2012	2013	2014	2015	2016
Number of transactions					
Daily average (in thousands)	1 628	1 673	1 708	1 742	1 765
Peak daily value for year (in thousands)	4 755	5 498	5 123	5 302	5 670
Value of transactions					
Average daily turnover (in CHF billions)	120	127	119	154	153
Peak daily turnover for year (in CHF billions)	228	215	208	293	266
Average value per transaction (in CHF thousands)	74	76	69	88	87
Average liquidity					
Sight deposits at end of day (in CHF millions)	272 952	332 428	328 597	418 144	463 038
Intraday facility (in CHF millions)	2 251	1 858	1 547	1 629	1 060

LIQUIDITY IN SIC

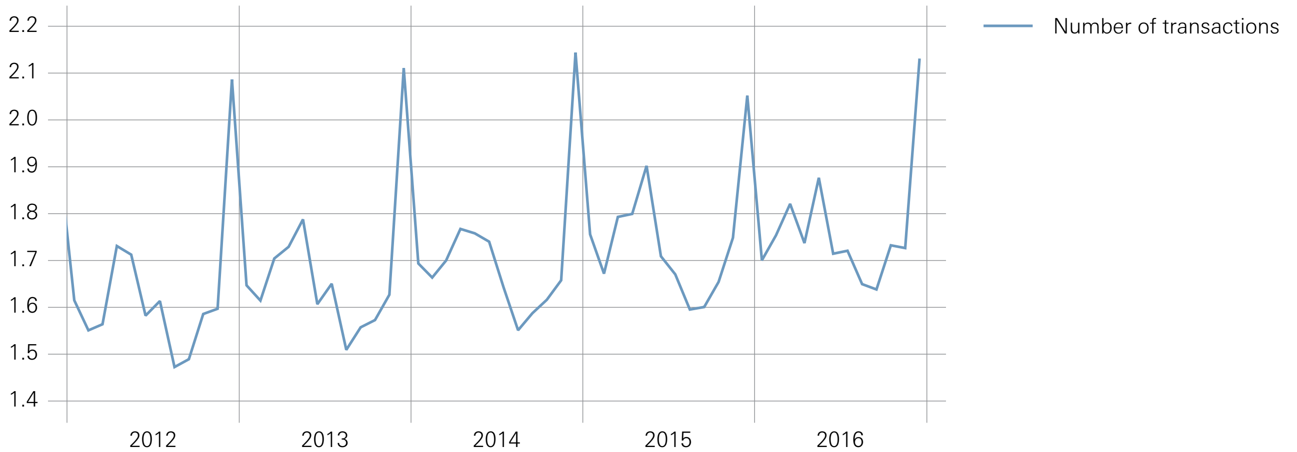
Monthly averages of daily figures in CHF billions



Source: SNB

TRANSACTIONS IN SIC

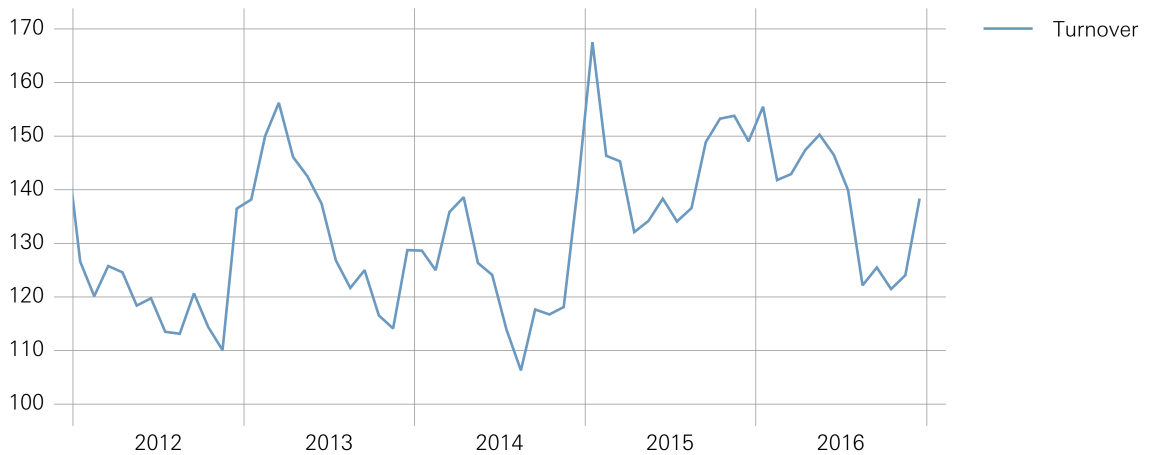
Monthly averages of daily figures, transactions in millions



Source: SNB

TURNOVER IN SIC

Monthly averages of daily figures in CHF billions



Source: SNB

Participants in SIC

As at 31 December 2016, the SNB had 428 holders of sight deposit accounts (2015: 449). Of these, 337 participated in SIC (2015: 350). The majority of SIC participants (240) were domiciled in Switzerland (2015: 245).

4.3 DEVELOPMENTS IN THE SWISS FINANCIAL MARKET INFRASTRUCTURE

New developments in SIC

At the beginning of 2016, the SNB approved the proposal made by SIX Interbank Clearing's Board of Directors to extend SIC operating hours. After this adjustment, which will take effect on 15 May 2017, SIC participants will have two more hours in the afternoon to submit payments with the same-day value date. The market requirement for extended settlement times for customer payments has thus been addressed in the SIC system.

Following a complete technical overhaul, 15 April 2016 saw the successful operational rollout of the fourth generation of the SIC system (SIC4). The project was managed by SIX Interbank Clearing, with the close involvement of the SNB and the banks. The new SIC system provides, among other things, a Swiss solution for the safety and integrity of SIC message transmission. Furthermore, the implementation of SIC4 also created the conditions for migrating the existing SIC messaging standard to ISO 20022. The aim of the ISO 20022 standard is to harmonise the messages in the electronic exchange of data between participants in differing areas of finance, including payment transactions.

Alongside SIC, PostFinance also plays a key role in the settlement of customer payments. As SIX Interbank Clearing informed SIC participants in November 2016, PostFinance has decided to settle its bilateral payment transactions with other banks exclusively via SIC in future. The changeover is to be implemented gradually, beginning in 2018, and is scheduled to be completed by 2023 at the latest.

New financial technologies
Under the catchword of 'fintech' (short for financial technology), the financial industry is currently experiencing a surge of innovation. These new developments are primarily driven by technological advances, especially the digitalisation of the financial industry value chain from beginning to end. On the demand side, these advances mean that customer needs are changing, in particular towards the more flexible use of services in terms of time and location. On the supply side, technological progress is opening the door to new services and business models which respond to these needs, and is enabling new players other than the traditional banking sector providers to enter the market.

Innovations range from the digitalisation of existing banking services and procedures (for example online identification when opening an account, online mortgages and robo-advisors), to establishing new services (e.g. mobile payments, crowdfunding and peer-to-peer lending), through to the development of digital currencies and securities based on innovative application of encryption procedures (distributed ledger technology, blockchain).

The SNB is following these developments closely and participating in various relevant bodies and discussions, with particular focus on the possible impacts these innovations may have on the security and efficiency of the financial market infrastructure and thus on the SNB's ability to fulfil its statutory mandate. This concerns – first and foremost – providing the Swiss franc money market with liquidity, facilitating and securing the operation of cashless payment systems and contributing to the stability of the financial system.

SIC as part of Swiss financial market infrastructure

The SIC system is steered by the SNB and is a key element of the Swiss financial market infrastructure, which originated as a joint enterprise among Swiss banks. The Swiss financial market infrastructure is operated by SIX, a company owned by around 140 financial institutions who are also the main users of the services provided by SIX. SIX covers the entire Swiss value chain, comprising securities trading (stock exchange), securities services (including securities settlement), payment services (including SIC) and financial information, in the interest of its owners.

Strategic importance of Swiss value chain

A well-functioning, secure and efficient financial market infrastructure is of crucial importance to the SNB. The SNB depends on this infrastructure considerably in fulfilling its statutory mandate, particularly in providing the money market with liquidity as well as facilitating and securing the operation of cashless payment systems. In 2016, the SNB once again took a seat among other bank representatives on the strategic committee of the Securities Services business area at SIX. This is the business area where the financial market infrastructures that are of particular importance to the SNB are located. The committee serves to help SIX integrate its stakeholders more closely.

5
Asset management

5.1 BACKGROUND

Mandate

The assets of the Swiss National Bank (SNB) fulfil important monetary policy functions. They consist largely of investments in foreign currencies, gold and, to a lesser extent, financial assets in Swiss francs. Their size and composition are determined by the established monetary order and the requirements of monetary policy. Under art. 5 para. 2 of the National Bank Act (NBA), the SNB is responsible for managing the currency reserves, part of which must be held in the form of gold (art. 99 para. 3 Federal Constitution).

Currency reserves

The SNB's currency reserves are held primarily in the form of foreign currency investments and gold. The currency reserves also include international payment instruments and the reserve position in the International Monetary Fund (IMF).

Currency reserves ensure that the SNB has room for manoeuvre in its monetary policy at all times. They also serve to build confidence, and to prevent and overcome potential crises. In the current environment, the level of the currency reserves is largely dictated by the implementation of monetary policy. As a result of the monetary policy operations aimed at curbing the appreciation of the Swiss franc, the level of currency reserves has risen by more than CHF 600 billion to almost CHF 700 billion since the onset of the financial and debt crisis in 2008.

Financial assets in Swiss francs

The financial assets in Swiss francs are mainly made up of Swiss franc bonds and sometimes also claims from repo transactions.

Investment principles

Asset management is governed by the primacy of monetary policy and is carried out in accordance with the criteria of security, liquidity and return. Investment policy takes into consideration all central bank requirements and is based on comprehensive risk/return analyses. The investment process ensures that no inside knowledge acquired within the SNB can influence investment activity and that no unintentional signal effects are created. For this reason, investments in Swiss shares or in bonds issued by Swiss companies are avoided.

The weighting of the individual investment criteria is derived from the functions of the currency reserves. Ensuring room for manoeuvre in the implementation of monetary policy requires, in particular, a high level of liquidity of assets. The SNB therefore invests a substantial portion of its currency reserves in highly liquid foreign government bonds. The criterion of security is taken into account by structuring investments so that at least the real value is preserved over the long term. This is achieved through broad diversification of currencies; additionally, to improve the long-term risk/return profile, government bond holdings in the major currencies are supplemented by other investment categories. Since all investments are valued in Swiss francs, the return must compensate for the Swiss franc's long-term upward trend. This necessitates a sufficiently positive return in the local currencies. By investing part of the currency reserves in a well-diversified range of shares and corporate bonds, the SNB is able to exploit the positive contribution of these investment categories. At the same time, it retains the flexibility to adjust its monetary and investment policy to changing requirements.

Given the lengthening of the balance sheet in recent years, the diversification of investments has become increasingly important, and the SNB has thus systematically expanded its investment universe. The last expansion took place in 2015, when the SNB added shares issued by companies in emerging economies and Chinese government bonds denominated in renminbi.

The SNB considers itself a financial investor and does not pursue any strategic interests in its equity investments. In the case of equity investments, the SNB does not actively engage in stock picking, but replicates individual equity markets in their totality. The investment policy is thus shielded from political considerations and the impact on individual markets is kept to an absolute minimum. No investments are made in shares of international mid-cap and large-cap banks and bank-like institutions, in order to avoid possible conflicts of interest. In addition, the SNB does not purchase shares of companies which produce internationally condemned weapons, seriously violate fundamental human rights or systematically cause severe environmental damage. To identify the relevant companies, it relies on the recommendations of external companies specialising in such analyses.

