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Overview

Monetary policy assessment at mid-year (p. 8)

On 13 June 2003, the Swiss National Bank decided to leave the target range for the three-month Libor rate at 0%–0.75%. For the time being, the three-month Libor is to be kept at the lower end of the target range at 0.25%. The recovery of the global economy is likely to be delayed still further so that in Switzerland, too, any perceptible economic upswing can only be expected in the course of 2004.

Economic and monetary developments (p. 14)

The world economy weakened in the first quarter of 2003. In particular, the threat of war in Iraq, the associated steep rise in oil prices and the renewed decline in share prices had a paralysing effect. After a disappointing start in the new year, the conditions for a recovery of the world economy improved in the second quarter. Economic activity, however, is only likely to pick up gradually.

In Switzerland, real gross domestic product in the first quarter declined from the previous period and fell 0.6% short of the year-earlier level. The renewed slowdown in business activity is primarily due to the strong decline in exports, thus reflecting the persistently weak international economy. Employment continued to fall, and unemployment figures rose.

The expansionary monetary policy proved clearly effective from March to June. The euro, which has been traded mostly between Sfr 1.45 and Sfr 1.48 in the past eighteen months, rose to almost Sfr 1.55 by the beginning of June. The broader monetary aggregates increased more markedly. The stagnation in banknote circulation and domestic loans continues to reflect the weak state of the economy.

Annual General Meeting of Shareholders (p. 46)

At the Annual General Meeting of 25 April, the President of the Bank Council of the Swiss National Bank, Hansueli Raggenbass, first commented the financial statements for 2002, which once again reflected the considerable gold price, exchange rate and interest rate risks faced by the Bank. The National Bank depends on adequate currency reserves, and these can only fulfil their function satisfactorily if they are not hedged on the market. It therefore does not distribute its entire earnings surplus, but sets aside provisions. Another subject was the planned strengthening of corporate governance within the context of the revision of the National Bank Law.

The Chairman of the Governing Board of the National Bank, Jean-Pierre Roth, commented on the economic development and on monetary policy. All hopes of an economic pickup in 2002 have been disappointed, and the National Bank further eased its monetary policy. The prospects for 2003 remain uncertain. Only an international economic upswing is likely to bring relief also for the Swiss economy. Switzerland must, however, undertake great efforts, liberalise its domestic market and promote investments as well as the innovative spirit and work input of each individual in order to achieve sustained growth and to ensure the long-term survival of its social institutions.

Report on the stability of the financial system (p. 60)

The Swiss banking sector has proved resistant to the deterioration in the economy and to the collapse of the stock markets in 2002. On the one hand, the banking sector again showed positive results in the past year: despite a marked decline in profits compared with the previous year, earning power is close to the average for the last decade. On the other hand, the sector has maintained its capacity to absorb shocks. The capital ratios of the banking sector at the end of 2002 can be regarded as favourable both in an international and an historical comparison. It must be noted that institutions with considerable losses have introduced significant measures to strengthen their capital adequacy. Finally, no major imbalance was identified as the source of a potential crisis. The Swiss banking system is thus considered to be stable. The financial market infrastructure relating to the clearing and settlement of payments and of transactions with securities and other financial instruments presents a favourable picture. Overall, the infrastructure functions well and compares very favourably as regards security and efficiency with that of other countries.

Gold standard, deflation and depression (p. 86)

This article shows, in the light of the main indicators, the development of the Swiss economy during the Great Depression. The point of departure are the views of Eichengreen and Temin, who believe that the international gold standard played an important part in spreading deflation and deepening the depression, and those of Bernanke, who emphasised the significance of the difficulties in the banking sector. During the Great Depression Switzerland was one of the countries who adhered longest to the old gold parities and who tried to re-establish international competitiveness by lowering the cost and price levels. This policy failed with the result that the economic recovery set in late despite inflows of gold and a rise in the nominal and real money supply aggregates.

