

14 September 2009

Financial market crisis and financial market supervision

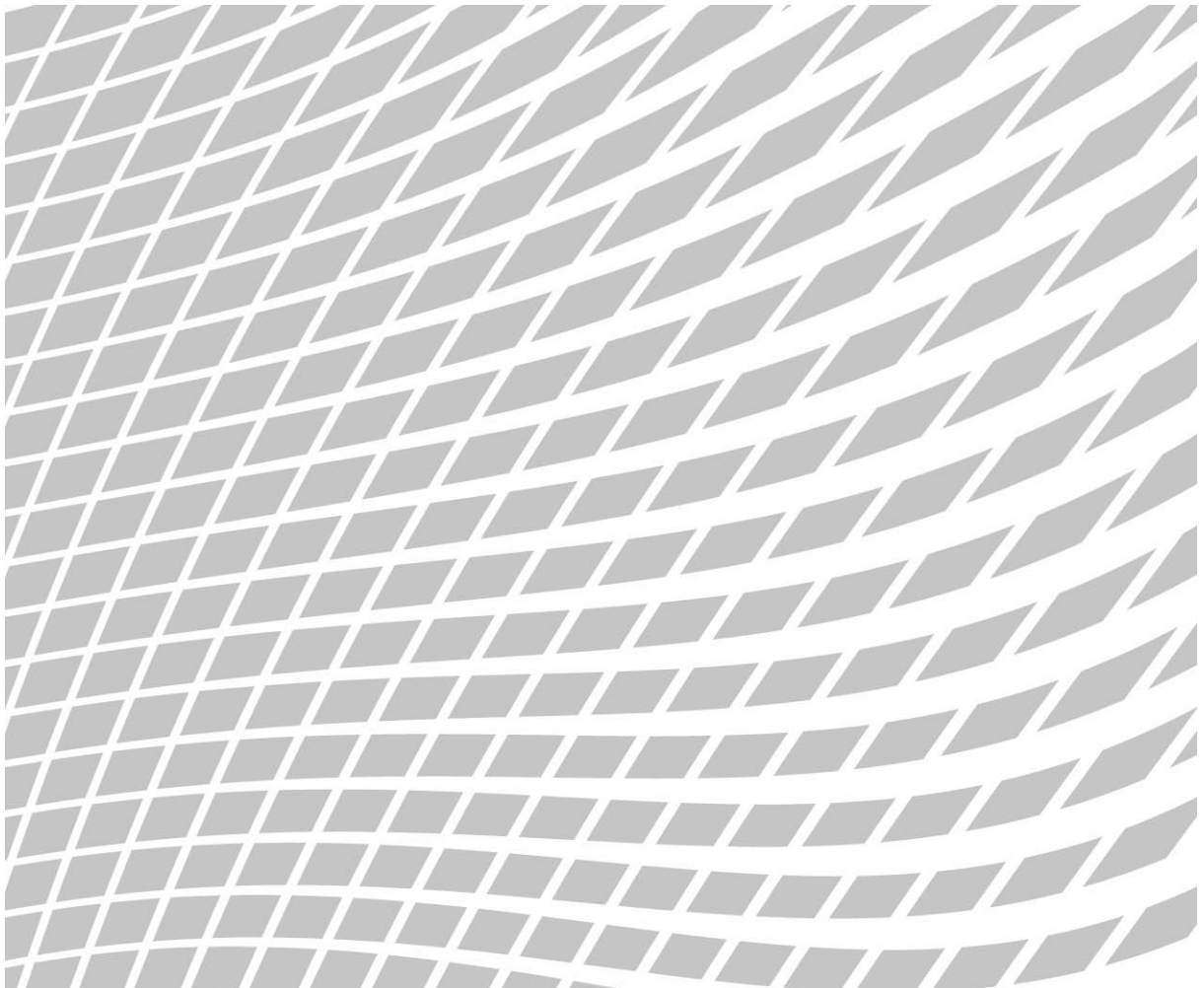


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Abbreviations

ABS	Asset-backed securities
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
FOPI	Federal Office of Private Insurance (part of FINMA since 1 January 2009)
CDO	Collateralised debt obligations
CDS	Credit default swaps
DRCM	Dillon Read Capital Management
SFBC	Swiss Federal Banking Commission (part of FINMA since 1 January 2009)
FDF	Federal Department of Finance
FFA	Federal Finance Administration
FDJP	Federal Department of Justice and Police
CAO	Capital Adequacy Ordinance
ECB	European Central Bank
FDIC	Federal Deposit Insurance Corporation
Fed	Federal Reserve System
FINMA	Swiss Financial Market Supervisory Authority
FINMASA	Federal Act on the Swiss Financial Market Supervisory Authority
FSA	Financial Services Authority (UK)

FSAP	IMF Financial Sector Assessment Program
FSB	Financial Stability Board
FSF	Financial Stability Forum
IAIS	International Association of Insurance Supervisors
ILS	Insurance-linked securities
IOSCO	International Organization of Securities Commissions
IMF	International Monetary Fund
CartA	Federal Act on Cartels and other Restraints of Competition
MBS	Mortgage-backed securities
NBA	Federal Act on the Swiss National Bank
OTC	Over-the-counter
SAP	Supervisory Action Plan
SNB	Swiss National Bank
SPV	Special purpose vehicles
UCITS	Undertakings for collective investment in transferable securities
VaR	Value-at-Risk
WAK-NR	National Council's Committee on Economic Affairs and Taxation
COMCO	Competition Commission

1 Introduction

Supervisory authorities around the world, as well as banks, rating agencies, auditors, central banks, financial analysts and investors, were surprised by the scale and depth of the current financial crisis. None of those involved adequately recognised its origins or the full extent of the dangers it posed. The predecessor authorities to the Swiss Financial Market Supervisory Authority also underestimated the growing systemic risks. As a result, both FINMA and its partner authorities in other countries are now asking themselves why the signs were not spotted and where they could have reacted differently or taken different decisions.

FINMA addresses these questions in this report, as lessons must be learned from this crisis. The report also deals with the questions arising from two parliamentary initiatives relating to FINMA (08.4039 proposal by Eugen David “Clarification of the actions of the Financial Market Supervisory Authority in the financial market crisis” and 09.3010 motion by the National Council’s Committee on Economic Affairs and Taxation “Review of FINMA’s ability to function”).

The report begins with a retrospective analysis of the environment and events both before and during the crisis and an explanation of the supervisory authorities’ actions. This is followed by a presentation of the initial measures implemented to date. The report also highlights areas where FINMA’s organisational structure could be improved.

Further planned measures, particularly those relating to the integration of the new Financial Market Supervisory Authority, will be incorporated into FINMA’s strategic objectives, which are to be submitted to the Federal Council for approval in autumn 2009.

2 Review of the financial crisis (2006-2008)

The aim of Chapter 2 is to review and highlight the principal causes of the global crisis and the environment that shaped it from the perspective of the Swiss Financial Market Supervisory Authority and set out the role played by the supervisory authority over the last two years in terms of recognising the crisis at an early stage and the actions of the authority.

2.1 Global crisis

2.1.1 Overview of the causes and the international environment

The starting point for the current crisis on the financial markets was a decade of extraordinarily favourable macroeconomic conditions in western industrialised nations characterised by low, stable

inflation and ongoing economic growth. The extremely positive economic environment generated a mood of euphoria among market participants, causing them to be increasingly blind to the risks being assumed. The volatility of key economic variables such as growth, inflation and unemployment had been falling steadily in industrialised nations since the mid-eighties, with emerging nations also seeing the same trends a decade later. This “great moderation” was attributed to improved central bank policy, greater deregulation and competition, and last but not least the increasing level of globalisation. Even the USA’s highly expansive monetary policy had no direct negative effects and was therefore not regarded as problematic. There was an increasingly strong belief that the fall in volatilities was a long-term trend. Trends in the emerging economies appeared to be increasingly decoupling themselves from those of the industrialised world, paving the way for genuine diversification and a more stable global economy. In this positive environment, public debate on financial market regulation was largely driven by fears of over-regulation and the promotion of the international competitiveness of financial centres. Few thought it possible that the positive economic environment that had shaped the preceding years could be brought to an end by the securitisation of subprime mortgages in the USA. However, as would become evident later, people did not take into account the disastrous interplay of various different aspects. In light of this, the stress tests carried out by the big global banks and the International Monetary Fund (IMF) were based on assumptions that were far too mild. The volatilities of certain economic variables and the illiquidity of various securities observed during the crisis were not predicted by even the most conservative extreme scenarios.

Economic imbalances

During this period of growth, various Asian and oil-producing countries recorded very high saving levels. These exceeded domestic investment and, in combination with the fixed or heavily controlled exchange rate policy pursued in order to support the export sector, led to a huge accumulation of foreign currency reserves. The majority of these funds were invested in US Treasury securities and in bonds issued by the government-backed mortgage finance providers in the USA. The resulting increase in demand for government bonds had a negative impact on the risk-free yield. Coupled with the favourable economic environment and a period of falling risk premiums, this boosted the attractiveness of alternative investments. Financial innovations made possible by advances in information technology generated correspondingly high demand and led to an increase in credit securitisation. The raw material for these securitisations came first and foremost from the USA, but also from the UK, the Republic of Ireland, Spain and other countries that had built up large trade deficits in the preceding decade. The new possibilities made debt an even more attractive proposition for private households. However, the low interest rates and risk premiums also led to a rise in debt financing in many other areas, not least among financial institutions.

Debt and securitisation

This rising and very widespread level of debt (leverage) was only recognised as a problem in isolated instances. International standard setters and central banks viewed the securitisation of risks as a stabilising factor, and it therefore appeared reasonable to relax capital adequacy requirements for

securitised risks. This approach also influenced the formulation of Basel II¹, not least as a result of lobbying by financial institutions. The anticipated stabilising effect was based on the assumption that the capital markets were bottomless and always liquid. The associated risk allocation was deemed to be more efficient than that of the traditional business model, in which banks grant loans themselves and keep them on their own balance sheet until they are repaid by the borrower (buy-and-hold strategy). The new originate-to-distribute business model of many international investment banks was designed to convert loans they originally granted themselves or purchased from other banks and financial institutions into marketable securities via the securitisation process and sell them to other investors. The prevailing opinion was that securitisation and credit derivatives offered banks and the entire financial system more protection against shocks thanks to the broader distribution of risks across a large number of investors.² In reality, however, the new business model did not result in the hoped-for risk diversification, as a substantial proportion of the securities were held off-balance-sheet in vehicles closely related to the banks. Thus, although the risks were no longer subject to capital adequacy requirements, bank balance sheets were still exposed to the risks, particularly liquidity risks, due to formal and informal guarantees in favour of these vehicles. The one-off or repeated re-securitisation of individual subordinated debt tranches of initial securitisations also increased the leverage effect, without this being visible under the relevant balance sheet item (covered leverage). Financial institutions also sold their products to each other (acquire-to-arbitrage), thereby giving the impression that the market was very deep, without the risks ultimately being borne by parties outside the banking system. When this illusion finally collapsed, the huge complexity that had made the bubble possible resulted in a complete absence of demand and an illiquid market. Prior to this point, liquidity had only been seen as a potential problem at the level of individual institutions. However, the idea that entire markets could be illiquid over a long period was never considered.

Subprime

The crisis was finally triggered by the US mortgage market. The influx of foreign capital and the rise in the US balance of trade deficit also led to private households taking on significantly higher levels of debt. The constant rise in real estate prices led borrowers and lenders to assess the risks as low, while low interest rates (partly in the form of loss-leader products with interest rates that only rise at a later date) made mortgages affordable, and in their securitised form they were an attractive alternative investment for investors. The granting of mortgage loans to borrowers with poor credit ratings (subprime borrowers) was actively encouraged by politicians as a means of extending home ownership to disadvantaged sections of the population and was not seen as critical due to the constant rise in real estate prices. If a borrower got into difficulties, in general the mortgage was simply restructured and the loan-to-value ratio increased. A growing proportion of subprime mortgages were granted by financial institutions that were not subject to banking regulation and arranged by brokers remunerated on the basis of sales, which encouraged the relaxing of due diligence standards for the

¹ In July 2006 the Basel Committee on Banking Supervision published its revised framework accord "International Convergence of Capital Measurement and Capital Standards: A Revised Framework – Comprehensive Version, June 2006". This accord, often referred to as Basel II, replaced the previously valid 1998 Basel I Accord in 2007.

² IMF, Global Financial Stability Report 2006.

granting of loans. Real estate prices peaked in 2006. As a result it became impossible to prevent impending loan defaults through restructuring and more and more subprime borrowers defaulted on their mortgages. Borrowers also had little incentive to continue servicing mortgages that exceeded the value of their property, as local US laws enabled them to withdraw from their obligation by transferring ownership of the property to the bank. Securities based on subprime residential mortgages recorded increasing losses. At the start of 2007 the focus was on the tranches with poor risk evaluations; by the summer even those with confirmed good credit quality had been affected. In hindsight, however, the collapse of the subprime market is just one of several events that had the potential to trigger a financial market crisis.

Initial symptoms of the crisis

In June 2007, when the insolvency of subprime hedge funds caused such severe liquidity problems at Bear Stearns that the bank had to be taken over by JP Morgan Chase in the following year, it was considered unlikely that the difficulties would extend to areas beyond the US subprime market. In early summer of that year, international organisations such as the IMF, the Bank for International Settlements (BIS) and the Financial Stability Forum (FSF) were following the initial turbulence on the financial markets with a degree of concern, but as yet they had no comprehension of the extent of the subsequent financial market crisis. The forecasts issued by these institutions mainly predicted a slowdown in economic growth in the USA, but there was no suggestion whatsoever that the problem would spread to most of the world's economies. Their assessments were based primarily on a still strong macroeconomic environment, with low inflation and positive growth rates. Even before the crisis broke, a number of central banks, the European Central Bank (ECB) and the Swiss National Bank (SNB) among them, had already highlighted the very low risk premiums, the associated rise in risk tolerance and the high levels of debt at certain financial institutions. The initial turbulence in 2007 was therefore also seen as a necessary correction, but for a long time it was considered unlikely that the situation would spill over into other sectors or develop into a crisis affecting the entire financial market, let alone a slide into a global recession.

Entire markets become illiquid

When market participants became aware of the negative performance of securities backed by subprime mortgages, there was a rapid rise in the previously extraordinarily low risk premiums, even for securities backed in other ways. The valuations of the complex paper were primarily based on the assessments of rating agencies. When the agencies downgraded a host of these securities by three rating classes in one go, suspicion grew that the risks associated with the paper had not been fully understood. There had never been a mass downgrade on this scale for other types of fixed-income security. Many of the mortgage-backed securities were held by special purpose vehicles that did not appear on bank balance sheets. Refinancing for these vehicles, which previously came from the short-term money market, subsequently dried up. Forced sales and a loss of confidence in products with little transparency caused key securities markets to dry up, triggering further price falls. In line with the principle of fair value measurement, securities held in the trading book have to be booked at market value. The major decline in the value of these securities led to high losses, reducing the equity capital

of financial institutions. As the crisis developed it became increasingly difficult and ultimately impossible to raise new funds on the capital market, with the result that many banks no longer possessed the minimum regulatory capital reserves required, so their only option was to massively reduce their balance sheet positions. This in turn led to a further price crash across the board, triggering major criticism of the pro-cyclical effect of fair value accounting. The rules on consolidation, which favoured outsourcing arrangements and did not adequately reflect the existing legal or reputational obligations towards off-balance-sheet vehicles, also came in for criticism.

Peak of the crisis

The banks were forced to take large write-downs on the positions they held in their trading books. Certain illiquid trading positions were transferred to banking books. To protect their reputations, many banks moved their off-balance-sheet special purpose vehicles (SPV) with heavy investments in asset-backed securities (ABS) back onto their own books, thereby increasing the need for capital and liquidity in the banking sector. At the same time, uncertainty over the economic prospects of counterparties led to a loss of liquidity on the interbank market, which collapsed completely following the failure of Lehman Brothers. Central banks throughout the world were obliged to pump liquidity into the interbank market and reduce key interest rates to record low levels. As monetary policy measures alone were not enough to stabilise the interbank market, other big banks and major insurance conglomerates such as AIG, which had also built up a considerable capital market business in addition to its insurance activities, reached the verge of collapse. This would have further exacerbated the crisis of confidence among lenders and depositors. As a result, many governments decided to bail out their banks and insurance companies with state rescue packages and take over some of their risk positions.