Since 2015, the SNB has exercised its voting rights at annual general meetings. For this purpose, it works with external service providers. In exercising its voting rights, the SNB has to date focused on mid-cap and large-cap companies in Europe and confined itself to aspects of good corporate governance. In the long term, good corporate governance helps companies – and hence the SNB's investments in them – to perform favourably. The voting procedure is described in detail in the SNB's internal guidelines for exercising voting rights. The external service providers are tasked with interpreting the guidelines for exercising voting rights and applying them to the proposals being put forward at the shareholders' meetings. The central securities depositary, which in turn draws on its network of local custodians in the country concerned, holds operational responsibility for the casting of votes.

5.2 INVESTMENT AND RISK CONTROL PROCESS

Bank Council and Risk Committee responsibilities

The NBA defines the SNB's responsibilities and describes in detail its mandate with regard to asset management. The Bank Council is charged with the integral oversight of the investment and risk control process. Its role is to assess the underlying principles and monitor compliance with them. The Risk Committee – which is composed of three Bank Council members – supports the Bank Council in this task. It monitors risk management, in particular, and evaluates the governance of the investment process. Internal risk management reporting is addressed to the Governing Board and the Risk Committee.

Governing Board responsibilities

The Governing Board defines the principles of the investment policy. Specifically, it sets the parameters for the balance sheet structure and investment targets, the investment universe, investment strategy and the associated risk tolerance, as well as the risk control process. In particular, it sets out the requirements with regard to the security, liquidity and return of the investments, as well as the eligible currencies, investment categories, instruments, and borrower categories. The Governing Board decides on the composition of the currency reserves and other assets, and defines the foreign currency investment strategy. The investment strategy covers the allocation of foreign currency investments to different investment categories and currencies, and determines the scope for active management at operational level.

Investment Committee and Portfolio Management responsibilities

The Investment Committee, an internal body, decides on the tactical allocation of the foreign currency investments at operational level. Within the strategically prescribed ranges set by the Governing Board, it adjusts currency weightings, bond durations and allocations to the different investment categories, to take account of changed market conditions.

Portfolio Management administers the individual portfolios. The majority of assets are managed internally. Portfolios from the Asia-Pacific region are managed by SNB portfolio managers in the Singapore branch office. Its activities, especially trade and portfolio management, are fully integrated into the investment and risk control process in Switzerland. External asset managers are used to benchmark internal portfolio management and obtain efficient access to new investment categories. At operational level, responsibilities for monetary policy and investment policy are organised in such a way as to avoid conflicts of interest.

Risk Management responsibilities

The most important element for managing absolute risk is broad diversification of investments. Risk is managed and mitigated by means of a system of reference portfolios (benchmarks), guidelines and limits. All relevant financial risks on investments are identified, assessed and monitored continuously. Risk measurement is based on standard risk indicators and procedures. In addition to these procedures, sensitivity analyses and stress tests are carried out on a regular basis.

The SNB's comparatively long-term investment horizon is taken into account in all of these risk analyses. To assess and manage credit risk, information from major rating agencies, market indicators and in-house analyses are used. Credit limits are set on the basis of this information, and adjusted whenever the assessment of counterparty risk changes. To mitigate counterparty risk, the replacement values of derivatives are usually collateralised by securities. Concentration and reputational risks are also factored in when determining risk limits. Risk indicators are aggregated across all investments. Compliance with the guidelines and limits is monitored daily. The risk analyses and results of risk management activities are submitted to the Governing Board and the Bank Council's Risk Committee in quarterly risk reports. In addition, the annual risk management report is submitted to the Bank Council.

5.3 CHANGES IN AND BREAKDOWN OF ASSETS

Changes in assets

At the end of 2016, the SNB's assets amounted to CHF 747 billion, which was CHF 106 billion higher than a year earlier. They consisted of foreign currency investments (CHF 696 billion), gold (CHF 39 billion), Special Drawing Rights (CHF 6 billion), Swiss franc bonds (CHF 4 billion) and other assets (CHF 1 billion).

Currency reserves

The rise in the balance sheet total was mainly attributable to the increase in the currency reserves. These were up by CHF 89 billion year-on-year to CHF 692 billion, principally due to inflows from foreign currency purchases in the order of CHF 67.1 billion and, to a lesser extent, investment performance. Foreign exchange reserves were up CHF 86 billion on the previous year and stood at CHF 647 billion. They consist of foreign currency investments minus associated foreign currency liabilities.

COMPOSITION OF CURRENCY RESERVES

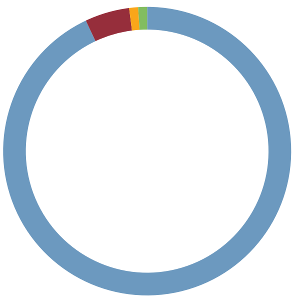
In CHF billions

	31.12.2016	31.12.2015
Gold reserves	39	35
Foreign currency investments	696	593
Less: associated liabilities[1]	–49	–33
Derivatives (replacement values, net)	0	0
Total foreign exchange reserves	647	561
Reserve position in the IMF	1	2
International payment instruments	4	5
Total currency reserves	**692**	**603**

1 Liabilities from foreign currency repo transactions.

BREAKDOWN OF SNB ASSETS

In percent



Foreign currency investments **93**
Gold holdings **5**
Swiss franc securities **1**
Sundry **1**

Total: CHF 747 billion
At year-end 2016

At the end of 2016, the bond portfolios in the foreign exchange reserves contained government and quasi-government bonds as well as bonds issued by supranational organisations, local authorities, financial institutions (mainly covered bonds and comparable securities) and other companies. The average duration of the portfolio remained just over four years.

Bond portfolios

The equity portfolios comprised shares of mid-cap and large-cap companies and, to a lesser extent, shares of small-cap companies in advanced economies. Since 2015, a small proportion of the equity portfolio has also been invested in shares of companies in emerging economies. The SNB does not engage in stock picking; it only invests passively. Thus, equities are managed according to a set of rules based on a strategic benchmark comprising a combination of equity indices in various markets and currencies. This results in a globally well-diversified equity portfolio of about 6,500 individual shares (around 1,400 shares of mid-cap and large-cap companies, 4,300 shares of small-cap companies in advanced economies, and 800 shares of companies in emerging economies). Replicating indices ensures that there is no underweighting or overweighting at operational level in individual sectors or companies and that the SNB thus operates as neutrally as possible in these markets.

Equity portfolios

The passively managed Swiss franc bond portfolio amounted to CHF 4 billion and primarily contained bonds issued by the Confederation, the cantons and foreign borrowers, as well as Swiss Pfandbriefe. The average duration of the portfolio increased slightly in 2016 to just over eight years.

Swiss franc bonds

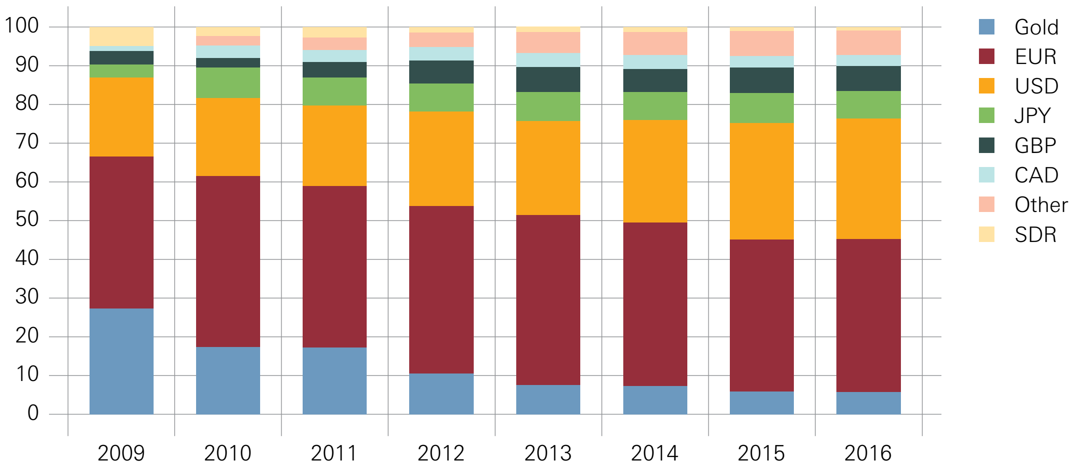
BREAKDOWN OF FOREIGN EXCHANGE RESERVES AND SWISS FRANC BOND INVESTMENTS AT YEAR-END

	2016		2015	
	Foreign currency investments	CHF bond investments	Foreign currency investments	CHF bond investments
Currency allocation (in percent, incl. derivatives positions)				
CHF		100		100
EUR	42		42	
USD	33		32	
JPY	8		8	
GBP	7		7	
CAD	3		3	
Other[1]	7		7	
Investment categories (in percent)				
Investments with banks	0		0	–
Government bonds[2]	69	40	71	41
Other bonds[3]	11	60	11	59
Shares	20		18	–
Breakdown of fixed income investments (in percent)				
AAA-rated[4]	61	75	61	72
AA-rated[4]	25	24	24	27
A-rated[4]	9	0	11	1
Other	5	0	4	–
Investment duration (years)	4,2	8.3	4,1	7,7

1 Mainly AUD, CNY, DKK, SEK, SGD, KRW plus small holdings of other currencies in the equity portfolios.
2 Government bonds in own currency, deposits with central banks and the BIS; in the case of Swiss franc investments, also bonds issued by Swiss cantons and municipalities.
3 Government bonds in foreign currency as well as bonds issued by foreign local authorities and supranational organisations, covered bonds, corporate bonds, etc.
4 Average rating, calculated from the ratings of major credit rating agencies.

BREAKDOWN OF CURRENCY RESERVES AT YEAR-END

In percent, excluding investments and liabilities from foreign exchange swaps against CHF



Source: SNB

Changes in asset structure

There was little year-on-year change in the structure of the foreign exchange reserves and Swiss franc bonds. The currency exposure remained almost constant. The ratings distribution changed slightly due to adjustments in country weightings and rating downgrades of individual borrowers. The share of equities in the foreign exchange reserves increased from 18% to 20% at the expense of government bonds.

5.4 ASSET RISK

Risk profile

The risk profile of assets is determined by the currency reserves. The main risk to the currency reserves is market risk, in particular risks related to exchange rates, the gold price, share prices and interest rates. In addition, there is liquidity risk as well as credit and country risk, although these are not as significant as market risk. The contribution of Swiss franc bonds to total risk is negligible.

Market risk

Exchange rates are the most important risk factor for the currency reserves. As currency risk is not hedged against Swiss francs, even minor changes in the Swiss franc exchange rates lead to substantial fluctuations in investment income, and thus in the SNB's equity. In addition to currency risk, fluctuations in the gold price and stock prices as well as interest rate risk are relevant. Currency risk, share price risk and interest rate risk are limited through the specification of benchmarks and management guidelines. Various means, including the use of derivative financial instruments such as interest rate swaps, stock index futures and interest rate futures, are used to control these risks. Foreign exchange derivatives can also be used to manage currency exposure.