Übersicht

Geldpolitische Lagebeurteilung (S. 8)

Die Nationalbank beschloss am 13. Juni 2003, das Zielband für den Dreimonats-Libor bei 0,0%–0,75% zu belassen. Der Dreimonats-Libor soll bis auf weiteres im unteren Bereich des Zielbandes bei 0,25% gehalten werden. Die Erholung der Weltwirtschaft dürfte sich erneut verzögern, so dass auch in der Schweiz erst im Laufe von 2004 mit einem spürbaren Konjunkturaufschwung zu rechnen ist.

Wirtschafts- und Währungslage (S. 14)

Die internationale Konjunktur schwächte sich im ersten Quartal 2003 ab. Lähmend wirkten insbesondere der drohende Irakkrieg, der damit verbundene starke Anstieg der Erdölpreise sowie der erneute Rückgang der Aktienkurse. Nach dem enttäuschenden Jahresbeginn besserten sich im zweiten Quartal die Voraussetzungen für eine Erholung der Weltwirtschaft. Die Konjunktur dürfte jedoch nur langsam an Schwung gewinnen.

In der Schweiz nahm das reale Bruttoinlandprodukt im ersten Quartal gegenüber der Vorperiode ab und lag 0,6% unter dem entsprechenden Vorjahresstand. Die erneute Konjunkturabschwächung ist in erster Linie auf den starken Rückgang der Exporte zurückzuführen und widerspiegelt damit die anhaltend schwache internationale Konjunktur. Die Beschäftigung bildete sich weiter zurück und die Zahl der Arbeitslosen nahm zu.

Die expansive Geldpolitik zeigte in den Monaten März bis Juni deutliche Wirkungen. Der Euro, der seit anderthalb Jahren meist zwischen 1,45 und 1,48 Franken gehandelt wurde, stieg bis Anfang Juni gegen 1,55. Die breiteren Geldaggregate nahmen verstärkt zu. Die Stagnation des Notenumlaufs sowie der Inlandkredite widerspiegelt weiterhin die schwache Konjunktur.

Generalversammlung der Aktionäre (S. 46)

Der Präsident des Bankrates der Schweizerischen Nationalbank, Hansueli Raggenbass, erläuterte an der Generalversammlung vom 25. April zunächst den Jahresabschluss 2002, in dem sich einmal mehr die beträchtlichen Goldpreis-, Wechselkurs- und Zinsrisiken der Bank widerspiegelten. Die Nationalbank ist auf ausreichende Währungsreserven angewiesen, die ihre Funktion nur dann einwandfrei erfüllen können, wenn sie am Markt nicht abgesichert werden. Sie schüttet deshalb nicht den gesamten Ertragsüberschuss aus, sondern bildet Rückstellungen. Ein weiteres Thema war die Stärkung der Corporate Governance, die im Rahmen der Revision des Nationalbankgesetzes angestrebt wird.

Der Präsident der Nationalbank, Jean-Pierre Roth, äusserte sich zur Konjunkturentwicklung und zur Geldpolitik. Die Hoffnung auf eine Konjunkturbelebung wurde im Jahre 2002 enttäuscht und die Nationalbank lockerte ihre Geldpolitik weiter. Die Perspektiven für 2003 bleiben ungewiss. Erst ein Aufschwung der Weltwirtschaft dürfte auch der Schweizer Wirtschaft Erleichterungen bringen. Um ein nachhaltiges Wachstum zu erreichen und um ihre Sozialwerke längerfristig zu sichern, muss die Schweiz aber grosse Anstrengungen unternehmen, den Binnenmarkt liberalisieren und die Investitionen, den Innovationsgeist und den Arbeitseinsatz jedes Einzelnen fördern.

Stabilitätsbericht (S. 60)