Gaps in regulation and supervision

Supervisory authorities were accused of missing the signs, of relying too heavily on the evaluation of the institutions under their supervision and of not building up enough analytical expertise of their own. There was also a feeling that capital requirements had been set too low, as certain risks had been underestimated. Liquidity, too, was felt not to have received the attention it deserved. Corporate governance practices at numerous institutions had also failed, but the supervisory authorities had not intervened. Furthermore, there was a belief that regulation was totally lacking or at best inadequate in certain key areas, and that supervisory tools and processes, particularly for groups operating internationally, had proved to be inadequate. The same complaints were also levelled at international standard setters such as the Basel Committee on Banking Supervision, the International Association of Insurance Supervisors (IAIS), the International Organization of Securities Commissions (IOSCO) and their common body the Joint Forum. It is a fact that the development of the Basel II capital adequacy requirements, which began in 1998, and their eventual implementation from 2006 onwards placed huge demands on the Basel Committee, the various national supervisors and of course the banking industry itself. The burden of Basel II meant that the issuing of quantitative international minimum standards to regulate and monitor liquidity risk was put back and not treated as a priority even at national level until shortly before the crisis. Competition pressures also eroded the quality of

the big global banks' eligible equity capital, notably through the issue of tax-efficient hybrid core capital. Although the Basel Committee did issue a number of guidelines in 1998 to counter this negative trend, which were applied relatively strictly by the Swiss Federal Banking Commission (SFBC), further international harmonisation of equity definitions was deferred until Basel II had been approved. Both supervisors and the banks were also focused too heavily on the risks of individual institutions and did not recognise the risks accumulating throughout the entire system until it was too late. This in turn would primarily have been the task of the central banks, which are charged with ensuring the stability of the system, but they lacked company-specific information on the risk situation. However even institutions such as the US Federal Reserve System (Fed) that perform both macro and micro prudential functions fared no better with regard to recognition of the crisis. It is therefore clear that the failure to adequately recognise the causes of this crisis did not stem from the way an authority is structured, its size or the style of supervision.³

Standards, models and pro-cyclicality

Numerous studies of the causes of the crisis clearly demonstrate that it was brought about by a disastrous combination of various aspects. In particular, the value-at-risk models used by the banks to measure and provide capital cover for market risks proved to be completely inadequate. In stress situations, trading book positions are markedly less liquid than previously assumed. The capital adequacy requirements for these risks were therefore insufficient and set false incentives for shifting from credit to market risks. Through securitisation, fundamentally illiquid loans were converted into marketable securities. Some were subsequently securitised a second and third time and broken down into tranches with differing rankings in the event of bankruptcy, which external rating agencies gave top ratings depending on their ranking. As a result, the trading portfolios of global investment banks were massively inflated with credit derivatives and credit default swaps (CDS). In line with the market risk regime introduced in 1996 as an amendment to Basel I, only a fraction of the capital cover in the traditional bank book was required for securitised loans in the trading book in periods of low volatility. Prior to the crisis, therefore, the large banks' capital adequacy requirements for market risks accounted for less than 10% of the overall requirement. These models were adopted almost unchanged in the Basel II regulations. The Basel Committee will now rectify this deficiency based on the knowledge acquired during the crisis. In general, both the financial sector and the supervisory authorities relied far too heavily on financial mathematics models. As a result of this, and also the low default probabilities estimated by the rating agencies, people wrongly believed they were in a secure situation. Not enough consideration was given to the fact that these models were based on a host of assumptions and parameters tailored to observations taken during periods of positive economic performance. As the regulatory authorities also used the same models to determine capital requirements, a strong pro-cyclical effect emerged during the crisis. The rapid increase in the volatility of the now illiquid trading portfolios also triggered a rise in the value-at-risk in the market risk models and hence in the capital required, while at the same time the amount of capital available was decimated by losses and write-downs on these positions. At a time of major difficulties, many

³⁴"The Structure of Financial Supervision: Approaches and Challenges in a Global Marketplace", G30 Regulatory Systems Working Group, 2008.

institutions therefore had to make additional capital available to cover the increased risks. International accounting standards, with their pronounced emphasis on the short-term investor's viewpoint, market valuation and the extension of fair value measurement to include traditional bank assets and liabilities, made it more difficult to create forward-looking value adjustments from a prudential perspective. They heightened the pro-cyclical effect and encouraged the distribution of short-term gains prior to the crisis. These effects were mitigated to a certain extent, however, thanks to the existing filters for the prudential calculation of regulatory capital. For example, goodwill or fair value gains arising from the devaluation of a bank's own liabilities (own credit) due to a decline in its creditworthiness must be excluded from regulatory capital. However the full impact of these cyclical fluctuations is felt in the income statement, for instance because it is precisely in periods of stress that goodwill on participations has to be written down, while conversely a fall in a bank's own creditworthiness creates paper gains that subsequently revert to losses again in the event of a later recovery.

Maturity transformation in the shadow banking system

One of the key functions performed by banks is maturity transformation, whereby relatively short-term liabilities are loaned for a longer term. This function has an indisputable economic value, but also entails liquidity risks for companies, which is why financial intermediaries are also subject to regulation and enjoy access to central bank facilities. In recent years, however, there has been a pronounced shift of this maturity transformation into vehicles that do not appear on bank balance sheets. As a result, this key financial market function has partially shifted into unregulated territory. The forced sales that had to be made during the crisis to meet the obligations falling due in the short term further exacerbated the liquidity crisis. Clearly, therefore, it is time to consider the extent to which previously unregulated areas of the financial market must in future be covered by the supervisory authorities and if necessary made subject to regulation. Debate is focussed in particular on money market funds, hedge funds and private equity firms. According to the experts, hedge funds did not cause this crisis but as key market participants however, they did amplify the downward trend in the face of deleveraging pressures and demands from investors wishing to withdraw their capital.

Remuneration systems

Remuneration systems were also partly to blame for the crisis. Those of the investment banks, with their lack of any long-term focus, created false incentives that favoured the acceptance of unreasonable risks. Supervisors recognised the problem, but felt that intervention was futile due to competitive pressures or trusted in the smooth functioning of the banks' own governance and risk control processes.

Conclusion

Both the causes of this crisis and the failure to recognise the growing systemic risks were global in nature. The long-lasting positive economic trend and the perceived increase in the stability of the financial system led financial institutions, supervisory authorities and academics to misjudge the situation in the run-up to the crisis. In this respect, it is impossible to identify any specific mistakes on

the part of the Swiss supervisory authorities. In terms of recognising the crisis at an early stage or preventing it from happening, they performed no better and no worse than their partner authorities, some of whom have significantly more staff and are much closer to the markets in question.

2.1.2 Direct impact on the Swiss financial centre

During the first phase of the crisis, other banks and insurance groups active in the capital market – such as Swiss Re – also suffered substantial losses in Switzerland in addition to the two large banks UBS and Credit Suisse. The main culprits were proprietary trading portfolios of US-created products such as asset-backed securities (ABS), mortgage-backed securities (MBS) and even more complex securitisation structures such as collateralised debt obligations (CDO) or collateralised debt obligations squared (CDO²). There were also major losses on credit default swaps (CDS) and alternative investments (hedge funds and private equity), particularly among insurers.

The high debt levels at the large banks and investment banks created an additional problem. They built up extensive trading book portfolios in the years prior to the crisis, which they were able to finance with ease on the market via bonds with low risk premiums. In the area of liquidity management, increasing emphasis was placed on the repo markets, while at the same time financing periods were constantly being reduced for cost reasons. The leverage effect was also further intensified by investments in highly leveraged off-balance-sheet investment vehicles and securities (e.g. structured mortgage notes). The BIS calculated⁴ that the ratio of assets to capital at the 50 biggest banks is around 20 to 22 and therefore comparable with the situation a decade ago. However, there are considerable differences between the individual banks. The BIS results show that if banks with high levels of debt reduced their leverage to the average level, their assets would fall by USD 10 billion. This equates to 20% of the total assets of the 50 biggest banks.

Large banks

From the moment the crisis began, the management teams at Switzerland's two large banks sought to reduce balance sheet positions in critical areas, place financing on a more stable footing and strengthen the capital base. However there was now almost no market for the high-risk secured positions, meaning that they could only be reduced to a limited extent. Unlike UBS, Credit Suisse had already started to reduce its exposure to the US residential mortgage market in the fourth quarter of 2006. The bank had received corresponding warning signs from its own mortgage service company in the form of payment arrears. By contrast, the bank continued to increase its exposure to the US commercial real estate mortgage market until the third quarter of 2007. When the crisis broke, Credit Suisse's lower volume of securitised US residential mortgages meant it had considerably more flexibility than UBS to reduce its exposure in other problem areas such as leveraged finance business or commercial real estate. UBS's extensive write-downs on its subprime exposure forced it to book major losses as early as 2007. This weakened the bank accordingly. Investor uncertainty and the

⁴ Bank for International Settlements, 2009, "Banking Sector Challenges after the Crisis of Confidence".

mutual loss of confidence between the banks grew sharply as the crisis progressed, making it increasingly difficult for financial institutions to access the money and capital markets. The pressure to further reduce balance sheets rose as a result. UBS recorded total write-downs and credit losses of USD 53 billion in connection with the financial crisis between 2007 and mid-2009, while Credit Suisse's losses amounted to just USD 19 billion.⁵ After US bank Lehman Brothers filed for bankruptcy in September 2008, equity prices collapsed across the board in the fourth quarter of that year. Financial sector stocks lost around two-thirds of their value on average in the period between mid-2007 and early 2009.

Insurance companies

As the financial market crisis spilled over into other asset classes, insurance companies also incurred losses. Swiss insurance companies significantly reduced their equity positions based on their experiences in 2001 and 2002 and partially secured those they retained. They nevertheless suffered some serious losses, particularly in ABS and alternative investments. This led to capital depletion at numerous companies. From a supervisory perspective solvency levels were reduced, although the minimum required levels were always met overall or restored very quickly through capital injections or other measures.

The rating agencies downgraded Swiss Re and Swiss Life as a result of the capital depletion. Although the market for insurance-linked securities (ILS) was also hit by the general mistrust towards securitised instruments, it remained relatively stable during the crisis and has now begun to grow again. This is partly because the ILS market is still small compared with mortgage securitisations and also permits genuine diversification, as the underlying actuarial risks such as natural disasters or mortality are not correlated with the financial markets. As ILS have so far not been re-securitised and insurers cannot place first loss tranches on the market, there are currently no opaque risk concentrations that could threaten the financial system.

Small and medium-sized banks

Despite the economic downturn last year, the overall situation at small and medium-sized banks, most of whom operate at a domestic level, has so far deteriorated only slightly. The cantonal banks and the Raiffeisen Group have fared particularly well, attracting major inflows of new money due to the uncertainty surrounding the large banks and increasing their total assets by an average of around 9% and 7% respectively in 2008. Postfinance also saw a marked rise in its total assets last year. Among Swiss banks (excluding the large banks), loans to clients rose by 1.3% overall in 2008, with mortgage receivables increasing by 4.9%. By contrast, other receivables from clients fell by 6.4%. Receivables from banks rose by a full 9.0% over the same period. The banks' profit centres recorded varying performances in 2008. Net interest income was up 5.2% on the previous year, while commission income was down considerably, falling 11.0%, and trading income declined by an extraordinarily high 27.8%. At the same time, total costs rose by a further 6.7%. Some 50 predominantly smaller

⁵ Source: Bloomberg.

institutions recorded a gross loss in the previous year. The majority of these were asset management banks, securities dealers and branches of foreign banks. The recession in the real economy triggered by the financial crisis is creating an increasingly difficult business environment for banks. This is particularly evident in the risks arising from a larger number of loan defaults.

Fund market

The crisis first affected the fund market back in August 2007, when investors began rushing to withdraw their money from certain funds. This forced a number of funds to postpone redemptions of fund units, as they were unable to reduce their positions sufficiently due to the lack of liquidity in the market. The most prominent examples were the ABS funds of BNP Paribas and West LB Mellon. In addition to the deferral of redemptions, these liquidity problems also led to the introduction of “side pockets” (separation of illiquid and liquid assets) and “gates” (restriction of withdrawal opportunities) and to the closure of certain funds. Credit Suisse was forced to transfer around USD 10 billion of toxic securities from its US money market funds to its own books in order to protect its reputation. As the crisis developed, all types of funds recorded hefty losses, including absolute return funds, which had been marketed as an innovation that promised returns for clients in any market situation. Many investment funds lost even more than their benchmark indices in 2008. Many investors therefore turned their backs on investment funds in general and actively managed funds in particular. In addition, investors once again became increasingly aware of issuer risk following the collapse of Lehman Brothers. This is another reason why many investors shifted their money from structured products into exchange-traded or structured funds (certificate funds). As undertakings for collective investments in transferable securities (UCITS), certificate funds are subject to strict European Union directives. The fine-tuning of these directives in the form of UCITS IV is likely to lead to many new structured funds being issued.

In connection with the Madoff fraud scandal it is clear that not only fund managers but also custodian banks (e.g. UBS in Luxembourg) are facing liability suits. This therefore represents an additional risk for banks active in this area.

2.2 Supervision of the large banks by the Banking Commission prior to the crisis

2.2.1 Supervisory authority mandate

The starting point for evaluating the actions of the financial market supervisor is the supervisory authority's mandate. The Banking Act does not contain a formal purpose clause on banking supervision. The objectives of the Swiss Financial Market Supervisory Authority (FINMA), which has been the supervisor under financial market legislation since 1 January 2009 and whose remit includes the banking system, are set out in Art. 5 FINMASA and also apply analogously to the activities of the

Swiss Federal Banking Commission (SFBC) up to 31 December 2008.⁶ The objectives of banking supervision include protecting creditors against the risk of a bank becoming insolvent or illiquid (protection of individuals) and ensuring the smooth functioning of the financial markets (protection of functioning).⁷ Creditor protection under banking law focuses on a bank's economic risk situation with the aim of ensuring that client assets are covered. However banking supervision is not geared solely to the solidity and security of individual banks, but to the credibility of the banking sector overall. The protection of functioning comprises a number of aspects, one of which is monitoring the system so as to prevent a failure that would have unacceptable consequences for the entire Swiss economy. With regard to financial stability there is an interface to the Swiss National Bank (SNB), which is charged by law with the task of helping to ensure the stability of the financial system.⁸

The role of the supervisory authority is to monitor compliance with legal provisions and take the necessary measures to ensure enforcement of financial market legislation. Where irregularities occur, it takes steps to restore order.⁹ Under the terms of its authority, the SFBC or FINMA chooses the measures that it considers appropriate in order to fulfil the purpose of financial market supervision. In choosing suitable measures, the supervisory authority is bound by the general principles on administrative activities. These include the prohibition of arbitrariness and unfair legal treatment, the principle of good faith and the principle of proportionality.

2.2.2 Growth and increasing globalisation of Switzerland's large banks

The globalisation of the financial markets meant that providers with ambitions to play a leading role in global competition were forced to increase in size. As a result of this trend the two former large banks Union Bank of Switzerland (UBS) and Swiss Bank Corporation (SBC) merged in summer 1998 to form the new UBS AG. The merger was evaluated by the Competition Commission (COMCO) and approved subject to certain conditions for domestic business. The increased systemic risks associated with the merger were not subject to special conditions.

The change in the banking landscape placed greater demands on the supervisor and drove the SFBC to implement a specific supervisory regime for the two remaining large banks UBS and Credit Suisse in 1998, which was then expanded over subsequent years. This was a significant decision, as it resulted in closer and more timely monitoring of the large banks in response to their increasing size, the complexity of their organisational structures and their growing systemic relevance. The aim was to obtain better and more direct information on the performance of the large bank groups, particularly with regard to their risk and earnings situation, the geographical scope of their activities and their business units. The creation of a specialised large bank section was also intended to boost the

⁶ FINMA replaced the SFBC and other supervisory bodies on 1 January 2009 and assumed the rights and obligations of its predecessor authorities pursuant to Art. 58 para. 1 FINMASA.

⁷ Art. 5 sentence 2 FINMASA now also cites helping to preserve the reputation and competitiveness of the Swiss financial centre as further objectives of financial market supervision.

⁸ Art. 5 para. 2e NBA.

⁹ Art. 31 FINMASA

credibility of the supervisory system in the eyes of foreign authorities and facilitate more intensive cross-border cooperation with the key foreign supervisory authorities, particularly with a view to monitoring investment banking activities conducted from New York and London.

2.2.3 Potential government intervention and the impending credit crunch – the political perception

In the wake of the merger, Samuel Schmid tabled a motion (98.3008) at political level raising the question of a de facto Swiss government guarantee for large banks. At the time the Federal Council signalled its fundamental opposition to state intervention in the event of a bank failure, stressing that any form of government assistance would only be conceivable if there were considerable risks for the banking system as a whole and the economic costs of liquidation exceeded that of government support. The fears regarding an implicit government guarantee also prompted the motion tabled by Rudolf Strahm (98.3480) for the capital adequacy requirements for Swiss banks operating internationally to be significantly stricter than the corresponding international standards. The motion, which sought an amendment to the Banking Act, was finally passed by the Swiss parliament in the form of a postulate, with a mandate for the SFBC and the SNB to demand stricter capital adequacy requirements in the Basel Committee. Strahm's objective, namely to anchor the principle of an additional capital requirement to cover the systemic risks of the large banks in Swiss law, failed to gain broad political support. With a view to maintaining the competitiveness of the large banks on the international stage, a unilateral Swiss approach was rejected in favour of an increase in the international minimum standards for large banks. The SFBC and the SNB worked hard to push this agenda in the Basel Committee, but were unable to obtain the necessary international support. The Basel Committee was only able to agree that capital adequacy requirements in the banking system were to be maintained in Basel II, but not increased. Even this modest goal would not have been achieved with the version of Basel II issued in 2006 had the Basel Committee not now begun to implement massive corrections in response to the knowledge gained during the crisis, as most large banks active internationally were required to hold significantly less capital than under Basel I.

With regard to the introduction of the Basel II capital adequacy requirements, the Rudolf Strahm postulate (03.3374) called on the one hand for the new banking guidelines to apply only to large banks operating internationally, and on the other for much stricter capital adequacy requirements, particularly given the de facto government guarantee for the systemic risks of the large banks. This demand was based on the incorrect assumption that the capital accord issued by the Basel Committee in 1998 as an international minimum standard for banks (Basel I) had resulted in it becoming considerably more expensive and difficult for small and medium-sized businesses to obtain financing. The Federal Council rejected the postulate, but confirmed its support for the retention of much stricter capital adequacy requirements in Switzerland than those laid down in the international minimum standard, even under Basel II. The postulate was dismissed in 2005 as the two-year time limit had expired without it being dealt with by parliament; it was taken up again in the subsequent WAK-NR motion (04.3202), but only in respect of cheaper financing for small and medium-sized businesses (SMEs).

This motion requested that the Federal Council implement the Basel capital recommendations (Basel I and II) in a legal form that promoted both SMEs and growth. The Federal Council supported the motion on the basis that Switzerland's room for manoeuvre in the implementation of Basel II should take SME concerns into account, but not to the detriment of Swiss requirements with regard to supervision and system stability. With both councils giving their approval, parliament also supported an appropriate level of differentiation in the implementation of Basel II.

Even under Basel I, Swiss banks already had to comply with capital adequacy requirements that went beyond the international minimum standard. The binding requirements were 20% to 50% more stringent depending on an institution's risk structure. Following the domestic credit crisis in the nineties, the SFBC also demanded an additional buffer of at least 20% (Swiss target level of 120%) for each bank on top of their binding capital adequacy requirements. Comparable target levels were agreed with the two large banks, expressed in terms of the internationally used BIS capital ratio. Unlike the minimum requirements, institutions may temporarily fall below the buffer level, in the event of unexpected losses for example, but must return to the target level by following a plan to be approved by the supervisory authority. The plan may include a requirement to withhold dividends or dispose of risk positions or parts of the business.

The Basel Committee on Banking Supervision published the final version of the new Basel II Capital Accord in June 2006. The new international standards designated as Basel II were implemented in Swiss law with the entry into force of the new Capital Adequacy Ordinance at the beginning of 2007. The SFBC once again imposed higher capital adequacy requirements than were required under international standards in the form of the "Swiss finish". However, in the debate on over-regulation it was argued that the unpopular "Swiss finish" should not be allowed to jeopardise international competitiveness and Switzerland's attractiveness as a business location. It was proposed that Swiss capital adequacy requirements should be stricter than international minimum standards, even for the large banks, but not in an unreasonable way that distorts competition.