As a matter of principle, the SNB does not hedge currency risk against the Swiss franc, as hedging would have an undesirable impact on monetary policy. Hedging operations, for example selling foreign exchange forwards against Swiss francs, would create additional demand for and increase upward pressure on the Swiss franc. Therefore, hedging would de facto have the same effect as a foreign exchange market intervention to strengthen the Swiss franc. For this reason, currency risk must be accepted as an inherent component of currency reserves.

The SNB's liquidity risk arises from the possibility that, should investments in foreign currencies need to be sold, such sales could be effected only partially or after considerable price concessions, or may not be possible at all. By holding a large volume of the most liquid government bonds in the major currencies – euros and US dollars – the SNB continued to ensure a high level of liquidity in its foreign exchange reserves in 2016. Liquidity risk is reassessed periodically.

Liquidity risk

Credit risk stems from the possibility that counterparties or issuers of securities do not meet their obligations. Such risks are present in the case of bonds issued by all borrower categories. The SNB holds bonds issued by public and supranational borrowers, covered bonds and similar instruments as well as corporate bonds as part of its currency reserves. For issuers of bonds, the SNB requires a minimum rating of investment grade. Exposure to individual issuers is limited by means of concentration limits. Credit risk arising from non-tradable instruments with respect to banks was very low in 2016. Replacement values of derivatives were collateralised, in accordance with the ISDA (International Swaps and Derivatives Association) agreements with counterparties. Since May 2014, the SNB has been executing most of its interest rate swaps via a central counterparty. On the one hand, this facilitates netting of offsetting positions. On the other, efficiency gains are made in the daily management of collateral.

Credit risk

In 2016, investments again mainly took the form of government bonds; the bulk of these were in highly liquid bonds issued by European countries and the US. At the end of 2016, outstanding balances at central banks and the Bank for International Settlements amounted to almost CHF 18 billion. In all, 86% of bonds were rated AA or higher.

Country risk

Country risk arises from the possibility that a country may hinder payments by borrowers domiciled in its sovereign territory or block the right to dispose of assets held there. In order to avoid entering into any unbalanced country risk, the SNB endeavours to distribute assets among a number of different depositories and countries. Gold holdings are stored according to this principle as well. In choosing a location, attention is paid to both appropriate regional diversification and easy market access. Of the 1,040 tonnes of gold, approximately 70% is held in Switzerland, some 20% at the Bank of England, and roughly 10% at the Bank of Canada. Decentralised storage of gold holdings in Switzerland and abroad ensures that the SNB has access to its gold reserves even in the event of a crisis.

Higher loss risk – adjustment of allocation to provisions

The SNB's equity capital is composed mainly of the provisions for currency reserves and the distribution reserve; it is built up from retained profits and serves in particular to absorb losses. The increase in currency reserves for monetary policy reasons in recent years has caused the SNB's balance sheet to grow, and this in turn has resulted in higher loss risk. Any such losses would reduce equity capital. Annual allocations to the provisions are necessary to ensure a healthy equity base.

In 2016, the SNB amended the rule governing the allocation to the provisions for currency reserves. The annual allocation will continue to be determined on the basis of double the average nominal GDP growth rate over the previous five years. However, a minimum annual allocation of 8% of the provisions at the end of the previous year will now also apply. This is aimed at ensuring that sufficient allocations are made to the provisions and the balance sheet is strengthened even in periods of low nominal GDP growth. The minimum allocation applied for 2016 and amounted to CHF 4.6 billion.

In accordance with art. 31 para. 2 NBA, one-third of the SNB's net profit – to the extent that it exceeds the dividend requirement – is distributed to the Confederation and two-thirds to the cantons. The amount of the annual profit distribution to the Confederation and the cantons is laid down in an agreement between the Federal Department of Finance (FDF) and the SNB. The distribution reserve is intended to help smooth the SNB's profit distribution. The agreement that had been in force since 2011 expired in 2015. In November 2016, the FDF and the SNB concluded a new agreement covering the financial years 2016 to 2020. The agreement stipulates that, as in the past, a profit distribution of CHF 1 billion will be paid to the Confederation and the cantons, provided the balance of the distribution reserve is positive. In future, however, omitted or reduced distributions will be compensated for in subsequent years if the distribution reserve allows this. Furthermore, a supplementary distribution of up to CHF 1 billion will be made if the distribution reserve exceeds CHF 20 billion. The supplementary distribution will be reduced appropriately if its payment causes the distribution reserve to fall below CHF 20 billion.

New agreement on profit distribution

In 2016, the SNB's annual result was CHF 24.5 billion; the distribution reserve from the previous year was slightly positive. This allows for the ordinary distribution of CHF 1 billion as well as a supplementary distribution of CHF 0.7 billion. After allocation to the provisions for currency reserves of CHF 4.6 billion and the distribution for the 2016 financial year of CHF 1.7 billion, the SNB's equity amounted to CHF 83 billion (provisions of CHF 62.8 billion and a distribution reserve of CHF 20 billion), with a balance sheet total of CHF 746.5 billion.

Changes in equity

5.5 INVESTMENT PERFORMANCE

Investment return is comprised of the returns on foreign exchange reserves, gold and Swiss franc bonds.

Return on investments

In 2016, the return on currency reserves was 3.8%. Returns on gold (11.1%) and foreign exchange reserves (3.3%) were positive. As regards foreign exchange reserves, both fixed income investments and equities contributed to the positive performance. On the other hand, the slight appreciation of the Swiss franc reduced the overall return. In Swiss franc terms, the annual return on the currency reserves has averaged 3.4% over the last 15 years.

RETURN ON INVESTMENTS

Returns in percent

	Total	Gold	Currency reserves[1] Foreign exchange reserves Total	Exchange rate return	Return in local currency	CHF bonds Total
2002	1.4	3.4	0.5	–9.1	10.5	10.0
2003	5.0	9.1	3.0	–0.4	3.4	1.4
2004	0.5	–3.1	2.3	–3.2	5.7	3.8
2005	18.9	35.0	10.8	5.2	5.5	3.1
2006	6.9	15.0	1.9	–1.1	3.0	0.0
2007	10.1	21.6	3.0	–1.3	4.4	–0.1
2008	–6.0	–2.2	–8.7	–8.9	0.3	5.4
2009	11.0	23.8	4.8	0.4	4.4	4.3
2010	–5.4	15.3	–10.1	–13.4	3.8	3.7
2011	4.9	12.3	3.1	–0.8	4.0	5.6
2012	2.3	2.8	2.2	–2.3	4.7	3.7
2013	–2.5	–30.0	0.7	–2.4	3.2	–2.2
2014	8.0	11.4	7.8	2.6	5.1	7.9
2015	–4.7	–10.5	–4.4	–5.6	1.3	2.3
2016	3.8	11.1	3.3	–0.4	3.7	1.3
2012–2016[2]	1.3	–4.4	1.8	–1.7	3.6	2.5
2007–2016[2]	2.0	4.3	0.0	–3.3	3.5	3.2
2002–2016[2]	3.4	6.5	1.2	–2.8	4.2	3.3

1 In this table, they correspond to gold and foreign exchange reserves, excluding IMF Special Drawing Rights.
2 Average annual return over 5, 10 and 15 years.

Contributions of investment categories to investment performance

The currency reserves are mainly comprised of gold, bonds and, since 2005, shares. The diversification effects achieved by adding shares to a portfolio of bonds and gold, as well as equities' high liquidity, make them an attractive option for the SNB. Furthermore, given that expected return is higher on shares than on bonds, this investment category helps to preserve the real value of the currency reserves. Though long-term return expectations are higher for equities, this investment category is also subject to greater fluctuations in value. Yet, while equities, viewed on their own, are indeed more prone to fluctuation, in the context of the portfolio as a whole this disadvantage is offset by their favourable correlation characteristics with bonds and gold.

The share of equity holdings has gradually been increased, from 8% in 2005 to 20% at present; the share of fixed income investments has decreased accordingly. Equity exposure on this scale improves the risk/return profile of the foreign exchange reserves. Measured in Swiss francs, the average annual return on equities since their introduction has been 2.8%. Likewise measured in Swiss francs, the annual return on bonds over the same period has averaged 0.7%. Calculated in Swiss francs, the bonds component of the foreign exchange reserves made a loss of CHF 8 billion between 2005 and the end of 2016. The equity holdings generated a positive result of CHF 37 billion. In recent years, equities have thus made a substantial contribution to the SNB's equity base.

RETURNS ON FOREIGN EXCHANGE RESERVES, IN SWISS FRANCS

Returns in percent

	Total	Bonds	Shares
2005	10.8	10.6	24.6
2006	1.9	1.3	11.1
2007	3.0	3.3	0.6
2008	–8.7	–3.1	–44.9
2009	4.8	3.7	20.4
2010	–10.1	–11.0	–2.6
2011	3.1	4.0	–6.8
2012	2.2	0.8	12.7
2013	0.7	–2.4	20.4
2014	7.8	6.9	12.7
2015	–4.4	–5.2	0.6
2016	3.3	1.5	9.2
2005–2016[1]	1.1	0.7	2.8

1 Average annual return over 12 years.

6 Contribution to financial system stability

6.1 BACKGROUND

Mandate

Art. 5 para. 2 (e) of the National Bank Act (NBA) confers upon the Swiss National Bank (SNB) the mandate of contributing to the stability of the financial system. Financial stability means that financial system participants, i.e. financial intermediaries (especially banks) and financial market infrastructures, can perform their functions and are able to withstand potential disturbances. It is an important prerequisite for economic development and effective monetary policy implementation.

In the area of financial stability, the SNB fulfils this mandate by analysing sources of risk to the financial system and identifying areas where action may be needed. In addition, it helps to create and implement a regulatory framework for the financial sector, and oversees systemically important financial market infrastructures.

Focus on crisis prevention

In recent years, there has been a shift in the focus of central banks' activities in the area of financial stability, away from crisis management and towards crisis prevention. To counteract the risks that threaten the stability of the financial system, the SNB has had two macroprudential regulatory powers at its disposal since 2012, namely the authority to designate banks as systemically important and the authority to propose the activation, adjustment or deactivation of the countercyclical capital buffer (CCyB). While the designation of systemically important banks is focused on combating structural risks, the CCyB is geared towards addressing cyclical risks.

With regard to crisis management, the SNB fulfils its mandate by acting as lender of last resort where necessary. It provides emergency liquidity assistance to domestic banks whose insolvency would have a severe impact on financial system stability in cases where such banks are no longer able to refinance themselves on the market (cf. chapter 2.6).

Collaboration with FINMA, FDF and foreign authorities

At national level, the SNB works closely with the Swiss Financial Market Supervisory Authority (FINMA) and the Federal Department of Finance (FDF) to create a regulatory framework that promotes stability. The SNB addresses the issue mainly from a systemic perspective, and its focus is therefore on the macroprudential aspects of regulation. For its part, FINMA is responsible, among other things, for the monitoring of individual institutions, i.e. microprudential supervision.

At international level, the SNB participates in the design of the regulatory framework through its membership of the Financial Stability Board, the Basel Committee on Banking Supervision and the Committee on Payments and Market Infrastructures (cf. chapters 7.2.2 and 7.2.3). In the oversight of cross-border financial market infrastructures, the SNB liaises closely with FINMA and with foreign authorities.