Der schweizerische Bankensektor erwies sich gegenüber der konjunkturellen Verschlechterung sowie gegenüber dem Einbruch an den Börsen im Jahr 2002 als widerstandsfähig. Zum einen blieb er auch im vergangenen Jahr profitabel: Trotz eines deutlichen Gewinnrückgangs im Vergleich zum Vorjahr liegt die Rentabilität nahe beim Mittelwert des letzten Jahrzehnts. Zum andern hat der Bankensektor seine Kapazität, Schocks zu absorbieren, aufrechterhalten. Die Eigenmittelausstattung des Bankensektors Ende 2002 ist sowohl im internationalen wie auch im historischen Vergleich als gut zu beurteilen. Schliesslich wurde auch kein grösseres Ungleichgewicht als Quelle einer möglichen Krise identifiziert. Das schweizerische Bankensystem wird demzufolge als stabil beurteilt. Auch bei den Finanzmarktinfrastrukturen, d.h. im Bereich der Abrechnung und Abwicklung von Zahlungen und Geschäften mit Wertschriften und anderen Finanzinstrumenten, präsentiert sich die Lage gut. Insgesamt verfügt der Finanzplatz Schweiz über eine gut funktionierende Infrastruktur, die hinsichtlich Sicherheit und Effizienz auch im internationalen Vergleich sehr gut abschneidet.

Goldstandard, Deflation und Depression (S. 86)

Dieser Aufsatz zeichnet anhand der wichtigsten Indikatoren die Entwicklung der schweizerischen Volkswirtschaft in der Grossen Depression nach. Den Ausgangspunkt bilden die Auffassungen von Eichengreen und Temin, wonach der internationale Goldstandard eine wichtige Rolle bei der Verbreitung der Deflation und der Vertiefung der Depression spielte, sowie von Bernanke, der die Bedeutung der Schwierigkeiten im Bankensektor betonte. Die Schweiz gehörte in der Grossen Depression zu den Ländern, die am längsten an den alten Goldparitäten festhielten und die internationale Wettbewerbsfähigkeit über eine Senkung des Kosten- und Preisniveaus wiederherzustellen versuchten. Diese Politik schlug fehl, so dass die wirtschaftliche Erholung – trotz Goldzuflüssen und eines Anstiegs der nominellen und realen Geldmengen – spät einsetzte.

Sommaire

Appréciation de la situation économique et monétaire au milieu de l'année (p. 8)

Le 13 juin 2003, la Banque nationale a décidé de laisser inchangée à 0%–0,75% la marge de fluctuation du Libor à trois mois et de maintenir, jusqu'à nouvel avis, le Libor à trois mois dans la zone inférieure de la marge, soit autour de 0,25%. La reprise de l'économie mondiale sera probablement retardée une nouvelle fois, de sorte qu'il faudra attendre l'année 2004 pour observer, en Suisse également, une amélioration sensible de la conjoncture.

Situation économique et monétaire (p. 14)

La conjoncture a faibli sur le plan mondial au premier trimestre de 2003. Plusieurs facteurs, en particulier la menace d'une guerre en Irak, la forte hausse des prix des produits pétroliers qui en a découlé et la nouvelle baisse des cours des actions, ont contribué au ralentissement de l'activité économique. Après un début d'année décevant, les conditions préalables à une reprise de l'économie mondiale se sont améliorées au deuxième trimestre. Mais la conjoncture ne retrouvera sans doute que lentement de la vigueur.

Au premier trimestre, le produit intérieur brut réel de la Suisse a reculé par rapport au trimestre précédent, mais aussi en comparaison annuelle (–0,6%). Cette nouvelle détérioration de la conjoncture est due principalement à un fort repli des exportations et reflète ainsi la persistance de la faiblesse de l'activité sur le plan international. L'emploi a continué à diminuer, et le chômage s'est accru.

La politique monétaire expansionniste a eu de sensibles répercussions dans les mois de mars à juin. Après avoir fluctué généralement entre 1,45 et 1,48 franc pendant un an et demi, l'euro s'est raffermi, passant à près de 1,55 franc début juin. La croissance des agrégats monétaires au sens large s'est accélérée. La stagnation tant des billets en circulation que des crédits en Suisse montre que la conjoncture est restée faible.

Assemblée générale des actionnaires (p. 46)

Lors de l'Assemblée générale des actionnaires du 25 avril, Hansueli Raggenbass, président du Conseil de banque de la Banque nationale suisse, a commenté d'abord les comptes annuels pour 2002, comptes qui reflètent une fois encore les risques considérables de taux d'intérêt, de cours de change et, sur l'or, de prix auxquels est exposé l'institut d'émission. Ce dernier doit détenir des réserves monétaires suffisantes, et ces réserves ne peuvent vraiment remplir leur rôle que si elles ne sont pas couvertes, par des opérations à terme, contre les risques de change. Ses excédents de recettes ne sont par conséquent pas distribués intégralement; ils servent aussi à constituer des provisions. Un des autres thèmes traités a porté sur le renforcement du gouvernement d'entreprise à la faveur de la révision de la loi régissant la Banque nationale.