2.2.4 Organisation of large bank supervision

As indicated above, the SFBC had a separate section that supervised the two large banks significantly more closely than other banks. The section in question was expanded successively after being set up in 1998. The aim was to ensure direct and close supervision in coordination with the key foreign supervisory authorities so that the major risks could be identified. In 2007 the Large Banks section employed a total of 25 staff. The section was a mix of people with longstanding supervisory experience and younger team members. Experts with differing levels of training and seniority were required to perform the diverse range of tasks in this area. With hindsight, it is clear that there was first and foremost a lack of senior staff or key specialists with practical experience. For example, there was no-one who had gained comprehensive professional experience in the financial sector, or borne major profit or risk responsibility in the private sector, or performed leadership roles at senior management level. A tight labour market coupled with attractive employment conditions in the banking sector made it almost impossible for the supervisory authority to recruit people with this profile.

Large bank supervision comprises of various complementary elements. The supervisory authority conducts direct audits at each large bank at least once a year. This allows it to draw up its own evaluation of a business area or function at the large bank and make cross-comparisons where necessary. It can also ask the audit company to carry out a detailed audit of a specific business area based on the in-depth audit mechanism. This detailed audit clarifies the risk situation and where necessary draws up a recommendation for dealing with any risks that exist. The supervisory authority also holds regular meetings with representatives from the boards of directors and senior management of the large banks.

Since 2004 the SFBC has deployed a large banks rating system designed to produce a comprehensive assessment of the situation at the two large banks by means of a systematic approach and also to communicate this assessment and link it to expectations. The system, which is revised annually and adapted to new findings, contains a host of qualitative and quantitative aspects. It is comparable to the systems employed by the UK's FSA and the US Fed. The key weaknesses of each large bank are set out in a letter to the respective CEO; the banks must then comment on these. The letter also includes what is referred to as the Supervisory Action Plan (SAP), which sets out the SFBC's specific expectations.

In the wake of the increasing globalisation of the financial markets and the merger of two of Switzerland's large banks at the end of the nineties, the SFBC sought to strengthen international cooperation regarding the supervision of major institutions operating worldwide. The newly established section to supervise the large banks took these heightened requirements into account with the introduction of trilateral meetings with the UK FSA and the US Fed. At the meetings, which took place at least twice a year, the supervisory authorities discussed the relevant issues they were currently addressing both with each other and with representatives from the large banks. One key topic was the exchange of information and ideas regarding individual risk assessment at the three authorities. The SFBC/FINMA is also a member of the Senior Supervisors Group. This group was set up on the initiative of Timothy Geithner, who was then Chairman of the Federal Reserve Bank of New York and is now US Secretary of the Treasury. The informal group was made up of the supervisory authorities responsible for globally active investment banks from the USA, the UK, Germany, France and Switzerland. The group's first and most successful task, undertaken from September 2005, was a coordinated action together with the banks concerned to reduce backlogs in the processing of OTC-traded credit derivatives and the associated operational risks, which had the potential to threaten the financial system.

In summary, it is apparent that the SFBC responded to the heightened requirements at an early stage by implementing a more intensive supervisory regime for large banks at the end of the nineties. It countered the risks ensuing from the size and complexity of the two remaining large banks by subjecting UBS and Credit Suisse to more in-depth supervision. The issue was also addressed at a political level, with a number of politicians highlighting the systemic risks posed by the position of the two large banks and the potential consequences for the Swiss economy. However, a tighter safety net in respect of capital adequacy requirements was ultimately not enshrined in the Banking Act. The calls for stricter capital adequacy requirements came during a sustained period of global economic growth,

and as such failed to garner sufficient support despite the best efforts of Switzerland's representatives in the Basel Committee. Capital adequacy requirements were therefore not tightened in the Basel II minimum standards. With the benefit of hindsight, it must also be said that the SFBC's limited personnel resources were inadequate in terms of both the scope and the complexity of the tasks it had to perform.

2.3 Key aspects of supervisory activities relating to UBS

Before the crisis broke, UBS was considered by foreign supervisory authorities, its auditors, rating agencies and the SFBC alike to be a model pupil. It had impressively high and stable earnings power, was seen as relatively risk-averse and enjoyed top-class ratings. Its risk control and risk management systems were frequently rated as above-average compared with its competitors. In particular, foreign supervisors who were able to carry out a direct, horizontal peer comparison considered it to be extremely solid, innovative and largely risk-averse. In many instances, it was even said that the bank's problem was more its risk aversion than its risk appetite. Statements such as these were also underpinned by the departure of certain key members of staff, who had left UBS due to its general reluctance to engage in leveraged finance business. These and other incidents strengthened the impression that UBS tended to be a risk-averse bank. The bank managed high-risk growth areas such as emerging markets or leveraged finance with the utmost care.

The issues that were given top priority in the SFBC's supervision of UBS are summarised below.

2.3.1 Specific exposure to the US real estate market and the subprime segment in particular

The issue of UBS's exposure to the real estate markets (in the USA plus the UK and Australian markets), which all tended to be classed as overheated, was raised with the bank at several meetings from 2004 onwards.

- At the meeting with representatives from the Investment Bank in London on 2 December 2004, they stated for the record that UBS did not anticipate having to make any major price corrections on residential real estate and had a highly diversified portfolio.
- The SFBC broached the subprime topic for the first time at the meeting on 8 March 2005, although at that time only with regard to credit risk (UBS's credit exposure to mortgage firms). UBS made no mention of any market risk from this area.
- The SFBC placed UBS's risk exposure in the US mortgage market on the agenda once again during the annual supervisory visit to UBS in New York (September 2005). UBS presented the results of an internal study summarising the overall exposure of UBS Investment Bank to the US real estate market. The bank's analysis was again restricted to the actual credit risk arising from the bank book. The study was very comprehensive and included both direct (USD 16.6 billion) and indirect (USD 7.1 billion) exposure (e.g. to construction firms). These figures were not seen as a major concern by either the bank or the supervisory authorities. At the time, the SFBC did not ask

any specific questions about comparable figures or studies relating to the control of market risk, as the bank had always presented itself to the SFBC as an organisation that consistently followed an “originate-to-distribute” approach. Under this approach, the exposure arising from securitisations is only held on the bank’s own books for a short time and then immediately passed on to others.

- Defaults at (subprime) mortgage companies and a marked deterioration in the US real estate market had been evident since the end of 2006. Market risk exposure in the subprime segment was discussed for the first time at the meeting with the Investment Bank in London on 9 March 2007. The Chief Risk Officer of the Investment Bank informed the representatives of the supervisory authorities that the Investment Bank was profiting from the deteriorating market, in particular by building up extensive short positions.¹⁰ However, the figures presented included neither the exposure of Dillon Read Capital Management (DRCM) nor that of super senior CDO positions.¹¹ The latter were not included in the risk reports, and at the time the Investment Bank’s Chief Risk Officer was not aware of their existence. In retrospect, the figures therefore lacked any kind of precision. If DRCM had been included, the internal calculations would not have shown any short exposure at that time.¹² This incorrect assessment resulting from the incomplete data was also passed on to the Corporate Center. From this point on the bank’s management placed its trust in the supposed short positions and shifted its attention to other, seemingly bigger risks.

The statements made without reservation by the Investment Bank’s Chief Risk Officer left the SFBC in no doubt that the bank had taken the changes in the US real estate market into account and that no major risks had arisen in this area. As a result, more detailed checks were not made. The information provided was only found to be incomplete at a later date. At the time, however, the SFBC had no indication that there were gaps in the way that risks were being recorded and controlled, or that the communicated strategy was being manipulated internally.

2.3.2 General control environment

Examining the appropriateness of the control environment is one of the most important tasks of ongoing supervision. Between 2005 and 2007, the SFBC changed its assessment of the control environment at UBS. Their key points are summarised below:

¹⁰ The statement from Investment Bank’s Chief Risk Officer that they were “short” in the subprime segment is key here. Short positions in the BBB rating class were held to offer profits that were higher than the losses on long positions in the higher-rated segment.

¹¹ The DRCM exposure was recorded in a separate report. The super senior positions were not recorded as they were not reported under their specific underlying (collateral). As a result, no-one in the bank apart from the trading desk that built up these positions was aware that the collateral for the super senior positions also included a large proportion of subprime RMBS.

¹² In the internal reports that were not made available to the SFBC at that time, UBS (incl. DRCM) had a net exposure of USD 31 billion in March 2007. USD 32.9 billion in long positions was offset by just USD 1.9 billion in short positions. Subprime exposure (incl. super senior positions) of CHF 75.7 billion long and CHF 22.6 billion short was then calculated as of 24 August 2007.

- The *shortage of resources* in UBS's controlling bodies steadily worsened between 2005 and 2007. The problems were particularly severe in key areas such as quantitative risk control and product and price control. The issue was chiefly raised in numerous internal audit reports, with the bank continually taking steps to respond to concerns. There was and still is a shortage of risk control specialists across the entire industry; the lack of staff in this area was not specific to UBS. The SFBC communicated to the bank its expectation that the targeted growth should be accompanied by appropriate support functions.¹³ The shortage of resources also figured constantly on the list of top risks drawn up every six months by the SFBC and the other supervisory authorities.
- *Valuation of complex and illiquid products*: The SFBC had also been following this topic more closely for some time. It was mentioned in the 2006 SAP and also featured on the supervisory authorities' top risks list. Like the shortage of resources, however, it was deemed to be an industry-wide problem.
- The SFBC attached great importance to the *transaction and new business initiative approval process (TRPA/NBI)* from an early stage, and it was therefore high on the list of priorities. The SFBC considered a solid TRPA/NBI process to be absolutely critical in connection with the bank's ambitious growth plans.¹⁴ The process was also criticised by UBS's internal audit department on several occasions. Their criticism focused on the lack of post-execution reviews and the sometimes unclear approval authorities. It should have been evident that the lack of a new business initiative approval process (NBI) for a large proportion of the super senior positions¹⁵ was a major reason for the losses. For example, an NBI process would have resulted in a global limit for this new business. In addition, the front office would have had to present a business plan setting out the risks and economic rationale for these positions. This would have compelled the key decision makers to examine this business in more detail.
- The SFBC felt that the bank's *management information system (MIS) and reports* were too detailed, too general and not sufficiently up-to-date. It took the bank up to two months to generate internal risk reports, meaning that they were already out of date by the time people read them. The bank was unable to answer many of the SFBC's enquiries¹⁶ because its systems did not allow them to compile the data in the desired format. UBS's reporting increasingly proved to be too rigid, insufficiently forward-looking and too process-heavy. The SFBC therefore included the MIS in the 2006 SAP.
- *Recording of non-standard risks*: In the wake of developments at DRCM and the first reaction in the subprime market in early 2007, the SFBC questioned whether UBS was recording non-

¹³ Supervisory Action Plan 2006.

¹⁴ UBS rating letter 2006 from the SFBC.

¹⁵ This relates to the AMPS/LABS positions. In these transactions, super senior positions were held on the bank's own books. While the transactions were independent of each other, they had the same characteristics, so an NBI process would have been appropriate.

¹⁶ e.g. in the credit derivatives area.

standard risks¹⁷ appropriately. The issue was raised as the first point on the top risks list compiled jointly with the US Fed and the UK FSA in May 2007. This emerged as the correct path to follow, but there was not enough time between this insight and the outbreak of the crisis to investigate the matter thoroughly and force a response from the bank.

2.3.3 Preparation for economic changes and threats

In the SFBC's opinion, UBS was inadequately prepared for major economic and other shock events. For example, the bank only had measures in place for events such as oil shocks, pandemics or electronic warfare. The SFBC had the impression that UBS did not run sufficiently detailed crisis scenario tests and did not adequately incorporate the findings in its risk analyses. It subsequently became clear that the bank was wholly unprepared for the crisis in the US real estate market, which took it by surprise, while many other banks – Credit Suisse among them – were at least partially prepared and able to take the relevant precautions (hedges, sales).

2.3.4 Fragmentation of the IT platform

The SFBC raised the issue of the highly fragmented IT platform, particularly for derivatives, with the bank at an early stage. The supervisory authority received reports and presentations on this topic prepared by both UBS and external consulting firms during 2005. These reports confirmed the SFBC's concerns that there were weaknesses in UBS's infrastructure that could severely reduce transparency, particularly for complex, structured and derivative products. The infrastructure was not sufficiently scalable and could not have absorbed the targeted growth without major investment. A strategic solution referred to as the Future State Architecture (FuSA) was proposed in a presentation to the Group Executive Board.

The SFBC subsequently placed the FuSA project on the agenda of various meetings with UBS. The project seemed useful at first, but over time it became clear that little progress was being made. It became evident that the project was too big. People were trying to achieve too much at once, and as a result took the risk that only a few of the absolutely necessary improvements could be implemented in time. Moreover, the management of the project was unimpressive. It is therefore not surprising that the UBS Renewal Plan¹⁸ contains a host of action points relating to the IT environment.

¹⁷ In respect of market risk for subprime mortgages, this related in particular to differences between cash and derivative instruments, the varying quality of equivalent external ratings for different types of securities and the differing default rates for subprime mortgages per year of issue.

¹⁸ UBS's Risk Renewal Plan was initiated in response to the massive losses. The key elements were announced in a press release (<http://www.ubs.com/1/e/investors/releases?newsId=157233>).

2.3.5 Strategy

It should be noted from the outset that the supervisory authority does not have the authority to approve a bank's overriding aims, corporate strategy or business model. By contrast, the role of the supervisor is to monitor and evaluate any measures planned and their execution, the ongoing suitability of the control environment and, above all, the risks arising from the strategy adopted.

Of strategic and therefore central importance was the expansion of trading in fixed income securities by the Investment Bank from 2005/2006. This was the area of business in which UBS had the most ground to make up¹⁹ on its competitors, while at the same time the creation of DRCM (see Chapter 2.4.1) meant that key parts of this business unit were outsourced. The SFBC discussed the fixed income strategy with the bank during the US supervisory visit in September 2006. According to UBS, DRCM's trading strategies were not to be copied by the Investment Bank. The bank said that DRCM was focused primarily on proprietary trading, whereas the Investment Bank's main area of emphasis was client business. However there could be overlaps in certain areas, as a global investment bank has to offer services to clients in all market segments.

The discussions revealed that UBS had specifically identified proprietary trading in ABS/MBS and structured ABS CDO products, including the retention of super senior tranches, as a growth area. Residential mortgages were presented as client business. UBS itself stated that there were certain dangers inherent in US residential mortgages. At the time, the global syndicated finance initiative (leveraged finance), growth in the emerging markets area (the purchase of the Brazilian Banco Pactual took place around the same time) and commodities appeared to be more significant and somewhat higher-risk.

This meeting with the people responsible for the fixed income area in New York in September 2006 set the tone for the SFBC's approach. The (new) fixed income area was intended to be a largely client-oriented business, while proprietary trading was assigned to DRCM. There were of course still significant risks in business with clients, which is why the SFBC paid close attention to the fixed income growth area as part of its ongoing monitoring activities, but focused on the initiatives that it considered involved the highest level of risk. Securitisation (ABS/MBS) was not deemed to be a key risk due to the apparently purely client-oriented nature of the business and the associated low level of risk involved. Accordingly, the main focus of the SFBC's risk-oriented monitoring activities was on areas such as the leveraged finance business and emerging markets.

It later emerged that the strategic decision to push for growth in the securitisation business – coupled with inaccurate risk assessments and inadequate data recording – was a key factor behind UBS holding and purchasing problem assets immediately before the crisis broke. The SFBC was not aware that UBS had increasingly large positions in this area on its own books and – contrary to what it had told the supervisor – was actually moving away from purely client-oriented business. Senior

¹⁹ Under the stewardship of Marcel Ospel the bank had set itself the objective of becoming one of the world's leading investment banks.

management (at least in the Corporate Center) was seemingly also unaware of this situation. Many senior managers claimed that they only found out about the super senior CDO positions when the crisis broke in August 2007. This was also the case for the SFBC.

2.3.6 Expansion of total assets

Several years before the crisis, the SNB regularly indicated in its annual financial stability reports that Switzerland's large banks had very high levels of debt by international standards in terms of their unweighted capital ratio (relationship between capital and total assets). However, the large banks were the best in the world in terms of their risk-weighted capital ratio. Although the danger of inaccurately calculated risk weightings and the constant growth in total assets were touched on, the ratios did not give any cause for major concern.

The expansion of total assets and the associated low *tier 1/total assets ratio (leverage ratio)* was discussed with the bank on several occasions. UBS gave the following reasons for its poor ratio compared with its international peers.

- Different methods of calculation
- Application of IFRS accounting standards, under which, unlike under US GAAP, opposing receivables cannot be offset to give a net position (netting). For a large bank, these differences in total assets under IFRS and US GAAP amount to several hundred billion Swiss francs. In extreme cases the total assets for the same business can be as much as twice as high under IFRS.
- UBS's low funding costs, which makes the holding of good-quality positions a profitable activity. This results in a very large proportion of highly liquid assets with the highest credit rating on the balance sheet (e.g. repo book).

At that time (2005), the SFBC was convinced by the bank's argument. The view that the ratio between capital and total assets was not meaningful from a risk perspective was in line with the prevailing opinion in supervisory circles. For example, an initiative put forward by FDIC Chairman Sheila Bair in September 2006 to introduce a leverage ratio as a complementary measure under pillar 2 of Basel II was unanimously rejected by the Basel Committee as being incompatible with the sophisticated risk-weighted Basel II system. It was only when the first signs emerged that large parts of the supposedly "low-risk" positions nevertheless harboured major liquidity and credit risks that the debate over the leverage ratio was reopened. By then, however, it was already too late to bring about a change.

2.4 Key SFBC decisions relating to UBS

2.4.1 Approval of the solo consolidation of Dillon Read Capital Management

In a letter dated 16 June 2005 UBS officially informed the SFBC of its plans to hive off the Principal Finance Credit Arbitrage²⁰ and Commercial Real Estate (CRE) business areas from the Investment Bank and transfer them to a newly created unit, Dillon Read Capital Management (DRCM), which would not be subject to regulation by the US authorities. DRCM was to be part of UBS's Global Asset Management business group. UBS's stated aim was to allow third-party investors to participate in the funds that were to be established. At a time of fierce competition between investment banks, DRCM was seen as the ideal instrument for keeping key people and clients in the company. The then head of the Investment Bank, John Costas, became head of DRCM, with Huw Jenkins replacing him at the helm of the Investment Bank.