6.2 MAIN ACTIVITIES

Amendment and implementation of 'too big to fail' regulations

As envisaged by the Banking Act, the Federal Council assessed the Swiss 'too big to fail' (TBTF) regulations at the beginning of 2015 and requested appropriate amendments. The SNB participated in the working group which was convened for the purpose and led by the FDF. In May 2016, the Federal Council adopted the revised TBTF regulations, which entered into force on 1 July. The amendments involve the recalibration of requirements on capital (going concern) for all systemically important banks as well as the recalibration of requirements on loss-absorbing instruments in the event of restructuring or resolution (gone concern) for the globally active Swiss big banks. In addition, mandatory deadlines are set for systemically important banks to finalise the emergency plans for their Swiss operations. These amendments are a key step in the overall process of resolving the TBTF issue in Switzerland.

Gone-concern requirements for domestically focused systemically important banks

The requirements in the event of restructuring or resolution (gone concern) for domestically focused systemically important banks were not part of the amended TBTF regulations of 1 July 2016. The Federal Council is expected to formulate these requirements in 2017.

In its oversight of systemically important financial market infrastructures (FMIs), the SNB focused on the various implementation efforts in connection with the Financial Market Infrastructure Act (FMIA), which came into force on 1 January 2016. Furthermore, the SNB noted that FMIs were making considerable progress in managing credit and liquidity risks and were improving their recovery plans. An assessment of measures to ensure cyber security showed that the measures planned or taken by the FMI operators were adequate and appropriate.

Oversight of financial market infrastructures

6.3 MONITORING THE FINANCIAL SYSTEM

Financial Stability Report

Within the context of monitoring the financial system, the SNB analyses developments and risks in the Swiss banking sector. Its assessment is published, in particular, in its annual *Financial Stability Report*.

Big banks

The SNB observed that the two globally active Swiss big banks had improved their capital situation further. In order to meet the requirements of the revised TBTF regulations, however, the banks must further increase their loss-bearing capacity over the coming years. This applies to both going-concern capital, which is loss-bearing under regular operating conditions, and gone-concern instruments, which are used to recapitalise a bank in the event of imminent insolvency without recourse to government support. The SNB considered the further strengthening of big banks' resilience as provided for in the TBTF regulations to be essential for two reasons. First, the big banks' loss potential relative to their capitalisation continued to be substantial. Given their significance to the Swiss economy, it is important that the two big banks remain adequately capitalised, even after incurring such losses. Second, in an international comparison, their leverage ratios (unweighted capital ratios) are still below the average for large globally active banks. In this connection, the SNB also referred to the critical assessment by the markets of the resilience of banks, both in Switzerland and worldwide. By strengthening their resilience, banks can convince the markets of their soundness.

As far as emergency plans are concerned, both Swiss big banks took significant precautions in 2015 and 2016, by setting up Swiss subsidiaries which combine systemically important functions in one entity. The crucial factor is that the Swiss units become sufficiently independent from the rest of the bank, both operationally and financially. FINMA is responsible for the definitive assessment of the emergency plans.

Domestically focused banks

The SNB noted that the exposure of domestically focused banks, whose main activity is lending and deposit-taking business, to the mortgage and residential real estate markets had risen considerably once again. At the same time, the interest rate margins of these banks were stabilising at a low level. Domestically focused banks were able to maintain their resilience compared to the previous year. Overall, their capitalisation was well above regulatory minimum requirements, and was also appropriate according to SNB stress tests. The SNB emphasised, however, that the current low interest rate environment creates incentives to further increase interest rate or affordability risk exposures in lending business, which could lead to greater imbalances on the mortgage and residential real estate markets. A decisive factor for financial system stability is the banks' ability to maintain risk exposures at a sustainable level.

6.4 RISKS AND MEASURES RELATING TO MORTGAGE AND REAL ESTATE MARKETS

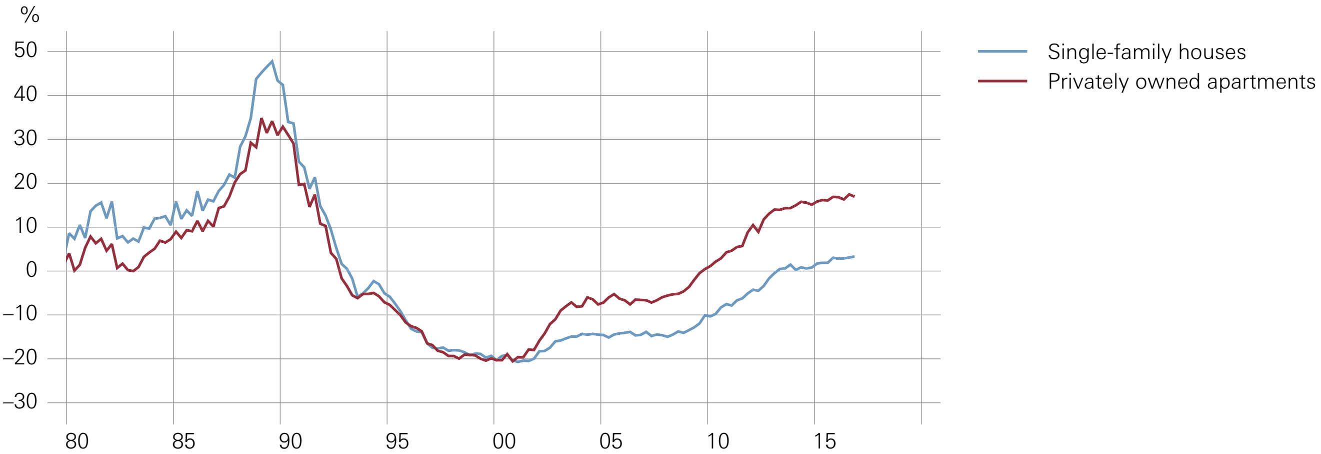
Developments and measures up to end-2015

Imbalances build up on the mortgage and real estate markets when mortgage volumes or residential property prices exhibit stronger growth than fundamentals, such as income or rents, over a long period of time. Owing to the strong growth in lending volumes and real estate prices, which has been observed for a number of years, by 2012 imbalances had already become so large that, in the SNB's view, they posed a threat to the stability of the banking system and hence to the Swiss economy.

In view of these risks, between 2012 and 2014 measures were implemented by various parties. For instance, the self-regulation rules for banks in the area of mortgage lending were revised and, at the proposal of the SNB, the CCyB on mortgage lending to finance residential real estate in Switzerland was first activated, and then increased. In addition, the risk weights specified in the Capital Adequacy Ordinance for mortgage loans with a high loan-to-value ratio were raised. These measures contributed to ensuring that, despite very low interest rates, there was scarcely any increase in imbalances on the mortgage and real estate markets over 2014, and they remained largely unchanged in 2015.

RESIDENTIAL PROPERTY: PRICE-TO-RENT RATIO

Producer and import prices, deviation from average 1970–2016, in percent



Sources: SFSO, SNB, Wüest Partner

Slightly reduced imbalances in 2016

Despite continuing exceptionally low interest rates, price momentum in the Swiss real estate market and mortgage growth were less strong in 2016 than in previous years. On the real estate market, imbalances remained largely unchanged at a high level, since prices overall developed in line with fundamentals such as rents in particular. Imbalances on the mortgage market, by contrast, decreased as a result of an upward revision of GDP estimates. Nevertheless, overall, imbalances on the Swiss mortgage and real estate markets at the end of the year were approximately on a par with 2014, when the CCyB was set at 2%.

No proposal for sectoral CCyB adjustment

The SNB monitors the situation on the mortgage and real estate markets closely, and regularly reassesses the need for an adjustment of the CCyB. In 2016, following an in-depth analysis, the SNB decided not to submit a proposal to the Federal Council for an adjustment of the sectoral CCyB on mortgage lending to finance residential property in Switzerland. The CCyB thus remained unchanged, at 2% of the corresponding risk-weighted positions. In light of the existing imbalances on the Swiss mortgage and real estate markets, this level was still considered appropriate.

Risks from an easing of lending conditions

The SNB stressed on a number of occasions that a decisive factor for financial system stability will continue to be the banks' ability to maintain risk exposures at a sustainable level. The current low interest rate environment creates strong incentives to increase risks in lending business. In particular, banks could incur greater interest rate risks by granting more loans with longer repricing maturities and without appropriate collateral. Furthermore, banks could incur higher affordability risks by easing the conditions applied to assess the affordability of a loan. Banks base their assessment on an imputed interest rate, the level of which is not set by the regulator. They typically use a rate of 5%, which roughly corresponds to the long-term average mortgage rate. The SNB pointed out on a number of occasions that a reduction in this imputed rate in the current environment could result in substantial risks for borrowers, lenders and the economy. In the short term, momentum in real estate prices and mortgage loans could increase. In the medium term, borrowers and thus lenders would be more vulnerable to unfavourable trends such as a sharp interest rate rise or an increase in unemployment.

6.5 ADDITIONAL MEASURES TO STRENGTHEN FINANCIAL STABILITY

6.5.1 IMPLEMENTATION OF 'TOO BIG TO FAIL' REGULATIONS

Purpose of TBTF regulations

The TBTF regulations are designed to reduce the risks to the stability of the Swiss financial system emanating from systemically important banks in particular; as such, the regulations complement the generally applicable banking legislation. In addition, the TBTF regulations aim to ensure that the economically important functions of these banks can be maintained in the event of imminent insolvency without the need for public sector support. The Banking Act envisages a division of the relevant responsibilities between the SNB, FINMA and the systemically important banks.

Decrees on systemic importance

The Banking Act gives the SNB the authority to designate banks and bank functions as systemically important, following consultation with FINMA. A bank is considered to be systemically important if it performs functions in domestic loan and deposit-taking business which are essential to the Swiss economy and cannot be substituted at short notice. Other criteria such as size, risk profile and interconnectedness are also taken into consideration when deciding on systemic importance. The SNB carries out the requisite assessment as part of a formal process culminating in the issuance of a decree. The SNB had already issued decrees between 2012 and 2015, designating Credit Suisse Group Ltd, UBS Inc., Zürcher Kantonalbank, the Raiffeisen Group and PostFinance Ltd as systemically important.

Special requirements

Systemically important banks must meet special requirements as regards capital, liquidity, risk diversification and emergency planning. The Banking Act gives FINMA the responsibility to define the requirements on capital, liquidity and risk diversification by decree, in consultation with the SNB. In addition, FINMA informs the public about the general content of the decree and compliance with it. In turn, the systemically important bank must draw up an emergency plan and demonstrate that this plan meets the legal requirements. If the bank fails to demonstrate compliance, FINMA will order that appropriate measures be taken.

6.5.2 REVIEW AND AMENDMENT OF 'TOO BIG TO FAIL' REGULATIONS

Background

The Banking Act stipulates that the Federal Council regularly reviews the status of Swiss TBTF regulations compared to international standards and their implementation. The first review by the Federal Council was carried out in 2015, based on the final report of the group of experts on the further development of the financial market strategy. It formed the basis for the revision of the TBTF provisions, which came into force on 1 July 2016. The second review was initiated in 2016.

Measures to strengthen resilience

In the first review, the Federal Council identified a need for action to further strengthen resilience and to improve the resolvability of systemically important banks. It instructed the FDF to submit proposals on the requisite legislative amendments. The SNB was represented in the FDF working group responsible for drawing up the proposals.

To improve the resilience of systemically important banks, the amended TBTF regulations increase the going-concern capital requirements, above all with regard to the leverage ratio. This puts Switzerland back among the international leaders in terms of capital requirements. The SNB considers this essential given that, in an international comparison, the systemically important Swiss banks are particularly large relative to the economy.