Le président de la Direction générale de la Banque nationale, Jean-Pierre Roth, a consacré son exposé principalement à l'évolution de la conjoncture et à la politique monétaire. L'année 2002 a été décevante pour l'économie suisse. La conjoncture n'a pas marqué la reprise attendue, et la Banque nationale a assoupli encore sa politique monétaire. Les perspectives pour 2003 restent incertaines. Lorsque la conjoncture mondiale retrouvera de la vigueur, l'économie suisse en bénéficiera aussi. Pour atteindre une croissance durable et garantir la pérennité de ses assurances sociales, la Suisse doit cependant s'astreindre à de gros efforts, libéraliser son marché intérieur, mais aussi soutenir l'effort de travail, l'innovation et l'investissement.

Rapport sur la stabilité du système financier (p. 60)

En 2002, le secteur bancaire suisse a bien résisté à la détérioration de la conjoncture et à la chute des cours des actions. En effet, il est resté rentable; bien que les bénéfices dégagés par les banques aient fléchi sensiblement d'une année à l'autre, sa rentabilité se situe à un niveau proche de la moyenne observée pour la dernière décennie. De plus, le secteur bancaire est parvenu à garder intacte sa capacité à absorber des chocs. A fin 2002, sa dotation en fonds propres était toujours élevée en comparaisons historique et internationale. Enfin, aucun déséquilibre majeur, source possible de crise, n'a été identifié. Aussi le système bancaire suisse peut-il être qualifié de stable. Du côté de l'infrastructure du marché financier, soit des systèmes de compensation et de règlement des paiements et opérations sur titres et autres instruments financiers, la situation paraît bonne. Dans l'ensemble, la place financière suisse est dotée d'une infrastructure qui fonctionne bien et occupe une position de choix, en comparaison internationale, sous l'angle de la sécurité comme sous celui de l'efficacité.

Régime de l'étalon-or, déflation et dépression (p. 86)

L'article montre, à l'aide des principaux indicateurs, quelle a été l'évolution de l'économie suisse pendant la Grande Dépression. Il prend comme points de départ les opinions de Eichengreen et Temin – tous deux estiment que le régime de l'étalon-or, alors mondial, a joué un rôle important dans la propagation de la déflation et dans l'aggravation de la dépression – mais aussi de Bernanke qui met l'accent sur les répercussions des difficultés du secteur bancaire. Lors de la Grande Dépression, la Suisse a fait partie des pays qui ont maintenu le plus longtemps la parité-or de leur monnaie et ont cherché à rétablir leur compétitivité internationale par une baisse du niveau des coûts et des prix. Cette politique a échoué, et la reprise économique – en dépit d'afflux d'or et d'une expansion des agrégats monétaires en termes nominaux et réels – est intervenue plus tardivement.

Sommario

Monetary policy assessment at mid-year

Remarks by Jean-Pierre Roth, Chairman of the Governing Board of the Swiss National Bank, at the News Conference of the Governing Board in Berne on 13 June 2003

The National Bank has decided to leave the target range for the three-month Libor rate unchanged at 0.0%–0.75%. For the time being, the three-month Libor is to be kept at the lower end of the target range at 0.25%. In the past two years we took decisive steps in response to declining economic growth and to the upward trend of the Swiss franc. Owing to the low inflationary pressure we have narrowed the target corridor for the three-month Libor by a total of 3.25 percentage points since March 2001. Interest rates were last lowered on 6 March of this year. The recovery of the global economy is likely to be delayed still further so that in Switzerland, too, any perceptible economic upswing can only be expected to materialise during the course of 2004. We are therefore maintaining our expansionary monetary policy and shall keep the attractiveness of Swiss franc investments low. This does not jeopardise price stability. Assuming that the three-month Libor rate will remain stable at 0.25%, average annual inflation is expected to amount to 0.6% this year, 0.4% next year, and 1.2% in 2005. For 2003 we anticipate real economic activity to stagnate overall.