It soon became apparent that handling the new unit represented a major challenge with regard to cluster risk rules at the level of individual institutions. UBS had not considered this aspect in its project work, as its decision makers had embraced the group approach. The actual problem stemmed not from financing business at DRCM, as this remained largely at the same level, but from the fact that financing was now primarily granted to unregulated group companies. Treasury loans to these companies are subject to quantitative restrictions under the rules governing the supervision of individual institutions.

It was in this connection that UBS first considered including new group companies on the list of unregulated subsidiaries that were exempt from the "group company" cluster risk calculation. Specifically, the applicability of the SFBC ruling of 26 September 2001 entitled "Risk distribution/easing at group level/exemption of unregulated group companies on the basis of equivalent group-internal measures" was called into question. However as UBS wanted to include third-party investors, which meant that the companies in question would not necessarily be 100% subsidiaries of UBS, one key condition of the ruling could not be met.

The only other way to still exempt the DRCM companies from risk diversification rules (intended to prevent cluster risks) was to carry out what is known as a solo consolidation as permitted in countries such as the UK. The SFBC and the two large banks had already drawn up the solo consolidation concept over a long period independently of DRCM. It essentially represents a compromise solution, whereby capital adequacy and risk diversification rules still apply in principle at the level of individual institutions, but an exceptional rule is created for group companies with particularly close ties to a bank. UBS submitted a corresponding application on 8 February 2006. The SFBC approved the application for solo consolidation in its ruling of 31 March 2006. The solo consolidation did not bring about any changes to consolidated group supervision, which included DRCM.

²⁰ The Investment Bank's Principal Finance Credit Arbitrage business area engages in proprietary trading with fixed income instruments.

In the course of its ongoing supervisory activities, the SFBC identified the following problem areas relating to DRCM:

- UBS underestimated the complexity of DRCM. Despite initial suggestions that the bank would have no problems maintaining an overview of the project, in reality this proved to be a considerably more difficult proposition.
- Key people and key areas of the Investment Bank were placed under increasing pressure as the project was being implemented. DRCM faced an enormous workload.
- There were also a number of concerns regarding the next generation of managers. The Investment Bank lost two of the main architects of its previous success, namely John Costas (until then CEO of the Investment Bank) and Mike Hutchins (Head of Fixed Income). Their successors did not have the same professional experience.

The SFBC's generally favourable opinion of DRCM despite the doubts surrounding it was based primarily on the following factors:

- It thought that DRCM should lead to a reduction rather than an increase in risk, as the intention was to include external investors as well.
- DRCM's business activities were not new but came from areas that were previously part of the Investment Bank and had made a significant contribution to the latter's success. In other words, it was not involved in new business that would have required more detailed clarification in order to determine its exact nature.
- UBS assured the SFBC that the outsourced business strategies would not be duplicated in the Investment Bank.
- According to UBS, DRCM was to be active first and foremost in proprietary trading, while the Investment Bank would concentrate on client business. This factor also seemed to point to a reduced level of risk.
- DRCM was also supposed to be fully incorporated into the Investment Bank's risk control structure, applying the same principles with regard to risk management and control.

The SFBC therefore ultimately approved the application for solo consolidation, albeit under stricter conditions. In the ensuing public debate, the suspicion was mooted that UBS had prevented DRCM from making extensive write-downs, as this would have also led to valuation adjustments for large Investment Bank positions. The SFBC found no concrete evidence to back up this suspicion in its investigation into UBS's losses.²¹

Based on the negative experiences with DRCM, in autumn 2008 the SFBC decided against regulatory special treatment for a Credit Suisse project that also sought to hive off parts of one of its investment

²¹ SFBC - UBS Subprime Report of 30 September 2008.

bank business areas to create a fund structure with third-party investors. Quite apart from the control problems that became apparent in the case of DRCM, the SFBC took the view that vehicles of this kind are ultimately ascribed to the bank in the event of negative investment performance or liquidity problems for legal or reputational reasons despite the involvement of third-party investors, as with the outsourced special purpose vehicles of US banks, and must therefore be fully consolidated.

2.4.2 Approval of the market risk model

Application and authorisation for a more sophisticated spread risk model

In July 1999 the SFBC authorised UBS, on the basis of the Banking Ordinance and the Commission's market risk circular, to apply the value-at-risk model approach when calculating capital adequacy requirements for market risks. The SFBC also ruled that subsequent changes in methodology and any other amendments leading to a reduction of more than 3% in the capital adequacy requirements would have to be approved by the supervisory authority. The UBS model estimates the value-at-risk (VaR) on the basis of historical data over several years obtained using what is known as historical simulation.

The capital adequacy requirements do not correspond to the VaR itself. The VaR, which is recalculated every day, is multiplied by a multiplier to determine the required capital.²² The multiplier is at least 3. In UBS's case it was increased to 3.5 when the model was approved due to deficiencies in the original model. The multiplier rises on an ongoing basis where there are more than four backtesting exceptions²³. Backtesting exceptions have to be added together over a period of one year. Basel I and II provide for a maximum increase of 1 in the multiplier. As a result of the many exceptions at UBS (and Credit Suisse), the SFBC decided from August 2008 not to limit the upward increase as laid down in the Basel minimum standard but instead to increase it by a further 0.1 for each subsequent exception. This led to the capital adequacy requirements for market risks being almost doubled at both banks.

UBS originally used the credit spread time series of companies (corporates) to model all products whose prices were sensitive to credit spreads. In March 2004 UBS applied for a change (asset class split) to this blanket use of corporate credit spread time series in the form of a more sophisticated data source and hence an improved model. The change was initially requested only for the largest AAA-rated USD exposures, but the scope was extended over time to include other ratings and currencies.

The SFBC authorised the use of product-specific time series²⁴ to calculate VaR in July 2004, with a view to ensuring greater granularity and hence a more risk-appropriate model as well as better risk measurement and thus better risk management. This authorisation is still justifiable even in hindsight

²² In more precise terms, the 60-day average of the VaR times the multiplier is used.

²³ If the bank's losses, adjusted for income from client trading and intraday trading, on any given day exceed the estimated VaR, this is designated as a backtesting exception.

²⁴ For various ABS and CMBS products, for example.

and was consistent within the – albeit now fundamentally questionable²⁵ – concept of the VaR model universe. If positions perform differently over time, they should also be modelled differently accordingly. This is the only way to ensure that the VaR correctly reflects the risks of the portfolio.

The financial crisis has clearly demonstrated that it is dangerous to model similar (but not identical) positions in an identical manner, as this does not take basis risks into account. Basis risks arise not just between different products, but also between different maturities, ratings and currencies. In addition, it is not easy to predict where basis risks may occur; they can arise at very diverse points depending on the market and liquidity situation. If the risks are modelled correctly, the VaR automatically reflects the occurrence of basis risks. Rating agencies are now also required to apply a fundamental distinction with regard to corporate bonds on the one hand and structured credit products on the other for risk assessments expressed via ratings. They were rightly accused of failing to properly take into account the differences in the behaviour of corporate bonds, which they had been assessing for decades, and of structured credit products such as securitisations in the run-up to the crisis.

Impact of the authorisation on the VaR

When UBS introduced the product-specific time series, they all had a lower volatility than the corporate spread time series. The product-specific time series have only had a much higher volatility since the financial crisis broke. This also had an impact on the VaR. When UBS introduced the time series in September 2004, the Investment Bank's 10-day 99% VaR fell by 38%.²⁶ Despite this fall, UBS did not adjust or reduce the VaR limits. With the limits remaining unchanged, UBS increased its risk appetite for these products. This indirect increase in risk appetite was not part of the model change submitted to the SFBC for approval. The consequence of this change subsequently underlined the extremely procyclical nature of the VaR model, with very low capital adequacy requirements in boom periods characterised by low volatility and massively increased requirements under stress conditions. This was also underestimated by the SFBC. UBS was not asked whether the securitised loans and their risks held in the trading book were actually traded and whether there was an active liquid market for them, or whether they were – as has since emerged – generally only sold to investors once or kept on UBS's own books. The latter scenario was particularly common in the case of super senior CDOs, the most senior and therefore highest-rated tranche of re-securitisations, which attracted minimal demand from investors due to the low returns available. The fundamental reform of market risk rules planned by the Basel Committee will examine whether rarely traded assets of this kind should in future be covered by trading book rules rather than being in the bank book, and whether it actually makes sense to distinguish between the two books. The Basel Committee decided in summer 2009 that specific risks relating to securitised positions in the trading book would henceforth be subject to bank book rules.

²⁵ See Chapter 3.1.1.

²⁶ The Investment Bank's 10-day 99% VaR was CHF 448 million before the introduction of the new time series and CHF 278 million afterwards.

2.5 Crisis management and the actions of the authorities

2.5.1 National crisis preparations

The joint preparations of the SFBC and the SNB with regard to a crisis at a large bank and any necessary measures to be taken date back to the second half of the 1990s, in other words even before the Swissair grounding in 2001. At the end of 1998, the then head of the Federal Department of Finance (FDF), Federal Councillor Kaspar Villiger, received a report drawn up by the two institutions presenting possible solutions in the event of a crisis at a large bank.

The international financial markets went through turbulent times in 2002. The insurance sector was hit particularly hard by the poor stock market performance, with Credit Suisse also coming under pressure due to its links with the Winterthur Group. In the same year a management support team headed by the SFBC and including the Federal Finance Administration (FFA) began to develop potential courses of action. The driving forces were the SFBC (supervision of individual institutions), which had functional responsibility, and the SNB (system stability). The FOPI initially represented the insurance sector, but was then released from involvement in the management support team due to the focus on the large banks. Due to moral hazard considerations, the FDF maintained the necessary distance in government crisis preparations.

By autumn 2005 the principles drawn up by the management support team were so far advanced that Federal Councillor Hans-Rudolf Merz was able to acknowledge the team's work. The subsequently amended crisis guidelines were discussed separately with senior management at each of the two large banks in early summer 2006. The work of the management support team culminated in the creation of a steering committee in January 2007. The crisis team had a three-level organisational structure made up of an operational management support team, a steering committee comprising Philipp Hildebrand (SNB), Eugen Haltiner, Daniel Zuberbühler (both SFBC) and Peter Siegenthaler (FFA), and at the top a three-person body comprising Federal Councillor Hans-Rudolf Merz (FDF), Jean-Pierre Roth (Chairman of the SNB Governing Board) and Eugen Haltiner (Chairman of the SFBC). The steering committee then launched a number of projects to evaluate risks and potential crisis scenarios at the large banks in greater depth and looked at possible private sector solutions (with government support if necessary) in the event of a serious threat to the liquidity or solvency of one of Switzerland's large banks.

The SNB developed a concept to provide emergency liquidity assistance to solvent banks with systemic relevance in return for the pledging of Swiss mortgage portfolios and implemented it at operational level with both large banks. However, the run on the illiquid UK bank Northern Rock in September 2007 then showed that this approach can be counterproductive in an emergency due to the stigmatising effect. As a result, it was not used in the current crisis.

The cooperation between the SNB and SFBC became increasingly close. The existing ties between the two institutions in the area of financial stability were formalised with the signing of a Memorandum

of Understanding on 23 May 2007 that defined their respective tasks, described their common areas of interest and set out the framework for their cooperation.

On its own initiative, UBS carried out a crisis exercise in September 2005 with the involvement of the SFBC and the SNB. The scenario simply assumed a minor loss at the Investment Bank, but nevertheless produced important findings in respect of operational processes and communication problems.

At the end of May 2007, the SFBC and the SNB organised confidential discussions with the two large banks entitled “Risks in the financial system/stress tests” at which UBS and Credit Suisse presented their stress scenarios, the most extreme of which envisaged the loss of a quarter’s earnings. These confirmed the results of the IMF’s FSAP banking system stress tests carried out in February 2007, which found that the Swiss banking sector was resistant to a range of macroeconomic shocks and the two large banks were highly liquid and resistant to liquidity shocks. The SFBC and the SNB nevertheless decided to examine the large banks’ stress thresholds in additional stress tests conducted in accordance with the authorities’ own requirements.

Conclusion

In the face of the increasingly globalised financial markets and the concentration of market share at a domestic level, a working group from the SFBC, the SNB and the FDF began in the nineties to prepare measures to cope with a crisis at a large bank. Their work subsequently incorporated the lessons learned from the investigation into the events surrounding the collapse of Swissair. Nevertheless, when the financial crisis broke there were no definitive operational plans or reserved decisions from the government regarding a financial commitment to bail out a large bank. There were, however, studies and concepts proposing possible courses of action. Thanks in no small measure to these preparations, the Swiss authorities were subsequently able to implement the necessary measures to shore up the Swiss financial system in good time.

A range of stress tests was conducted as part of the crisis preparations. As none of the parties involved had even remotely envisaged a situation of the nature and extent of the current financial crisis, however, the scenarios assumed were too simple and severely lacking in terms of their scope. Overcoming the actual crisis therefore called for much more comprehensive measures than had been drawn up in the preceding years.

2.5.2 Crisis management at national level

Following the outbreak of the crisis in August 2007, the SFBC shifted its functions into active crisis mode and gradually intensified monitoring of the two large banks, especially UBS. Areas of focus included the capital base, liquidity provision, the difficulties involved in valuing complex financial instruments that have become illiquid, the identification of other areas that could also be contaminated by the crisis, the reduction of problem positions, crisis-specific stress scenarios, risk disclosure

appropriate to the situation at hand, and public communication. The SFBC held more frequent meetings both with the two large banks and with the SNB to exchange information and evaluate the situation. Federal Councillor Hans-Rudolf Merz and Peter Siegenthaler (Director of the FFA) were informed of developments by the SFBC and the SNB with increasing frequency.

In response to its continuing losses, UBS had to increase its capital on several occasions at the firm insistence of the SFBC. Based on the initial lessons of the financial crisis, at the end of August 2007 the SFBC tightened the requirements for the additional capital buffer to be held by the large banks in excess of the minimum requirements (Pillar 2) for the first time, increasing it from 20% to 30%. It was the only supervisory authority worldwide to take such a step. The initial recapitalisation of UBS took place on 10 December 2007 with the issue of mandatory convertible notes worth CHF 13 billion. UBS carried out a further capital increase of CHF 16 billion on 1 April 2008 via a subscription rights issue fully underwritten by a consortium of banks. In this connection, on 20 March 2008 the SFBC prompted Marcel Ospel to step down as Chairman of the Board of Directors of UBS at the Annual General Meeting on 23 April 2008. Owing to a lack of interest from the capital market, the third recapitalisation on 16 October 2008 to offset capital losses arising from the sale of illiquid assets to the SNB's special purpose vehicle was achieved by raising CHF 6 billion through mandatory convertible notes placed with the Swiss Confederation, with the aim of restoring the bank's tier 1 ratio to 11%.

At the same time as UBS, Credit Suisse also carried out a partially credit-financed capital increase of CHF 10 billion in the market in October 2008. The increase enabled the bank to comply immediately with the minimum leverage ratio agreed with the SFBC, achieve the risk-weighted capital levels applicable from 2013 as of April 2009 and retain the necessary room for manoeuvre in the face of the worsening crisis. UBS strengthened its capital base again in June 2009 by offering CHF 3.8 billion of newly issued shares from its authorised capital to a small number of major institutional investors.

The crisis steering committee stepped up its activities in the first part of 2008 prior to UBS's second recapitalisation, and again when the situation at UBS escalated following the collapse of Lehman Brothers in September 2008. This also included regular discussions in the three-strong body comprising Federal Councillor Hans-Rudolf Merz, Jean-Pierre Roth (Chairman of the SNB Governing Board) and Eugen Haltiner (Chairman of the SFBC). Federal Councillor Eveline Widmer-Schlumpf took over responsibility for the FDF on 21 September 2008 as a result of Federal Councillor Hans-Rudolf Merz's absence due to health problems. The full Federal Council, or rather its Economics Committee, was informed about possible measures to stabilise UBS, in particular through the transfer of illiquid assets to the SNB, from 2 October 2008. At the time, however, people were still anticipating an injection of capital from third-party investors.

Everything culminated in the package of measures to stabilise the financial system announced on 16 October 2008, which required close cooperation between all the parties involved (government, SNB, SFBC, UBS and Credit Suisse). It was also important that there were no indiscretions during the preparations for the package of measures.

Conclusion

Thanks to the combined efforts of politicians, the SNB and the SFBC, the rapid implementation of the measures agreed last autumn, which were based on cautious crisis preparations, stabilised the situation, particularly at UBS, and thus strengthened Switzerland's financial system. The package was the product of intensive cooperation between the Federal Council, the SNB and the SFBC, with the individual steps being closely coordinated at every stage. The prompt action enabled the large banks to remain compliant with all supervisory requirements relating to their capital and liquidity situation at all times.

2.5.3 International cooperation

The SFBC and the SNB had been in talks with a number of foreign supervisory authorities and central banks (Bank of England, UK FSA and De Nederlandsche Bank) on crisis management at large banks since 2005. The SNB was also in contact with the Federal Reserve Bank of New York and other foreign central banks. Discussions during this period were at a rather general level, however, so that reserved decisions or the lack thereof did not need to be disclosed.

Information about the situation at the banks in question and, as the crisis intensified, about any existing or impending measures was exchanged at the highest level in the Senior Supervisors Group (see Chapter 2.2.4). The SFBC strengthened its cooperation with its key partner authorities (NY Fed and UK FSA). Current events were discussed at great detail in regular telephone conversations and conferences. The tried-and-tested trilateral meetings (see Chapter 2.2.4) were used to conduct targeted crisis management. The cooperation proved helpful when it came to assessing UBS and Credit Suisse. It permitted a comparison between the Swiss banks and their foreign peers, albeit only on an anonymised basis. The activities of the Basel working groups also led to valuable contacts, promoted understanding of issues and allowed conclusions to be drawn regarding the performance of the Swiss banks at an international level.

Conclusion

The crisis has shown that foreign supervisory authorities were no more accurate than the SFBC in their assessment of the events and developments surrounding UBS. This was by no means due to information or assessments being concealed, but to a lack of awareness of the potential dimensions of global systemic crises. It must therefore be noted that the failure to recognise the subprime crisis at an early stage cannot be attributed to a lack of international cooperation on the part of the SFBC.