Improved big bank resolvability

The revised TBTF regulations also include measures to improve the resolvability of the two big banks. For instance, the requirements on loss-absorbing instruments in the event of restructuring or resolution (gone concern) have been significantly increased. In the event of imminent insolvency, these instruments can be written off or converted into equity and thus form the basis for a bank to be restructured or resolved in an orderly manner.
In addition, the revised TBTF regulations prescribe that the two big banks finalise their Swiss emergency plans, which guarantee the uninterrupted continuation of systemically important functions in the event of imminent insolvency, by the end of 2019. These measures will create the prerequisites for improved resolvability.

The requirements for loss-absorbing instruments in the event of restructuring or resolution (gone concern) for domestically focused systemically important banks were not part of the amended TBTF regulations of 1 July 2016. The Federal Council is expected to formulate these requirements in 2017.

Gone-concern requirements for domestically focused systemically important banks

6.6 OVERSIGHT OF FINANCIAL MARKET INFRASTRUCTURES

6.6.1 BACKGROUND

Mandate

The NBA (art. 5 and arts. 19–21) requires the SNB to oversee systemically important central counterparties, central securities depositories and payment systems in accordance with art. 22 of the Financial Market Infrastructure Act (FMIA). To this end, the SNB cooperates with FINMA as well as with foreign supervisory and oversight authorities. The National Bank Ordinance (NBO) sets out the details of the oversight of systemically important FMIs.

Focus on systemically important FMIs

At present, the FMIs that could harbour risks for the stability of the financial system include the central counterparty SIX x-clear, the central securities depository SIX SIS and the Swiss Interbank Clearing (SIC) payment system. These are operated by SIX x-clear Ltd, SIX SIS Ltd and SIX Interbank Clearing Ltd, which are subsidiaries of SIX Group Ltd.

Other systems that are important for the stability of the Swiss financial system are the Continuous Linked Settlement (CLS) foreign exchange settlement system and the central counterparties LCH.Clearnet Ltd (LCH) and Eurex Clearing. The operators of these FMIs are domiciled in the US, the UK and Germany.

Cooperation with FINMA ...

SIX x-clear and SIX SIS both hold banking licences and are subject to prudential supervision by FINMA as well as to oversight by the SNB. Although FINMA and the SNB exercise their supervisory and oversight powers separately, they coordinate their activities. Oversight of SIC is exclusively the SNB's responsibility.

... and with foreign authorities

For the oversight of Swiss FMIs with cross-border activities, the SNB cooperates with foreign authorities, in particular the European Securities and Markets Authority (ESMA), authorities in the Netherlands and Norway, and the Bank of England. For the oversight of FMIs domiciled abroad, namely CLS, Eurex Clearing and LCH, the SNB cooperates with the relevant foreign authorities. The SNB also participates in the oversight of the Belgium-based Society for Worldwide Interbank Financial Telecommunication (SWIFT), which operates a global network for the transmission of financial messages.

6.6.2 IMPLEMENTATION OF THE FINANCIAL MARKET INFRASTRUCTURE ACT

New regulatory and supervisory framework

The Financial Market Infrastructure Act (FMIA), which came into force on 1 January 2016, establishes a new regulatory and supervisory framework for FMIs in Switzerland. The SNB was involved in various implementation activities during 2016.

Responsibilities of FINMA and the SNB

The FMIA includes general requirements aimed at all FMIs. In addition, the NBO contains special requirements which exclusively apply to systemically important FMIs. FINMA and the SNB work closely together in assessing whether a systemically important FMI is complying with the general and special requirements. The responsibilities set out in the FMIA specify that FINMA supervises compliance with the general requirements, insofar as this is not already monitored by the SNB as part of its oversight of the special requirements (art. 83 para. 2 FMIA). In 2016, in order to avoid overlaps in the execution of their tasks, FINMA and the SNB stipulated which general requirements are covered by the special requirements and are therefore monitored by the SNB. These include the requirements on managing liquidity risks.

SIX x-clear and SIX SIS, which previously were regulated as banks, lodged an application with FINMA in December 2016 to become subject to regulation as a central counterparty and central securities depository respectively. As part of this approval process, the SNB will assess whether SIX x-clear and SIX SIS comply with the relevant special requirements.

Approval process for systemically important Swiss FMIs

Foreign central counterparties must obtain FINMA recognition if they provide services for Swiss participants or Swiss FMIs or if they clear trades in the same market or markets with a central counterparty in Switzerland (art. 60 FMIA). As part of this process, the SNB assesses whether the foreign central counterparty is systemically important. Seven requests for recognition were submitted to FINMA in 2016. In the case of two central counterparties, the SNB concluded that they were not systemically important. The remaining assessments were still ongoing as at the end of 2016.

Designation of foreign central counterparties as systemically important

The FMIA stipulates that the SNB determines which business processes at FMIs are systemically important. Certain special requirements only apply to these business processes. In 2016, the SNB designated the systemically important business processes at SIX Interbank Clearing and SIX x-clear. The designation process for systemically important business processes at SIX SIS was still ongoing as at the end of 2016.

Designation of systemically important business processes

6.6.3 MAIN FOCUS OF OVERSIGHT

In 2016, the SNB assessed compliance by the operators of systemically important FMIs with the special requirements set out in the NBO.

Assessment of compliance with special requirements

The SNB observed that SIX x-clear and SIX SIS had taken various steps to further improve their management of credit and liquidity risks. In particular, they had largely implemented the strategies drawn up in the previous year to manage liquidity risks. These are aimed at ensuring that the FMIs can meet their payment obligations on time even in extreme stress situations.

Improvement of risk management

Assessment of recovery plans

The SNB assessed the recovery plans submitted by the FMIs and delivered its opinion. It noted that SIX x-clear and SIX SIS, respectively, had made substantial/specific improvements to their plans, and all/some of the expectations communicated by the SNB in the previous year had been met. The SNB also conveyed its expectations with respect to the further development of the recovery plans.

Review of cyber security

To assess the IT and information security of FMIs, the SNB relies mainly on external auditors. In 2016, the audits – whose scope and degree of detail are determined by the SNB – concentrated on ensuring cyber security. This includes measures to protect against disruptions, manipulations, sabotage and targeted attacks via electronic networks. The audit findings showed that the measures planned or taken by the FMI operators were adequate and appropriate.

Other focal points

The SNB maintains an intensive dialogue with the operators of the FMIs subject to oversight, in order to ensure that projects impacting the business activities, IT facilities or the risk profile are commented on at an early stage. In 2016, the SNB monitored a number of IT projects. After preparatory work over a number of years, SIC Ltd commenced operating a new technical platform for the SIC system (cf. chapter 4). SIX x-clear introduced, in several steps, a new risk management application which allows more effective management of credit and liquidity risks. Finally, SIX Group Ltd launched a new data centre.

7 Involvement in international monetary cooperation

7.1 BACKGROUND

Mandate

The Swiss National Bank (SNB) participates in international monetary cooperation. To this end, it works jointly with the Federal Council (art. 5 para. 3 of the National Bank Act (NBA)). The objective of international monetary cooperation is to promote the functioning and stability of the international monetary and financial system and help overcome crises. As a globally integrated economy with a major financial centre and its own currency, Switzerland derives particular benefit from a stable international monetary and financial system.

Forms of international monetary cooperation

The SNB is involved in international monetary cooperation through its participation in multilateral institutions such as the International Monetary Fund (IMF), the Bank for International Settlements (BIS), the Financial Stability Board (FSB) and the Organisation for Economic Co-operation and Development (OECD). Participation in the IMF, FSB and OECD is in cooperation with the Confederation and, in the case of the FSB, also with the Swiss Financial Market Supervisory Authority (FINMA). Furthermore, the SNB cooperates with the Confederation in providing international monetary assistance. Finally, it cooperates on a bilateral level with other central banks and authorities. As part of this cooperation, the SNB provides technical assistance to central banks – mainly those from the group of countries with which Switzerland forms a constituency in the IMF.

7.2 MULTILATERAL COOPERATION

7.2.1 INTERNATIONAL MONETARY FUND

Participation in the IMF

The SNB contributes to IMF activities and decisions in collaboration with the Confederation. Switzerland exercises its influence through its representation on the Board of Governors, in the International Monetary and Financial Committee (IMFC) and on the Executive Board of the IMF. Against the background of considerable uncertainty about global economic developments, the main focus of IMF activities in 2016 was on approving and granting loans, as well as on ensuring an appropriate supply of funding resources. In addition, as part of its surveillance of economic and financial policies, the Fund provided advice to its members with a view to strengthening the resilience of their economies.

Persistently high lending

Loan commitments by the IMF to members facing acute or potential balance of payments difficulties remained high in 2016. At year-end, there were regular (non-concessional) IMF lending programmes in 23 countries, totalling SDR 119.2 billion. Of this amount, SDR 86.1 billion were accounted for by what are referred to as insurance facilities (mainly the Flexible Credit Line), which allow countries to access the IMF's resources on a precautionary basis. Loan commitments and outstanding loans under both current and completed lending arrangements amounted to SDR 159.0 billion.

Support to Ukraine

In 2016, a large proportion of the financial support provided by the IMF once again went to Ukraine. Implementing the four-year Extended Arrangement approved in March 2015 was difficult, and the completion of the second programme review was delayed. However, in September 2016, the IMF assessed that Ukraine's progress in implementing the programme was sufficient to allow the review to be completed and a further loan tranche to be disbursed. Disbursements to Ukraine under the current programme thus came to SDR 5.4 billion, out of a total available loan amount of SDR 12.3 billion.

IMF commitment in Greece

As a result of drawdowns under earlier lending arrangements, Greece continued to be one of the IMF's largest borrowers. The last lending arrangement between Greece and the IMF dates from March 2012 and was terminated at the beginning of 2016 at the request of the Greek government. The IMF subsequently reiterated its willingness to grant further financial assistance to Greece, provided the requisite conditions are met. The IMF emphasised that, in particular, debt sustainability must be ensured. It was not enough to implement structural reforms and austerity measures. Rather, cancellation of a significant debt amount was necessary for achieving debt sustainability. By end-2016, no agreement had been reached on an IMF programme to support the Greek assistance programme under the European Stability Mechanism (ESM) set up in August 2015.

The IMF and Switzerland

The IMF is the central institution for international monetary cooperation. It promotes the stability of the global monetary and financial system as well as macroeconomic and financial stability in its member countries. Its main fields of activity are economic policy surveillance, the provision of financial support to countries faced with balance of payments difficulties, and technical assistance. The IMF has 189 member countries.

Switzerland is jointly represented in the IMF by the Federal Department of Finance (FDF) and the SNB. The Chairman of the SNB's Governing Board is a member of the IMF's highest decision-making body, the Board of Governors, which consists of a representative from each member country. The Head of the FDF is one of the 24 members of the IMFC, the IMF's steering committee.

Switzerland has been a member since 1992 and is part of a voting group (constituency) whose other members are Azerbaijan, Kazakhstan, the Kyrgyz Republic, Poland, Serbia, Tajikistan and Turkmenistan. Since November 2014, Switzerland and Poland have alternated in appointing the constituency's executive director, for two years each time. This director holds one of the 24 seats on the Executive Board, the IMF's most important operational body. The post of Swiss executive director is held alternately by a representative of the FDF and the SNB. The FDF and the SNB determine Switzerland's policy in the IMF and support the constituency's executive director in his or her activities.