3 Lessons from the crisis and current work

3.1 Lessons

3.1.1 Capital adequacy requirements

Shortly before the crisis, the large Swiss banks had better-than-average capital bases as a result of the “Swiss finish” required by the SFBC and also because of their own strategy (to have solid capital buffers as the basis of trust for asset management) – as measured by the international minimum standards set by the Basel Committee²⁷. However, the risk-weighted capital adequacy requirements on which the international standards are based proved to be misleading with respect to the risks in the proprietary trading arms of the large banks’ investment banking business units. As a result, the VaR market risk models introduced under Basel I in 1996 and that were continued under Basel II massively underestimated the consequence of the risks involved. These models did not capture infrequent extreme losses, as value at risk is only calculated for losses that have a 99% probability of occurring within ten days. Measured by total assets, the large Swiss banks, primarily UBS, had extremely low capital bases and extremely high levels of debt both in absolute terms and by international comparison, even though such considerations are problematic due to differences in accounting standards. If a bank such as UBS was able to sustain losses and value adjustments in the first three quarters of the financial crisis alone totalling CHF 40 billion, that is to say almost all its core capital, the capital adequacy requirements in place at the time were clearly insufficient, even with the additional buffer of 20/30% required by the SFBC. UBS’s cumulative net loss from 2007 to mid-2009, which totalled CHF 36 billion, shows that even the broadly diversified business model of a universal bank is not adequate protection in this respect. The ongoing earnings generated by other business units came nowhere close to offsetting the losses incurred largely by just one business unit (Fixed Income, Currency and Commodities) within the Investment Bank. In fact the huge reputational damage suffered during the crisis had an increasingly negative impact on the earnings power even of those units not directly affected. As a result, banks cannot justify having a relatively low capital base by assuming that even heavy losses can be offset by means of a capital increase on the market provided the business model is sustainable as a whole. This was no longer an option at the peak of the crisis; as was the case in many countries, the situation was only remedied following a government bailout involving capital injections and the transfer of illiquid problem assets. In future, such government rescue packages for non-state banks must be avoided at all costs as they encourage banks to take disproportionately large risks.

It is also unrealistic to suggest that the current financial crisis is to a certain extent a once-in-a-century event which regulations could not reasonably be expected to cover. Experience shows that financial crises are very frequent events and there is no guarantee that it will be another hundred years before the next crisis of this size.

²⁷ BIS core capital ratio (Tier 1) as at end of July 2007: 12.3% (UBS) and 13.0% (Credit Suisse).

Equally disastrous was the international trend whereby the largest globally active banking groups, that is to say those groups that are most important to the stability of the financial system, were allowed to keep their capital reserves at precariously low levels on the basis of the institute-specific, financial mathematical models approved by the regulators. Meanwhile, smaller and less-complex banks, primarily those operating within Switzerland, held significantly larger capital buffers on a voluntary basis. This was especially the case in Switzerland, where smaller banks hold on average double the amount of capital required by the regulator, which is just above the international minimum. Quite the opposite should be the case: institutes representing the greatest systemic risk due to their size, complexity and integration with the global financial markets should have to fulfil the strictest capital adequacy requirements and hold high-quality capital. This applies in particular to Switzerland. Its two large banks enjoy a huge domestic market share (around 40%, even higher in some business areas), but the risks to which they are exposed are predominantly from abroad, particularly the trading risks entered into by their investment bank segments. These banks' balance sheet totals are clearly out of proportion to the size of Switzerland's economy and its government's capacity to rescue failing institutions: together they accounted for around an eighth of gross domestic product before the crisis.

The deposit insurance schemes in most countries, and particularly in Switzerland, cannot hope for the protection provided collectively by the banking system to completely cover the largest recipients of privileged deposits because in the event of their insolvency, the other banks in the scheme would be overwhelmed by the aid payments and face a similar fate themselves. Banks with high levels of public deposits must therefore hold larger capital reserves as a preventative measure against insolvency where there is a special state guarantee without compulsory compensation in place that would make up any shortfall in the cover provided under the collective protection scheme. The regulatory capital adequacy requirements, in particular the VaR market risk models, ultimately had a pronounced pro-cyclical effect. In the long period of growth when there was little volatility, huge trading portfolios could be built up with very little capital behind them. During the crisis banks therefore lacked the reserves to absorb losses; as a result, they were forced to offload their problematic investments, which further aggravated the economic shock instead of cushioning the cyclical fluctuations of the real economy.

For all of these reasons, a radical reform of the capital adequacy requirements is essential, both on an international and national level. This includes the following elements:

- The level of capital reserves in the banking system must be increased significantly. This increase must focus on the globally active, system-relevant large banks, which until now have been undercapitalised. However, banks operating solely within Switzerland with high levels of public deposits that cannot be covered by a collective deposit insurance scheme must also strengthen their capital bases.
- The capital underpinning the market risks in the trading books must be increased significantly and better cover the credit risks involved. The Basel Committee is addressing this by means of additional cover for default and migration risks (incremental risk charge) and the requirement to calculate and cover the value-at-risk based on the data from the worst period of stress (stressed

VaR). Securitised instruments held on the trading book are also to be treated according to the stricter rules for the banking book.

- The risk-weighted capital adequacy requirements of Basel II will not be replaced, but be supplemented by a leverage ratio as a simple, non-risk-dependent measure of capital (ratio of core capital to total assets). This will offset any errors in the model and curtail a disproportionate growth in lending during boom periods by placing binding limits on levels of debt.
- An anti-cyclical capital buffer will ensure that in good times with high growth rates, banks will use their earnings to increase their capital buffers, which can then be used during times of stress to absorb any losses. The buffer should be large enough to ensure that the minimum requirements are met even in bad times.
- The quality of the capital must be increased. It should primarily consist of capital that can be used to absorb losses stemming from banks' current business operations, such as equity capital, open reserves or retained earnings. Subordinated loans, which are only classed as equity capital in the event of insolvency, are not suitable for banks of systemic importance, as their forced liquidation is not a realistic option.

3.1.2 Standards for liquidity risks

While global liquidity standards would not have prevented the crisis, they would have gone some way to minimising its negative impact on banks' liquidity. For a long time the Basel Committee did not focus on liquidity risks as the supervisory authorities and banks were too busy developing and implementing Basel II. Nevertheless, in 2000 the Committee issued a number of qualitative recommendations for managing liquidity risks. However, as the crisis demonstrated, banks did not implement these with the required level of consistency. Unlike for equity capital, there are no quantitative international minimum standards for liquidity, but instead a wide range of different national regimes.

In Switzerland all banks have been subject to the same liquidity requirements since 1987. These regulations follow a static concept and cover off-balance-sheet transactions and consolidated group activities to a very small degree. Therefore large banks in particular rightly managed their liquidity risks at group level using their own processes appropriate to their business activities.

The crisis clearly demonstrated that the same emphasis must be placed on the regulation of liquidity management as that of equity capital. Contagion of liquidity risk on a systemic scale must also be addressed. Until now, banks' compliance with liquidity requirements has been based on the assumption that most assets are highly marketable. However, the crisis has dispelled this fundamental assumption, meaning a new approach is necessary.

3.1.3 Balance sheet growth

The SFBC attached too little importance to UBS's balance sheet growth with regard to risk and was not critical enough of the bank's reasoning in this respect (see section 2.3.6). Had it paid more

attention to this growth instead of focussing on only the risk-weighted assets, the SFBC would have noticed other risks. It should be noted that the balance sheets of other banks also expanded, but these were impacted far less by the crisis. There is therefore no clear causal relationship between balance sheet growth and losses.

3.1.4 Analysis of risk positions

The SFBC relied too much on UBS's own assessments – including those carried out by the internal and external auditors – and did not question any of its data. With hindsight, the SFBC was too quick to accept the bank's statements, in particular the assessment by Risk Control. Risk Control itself has a conflict of interests with regard to how many of its concerns it wishes to pass on to the supervisory authority. In these circumstances, a more critical stance is required on the part of the supervisor.

While the SFBC always openly discussed relevant events and their impact on risk with the large banks, it was not consistent enough in following its own intuition, for example, when it came to UBS's lack of preparation for macroeconomic threats and changes to market conditions. In this respect it also relied too heavily on analyses carried out internally by the banks and did not trust its own judgement enough. It also subsequently transpired that the bank did not have access to sufficient information internally and as a result inadvertently issued data that was incorrect, for example, figures relating to subprime exposure and the fixed income strategy used by the Investment Bank. With hindsight it is also clear that more critical questions should be asked by supervisors on net exposure data. A pure net view does not take into account the underlying risks from hedging transactions and also neglects the fact that small net exposures can sometimes conceal huge gross exposures. Hedging transactions using derivatives also give rise to counterparty risks (for example to monoline insurers), which must be included in the risk analysis.

Within the SFBC Large Banks section, there was an insufficient flow of information and views between the line supervisors responsible for supervising UBS and Credit Suisse on a daily basis and the members of the Group Risk Management team, which is the unit responsible for the market risk model. While the model specialists were aware of the concepts on which the models were based and how they functioned, they did not focus enough on the specific transactions carried out by the Investment Bank. The line supervisors were less familiar with the deficiencies of the model. The flow of information between UBS and Credit Suisse line supervisors was also found to be lacking. It would have been especially important for the UBS team to know that Credit Suisse was scaling back its securitised subprime mortgage business and its reasons for doing so. In view of the incorrect information provided by UBS on its exposure to the subprime mortgage segment, Credit Suisse's withdrawal from this area would not have set off any alarm bells regarding the risk for UBS; nevertheless, this would perhaps have been reason enough to critically review the figures provided by UBS.

The SFBC also relied too heavily on the assessment of UBS carried out by auditors Ernst & Young, which between 2005 and 2007 confirmed that an appropriate control environment was in place on

each occasion. On the other hand, there were no real signs that there was anything fundamentally unsound about this statement. The reports issued by the auditor did not contain any general information that could have helped in foreseeing or avoiding the crisis.

It is also worth mentioning that the international cooperation model set up in conjunction with foreign supervisory authorities (trilateral meetings, see section 2.2.4) did not help the SFBC in detecting the crisis at an earlier stage. The supervisory body of the Federal Reserve, which should have known the US market (in particular the wide range of mortgage products and the associated risks) better than the SFBC, did not provide any indication that a crisis was imminent at UBS. Right up until the crisis broke, UBS was seen as a very solid, well managed bank with a strong risk management system in place. The SFBC's assessment of the Investment Bank was based to a large part on the Fed's appraisal, as the latter was able to closely monitor the risk situation at UBS Investment Bank, drawing on the expertise of specialists in the supervision of market and credit risk management, and thus had access to seemingly more detailed information. The Fed also had access to the cross-section comparison to other banks, in which UBS always did relatively or very well. The risk assessment carried out by the FSA in the UK did not differ significantly from the Fed's. The SFBC had no reason to doubt these assessments.

3.1.5 Power of the Banking Commission

In the run-up to the crisis, the SFBC identified a number of problematic areas at UBS, for example, with IT fragmentation or in the area of controls (see sections 2.3.2 and 2.3.4). Although these matters were discussed with the bank and weaknesses were noted in the Supervisory Action Plan, UBS did too little to remedy the problems. The deficiencies identified were not disputed and a number of corrective measures were outlined. Overall, however, it should be noted that the SFBC lacked structure in monitoring and actually insisting on the implementation of these measures. In this respect, the supervisory process highlighted deficiencies, including sanctions in the event that the weaknesses identified in the Supervisory Action Plan were not sufficiently remedied.

The SFBC thus underestimated the risks arising from the deficiencies identified and as a result had too little power in implementing its requirements. In the deregulated environment of the time, a heavy crackdown would most likely have been construed as bureaucratic, anti-competitive and detached from reality and would not have received political backing.

3.2 Overview of measures implemented by the Banking Commission

3.2.1 Capital adequacy requirements and leverage ratio for large banks

The fact that the large banks had insufficient capital bases (as described in section 3.1.1) led the SFBC and SNB to introduce radical correctional measures at the earliest opportunity while the international committees were content just to tweak the Basel II framework on securitisation. On 1 April 2008, as UBS was revealing its plans for a second recapitalisation following cumulative losses of

CHF 40 billion, the SFBC used its annual media conference to announce significantly higher risk-weighted capital adequacy requirements and the introduction of a leverage ratio. The SFBC and SNB worked together to develop a new capital regime by the start of July 2008, which was submitted to the two large banks for approval and – after meeting with a large amount of initial resistance, which subsided after the peak of the crisis in mid-September as Lehman Brothers filed for bankruptcy – was signed into law by the SFBC on 20 November 2008 in the form of two similarly worded rulings for UBS and Credit Suisse. This capital regime was based on the flexible legal framework in the Banking Act (Art. 4 para. 3) and the Capital Adequacy Ordinance (Art. 34 para. 3), which allows the supervisory authority to increase capital adequacy requirements under special circumstances. To ensure that they do not have a pro-cyclical effect, the new provisions will not enter into force until the crisis has subsided. The target levels are to be reached on a step-by-step basis by 2013 in line with a capital plan to be approved annually by FINMA, with the right to extend this deadline reserved. Adjustments may also be made in line with future changes to the international standards set out by the Basel Committee as required.

The new framework for the Swiss large banks sets targets for two complementary capital measures: (i) an anti-cyclical capital buffer based on the Basel II risk-weighted capital adequacy requirements (including subsequent amendments to the Basel framework) and (ii) a non-risk-weighted leverage ratio, which given the lack of an international standard replicates the regime in place in the USA.

The Swiss, risk-weighted target levels provide for a buffer of 100% above the international minimum in good times, which can be run down to an intervention level of 50% above the minimum in bad times. In other words, depending on earnings, the buffer can range from 200%-150% of the risk-weighted requirements under Basel II. This target range is set so that even if larger losses are incurred, the prescribed minimum of 100% is always ensured. The system is easy to apply if it is clearly communicated in advance; in addition it still allows banks to disclose their capital strength in accordance with international standards (BIS capital ratio), which would not be possible if Switzerland were to periodically tighten its requirements in relation to the Basel minimum standards. The Basel Committee is now resolutely committed to requiring anti-cyclical capital buffers in excess of the minimum standards. A decision has yet to be made on the methods to determine the buffers, which instead of using fixed target levels (or a fixed target range as is the case in Switzerland) could be structured flexibly over time in accordance with individual members' proposals, e.g. by using a macro variable dependent on the economic conditions.

The leverage ratio prescribed for the large banks will be at least 3% at group level and 4% at individual institution/parent company level, rising to 5% in good times. The leverage ratio is defined as the relationship between the core capital (tier 1) and the balance sheet total. As balance sheet totals may vary significantly depending on the accounting standards applied (see 2.3.6), UBS (which prepares its accounts in accordance with IFRS) has been allowed to perform the calculation in line with Swiss GAAP ARR as a temporary measure to bring it in line with US GAAP. The SFBC ruling requires certain deductions from the balance sheet total, for example, cash positions and the domestic lending business in particular, so that the leverage ratio would be politically acceptable, as in summer 2008 it was still heavily disputed in Switzerland. Now that the Basel Committee has decided on a leverage

ratio as a measure to complement the capital adequacy requirements, it is expected that the Swiss regime will be tightened up in a number of ways. International discussion is correctly focussing on the concept of a leverage ratio that is a simple, internationally comparable alternative to risk-weighted measures with as few exceptions as possible and no means for risk weighting or national preferences to creep in through the back door. However, a decision has yet to be made regarding the calibration of the international leverage ratio and the way to even out the differences caused by the application of different accounting principles.

The SFBC rulings of 20 November 2008 also govern the definition of eligible capital for the large banks, which deviates in parts from the Capital Adequacy Ordinance. Firstly, based on an EU draft, a more generous calculation of core capital elements is allowed (lower tier 1 capital). Secondly, subordinated loans (lower tier 2 capital) are no longer eligible, although there are long transitional periods. The Basel Committee is expected to tighten up its standards, in particular with respect to the first point mentioned above. The Committee has recognised that there is still work to be done with regard to increasing the quality of banks' capital and will draw up new proposals by the end of 2009, in addition to making the aforementioned corrections to the capital adequacy requirements.

In summary, it should be noted that the new Swiss capital regime for large banks represents a significant improvement and the efforts by the Basel Committee are now moving in the same direction on an international level as well. The fears in Switzerland that pushing through these measures would damage the large banks' ability to compete on an international level have proved unfounded. Even if the Swiss requirements end up being significantly stricter than their international counterparts, one must also consider the particularly high systemic risks involved; viewed objectively, this may even give these banks a competitive edge over the long term.

3.2.2 Liquidity requirements for large banks

The current liquidity provisions²⁸ for all banks were drawn up in 1987. They have been amended on a number of occasions since, but have not been fundamentally revised. The SFBC and SNB were quick to recognise the regulatory loopholes in the standard approach for liquidity risks and after the implementation regulations for Basel II were issued in April 2007, they began work on a project to develop institute-specific liquidity provisions for the large banks²⁹. The new provisions are in an advanced stage of development and are set to be introduced in 2010. International developments in relation to the Basel Committee and other bodies were taken into account when drawing up the new standards so that they will be in line with international liquidity regulation trends.

The new regime will ensure that the large banks can cover their liquidity requirements in the event of a loss of confidence. Given their systemic importance, the regime will also ensure that there will be no threat to the existence of the large banks even if they experience acute liquidity problems caused by

²⁸ Art. 15-20 BO.

²⁹ See SFBC Annual Report 2007, page 33 f.

outflows of funds over the short term. The scenario that models such a situation is therefore strictly formulated, although at no point does it stray from the international benchmarks or fail to factor in the extreme outflows³⁰ that are witnessed during times of crisis.

This model also considers liquidity flows of balance-sheet and off-balance-sheet positions as part of stress scenarios. In particular, these scenarios take into account the access to unsecured and secured refinancing markets. The bank must ensure that over the short term it can compensate for any potential outflows of funds using the proceeds from the sale of liquid assets. Furthermore, the sale or pledging of assets must in no way affect the solvency of the bank. The new liquidity provisions are supplemented by qualitative requirements with respect to liquidity management at the large banks.

3.2.3 Changes to the supervision of large banks

There was no frequent systematic exchange of information within the organisations supervising the large banks. The different strategies employed by the two large banks in their business on the US mortgage market were thus not compared internally by the SFBC enough. The new organisational Large Banks section within FINMA addresses this weakness: teams of specialists carry out in-depth cross-institutional investigations for both the two large banks and other complex banks and insurers. These cross-analyses allow the strategies, business models and risks to be compared with each other and understood more easily, making it easier to establish minimum standards.

A further measure involves the regular systematic analysis of a large bank's entire loss potential under stress conditions, which is then compared with the bank's capital reserves. Large banks are always expected to have sufficient capital reserves, so that even in drastic conditions the bank will still have an adequate capital base. This process has caused a great deal of controversy, but has increased risk awareness across the board.

FINMA has also taken initial measures with respect to the availability of resources. It has strengthened its supervision activities by hiring additional specialists. It has been able to attract more qualified specialists with many years of professional experience in the financial sector to carry out these supervisory activities, thus improving the mix of employees experienced in dealing with crises and those with recent practical experience.

4 Organisational structure of the supervisory authority

The reason why FINMA was set up on 1 January 2009 as an integrated financial market regulator had nothing to do with the crisis. Experts and regulators had been working on establishing the supervisory body since 1998. Nevertheless, in addition to continuing to work on expanding and integrating its

³⁰ e.g. Northern Rock or Bear Stearns.

activities, FINMA will also take into account the lessons to be learned from the crisis when developing its structure.

Section 4 explains the current organisational structure of FINMA and the way it functions. It also details areas where improvements can be made. The following section contains details of the main organisational differences between the SFBC and FINMA, which are also relevant with regard to the financial market crisis.

4.1 From the SFBC to FINMA

The SFBC was organised as an authority commission of the decentralised federal administration. It was made up of the Commission, which was the decision-making body responsible for all business of the supervisory authority, and the Secretariat, which prepared the decisions and was responsible for operational work. The SFBC had its own decision-making powers and was not bound by directives; however, it did not have its own legal personality. Furthermore, from an administrative perspective, the SFBC was part of the Federal Department of Finance (FDF) and did not have independent control of its own resources. This meant that operational decisions, such as recruiting staff for the Secretariat, had to be approved by the FDF. The Commission was structured as a militia body, with the Chairman carrying out his duties on a full-time basis. The Secretariat was headed by a Director and also had its own management team, which, unlike FINMA's Executive Board, was not a collective body and instead supported the Director as a consultative body. Given its general powers in operational activities, the Commission, comprising part-time members, was nearing the limits of its capacity following the expansion of its supervisory remit, even though it had delegated an increasing amount of business to the Secretariat and various chambers over the three years. This problem became even more apparent during the financial crisis.

The modern management structure of the newly formed FINMA takes these experiences into account by including a Board of Directors and an Executive Board³¹. Unlike the previous Banking Commission, FINMA's Board of Directors acts primarily as a supervisory and controlling body. It is only responsible for making operational decisions on business of great importance and on regulatory matters. The Executive Board now makes decisions as a collective body and is responsible for operational business.

FINMA enjoys greater independence than the SFBC regarding the resources it has at its disposal as well as its organisational structure. It endeavours to use this freedom as necessary, in particular with regard to the recruitment of staff, specifically aiming to attract candidates in clearly defined areas at FINMA³². These areas have been decided upon based on systematic analyses of the predecessor authority's supervisory approach and the lessons learnt from the financial crisis.

³¹ For more information see section 4.2.

³² For more information see section 4.4.

4.2 The new Financial Market Supervisory Authority FINMA

4.2.1 Independent financial market supervision

To allow FINMA to be more independent, legislators weighed up the options and decided to make FINMA a public-law institution with its own legal personality³³ and granted FINMA functional, institutional and financial independence. The way FINMA is organised means it enjoys greater independence than its predecessor authorities. Unlike before, FINMA, as a unit of the decentralised federal administration, does not report to the FDF. This gives it greater room to manoeuvre³⁴.

FINMA's ability to act is closely related to its degree of self-determination and its capacity to react to changes as quickly and autonomously as possible. This includes the independent performance of supervisory activities, its own organisational structure and operations, its own accounts and management procedures in accordance with business principles, and wide-ranging freedoms with respect to its employee structure and other HR matters. FINMA now has functional, institutional and financial independence. As it is part of a state structure, FINMA must publish accounts and is subject to overall supervision by parliament and supervision by the Swiss Federal Council. FINMA is managed largely in line with the provisions set out in law and Federal Council ordinances. To safeguard its interests, the Federal Council has additional management tools and authorities at its disposal. In accordance with FINMASA³⁵, FINMA must report to the Federal Council via the FDF. The structure this process will take is yet to be finalised and must consider FINMA's independence and the fact that its activities are not bound by directives.

FINMA was set up with a modern structure of bodies that is able to meet the demands of present-day administrative management. It has a Board of Directors, an Executive Board and an auditor. From an organisational perspective, FINMA's institutional governance is thus based on the systems in place at Swiss private joint stock corporations. However, the powers held by FINMA, a public-law institution, are not governed by the Swiss Code of Obligations, but by FINMASA.

There are relatively few legal requirements that FINMA must fulfil in structuring its organisation. FINMASA only stipulates that it must be divided into specialist areas and that a set of organisational regulations³⁶ must be in place to govern the individual aspects of these specialist areas. In addition, the specialist areas must be adequately represented on the Board of Directors and the Executive Board³⁷. Taking these requirements into account, FINMA selected an initial organisational structure that centres on the activities of the institutions under supervision and cross-business functions.

³³ Art. 4 para. 1 FINMASA.

³⁴ Art. 1 para. 1 of Organisational Ordinance for the FDF (SR 172.215.1).

³⁵ Art. 21 para. 3 FINMASA.

³⁶ Regulations governing the organisation of the Swiss Financial Market Supervisory Authority FINMA of 18 December 2008.

³⁷ Art. 11 para. 1 FINMASA.

4.2.2 Composition and function of the Executive Board

The Board of Directors is responsible for selecting the CEO of FINMA, subject to approval from the Federal Council. The Board of Directors also determines the size of the Executive Board and selects its members. The Executive Board of FINMA was formed on the 1 January 2009. It is the body responsible for operational business and is headed by the CEO. The organisational provisions are set out in the Business Regulations³⁸. It is a collective body and its members are jointly responsible for all the issues dealt with. To reduce its workload it may form committees that are either permanently in place to make decisions on specific business – for example, enforcement committees – or are commissioned on an ad hoc basis to prepare items of business. The CEO has a right of veto. He must notify the Chairman of the Board of Directors upon exercising this right. As part of his operational management duties, the CEO is in charge of developing and revising strategies and the way they are implemented. He represents FINMA externally in line with the duties assigned to him in consultation with the Chairman of the Board of Directors and according to duties allocated within the Executive Board.

Changes are likely to be made to the starting configuration of the business areas after initial experiences from the development phase have been gathered. The aim is to better establish the Executive Board as a decision-making body with respect to operational matters, to tighten up the processes and improve the supervisory functions based on the lessons learnt from the crisis. In order to fulfil the challenging remit, more specialists and managers with vocational experience and an international track record are needed.

4.2.3 Composition and function of the Board of Directors

The Board of Directors is FINMA's strategic body. In terms of checks and balances, it offsets the operational management level. As well as overseeing top management and dealing with strategic issues, the Board of Directors, as a collective body, is by law responsible for making judgements on matters of substantial importance and issuing the authority's ordinances and circulars.

To organise its work as efficiently and transparently as possible, the Board of Directors has established committees from among its members (appointment and remuneration committee, strategy committee and audit committee). These committees are tasked with supporting the Board of Directors in preparing resolutions of the Board of Directors and overseeing the Management Board. An exception to this is the takeover committee, which is structured as a decision-making body and deals with disputes relating to rulings issued by the Takeover Board. The Board of Directors also deploys specialised members from among its ranks to carry out preparatory work on regulatory matters. As part of its responsibility for FINMA's strategic focus at the highest management level, the Board of Directors also maintains contacts with key individuals, authorities and organisations both in

³⁸ Regulations governing the organisation of the Executive Board and the downstream areas of the Swiss Financial Market Supervisory Authority of 18 December 2008.

Switzerland and abroad. This gives it the opportunity to discuss important developments and issues while at the same time serving as a valuable tool for fulfilling its strategic remit.

In accordance with FINMASA, the Board of Directors must comprise between seven and nine members. The Federal Council installed the Board of Directors on 1 February 2008 to ensure the formation of the new authority and expanded it on 1 January 2009 to nine members. This size allows decisions to be made efficiently and means that the various specialist areas are adequately represented. A larger body would hinder intensive discussion on the matters to be addressed. The Board of Directors is appointed by the Federal Council for a period of four years; all members are appointed at the same time and each member can be reappointed twice. In appointing the Board of Directors the Federal Council decides on the composition of the most senior strategic body, thus dictating FINMA's strategic orientation. After each four-year term, it has the option of reviewing the composition of the Board. During the term, the Federal Council may deselect individual members but only if there are important reasons for doing so. If this term were to be extended to between eight and ten years without re-election, the Federal Council's ability to manage FINMA in this respect would be severely diminished given that changes could only be made to the composition of the Board of Directors during the eight- to ten-year term if members stepped down or were deselected for important reasons.

The requirements profile for the members of the Board of Directors is based on the portfolio of duties as described. In view of the tasks assigned to the Board of Directors, individual members must be well versed in at least one specialist area by virtue of their practical or academic activity. The professionalism of the members of the Board of Directors is a key requirement for an appropriate and proficient decision-making process, which could not be ensured if members represented specific interest groups. As the Board of Directors is responsible for making operational decisions of great importance, members must have a wide-ranging, solid professional track record acquired in the financial sector and have previously worked at an institution subject to supervision. In view of the high level of expertise expected of Board members, they may also be given special mandates to represent FINMA on an international level or manage projects not related to operational matters. In the current configuration, each member of the Board of Directors has a different qualification; however, certain key areas of experience are represented too little, or not at all. These areas include risk management, actuarial finance, accounting and auditing, asset management and stock exchanges and securities trading. There must be a constant examination of current developments in order for FINMA to be able to make decisions on its strategic orientation and business items of great importance as well as to perform its role as a sparring partner in terms of checks and balances vis-à-vis the Executive Board. In addition to a balanced mix of academic and practical experience, this also requires members with experience and up-to-date knowledge. This can be achieved by continually changing the members of committees and ensuring that there is adequate representation on these committees of members who are still working in the industry.

As a result, special attention must be paid to the composition of the Board of Directors in terms of the members' expertise. It must be borne in mind that the directorship mandate of the members of the Board of Directors is not to be considered marginal secondary employment and there are considerable

restrictions in place on the assumption of other professional mandates. These extensive conditions together with the strict provisions governing the sale and purchase of private assets and the modest payment in return for the work carried out may make it difficult to appoint suitable candidates. This, in turn, threatens the level of professionalism required of members of the FINMA Board of Directors.

Given the age profile of the current Board of Directors, several members are expected to step down at the end of their current terms in 2011, which could result in a lack of continuity. Four members of the Board of Directors, including three with many years of experience in senior positions in private industry, are currently over 60. It will therefore be necessary to bring younger members onto the Board. It is also to be investigated whether it would be better to stagger elections to the Board over time in order to improve continuity.

4.2.4 2008/2009 – Years of transformation with a large workload

The SFBC, FOPI and AMLCO were functioning autonomously by the end of December and merged on 1 January 2009. Preparatory work in this respect was extensive. The authorities involved spent a total of more than 4,000 person days on this. Numerous decisions had to be taken on the organisational set-up and the new management organisation structure. An internal and, in some cases, external recruitment process was carried out to fill the positions. New staff regulations were drawn up and new employment contracts were issued. A new telephone and IT infrastructure came into operation at the start of 2009 without any major disruptions. In the second quarter of 2009, FINMA moved into its new headquarters in Einsteinstrasse in Berne.

2008 and 2009 have both been exceptional years with respect to workload. The establishment of this new authority coincided with an intensification of the financial crisis. Preparatory work was carried out for a number of activities of great importance – in particular by the SFBC; however, decisions could only be made on these under the new governance structure. This required a great deal of work on the part of both the operational units and the bodies in particular. The members of the Banking Commission who were also members of the FINMA Board of Directors were responsible for managing an exceptional amount of work and had to work significantly in excess of the 25% workload specified by the Federal Council in its appointment order. In addition, as part of the appointment process for the CEO, the Chairman was heavily involved in ongoing business and had increased responsibilities for external communication on a temporary basis. The willingness of all concerned to commit themselves to this process meant that the necessary time could be spent on all the individual items of business.

We expect that over time and after a transitional phase, the new Executive Board will become a strong decision-making body vis-à-vis the Board of Directors, and the latter will be able to reduce its involvement in FINMA's operational business, which at present is very high. This is, and will remain, a declared goal, in accordance with the law and the institutional governance requirements set out in the Organisational and Business Regulations. This will ensure that that the Executive Board and the Board of Directors can work together in the most efficient manner possible and without any duplication of work. However, we expect that the large number of outstanding issues resulting from the financial

crisis and the regulatory work associated with them will exceed the 25% workload specified by the Federal Council for ordinary members at Board of Directors level. If this was raised to 35% (for 2009-2011), the actual workload would be far more appropriate.

4.3 Independence of the Board of Directors

4.3.1 Principles, implementing provisions and controls

Based on the appointment order from the Federal Council, FINMA's Organisational Regulations and Code of Conduct govern the strict conditions that must be observed by the Board of Directors with respect to the rules for abstention from decision-making and incompatibility of positions.

Any senior management position at a supervised institution or chairmanship/vice-chairmanship of a board of directors of such a company is deemed to be incompatible with membership of the FINMA Board of Directors. However, members of the FINMA Board of Directors may be members of corporate bodies and hold mandates with these institutions provided the rules of abstention are observed. Acceptance of membership in a corporate body of the institutions supervised requires the consent of the Board of Directors of FINMA. Membership of any corporate bodies must be disclosed.

In principle, Members of the Board of Directors must not hold shares in supervised institutions and may not accept any privileges, gifts or other benefits from them. Members must sell any shares held in supervised institutions within six months of becoming a member of the Board of Directors, or transfer the management of these shares to an independent third party for the duration of their membership. Members may continue to hold shares in a supervised institution directly resulting from an employment contract under strict conditions. Such shareholdings must be disclosed to the Board of Directors and the compliance specialist unit. Purchases or other transactions leading to an increase in a shareholding are not permitted. All transactions leading to a reduction in a shareholding must be approved by the Board of Directors at the request of the compliance specialist unit. Any privileges from supervised institutions must be disclosed to the Board of Directors and are only permitted if the member is entitled to them under a previous employment contract. Members of the Board of Directors who hold shares in supervised institutions or benefit from privileges that could constitute a relationship of dependency must abstain from decisions concerning these supervised institutions.

To avoid a conflict of interest, the Board of Directors has also compiled a list of conditions under which members must abstain from the decision-making process, which includes any business with respect to supervised institutions for whom they worked until a year ago, in which they have any other direct personal interest, in which persons are invested or have a personal interest with whom they have a close personal relationship, in which they were actively involved previously or towards which they could be biased for any other reason.

The Board of Directors makes a decision on whether members must abstain based on the Organisational Regulations and the Code of Conduct. Its members are required to disclose any

reasons for abstention on their own initiative. The Board of Directors is advised by the compliance specialist unit, which also checks, as part of a specific process, whether there are any pre-existing reasons for abstention or shareholdings relating to the individual business items.

4.3.2 Independence of the Chairman of the Board of Directors

The conditions relating to abstention and incompatibility also apply for the Chairman without exception. Furthermore, the full-time Chairman of the Board of Directors may not perform an economic role or hold an office at federal or cantonal level unless it is in the interest of FINMA.

To fulfil the institutional governance requirements, Eugen Haltiner signed an abstention agreement with the SFBC before taking up his post as Chairman of the Banking Commission. This included a “cooling-off period” with respect to UBS-related business running until 1 January 2008, during which he would have access to all documents and exposés, but would not be allowed to take part in discussions or the decision-making process in the Commission. In accordance with the agreement, he was not required to abstain from general business items relating to the large banks, although the abstention regulations apply indefinitely to UBS business related to the period during which he was employed by UBS.

Decisions that had to be made in 2007 and 2008 regarding increases to capital adequacy requirements concerned both large banks and there was therefore no requirement on his part to abstain. In 2008, the SFBC did not make any individual decisions that affected only UBS and related to the period during which the Chairman was employed by UBS AG. The only exception to this was the investigation of UBS AG with respect to cross-border asset management business with US clients (cross-border business), which resulted in a limited amount of client data being surrendered to the US Department of Justice in February 2009. The Chairman of the Banking Commission announced his abstention in relation to this matter on 27 August 2008. In its meeting on 19/20 November 2008, the Banking Commission, excluding the Chairman, decided that based on investigations, there was no reason for the Chairman to abstain with respect to the issue of cross-board business. While this cross-border business relates to the period during which the Chairman was employed by UBS, he did not have any personal involvement in the matter. The day before, on 18 November 2008, the Chairman informed the heads of the FDF and the FDJP of this non-involvement. Both signalled their desire for the Chairman to be involved with this increasingly complex dossier.

Both the ruling of 3 February 2009 on the approval of variable compensation at UBS AG for 2008 and the ruling of 18 February 2009 on cross-border business were passed by the Board of Directors as matters of great importance by the members present in a majority vote. There were no instances of a Chairman's resolution (a resolution that is decided upon in exceptional cases which do not tolerate delay and where the importance of the business requires the Chairman to make the decision alone) being used as it was always possible to closely consult the Board of Directors, in particular by means of telephone conferences.

The Chairman of the Board of Directors has always carried out his duties in close consultation with the Banking Commission and the Board of Directors of FINMA and has complied with the rules for abstention at all times.

4.4 Staff resources

Suitable staff and financial resources as well as the independent resource management are essential to the quality of supervision. This represents a consistent key element of the "Core Principles" of the three main international standard setters, the IAIS, IOSCO and BCBS. This was also confirmed by the International Monetary Fund (IMF) in its Follow-up evaluation of the stability of the Swiss financial system of 2007³⁹.

In view of this, the legislator approved FINMA's staff regulations on 22 June 2007, thus granting the financial market supervisor – notwithstanding employment conditions under public law – the flexibility needed outside of the Federal Personnel Act. The Federal Council approved the FINMA staff ordinance on 27 August 2008.

4.4.1 Greater flexibility thanks to own staff regulations

Having its own staff ordinance allows FINMA greater flexibility in structuring its employment conditions. This is necessary as it usually has to compete on the job market with private employers and not, as is often wrongly assumed, the federal central administration.