IMF financing and lending capacity

The IMF mainly finances its lending through member country quotas (cf. box 'Quota'). At year-end 2016, total quotas amounted to SDR 475 billion. However, quotas are only available from countries that are not facing balance of payments difficulties. Excluding the resources used for current programmes and a liquidity buffer, at the end of 2016 the IMF had SDR 208.7 billion of resources available for new loan commitments. The New Arrangements to Borrow (NAB) serve as supplementary financing for use in crisis situations. By the end of 2016, funds under the NAB were only being used to finance loans granted during earlier activation periods. If necessary, the NAB could be reactivated, which would provide the IMF with funds of up to SDR 182 billion. Finally, in addition to the quotas and the NAB, the IMF can draw on resources under existing bilateral loan agreements amounting to SDR 262.6 billion (as at end-2016).

Special Drawing Right
The Special Drawing Right (SDR) is an international reserve currency which the IMF introduced in 1969 to supplement member countries' existing reserve assets. The Fund uses the SDR as a means of payment and unit of account for its financial transactions with member countries. It creates SDRs as needed and allocates them to member countries in proportion to their quotas. Member countries may use these SDRs directly as a means of payment for their transactions with the IMF. SDRs also represent a claim on currency reserves of other IMF member countries. Through voluntary trading arrangements with a number of member countries, including Switzerland, the IMF ensures that the exchange of SDRs for currency reserves functions smoothly. The value of the SDR is based on a basket of currencies. The IMF reviews the composition and weighting of the currency basket every five years. In November 2015, the IMF decided that, as of 1 October 2016, the Chinese currency, the renminbi, would join the US dollar, the euro, the yen and the pound sterling as the fifth currency in the basket. At the end of 2016, one SDR was equivalent to CHF 1.37 or USD 1.34.

Entry into force of quota and governance reform

The strong rise in demand for loans in the wake of the financial crisis prompted the IMF Board of Governors in 2010 to double the quotas to SDR 476.8 billion. This doubling was part of a comprehensive package of reforms that also included a governance reform and involved a major realignment of quota shares in favour of emerging economies and developing countries. The reform package also aimed to reduce the number of executive directors representing advanced European economies by two.

The reform entered into force at the end of January 2016, after the US Congress approved it in December 2015, removing the last major hurdle to the package's ratification. Member countries must pay in a quarter of their quota increase in international currency, while the rest can be in their own domestic currency. For countries without sufficient reserves, the IMF arranged short-term bridging loans. At the request of the IMF, the SNB also granted such loans to some of these countries.

Quota

When a country joins the IMF, it is assigned a quota based broadly on its relative position in the world economy. The quota is expressed in terms of Special Drawing Rights, the unit of account used by the IMF. GDP, economic and financial openness, the variability of trade and capital flows, and the level of reserve positions are all used in the formula to calculate the quota.

The quota fulfils three important functions. First, a member's quota determines the maximum amount of financial resources the member is obliged to provide to the IMF. Second, the quota largely determines a member's voting power in IMF decisions. Third, the amount of financing a member can obtain from the IMF is based on its quota. The quota is thus decisive for the financial and organisational relationship between a member country and the IMF.

Members' quotas are reviewed at regular intervals and adjusted as required. The last review was conducted in 2010; the quota reform came into force in January 2016. Work on the next quota review is under way and is due to be completed in 2019.

Handover of executive director position to Poland

For Switzerland, the augmentation and realignment of the quotas meant an increase in its quota from SDR 3.5 billion to SDR 5.8 billion, but a decrease in its quota share from 1.45% to 1.21%. However, owing in particular to the fact that Poland and Kazakhstan's quota shares increased, the overall quota of the Swiss-led constituency remained about the same. As a result of the IMF's aim to reduce the number of executive directors representing advanced European economies, Switzerland shares its chair on the Executive Board with Poland. In November 2016, the position was handed over to Poland as agreed, for its first two-year tenure. During this period, Switzerland will be represented on the Executive Board by an alternate executive director. Switzerland will continue to represent the constituency in the IMFC.

Reduction of NAB

In connection with the decision in 2010 to double the size of the IMF quotas, it was agreed to reduce the NAB by roughly the same magnitude, once the quota reform had been implemented. Following the entry into force of the reform in January 2016, the NAB were reduced from SDR 370 billion to SDR 182 billion. The composition of the IMF's resources thus shifted, away from the NAB and towards the quotas. The SNB's maximum loan commitment under the NAB decreased from SDR 10.9 billion to SDR 5.5 billion.

NAB and GAB

The New Arrangements to Borrow (NAB) form a financial safety net for the IMF. In addition to its regular resources, activation of the NAB can provide the IMF with up to SDR 182 billion. The NAB are activated for a specified period (six months at most). The amount activated is based on an estimate by the IMF of the expected contingent liabilities. There are now 38 member countries participating in the NAB. The SNB is the institution representing Switzerland.

In an exceptional crisis and in the event of a shortage of funds, the General Arrangements to Borrow (GAB) permit the IMF to borrow funds in the amount of SDR 17 billion from the G10 countries according to an agreed distribution key. The GAB can only be drawn down if agreement has not been reached under the NAB. The SNB is also the institution representing Switzerland in the GAB.

Temporary increase in IMF resources through bilateral borrowing

In 2012, the IMF decided to undertake an exceptional, temporary increase in its resources by engaging in bilateral borrowing. The IMF subsequently concluded agreements with 35 countries for approximately SDR 280 billion (2012 round). A considerable number of these agreements expired between October 2016 and March 2017. In August 2016, the Executive Board approved a new framework for temporary bilateral borrowing, in order to maintain the IMF's access to such resources in view of the ongoing uncertainty about global economic developments. The agreements under the new framework have a common maximum term of end-2020. By end-2016, the IMF had received bilateral loan commitments amounting to SDR 277.1 billion under the new framework. Switzerland was unable to participate in the 2012 round, owing to the provisions of the Monetary Assistance Act. However, it announced its willingness in principle to contribute to the new round of agreements, once the revision of the Monetary Assistance Act has been completed (cf. chapter 7.3.1).

Concessional lending arrangements

In low-income countries, the IMF provides concessional lending arrangements, which it finances via the Poverty Reduction and Growth Trust (PRGT). At the end of 2016, total loan commitments and outstanding loans under current and completed PRGT arrangements amounted to SDR 8.0 billion, of which SDR 1.5 billion had not yet been drawn down. Outstanding PRGT loans totalled SDR 6.5 billion. SDR 3.6 billion of that amount went to the 19 countries with current lending arrangements.

Swiss contribution to PRGT financing

Switzerland contributes to the financing of the PRGT through loans and interest subsidies. The legal basis for this is provided by the Monetary Assistance Act (cf. chapter 7.3.1). The loans to the PRGT are granted by the SNB and guaranteed by the Confederation. Switzerland's participation in the interest subsidies is financed by the Confederation. The SNB has concluded two such loan agreements. The first loan, from 2001, amounted to SDR 250 million. It was fully disbursed and has been partially repaid in the meantime; at the end of 2016, SDR 69.0 million (CHF 94.3 million) were outstanding. The second loan, from 2011, amounted to SDR 500 million, of which SDR 44.6 million (CHF 61.0 million) had been disbursed by the end of 2016.

In November 2015, the IMF asked Switzerland and other countries to make a contribution to top up the PRGT loan account. Its objective was to ensure that sufficient funds would still be available in future for granting loans to poorer countries. The Fund is seeking commitments of SDR 11 billion in total. The Federal Council responded by submitting a request to the SNB to grant an additional loan to the PRGT in the amount of SDR 500 million. The SNB consented to the request in July 2016. Before the SNB can grant this loan, the National Council and the Council of States must approve the federal guarantee to the SNB. The Federal Council submitted a corresponding dispatch to parliament on 30 September 2016.

Switzerland's reserve position

Both Switzerland's IMF quota and the GAB and NAB contributions are funded by the SNB. The used portions of the Swiss quota and of the Swiss contribution to the NAB together equal Switzerland's reserve position in the IMF. This reserve position represents a liquid asset of the SNB vis-à-vis the IMF and thus forms part of the currency reserves. At the end of 2016, Switzerland's reserve position amounted to SDR 1.0 billion (CHF 1.3 billion), compared with SDR 1.2 billion (CHF 1.6 billion) a year earlier.

THE SNB'S FINANCIAL COMMITMENT TO THE IMF

In CHF billions

	Maximum	End-2016 Drawn down
Quota	7.886	0.018
GAB and NAB	7.571	1.323
PRGT[1]	0.777	0.155
SDR[2]	2.246	–0.087

1 With federal guarantee.
2 As part of the voluntary trading arrangement with the IMF, the SNB has committed itself to purchase (+) or sell (–) SDRs against foreign currencies (USD, EUR) up to the agreed maximum of SDR 1.644 billion (CHF 2.246 billion).

Article IV consultation

Within the context of its Article IV consultations, the IMF regularly reviews the economic policies of its member countries and issues recommendations. On 21 November 2016, the IMF Executive Board concluded the annual Article IV consultation with Switzerland. The IMF recognised that the resilience of the Swiss economy was high, given the appreciation of the Swiss franc following the discontinuation of the minimum exchange rate at the beginning of 2015. Owing to the gradual unwinding of the real overvaluation of the Swiss franc, the Fund was expecting a sustained economic recovery in Switzerland. It noted that there were potential risks inherent in a resurgence of financial market volatility, in the situation on the mortgage and real estate markets, and in the uncertainty surrounding economic relations with the EU in connection with the implementation of the mass immigration initiative.

IMF recommendations

Against this background, the IMF recommended that the course of monetary and budget policy be maintained, and merely called for some refinements. In the IMF's view, the implementation of the SNB's monetary policy strategy, combining negative interest rates with a willingness to intervene in the foreign exchange market, has proved its worth in countering an excessive appreciation of the Swiss franc and, hence, negative inflation. It recommended that the SNB examine whether the interaction of these two instruments could be better calibrated. Finally, the IMF welcomed the entry into force of some reforms aimed at strengthening financial sector stability, especially as regards the capitalisation of banks. At the same time, it cautioned that potential risks to the financial sector, related to the very low level of interest rates, should be monitored and reduced where possible. In particular, the Fund recommended that the build-up and concentration of financial institutions' mortgage and real estate claims should continue to be monitored closely, despite the slight slowdown in momentum that had taken place.

In May 2016, the SNB and the IMF jointly hosted a conference on the international monetary system for the seventh time. The event brought together high-level representatives of central banks and finance ministries, as well as leading economists and economic commentators. This year's conference was on the development of the international monetary system ('Towards a System of Multiple Reserve Currencies: Challenges and Opportunities').

Conference on international monetary system

7.2.2 BANK FOR INTERNATIONAL SETTLEMENTS

The Bank for International Settlements (BIS) is an international organisation headquartered in Basel. It fosters international monetary and financial cooperation and serves as bank and forum for central banks. The SNB has occupied one of the seats (currently 20) on the BIS Board of Directors since its foundation in 1930.

The BIS as bank and forum for central banks

The governors of member central banks convene every two months for a series of meetings ('the bimonthly meetings'), to discuss developments in the global economy and the international financial system, and also to guide and oversee the work of the various committees. The SNB participates in four standing committees of the BIS: the Basel Committee on Banking Supervision, the Committee on Payments and Market Infrastructures, the Committee on the Global Financial System and the Markets Committee. Additionally, it participates in various groups of experts.

The Basel Committee on Banking Supervision brings together high-ranking representatives of banking supervisory authorities and central banks from 28 jurisdictions, including Switzerland. It issues recommendations and sets international standards in the area of banking supervision.

Basel Committee on Banking Supervision

In 2016, the Basel Committee made further progress on finalising the reform package agreed upon in the wake of the 2008 financial crisis (Basel III). The reforms are aimed at reducing the excessive variability in risk-weighted assets (RWA) that has been observed between different banks for the same risks and is caused by the use of banks' internal models. The Committee evaluated the results obtained from consultations on the revised standardised approaches for credit and operational risks and on the design of a floor for model-based RWA. On this basis, the reform package was refined further. Final calibration of the package is still pending.

Current status of Basel III

Committee on Payments and Market Infrastructures

The Committee on Payments and Market Infrastructures (CPMI) promotes the safety and efficiency of cashless payment arrangements and market infrastructures via which financial market transactions are cleared or settled.

In 2016, the Committee published three reports on various aspects of cashless payments. The first report analysed developments in cross-border payments between banks, and provided a number of recommendations to facilitate the associated services of correspondent banks. The second looked at payment services that can be used around the clock and make funds immediately available to the payee (fast payments). The third, published jointly with the World Bank, examined the role of payment services in promoting financial inclusion among populations previously excluded from formal access to financial services. In addition, together with the International Organization of Securities Commissions (IOSCO), the Committee published guidance on cyber resilience for financial market infrastructures.

Committee on the Global Financial System

The Committee on the Global Financial System (CGFS) monitors developments in international financial markets and analyses their impact on financial stability.

In addition to examining current economic topics, the Committee's focus in 2016 was on the impact of the low interest rate environment on banks' and insurance companies' profitability, and on corporate balance sheets in general. As well as its regular meetings, the CGFS also held two workshops. The first looked at research on global financial stability, based on the use of the BIS's banking and financial statistics. The second workshop was on ex ante appraisal of the impact of macroprudential instruments. The findings of the second workshop were published in a report, in which the CGFS recommended that appraisals of macroprudential instruments should call upon as wide a range of expertise as possible, thereby supporting quantitative analyses. The Committee also prepared two further reports. In the first, it examined, together with the Markets Committee, fixed income market liquidity. It concluded that stricter capital requirements and other measures would improve the stability of the financial system in the medium term. In the second report, it analysed the relationship between objective-setting and communication of macroprudential policies.

Markets Committee

The Markets Committee examines current developments in money, foreign exchange, capital and commodity markets, as well as the functioning of these markets.

In 2016, the work of the Markets Committee once again centred on unconventional monetary policy measures by central banks. Other topics of discussion were the market reactions to political events such as the UK vote to leave the EU (Brexit) and significant price movements such as the sudden sharp depreciation (flash event) of the pound sterling in early October 2016. Developments on the cross-currency basis swap markets and the impact of the reform of US money market fund regulations were also discussed. The evaluation of the Triennial Central Bank Survey of global foreign exchange and OTC derivatives markets, which the BIS carries out under the guidance of the Markets Committee and the CGFS, provided insights into structural trends on the foreign exchange market. Moreover, the implications of digital financial innovation (fintech) for central banks' monetary policy operations were a focus for discussion. In March, the Committee held a seminar for central bank financial market experts, at which participants discussed procedures and experience with the collection and analysis of market intelligence. Finally, the Markets Committee supported the activities of a central bank working group, in consultation with market participants, to establish a code of conduct for the foreign exchange market (FX Global Code).

7.2.3 FINANCIAL STABILITY BOARD

Swiss representation in the FSB

The Financial Stability Board (FSB) brings together national authorities responsible for financial stability (central banks, supervisory authorities, finance ministries), international organisations and standard-setting bodies. Switzerland is represented in the Plenary by the SNB and the FDF. The SNB is also a member of the Steering Committee and the Standing Committee on Assessment of Vulnerabilities. Representation in other committees and working groups is shared between FINMA, the FDF and the SNB, who collaborate closely to formulate Switzerland's position.

Risks in financial system

The FSB assesses risks in the financial system and the measures to address such risks. In this connection, the FSB has been involved in a number of financial system reforms. In 2016, its Plenary noted that the global financial system had become more resilient as a result of the reforms implemented. However, the continuing economic uncertainty had revealed the importance of implementing agreed reforms fully. In addition, the analysis of potential risks to financial stability which could arise from the growing importance of asset managers was the basis for recommendations to national authorities. Following a consultation phase, these recommendations were revised in June 2016, and published at the beginning of 2017.

Standard on total loss-absorbing capacity

From the SNB's standpoint, efforts to resolve the 'too big to fail' issue continued to be of central importance. The new standard on total loss-absorbing capacity (TLAC) for global systemically important banks was finalised in 2015. Based on this standard, the FSB developed guiding principles on internal TLAC. Internal TLAC refers to loss-absorbing capacity at the material sub-group level. The new guiding principles were released for consultation in 2016.

Funding in restructuring or resolution of banks

In addition to sufficient loss-absorbing capacity, sufficient liquidity is an important prerequisite for the successful restructuring or resolution of a bank. The FSB therefore drew up guiding principles on ensuring liquidity in the event of restructuring or resolution ('funding in resolution'). The aim is, first, to provide incentives for ensuring that as large a proportion as possible of the resolution funding comes from private sources. Second, the guiding principles describe various types of public sector backstop mechanism to allow the orderly resolution of global systemically important banks and minimise the risk of moral hazard. The guiding principles on liquidity in resolution were published in August 2016.

Focus on digitalisation in financial sector

In addition, the FSB intensified its focus on digitalisation in the financial sector. Working together with other international bodies, the FSB took stock of, inter alia, digital credit intermediation, distributed ledger technologies and possible approaches for the oversight of fintech. The FSB decided to look in greater depth at regulatory and supervisory issues relating to digitalisation in the financial sector. This work will, in particular, focus on financial stability considerations.

7.2.4 OECD

Participation

Switzerland is a founding member of the Organisation for Economic Co-operation and Development (OECD). It works in the organisation's intergovernmental committees to promote the development of relations among the 35 member countries with regard to economic, social and development policies.

Together with the federal government, the SNB represents Switzerland on the Economic Policy Committee (EPC), the Committee on Financial Markets (CMF), and the Committee on Statistics and Statistical Policy (CSSP). On a political and academic level, the EPC and its working groups deal with current developments in the global economy as well as with structural policy. The CMF analyses ongoing developments in the international financial markets and examines regulatory issues. The CSSP drafts standards for the national accounts in coordination with other international organisations.

OECD recommendations for Switzerland

Every two years, the OECD performs a detailed analysis of the economy of every member country. The results are published in country reports. This will be the case for Switzerland at the end of 2017. Preparations began in 2016, as ever in close cooperation with the Confederation and the SNB. The OECD also publishes its global *Economic Outlook* twice a year, containing updated economic policy recommendations and macroeconomic assessments of every member country. In 2016, the OECD once again assessed the SNB's monetary policy to be appropriate, but noted the growing risks associated with the long period of negative interest rates. It called for continued vigilance with regard to the residential real estate market.

7.2.5 G20

Switzerland's participation in G20 meetings

In 2016, the Confederation and the SNB once again took part in the meetings of finance ministers and central bank governors from the world's major advanced and emerging economies (the G20). Following Switzerland's attendance at these meetings for the first time in 2013, when Russia held the presidency, it was invited to attend once again by the Chinese presidency.

7.3 BILATERAL COOPERATION

7.3.1 MONETARY ASSISTANCE

Principles

The division of responsibilities between the SNB and the Confederation regarding the granting of monetary assistance loans is specified in the Federal Act on International Monetary Assistance (Monetary Assistance Act) of 19 March 2004. The Federal Council may instruct the SNB to grant loans or guarantees aimed at preventing or remedying serious disruptions in the international monetary system. A credit line amounting to CHF 10 billion has been established for such an eventuality. The SNB may also be requested to grant a loan to the IMF's special funds. In such a case, however, a special guarantee credit must be approved by the Federal Assembly.

Lending to Ukraine

At the instruction of the Confederation, the SNB concluded a bilateral loan agreement with the National Bank of Ukraine in April 2016, for a maximum amount of USD 200 million. This bilateral loan is part of an internationally coordinated assistance package to achieve financial stability in Ukraine, comprising an IMF programme and bilateral agreements with other countries. The legal basis for the loan between the SNB and the National Bank of Ukraine is the Monetary Assistance Act. The Confederation has given the SNB a guarantee for timely reimbursement and interest payments. The loan is tied to the implementation of the extended arrangement under the IMF's Extended Fund Facility and must not be used to finance the military budget. It will be disbursed in stages based on the payout of tranches under the extended arrangement. A first tranche was disbursed at the beginning of March 2017.

Revision of Monetary Assistance Act

The Federal Council submitted a dispatch on the revision of the Monetary Assistance Act to parliament on 30 September 2016. In particular, the maximum duration of monetary assistance in systemic crisis situations should increase from the current seven years to ten. This is in line with the IMF's call, in the wake of the global financial crisis, for ten-year terms for additional funding via bilateral loans. The extension of the term would ensure that Switzerland can continue to participate in measures to stabilise the international monetary and financial system (cf. chapter 7.2.1). Another amendment concerns the SNB's involvement in monetary assistance. The SNB should now be able to participate in monetary assistance for individual countries under the Monetary Assistance Act, even where there is no actual or potential disruption to the international monetary system. In such cases, the Federal Council should be able to request that the SNB grant a loan. Once again, the Confederation would provide the SNB with a guarantee for timely reimbursement and interest payments. The SNB supports the amendment proposals.

7.3.2 COOPERATION WITH OTHER CENTRAL BANKS AND FOREIGN AUTHORITIES

The SNB cultivates regular bilateral contacts with other central banks and foreign authorities.

Cooperation with Liechtenstein

Switzerland and the Principality of Liechtenstein concluded a Currency Treaty in 1980. Before that date, a de facto monetary union had existed between the two countries for almost 60 years. Under the Currency Treaty, the Swiss franc became legal tender in Liechtenstein, and the SNB became the country's central bank. As a result, certain Swiss legal and administrative regulations relating to monetary policy are applicable in Liechtenstein, in particular the National Bank Act and the National Bank Ordinance. It is the task of the SNB to provide Liechtenstein financial institutions with liquidity. Liechtenstein banks, like Swiss banks, are obliged to submit the data required for the conduct of monetary policy and for the compilation of banking statistics. The SNB cooperates closely with the relevant authorities in Liechtenstein. The government of the Principality of Liechtenstein and the Governing Board of the SNB meet regularly for an exchange of views.

Cooperation with the PBC

For some years now, the SNB has been strengthening its cooperation on financial matters with the Chinese central bank, the People's Bank of China (PBC). The main focus has been the establishment of a renminbi market in Switzerland. Both central banks fulfilled an important prerequisite when they signed a bilateral swap agreement in July 2014. In addition, at the beginning of 2015, the PBC and the SNB concluded a memorandum of understanding on the establishment of renminbi clearing arrangements in Switzerland. In November 2015, following the granting of a banking licence by FINMA, the PBC authorised the Swiss branch of China Construction Bank to be the first renminbi clearing bank in Switzerland, and authorised direct trading between the renminbi and the Swiss franc. The cooperation between Switzerland and China continued with the fourth bilateral financial dialogue in November 2016.

Financial dialogue

The SNB also participates with other countries in bilateral financial dialogues, which are led by the State Secretariat for International Financial Matters (SIF) in liaison with various federal institutions and associated enterprises. In 2016, the SNB took part in financial dialogues with China, the UK, Iran, Russia and Singapore.