Greater flexibility is also achieved by the development of certain logistics functions to replace services that FINMA's predecessor organisation obtained from the administration. In the area of human resources, processes have been and are still being set up with their own priorities, for example with respect to employment conditions, performance evaluation and staff development. Furthermore, FINMA has not only created career opportunities for management but also for specialist staff.

4.4.2 Remuneration benchmarks

Flexible remuneration solutions are also an important issue. A distinction must be made between different functions. Remuneration for the majority of FINMA's staff is in line with that of smaller insurance companies and medium-sized cantonal banks. It is competitive in this respect. With respect to remuneration for experienced management and specialist staff or for employees with international professional experience, remuneration is less competitive despite having a more flexible structure than the central federal administration.

³⁹ IMF; Switzerland – 2007 Article IV Consultation Mission Concluding Statement, 5 March 2007; <http://www.imf.org/external/np/ms/2007/030507.htm>.

Taking a differentiated view of the actual competition for each professional group, the following comparisons can be made between functions in FINMA and in private industry or the public sector.

- Executive Board: senior management staff in the financial/public sector (e.g. SNB, medium/large cantonal banks)
- Supervisory audit: audit companies
- Legal functions: legal companies
- Key account managers: experienced financial analysts
- Risk managers/actuaries: corresponding functions in the financial sector
- Central services: corresponding functions in the federal administration or private companies in the Berne area

For basic salaries, FINMA has six overlapping and broadly structured salary bands. For example, salary band 4 specifies a minimum salary of CHF 100,000 up to a maximum of CHF 160,000, while salary band 3 begins at CHF 130,000 and has a maximum of CHF 210,000. The minimum amount in salary band 6 is CHF 50,000, while the maximum for salary band 1 is CHF 300,000. In individual cases, the Board of Directors may, at the request of the CEO, approve salaries in excess of the maximum limit of CHF 300,000 for employees in the top salary band. This increased salary may only be granted subject to approval from the head of the FDF.

In addition to the basic salary, a performance-related variable remuneration component may be paid of up to 20% for employees in the top two salary bands and up to 15% for employees in all other salary classes. Each year the Board of Directors allocates an amount in the budget that is available for the variable salary components. This may be no more than 10% of the total salary bill.

FINMA is subject to narrow financial restrictions, particularly in areas with international dimensions, such as financial analysts and risk managers. This is compounded by the geographical disadvantage of being based in Berne, especially for experienced staff from the financial sector. Around a third of staff commute from their homes in cities such as Basel, Geneva or Zurich. To address this problem, FINMA is looking into the possibility of opening branches in the financial centres of Zurich and Geneva, for example.

4.4.3 Increased exchange with the private sector

FINMA is an attractive employer for graduates and younger, well educated specialists. By working at FINMA, employees can get an overview of a sector and learn about the principles of state financial market supervision. There is a significant danger that people in the middle of their careers may leave

the industry. FINMA wishes to promote the exchange of specialist staff with the private sector in both directions. It is not only younger, well educated people who should switch from FINMA to private industry; FINMA is placing increased emphasis on being an attractive employer for experienced candidates from private industry. To supplement its predominantly legal, methodological and quantitative specialist knowledge, it is aiming to expand its corporate and professional practice, for example in management functions in the area of finance and risk management. To meet the demanding requirements of financial market supervision in the future, it will be necessary to use the full scope permitted under the FINMA staff regulations with respect to remunerating and recruiting specialists such as senior financial analysts.

4.4.4 Targeted expansion in specific areas

Employees of the newly founded financial market supervisor have had a huge workload, both in terms of project work and the financial crisis, which has been unfolding at the same time⁴⁰. However, there was no immediate expansion in headcount; such a process will be carried out in a targeted manner, as and when needed. Results of a systematic analysis of the supervisory approaches employed by the predecessor authority will be published in autumn 2009; these results can be used to target areas for improvement within certain supervisory functions. However, it is already clear that FINMA is looking for specialists in the area of supervising large banks who have comprehensive practical experience gained in the financial sector in management functions as well as an international track record. In view of the current developments, staff resources are also to be expanded in the areas of collective investment schemes and enforcement at unauthorised institutions.

At present there are around 355 full-time positions, which will be increased to 380 full-time positions over the medium term. Supervision is not only to be strengthened by increasing staff resources. The identification of risks at an early stage and the increased use of auditors in supervisory areas other than just the supervision of banks will allow resources to be used in a more focussed manner.

4.5 Instruments for the supervision of institutions

FINMA's main obligation under law is prudential supervision. The main purpose of "prudential supervision" is to ensure that institutions are solvent, sufficient risk controls are in place and business is conducted by the supervised institution in a prudent manner⁴¹. Comprehensive supervision in this respect is based on the pillars of the licensing obligation for a certain activity and the ongoing supervision of the licensing requirements and other regulated matters.

⁴⁰ See section 4.2.4.

⁴¹ See Supervisory authority mandate, section 2.2.1.

4.5.1 Instruments of prudential supervision (individual institution)

Aside from the licensing requirements, the key supervisory instruments of prudential supervision are the information and notifications received from the supervised institutions, audits carried out on site and audits carried out by the auditor. In addition to carrying out a financial audit, the auditor is also responsible for performing a supervisory audit and fulfilling its licensing requirements as a supervisory auditor in accordance with FINMASA. The contents of the audits are determined by the financial market legislation. The supervised institutions and their auditors must notify FINMA immediately of any incidents that are significant in terms of supervision.

If a supervised institution breaches FINMASA or the financial market legislation, or in the event of any other irregularities, FINMA is responsible for remedying the situation. The rulings issued by FINMA are the most important instrument for doing so. Measures or sanctions are issued by means of FINMA rulings. With the increased sanctioning instruments now available under FINMASA, FINMA is also able to prohibit individuals or companies from practising their profession and to confiscate profits. FINMA is also authorised to issue a declaratory ruling, in which it states that supervisory provisions have been breached, even if no further measures have to or can be issued to remedy any irregularity.

4.5.2 Harmonisation of supervisory instruments

Under FINMASA, similar or identical supervisory instruments – e.g. audit supervision or supervision of the duties of disclosure for the supervised institution – for the different areas of financial market supervision, particularly for banks or insurance companies, are regulated in a uniform manner. This allows for the uniform use of auditors or commissioned investigators across all supervisory areas, for example.

Any contrary or supplementary regulations for the individual specialist areas are contained in the relevant financial market legislation (Banking Act, Insurance Supervision Act, Collective Investment Schemes Act, Anti-Money Laundering Act, Stock Exchange Act, Mortgage Bond Act, Insurance Contract Act). FINMASA has harmonised the supervisory instruments in a formal manner, which is not comprehensive from a material perspective, however.

FINMA is currently reviewing the material nature of the supervisory law to determine whether it can be harmonised. The first objective, for example, is to integrate the three current money laundering ordinances and the eleven existing Circulars on auditing. It is possible that further action may have to be taken with respect to the licensing requirements and other areas.

4.5.3 Supplementary supervisory elements (entire system)

In future, FINMA will expand its focus from individual institutions to the system as a whole and will attach more importance to analysing the interaction between macroeconomic and financial market-

specific factors. This means that it will not only supervise the individual institutions, but will also look at the sector as a whole and assess the sustainability of entire business models.

The focus on the individual institution must be expanded using an approach that takes into account the interaction of the individual institutions and the risks that arise from any mutual dependencies. To this end, we will increase FINMA's economic analysis capability and enhance our cooperation with the national bank, international committees and foreign supervisory authorities in particular, which will help identify potential risks at an early stage.

By increasing its risk analysis capabilities across the individual institutions, FINMA is supplementing its current supervisory instruments and increasing the effect of supervision as part of the risk-oriented supervisory approach.

5 Future action

FINMA's strategic goals, which will be submitted to the Federal Council for approval in autumn 2009, focus on financial market supervision for the period 2010 to 2012. FINMA will publish its strategic goals. The planned measures will impact a number of different areas. They include trying to generally boost institutions' resistance to crises by increasing capital adequacy and liquidity requirements and tightening supervision of the entire system of supervised institutions and their mutual dependencies. The effectiveness and efficiency of supervision will be heightened by categorising supervised institutions on a risk-oriented basis and identifying risks in a comprehensive manner. Other matters include improving client protection in a targeted manner, streamlining regulation, establishing prudent market and stock exchange supervision and positioning FINMA on an international level.

One of the main issues that FINMA has faced since its creation is the development of specific projects to implement the lessons learnt from the crisis. This takes into account both Swiss requirements for changes to the supervisory structure and international efforts at reform. As part of this process, some goals are being prioritised over others; announcements on this have already been made. This is the case for the planned Circular on remuneration systems and measures for institutions of systemic importance. The following sections (5.1 and 5.2) provide more details on these initiatives.

5.1 Circular on remuneration systems

Experience from recent years has shown that the remuneration systems in place at financial institutions can have a considerable impact on the behaviour of decision-makers. Inappropriate risks and false incentives can threaten the business and profitability of a financial institution, and thus its stability. Remuneration systems can also set false incentives, leading to inappropriate risks being taken. In accordance with international committees such as the Financial Stability Board and financial market supervisory authorities abroad, FINMA will subject the remuneration policy of financial

institutions to supervisory regulation based on the organisational provisions of the financial market legislation.

In June 2009, FINMA opened the consultation period for the Circular on remuneration systems, which will enter into force on 1 January 2010. The Circular will have a direct impact on the remuneration systems of the financial institutions concerned. It will aim to ensure that remuneration systems are not structured in a way that gives rise to incentives to take inappropriate risks that could threaten the stability of financial institutions. These institutions will have to structure their variable remuneration packages (bonuses) on a sustainable and long-term basis in line with economic profit while taking into account the costs related to all risks entered into. Furthermore, their boards of directors will be held more accountable for remuneration. They will be responsible for the remuneration policy of the entire company and will have to disclose remuneration in a remuneration report.

5.2 Measures for institutions of systemic importance

Internationally active and large institutions, such as the two large banks, are of systemic importance to the Swiss financial sector and the economy. The financial crisis and the state rescue packages required as a result clearly highlighted the need for measures to ensure that the risks posed by these institutions are kept within acceptable levels. Targeted incentives must be set to ensure that these institutions meet stricter requirements than banks of no systemic importance. If a large financial institution appears likely to, or has already, become insolvent, the prerequisites must be in place to deal with the matter correctly. The organisational structure should enable key parts of the institution to be separated and continue operating. Furthermore, an effort must be made to set up cross-border coordinated liquidity proceedings. In discussions on size restrictions, the focus is currently on capital adequacy requirements, which should be structured so that the party causing the systemic risk bears any additional costs.

Glossary

Absolute return funds

Absolute return funds are investment funds that aim to generate positive absolute total returns over a fixed investment period irrespective of market conditions. They are the opposite of relative return investment strategies, which are based on a benchmark (for example an index) and aim to outperform this benchmark by posting positive relative returns.

Asset-backed securities (ABS)

ABSs are securities that are backed by assets. They are used by companies to generate liquidity and are created by selling a loan asset to a special purpose vehicle, which in turn generates funds by issuing securities backed by these loans (securitisation) on the capital market. To keep financing costs as low as possible, the securitised ABSs are divided into tranches with differing risk profiles and ratings according to the risk appetite of potential investors.

Bank book

The investment book (bank book) and the trading book are used for the accounting of securities. Securities are recorded in the trading book if the financial institute is holding the securities to sell on over the short term, i.e. the security was acquired to make a short-term trading gain as a proprietary trade. All other securities are recorded in the investment book. Securities must be classified as one of these two types when they are acquired. These two types are subject to different special provisions/less stringent valuation restrictions (write-down).

Basel II

Basel II refers to the capital accord reached by members of the Basel Committee on Banking Supervision. This committee was set up in 1975 by the central banks of the G10 countries. Its membership is now made up of the central banks and banking supervisory authorities of Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, South Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Sweden, Switzerland, Singapore, Spain, South Africa, Turkey, the UK and the USA. The committee aims to draw up globally-recognised banking supervision standards and guidelines so that national banking supervisory authorities can implement these recommendations. The recommendations are not legally binding, but are broadly accepted across the world by national banking supervision authorities and internationally active banks. In 1988 the Basel I Capital Accord was signed. Basel II followed in 2004, containing a new concept that is constantly being extended. Basel II is based on three pillars: the minimum capital requirements (Pillar 1), the supervisory process (Pillar 2) and market discipline (Pillar 3). In Switzerland the proposals of Basel II have been implemented in Swiss law since 1 January 2007 in the form of the new Capital Adequacy Ordinance and the related Circular.

Basis risk

In the case of a financial transaction involving opposing positions, basis risk describes the possible change in the price difference between the spot price and the forward price during the time between opening and closing out the position.

Rights issue

A rights issue is the usual process followed by a joint stock corporation to carry out a capital increase. By issuing rights to existing shareholders to subscribe to new shares (often on preferential terms), the company gives these shareholders an incentive to subscribe to new shares as part of their current holdings. This allows shareholders to either take part in the increase, thus avoiding any dilution effect, or to sell their subscription right beforehand on the market, which would reduce their share in the company after the capital increase has been carried out, but compensate them for this financially.

Buy-and-hold strategy

Buy-and-hold is a passive investment strategy that involves investors acquiring investments (e.g. securities, real estate) to hold over a longer period of time (e.g. until maturity for bonds).

Collateralised debt obligation (CDO)

Like an ABS, a CDS is created by securitising debts and issuing debt-backed securities via a special purpose vehicle. CDOs are usually structured in line with the varying risk appetite of potential investors. They offer the opportunity to invest in a variety of tranches with differing returns and default risks (ratings).

CDO squared (CDO²)

Unlike a standard CDO with a collateral pool made up, for example, of bonds or loans, a CDO squared is guaranteed using CDO tranches of other CDO transactions; this means that a CDO squared is a CDO comprising CDOs that have already been issued.

Credit default swaps (CDS)

Credit default swaps are credit derivatives that can be used by market participants to hedge against the credit default risk for a defined period of time. In return for the regular payment of a premium, the insurer agrees the transfer of a benchmark bond or the payment of compensation in the event that a predetermined credit event (e.g. credit default) occurs. Unlike traditional credit insurance, the buyer of a CDS does not actually have to suffer a loss from the reference borrower defaulting in order to receive compensation. CDSs are therefore also suitable as investments or for speculating.

Credit spread

A credit spread refers to the yield premium of an investment over a reference yield, usually the yield offered on a “risk-free” investment. As there is almost no such thing as a risk-free yield in reality, the yield for a government bond with an excellent rating and comparable maturity is used instead. As a yield premium, the credit spread compensates investors for taking on the additional risk compared with a risk-free bond. Credit spread risk refers to the risk of a potential change in the credit spread.

Derivative

Derivatives are financial instruments whose values are derived from the market price of another financial instrument (underlying asset). The main types of derivatives are options and futures (standardised forward contracts). Derivatives represent a contractual right or obligation to buy or sell a certain asset at a fixed price at a certain time. Their price is based on a market-dependent reference figure (underlying asset). The leverage effect of derivatives allows investors to participate in a market trend with a far lower capital outlay than the cost of acquiring the underlying security.

Capital (equity capital)

While equity capital is a residual amount on the balance sheet that represents the sum of a company’s assets less its liabilities, eligible capital is a regulatory figure representing the sum of assets that are used to hedge a bank’s business risks and are available on an unrestricted basis. In addition to company capital, the equity capital (also referred to as own funds) includes additional elements such as the company’s long-term subordinated liabilities. The stricter provisions on how capital is calculated mean that adjustments must be made to the assets side of the balance sheet (exclusion of goodwill, reductions to unrealised asset valuations).

The eligible capital is divided according to quality between core capital (tier 1), supplementary capital (tier 2) and additional capital (tier 3). Core capital is undoubtedly the most important of these categories; it includes paid-in company capital and reserves with unlimited liability. The amount of tier 2 capital is restricted and is based on the core capital. In practice, tier 3 capital is of lesser importance. The standard way to express the ratio of a bank’s core capital to its capital requirements (expressed as risk-weighted assets) is the core capital or tier 1 ratio. Supplementary capital includes certain hidden reserves and subordinated bonds.

Capital adequacy requirements

The capital adequacy requirements that must be fulfilled by a bank in Switzerland are set out in the Federal Ordinance on Capital Adequacy and Risk Diversification for Banks and Securities Dealers. The requirements include provisions on eligible capital and the minimum level of capital required. The latter are based on the recommendations of Basel II. They determine how much eligible capital a commercial bank must hold to cover its risks. The capital adequacy requirements are one of the cornerstones of the quantitative standards of banking supervision. However, these requirements only have the desired effect if the risks have been correctly identified.

Exposure

Exposure describes the extent to which a position is exposed to a risk. Exposure may be expressed as a nominal figure (e.g. credit exposure) or as mark-to-market exposure (fair value) after taking into account current market fluctuations (market prices, exchange rates). Exposure is used when talking about both individual risks and the aggregated risk within (regional) markets, sectors or asset classes.

Fair value accounting

This term refers to the practice of valuing an asset at its current fair value. The fair value of an asset is the amount for which it could be bought or sold on a specific date in a transaction between expert, willing and independent parties. The fair value of a liability is the amount at which a liability could be settled on a specific date in a transaction between expert, willing and independent parties. The term fair value implies that an asset is valued on the basis of an objective estimate.

Fair value gains arising from the devaluation of a bank's own liabilities (own credit)

Under both IFRS and US GAAP, an institution's creditworthiness must be taken into account when its liabilities are valued at fair value. This leads to a company whose creditworthiness has deteriorated booking a gain as a result of the related devaluation of its own liabilities.

Fed

The abbreviation Fed stands for Federal Reserve System, the central bank system in the USA. This system is made up of twelve Federal Reserve Districts, each of which has its own Federal Reserve Bank. The system is headed by a central authority, the Federal Reserve Board, which was set up in 1913. The Federal Reserve System is primarily responsible for carrying out monetary policy as well as monitoring and regulating the banking system. The Fed's Board of Governors (incl. Chairman and Vice Chairman) is responsible for implementing the monetary policy determined by the Federal Open Market Committee. It is made up of the seven members of the Board of Governors and the twelve governors of the regional Federal Reserve Banks, of which only five have the right to vote, however.

Fixed income

Fixed income products are securities that have an interest rate/coupon that are agreed in advance and thus guarantee a steady flow of interest income. However, price fluctuations may cause total returns from this investment category to vary over time. Fixed income is also used to describe the departments in financial institutions that work with fixed income products.

Money market funds

Money market funds are investment funds that invest their funds in short-term debt instruments (e.g. fixed income securities).

Goodwill

In accounting terms, goodwill reflects the portion of a company's book value that is not directly attributable to its assets and liabilities.

In determining eligible capital, goodwill balances are deducted in full from the core capital figure. As a result, it makes little difference from a regulatory perspective whether a bank's goodwill needs to be adjusted as doing so would have no impact of the eligible capital.

Trading book

See bank book.

Hedge funds

Hedge funds is the generic term for investment funds in which a variety of institutional investors invest and which follow non-traditional investment strategies. Using specialist strategies, hedge funds invest in the global markets and offer the chance of high returns with corresponding risks. On the capital market, they often act as the counterparty for hedging transactions using derivatives (hedges), which gives them their name.

Hybrid capital

The term hybrid capital refers to capital instruments which have the characteristics of both capital and debt. Although they have the characteristics of debt, they do not have a maturity and can only be paid back on the initiative of the bank. Their capital characteristics are underlined by the fact that interest payments can be deferred or stopped without causing the bank to default. Hybrid capital forms part of the regulatory capital and may be classified as core capital on a limited basis (see capital).

Insurance-linked securities (ILS)

The term insurance-linked securities refers to the securitisation of insurance risks on the capital market (see securitisation).

Interbank market

In its broadest sense, the interbank market refers to the money, capital and currency markets where banks act as the counterparties. In a narrower sense, it refers to the market for short-term unsecured

loans between banks. The interbank market is used by banks to balance liquidity over the short term (one day to one year); internationally recognised reference rates apply to the loans between the banks and these rates also form the basis for the rates used in transactions with parties that are not banks.

Capital requirements

See capital adequacy requirements.

Credit derivatives

Credit derivatives are financial products that are used to hedge credit risk (see credit default swaps).

Credit risk

This is the risk that the borrower is unable to meet its obligation to make principal and interest repayments within the terms of the loan agreement.

Leverage

In the financial world, leverage refers to the use of borrowed funds to optimise return on equity. In terms of accounting and regulation at financial institutions, the leverage ratio is used to show the relationship between a company's equity capital and its debt/adjusted balance sheet total. The term leverage is also used in relation to financial products, where leverage causes changes to an underlying security to be magnified; this means that an investor can enter into a position using a lower capital outlay.

Liquidity

The meaning of the term liquidity varies depends on how it is used. In general, it refers to the liquidity of an economic entity (e.g. a bank) in terms of its ability to make payments and the liquidity of a financial instrument in terms of its tradability (e.g. of a security or cash).

Liquidity risk

In its narrowest sense, this refers to the risk that a party is unable to meet its payment obligations using the means of payment that it currently has or will have available when the payment falls due. In a broader sense, it also refers to the risk that a party will no longer receive the market funds that it requires at a specific point in time.

Long positions

A long position is created when securities or call options are bought or put options are sold, provided these positions are not offset by a counterposition. The holder of a long position expects the price of the underlying security to rise. The opposite of a long position is a short position.

Market risks

Market risks (also known as market price risks or market price change risks) are risks arising from uncertainty over the development of future market variables such as interest rates, exchange rates or share prices of investments.

Mortgage-backed securities (MBS)

Mortgage-backed securities are securities guaranteed by mortgage loans that are securitised and issued to investors by special purpose vehicles. An MBS is a type of asset-backed security and depending on the type of securitised mortgage by which it is backed, can either be a commercial mortgage-backed security (CMBS) for commercial real estate or a residential mortgage-backed security (RMBS) for home mortgages.

Monoline insurer

A monoline insurer is an insurance company that specialises solely in insuring credit default risks.

Moral hazard

Moral hazard occurs if a contracting party changes its behaviour after a contract has been concluded to maximise the benefit for itself at the cost of the counterparty. An example of this would be if a motorist started taking greater risks on the road after taking out comprehensive vehicle insurance. Moral hazard is a term taken from contract theory.

Originate-to-distribute

The term originate-to-distribute is used to describe a business model used by credit institutions whereby these institutions directly sell credit assets acquired from finance commitments which they do not intend to hold on their balance sheet or transfer them to special purpose vehicles immediately after acquisition.

OTC derivative (over-the-counter derivative)

OTC derivatives are derivatives that are not traded on an exchange. New (exotic) products are often initially bought and sold by means of direct bilateral agreements between market participants (over the counter) before they are sold on exchanges in a standardised manner.

Private equity

Private equity involves providing off-exchange venture capital for making investments and acquisitions. Private equity plays an important role in supplying companies with risk capital (for example for founding a new company) and for takeovers.

Pro-cyclical/anti-cyclical

An action or an effect is pro-cyclical if it reinforces the natural cycle. In the financial sector, this is used to describe an action in line with the market trend (e.g. selling a security when the price falls, buying a security when the price rises). In an anti-cyclical strategy, the aim is to dampen a trend by taking countermeasures (unemployment insurance to counteract the decline in consumer spending when jobs are lost) or benefit from a trend (buying real estate as prices are falling).

Rating

A credit rating is a measure of a borrower's ability to make payments (e.g. government, company or individual). A rating can be issued by the credit institution itself (internal rating) or an (external) rating agency. The rating, often given in the form of a rating code, reflects the expected likelihood of a borrower defaulting on a payment. The better the rating, the more creditworthy borrowers are deemed to be and therefore the less likely they are to default.

Repo transaction

A repo transaction is a securities transaction with a repurchase agreement. From a financial perspective, a repo transaction is a secured loan. The borrower sells securities to the lender with a simultaneous agreement to repurchase securities of the same type and amount at a later point in time. On the repo market, both commercial banks and central banks act as counterparties. They use repo instruments to manage liquidity.

Short position

A short position is entered into with the expectation that prices will fall, with the party holding the short position turning a profit if the price falls. Ways in which short positions can be created include short-

selling, purchasing put options, selling call options and purchasing credit insurance by means of a credit default swap. The opposite of a short position is a long position.

Solo consolidation

Banks must fulfil a wide range of supervisory provisions simultaneously at the level of the individual institution (bank) and at a consolidated level (financial group). Solo consolidation makes it easier to determine eligible capital and diversify risks at the level of the individual institution. If a group company (e.g. subsidiary) in the financial sector qualifies for solo consolidation by virtue of its particularly close relationship with the bank, it can – like a branch – be considered part of the bank rather than a third party on a pre-consolidated basis. Intercompany financial transactions between the bank and the solo-consolidated company are eliminated on consolidation.

Solvency

Solvency refers to the ability of borrowers to meet their payment obligations to its creditors on time.

Special purpose vehicle (SPV)

An SPV is a legally and financially independent special purpose company. They are set up, for example, to purchase certain debt assets as part of a securitisation transaction or to generate funds by issuing securities. The SPV cannot access the assets, meaning that the debt assets acquired act entirely as collateral for investors.

State guarantee

A state guarantee guarantees that a company experiencing financial difficulties will receive government support. This means that there is no longer a risk of bankruptcy for the company. This can lead to companies that benefit from a state guarantee changing their behaviour (see moral hazard). State guarantees are usually only implicit and are thus only apparent should intervention be required.

Stress test

In the financial sector, a stress test is an analysis of potential losses and provides information on the earnings and solvency situation at a financial institution in a number of possible scenarios. Stress tests are often carried out by individual institutions as well as supervisory authorities and central banks.

Subprime

Subprime describes a segment of the credit market in which products such as loans and mortgages are offered to borrowers with limited or insufficient creditworthiness.

Super senior tranche

In terms of asset-backed securities or CDOs, a super senior tranche is a securitisation tranche that ranks below a senior tranche (usually AAA rating) with respect to absorbing losses. A super senior tranche thus has an even lower default risk than a senior tranche.

Systemic risk

Systemic risk refers to the danger that misconduct or default on the part of a participant in a system, in this context the financial system in particular, may prevent other participants or financial institutions from being able to fulfil their obligations, with the system collapsing as a result. Even the suspicion or threat of a potential default may result in the system (e.g. interbank market) no longer being able to function properly, which in turn would threaten the stability of the financial market as a whole due to liquidity and credit supply problems.

Tier 1, tier 2 and tier 3

See capital.

Value at Risk (VAR)

Value at Risk is a statistical measure of risk that is often used in the financial sector to assess possible losses. VaR is defined as a threshold value such that the probability that the loss on a risk position over the given time horizon exceeds this value (confidence level) is the given probability value. For example, if a risk position has a ten-day 5% VaR of CHF 100 million (i.e. a confidence level of 95%), the likelihood of it losing CHF 100 million over the next ten days is 5%.

Securitisation

Securitisation involves the seller transferring certain assets, usually to a special purpose vehicle, which then generates funds by issuing securities backed by the original assets (see asset-backed securities).

Central bank facilities

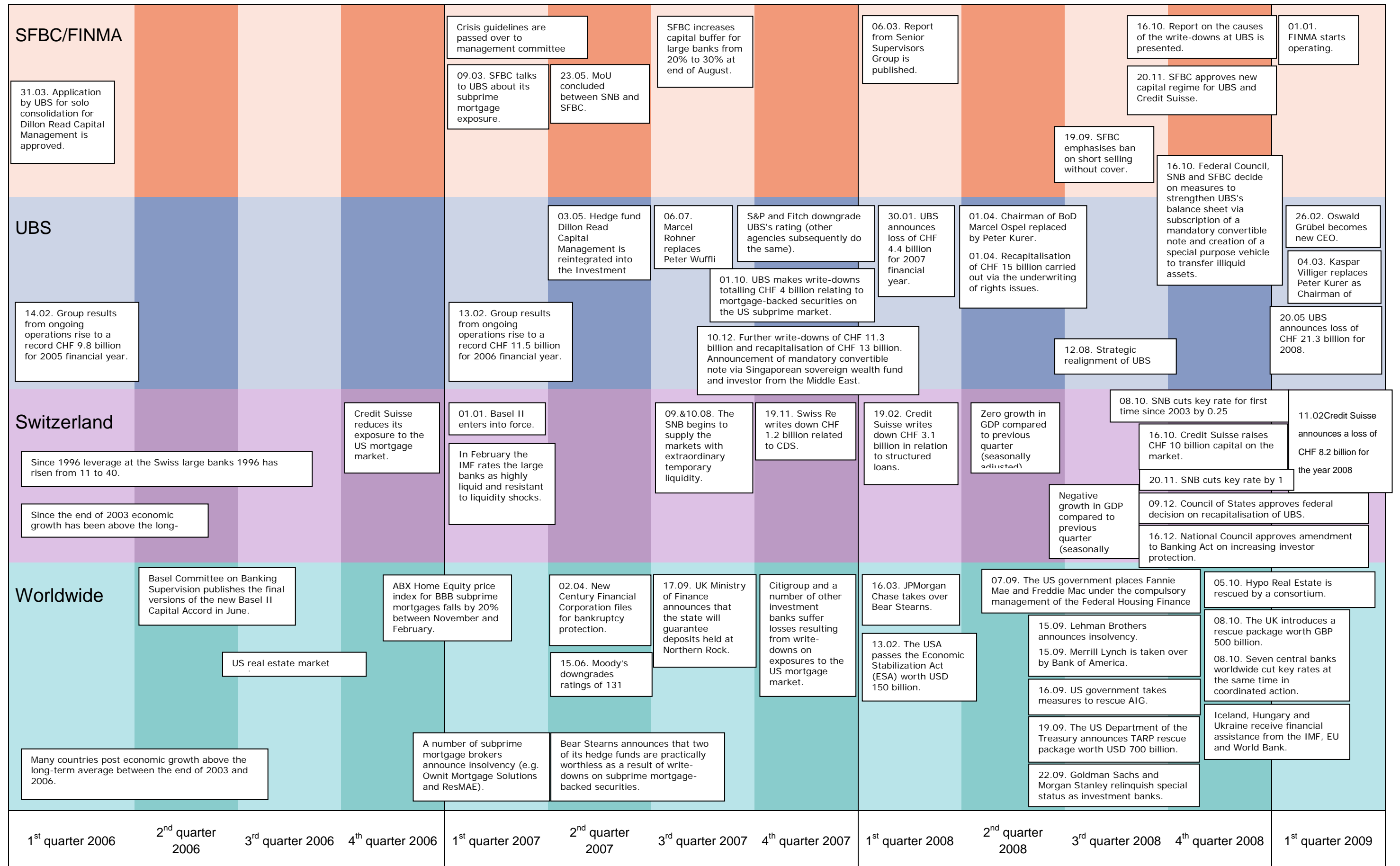
A facility is an opportunity extended by a bank to its client to borrow money or invest assets within set limits. Central bank facilities are provided by central banks to commercial banks to accept or invest liquidity under certain conditions.

Certificate funds

Certificate funds, also known as structured funds, are investment funds that invest in a variety of non-fixed-income debt instruments (e.g. securities)

Mandatory convertible notes

A mandatory convertible note is a debt instrument issued by a company. After the term of the note has expired (or possibly earlier if an option is exercised), the holder must convert the note into shares of the issuing company. Under certain conditions, FINMA classes mandatory convertible notes in the same way as the core capital of a bank under company law, despite the fact they have the same characteristics as borrowed funds. This is because it is judged that the funds initially acquired by the bank as debt will definitely not be diminished and over time, they will be converted to capital within the definition of company law.



SFBC/FINMA

31.03. Application by UBS for solo consolidation for Dillon Read Capital Management is approved.

Crisis guidelines are passed over to management committee

09.03. SFBC talks to UBS about its subprime mortgage exposure.

23.05. MoU concluded between SNB and SFBC.

SFBC increases capital buffer for large banks from 20% to 30% at end of August.

06.03. Report from Senior Supervisors Group is published.

16.10. Report on the causes of the write-downs at UBS is presented.

01.01. FINMA starts operating.

20.11. SFBC approves new capital regime for UBS and Credit Suisse.

19.09. SFBC emphasises ban on short selling without cover.

16.10. Federal Council, SNB and SFBC decide on measures to strengthen UBS's balance sheet via subscription of a mandatory convertible note and creation of a special purpose vehicle to transfer illiquid assets.

UBS

14.02. Group results from ongoing operations rise to a record CHF 9.8 billion for 2005 financial year.

13.02. Group results from ongoing operations rise to a record CHF 11.5 billion for 2006 financial year.

03.05. Hedge fund Dillon Read Capital Management is reintegrated into the Investment

06.07. Marcel Rohner replaces Peter Wuffli

S&P and Fitch downgrade UBS's rating (other agencies subsequently do the same).

30.01. UBS announces loss of CHF 4.4 billion for 2007 financial year.

01.04. Chairman of BoD Marcel Ospel replaced by Peter Kurer.
01.04. Recapitalisation of CHF 15 billion carried out via the underwriting of rights issues.

26.02. Oswald Grübel becomes new CEO.

04.03. Kaspar Villiger replaces Peter Kurer as Chairman of

01.10. UBS makes write-downs totalling CHF 4 billion relating to mortgage-backed securities on the US subprime market.

10.12. Further write-downs of CHF 11.3 billion and recapitalisation of CHF 13 billion. Announcement of mandatory convertible note via Singaporean sovereign wealth fund and investor from the Middle East.

12.08. Strategic realignment of UBS

20.05 UBS announces loss of CHF 21.3 billion for 2008.

Switzerland

Since 1996 leverage at the Swiss large banks 1996 has risen from 11 to 40.

Since the end of 2003 economic growth has been above the long-term average.

Credit Suisse reduces its exposure to the US mortgage market.

01.01. Basel II enters into force.

In February the IMF rates the large banks as highly liquid and resistant to liquidity shocks.

09.&10.08. The SNB begins to supply the markets with extraordinary temporary liquidity.

19.11. Swiss Re writes down CHF 1.2 billion related to CDS.

19.02. Credit Suisse writes down CHF 3.1 billion in relation to structured loans.

Zero growth in GDP compared to previous quarter (seasonally adjusted)

08.10. SNB cuts key rate for first time since 2003 by 0.25

16.10. Credit Suisse raises CHF 10 billion capital on the market.

20.11. SNB cuts key rate by 1

11.02 Credit Suisse announces a loss of CHF 8.2 billion for the year 2008

Negative growth in GDP compared to previous quarter (seasonally adjusted)

09.12. Council of States approves federal decision on recapitalisation of UBS.

16.12. National Council approves amendment to Banking Act on increasing investor protection.

Worldwide

Basel Committee on Banking Supervision publishes the final versions of the new Basel II Capital Accord in June.

US real estate market

ABX Home Equity price index for BBB subprime mortgages falls by 20% between November and February.

02.04. New Century Financial Corporation files for bankruptcy protection.

17.09. UK Ministry of Finance announces that the state will guarantee deposits held at Northern Rock.

Citigroup and a number of other investment banks suffer losses resulting from write-downs on exposures to the US mortgage market.

16.03. JPMorgan Chase takes over Bear Stearns.

13.02. The USA passes the Economic Stabilization Act (ESA) worth USD 150 billion.

07.09. The US government places Fannie Mae and Freddie Mac under the compulsory management of the Federal Housing Finance

05.10. Hypo Real Estate is rescued by a consortium.

15.09. Lehman Brothers announces insolvency.
15.09. Merrill Lynch is taken over by Bank of America.

08.10. The UK introduces a rescue package worth GBP 500 billion.
08.10. Seven central banks worldwide cut key rates at the same time in coordinated action.

16.09. US government takes measures to rescue AIG.

19.09. The US Department of the Treasury announces TARP rescue package worth USD 700 billion.

Iceland, Hungary and Ukraine receive financial assistance from the IMF, EU and World Bank.

22.09. Goldman Sachs and Morgan Stanley relinquish special status as investment banks.

Many countries post economic growth above the long-term average between the end of 2003 and 2006.

A number of subprime mortgage brokers announce insolvency (e.g. Ownit Mortgage Solutions and ResMAE).

Bear Stearns announces that two of its hedge funds are practically worthless as a result of write-downs on subprime mortgage-backed securities.

1st quarter 2006 2nd quarter 2006 3rd quarter 2006 4th quarter 2006 1st quarter 2007 2nd quarter 2007 3rd quarter 2007 4th quarter 2007 1st quarter 2008 2nd quarter 2008 3rd quarter 2008 4th quarter 2008 1st quarter 2009