7.3.3 TECHNICAL ASSISTANCE

The SNB provides technical assistance to other central banks upon request. This usually takes the form of individual consultations by SNB experts, either at the central bank concerned or in Switzerland. In addition, the SNB is involved in cross-national activities to promote the exchange of central bank-specific expertise between central banks.

Focus of technical assistance

As in previous years, in 2016 the SNB primarily provided assistance to the central banks from the group of countries with which it forms a constituency in the IMF (cf. chapter 7.2.1). Bilateral projects were pursued mainly with the central banks of the Kyrgyz Republic and Tajikistan. For example, SNB experts supported the National Bank of the Kyrgyz Republic in developing a model for conducting stress tests on the Kyrgyz banking sector. In addition, the SNB advised the National Bank of the Republic of Tajikistan on operational issues relating to the implementation of monetary policy.

International events

Since 2014, the SNB, together with the IMF and the State Secretariat for Economic Affairs (SECO), has supported the network of central bank practitioners from its constituency, as well as other countries from Eastern Europe, the Caucasus and Central Asia. In this context, in January 2016, a meeting was held at the Joint Vienna Institute to once again share experience on the challenges of implementing monetary policy in this region. Furthermore, in May 2016 the SNB and the National Bank of Poland jointly hosted an annual research conference in Warsaw for the 13th time. The conference was also aimed at central bank economists from the constituency, as well as other countries from Eastern Europe, the Caucasus and Central Asia, and focused on macroprudential topics.

Study Center Gerzensee

The Study Center Gerzensee is an SNB foundation. It acts as a training centre for central bank employees, bankers and economists from Switzerland and abroad, and also provides a meeting place for executives from the fields of politics and economics. In 2016, the Center once again organised two to three-week courses on monetary policy and financial markets for employees of foreign central banks. As in previous years, guest presentations by employees of the SNB and other institutions formed an integral part of the courses. Altogether, 150 participants from 85 countries attended the 6 courses.

8 Banking services for the Confederation

Mandate

The Swiss National Bank (SNB) provides banking services to the Confederation (art. 5 para. 4 and art. 11 of the National Bank Act).

Remuneration for banking services

The SNB provides these banking services to the Confederation in return for adequate compensation. However, they are provided free of charge if they facilitate the implementation of monetary policy. Services subject to remuneration comprise account management, payment transactions, liquidity management, the custody of securities and the issue of money market debt register claims (MMDRCs) and Confederation bonds. Details of the services to be provided and the remuneration are laid down in an agreement concluded between the Confederation and the SNB.

Issuing activities

In 2016, the SNB issued both MMDRCs and Confederation bonds on behalf of and for the account of the Confederation. MMDRCs amounting to CHF 140.6 billion were subscribed (2015: CHF 125.3 billion), of which CHF 23.4 billion was allocated (2015: CHF 24.2 billion). The corresponding figures for Confederation bonds were CHF 5.1 billion (2015: CHF 4.7 billion) and CHF 3.2 billion (2015: CHF 2.7 billion) respectively. Issues of MMDRCs and Confederation bonds were effected by auction on the SIX Repo Ltd trading platform.

Negative MMDRC yields

Money market rates in the current interest rate environment remained low. Yields on MMDRCs thus stayed in negative territory. Taken over the whole year, MMDRC yields with a term of three months ranged from –0.76% to –1.2%. The lowest yield was thus less negative than in the previous year (–1.52%).

Account management and payment transactions

The SNB holds sight deposit accounts in Swiss francs and foreign currencies for the Confederation. At year-end, the liabilities towards the Confederation amounted to CHF 7.2 billion, compared to CHF 10.9 billion one year previously. The SNB carried out roughly 115,000 (2015: 112,000) payments in Swiss francs and approximately 25,000 (2015: 27,000) payments in foreign currencies on behalf of the Confederation.

9 Statistics

9.1 BACKGROUND

Purpose of activities in field of statistics

The Swiss National Bank (SNB) collects the statistical data it requires to fulfil its statutory mandate on the basis of art. 14 of the National Bank Act (NBA). It collects data for the conduct of monetary policy and the oversight of financial market infrastructures (FMIs), for safeguarding the stability of the financial system and preparing both the balance of payments and the statistics on the international investment position. Statistical data compiled for purposes relating to international monetary cooperation are transmitted to international organisations. The National Bank Ordinance (NBO) lays down the details of the SNB's activities in the field of statistics.

Institutions required to provide data

Banks, FMIs, securities dealers and authorised parties in accordance with art. 13 para. 2 of the Collective Investment Schemes Act are required to provide the SNB with figures on their activities (art. 15 NBA). The SNB may also collect statistical data on the business activities of other private individuals or legal entities where this is necessary to analyse trends in the financial markets, obtain an overview of payment transactions or prepare the balance of payments or the statistics on Switzerland's international investment position. This applies in particular to entities for the issuing of payment instruments or for the processing, clearing and settlement of payment transactions, insurance companies, occupational pension institutions, and investment and holding companies.

Survey activity kept to a minimum

The SNB limits the number and type of surveys to what is strictly necessary. It seeks to minimise the demands placed on those required to provide information.

Confidentiality and exchange of data

Under art. 16 NBA, the SNB is required to ensure the confidentiality of the data it collects and may only publish them in aggregated form. However, the data may be supplied to the relevant Swiss financial market supervisory authorities.

9.2 PRODUCTS

Surveys and statistics

The SNB conducts statistical surveys in the areas of banking statistics, collective investment statistics, the balance of payments and the international investment position, and payment transactions. An overview is contained in the annex to the NBO and on the SNB website. The SNB publishes the results of its surveys in the form of statistics. It also maintains a data bank with over 10 million time series in the fields of banking, financial markets and economics.

Statistical publications

The SNB releases its statistics through various channels – in the form of printed publications, on its website and via its web-based data portal (data.snb.ch). The printed publications are *Banks in Switzerland, Swiss Balance of Payments and International Investment Position, Direct Investment* and *Swiss Financial Accounts*. The SNB's statistical releases and publications are available in English, French and German.

SNB data portal

The data portal, which was launched in August 2015, was further expanded with additional content in 2016 (including banking statistics and financial accounts). Alongside the predefined online tables, comprehensive datasets are now also available, which users can individually filter and download according to different criteria.

Special Data Dissemination Standard

The SNB publishes monthly data on its website in line with the International Monetary Fund's (IMF) Special Data Dissemination Standard (SDDS). The data include information on the monetary aggregates and the reserve assets.

9.3 PROJECTS

Preparatory work for revised survey on new mortgage lending

The SNB has been conducting a supplementary survey (cf. art. 6 NBO) on mortgage lending, on a quarterly basis, since 2011. The survey findings play a key role in the assessment of risks in the mortgage market. In 2014, the SNB decided to convert the supplementary survey into a regular survey in accordance with art. 5 NBO. At the same time, it decided to collect data on an individual loan basis rather than the previous aggregate basis. Furthermore, additional variables on interest rates, interest rate and capital commitment, region and type of property are to be gathered. The preparatory work was concluded in 2016. This means that the SNB can start conducting the revised survey in the first quarter of 2017.

Expansion of Data Gaps Initiative

Since 2013, the SNB has been transmitting data in connection with the Financial Stability Board's (FSB) Data Gaps Initiative to the central data hub specially set up for the purpose and hosted by the Bank for International Settlements (BIS). Participants in this initiative are countries in which global systemically important banks are headquartered. The aim is to establish an exchange of data between these countries for better assessment of international financial stability issues. Preparatory work was carried out in 2016 in order to enable the SNB to collect additional data from the banks concerned as of the second half of 2017.

Revision of interest rate survey

The survey on published interest rates for banks' new business was revised in 2016. The aim of the revision was to collect data on interest rates in all relevant product categories. Among the newly included categories are interest rates on consumer loans and on accounts for tied pension provisions. The revised survey will be conducted for the first time as at 30 June 2017.

Revision of securities statistics

In 2016, work began on the revision of securities statistics. This was performed, on the one hand, in connection with Switzerland's planned participation in the IMF's new Special Data Dissemination Standard Plus (SDDS Plus) and, on the other, to satisfy changed user requirements. The survey concept will be discussed with the reporting banks in the course of 2017. Based on this consultation, the final concept will be submitted to the banking statistics committee in 2018. The related survey is scheduled to be conducted for the first time at the end of 2019.

eSurvey platform

Since 2012, reporting institutions have been able to submit data for balance of payments surveys via the eSurvey internet platform. Since the fourth quarter of 2016, data for banking statistics surveys can also be submitted in this way. This now means that the eSurvey platform can be used for all of the SNB's statistical surveys.

9.4 COLLABORATION

In the case of organisational or procedural issues and for the introduction of new surveys or modification of existing ones, reporting institutions and their associations are given the opportunity to comment.

Groups of experts

The SNB is advised on the content of its banking surveys by the banking statistics committee. This committee is made up of representatives of the Swiss commercial banks, the Swiss Bankers Association and the Swiss Financial Market Supervisory Authority (FINMA). In 2016, the banking statistics committee mainly dealt with the revision of the survey on published interest rates for new business and the planned revision of the securities statistics. A group of experts under the direction of the SNB participates in the compilation of the balance of payments. It comprises representatives from manufacturing, banking, insurance, various federal agencies and the KOF Swiss Economic Institute at ETH Zurich.

Public institutions

In compiling statistical data, the SNB collaborates with the relevant federal government bodies, particularly with the Swiss Federal Statistical Office (SFSO), with FINMA, as well as with the authorities of other countries and international organisations.

Swiss Federal Statistical Office

The SNB has a close working relationship with the SFSO. Reciprocal data access is governed by a data exchange agreement; this agreement also covers the collaboration between the two authorities in drawing up the Swiss financial accounts. Moreover, the SNB belongs to a number of bodies that work with Swiss federal statistics. These include the federal statistics committee (Bundesstatistikkommission/Commission de la statistique fédérale) and the group of experts for economic statistics (Expertengruppe für Wirtschaftsstatistik/Groupe d'experts de statistique économique).

Federal Office for Housing

The SNB collects quarterly data on mortgage rates from about 80 banks on behalf of the Federal Office for Housing (FOH). Based on these data, the FOH calculates the reference interest rate for tenancies. The sole responsibility for the contents of this survey lies with the FOH, which also publishes the reference interest rate.

FINMA

Under the agreement with FINMA on the exchange of data in the financial sector, the SNB collects information, including data on the capital adequacy, liquidity and interest rate risk of banks and securities dealers. The year 2016 was marked by the statistical implementation of the new survey on the net stable funding ratio (NSFR). The relevant data were collected for the first time for the second quarter of 2016.

Principality of Liechtenstein

The SNB also surveys Liechtenstein-based companies when preparing its balance of payments figures and its statistics on Switzerland's international investment position. It works with the relevant authorities in Liechtenstein (the Office of Economic Affairs and the Financial Market Authority).

EU

SNB collaboration with the EU is based on the bilateral statistical agreement that came into effect in 2007. It covers the financial accounts, parts of the banking statistics as well as, since 2010, the balance of payments. The SNB participates in various bodies of the EU statistical office (Eurostat).

Other international organisations

In the area of statistics, the SNB works closely with the BIS, the Organisation for Economic Co-operation and Development (OECD) and the IMF. This collaboration is aimed at harmonising statistical survey methods and analyses. In 2016, the SNB again participated in several international working groups concerned with closing data gaps in financial market statistics.