Let me continue by saying a few words about the financial markets. After that, I will focus on the Swiss economy and our new inflation forecast. The last part of my remarks will concentrate on the latest adjustment to the ECB's monetary policy concept and the National Bank's profit distribution.

Financial markets

After the war in Iraq the financial markets reassessed the economic situation. The risks emanating from the international political situation lost significance, and the markets returned their focus on the fundamentals. The different markets have been giving off mixed signals.

On the one hand, yields on long-term bonds in the major currencies fell to their lowest level in years. This is a reflection of the fact that bond markets expect low inflation and subdued economic movement for an extended period. Equity markets, on the other hand, recovered somewhat in the second quarter. Risk premiums on corporate bonds went down as well. This is a sign that some market participants are quite confident that corporations will make a stronger showing.

Exchange rates underwent a revaluation too. The marked decline of the US dollar against the euro can partly be interpreted as a normalisation after the previous exaggerations, and partly be attributed to the widening disequilibrium in the balance of payments and in the US budget. Moreover, given the extremely low US dollar interest rates, currency risks could be hedged at favourable conditions by concluding forward contracts – an attractive option in times of decreased risk capability. With the resulting forward sales the dollar came under further pressure. As regards the Swiss franc, we have noted that the euro/franc exchange rate has for the first time reached its pre-9/11 level.

The price losses on equities of the past few years – the SPI today is approximately 40% below its peak – have had a significant effect in Switzerland. They put pressure on both corporations and individuals, with foreseeable higher old-age provisions and nascent insecurity in this area being one of the concerns. The Swiss financial sector, which makes an above-average contribution to gross national product, has been particularly hard hit by the stock market correction. The cut-backs which are now necessary in the financial sector will put a strain on the Swiss economy for an extended period to come.

Economic activity

Economic activity in Switzerland weakened in the first quarter of 2003. According to preliminary estimates of seco, real gross domestic product contracted compared with the previous period and was again slightly below the previous year's level. The renewed deterioration in the economic situation did not come unexpectedly. It was primarily the result of the recurring downturn of the global economy, which is partly a reflection of the uncertainties in connection with the Iraq war. Swiss exports were down again in the first quarter, and the foreign trade contribution became distinctly negative. Consumer spending had a slightly stabilising effect while investments continued to decline overall.

Even though geopolitical uncertainties have meanwhile largely given way, the economic situation in Switzerland remains difficult. The marked deterioration in the labour market makes for more uncertainty and depresses consumer sentiment. Even though there are first signs suggesting a stabilisation of demand for capital goods, corporate investment activity is still at a low ebb. Despite the weaker franc against the euro, incoming orders and the order backlog stayed at an unsatisfactory level up until April. Capacity utilisation in the industry remains inadequate. Swiss gross domestic product is therefore not likely to grow in the second quarter of 2003 either.

Any recovery of the Swiss economy is dependent on a sustained increase in growth in exports, which should then lead to a turnaround in the currently still weak capital spending. We expect that this upswing will set in gradually in the second half of 2003 and then continue at a more vigorous pace next year. Private consumption should also pick up a little more. GDP growth is therefore likely to increase somewhat in the second half of the year but will nevertheless remain moderate. In the current year we anticipate real economic activity to stagnate overall. For next year we expect a perceptible economic upswing. We are likely to see a continued rise in unemployment to the end of the year and do not expect the labour market to improve before the middle of 2004.

Inflation forecast

I shall now turn to the course of inflation and our new inflation forecast. Annual inflation, as measured by the national consumer price index, stood at 1.0% both in the fourth quarter of 2002 and the first quarter of 2003. In April, inflation dropped to 0.7% and amounted to 0.4% in May. This decline is primarily attributable to a basis effect. While inflation of domestic goods has remained fairly stable as of late, inflation of imported goods was relatively volatile. This is a result of oil prices having fluctuated sharply in the recent past. With regard to domestic goods, it is striking that rents have not risen for a while now while prices for other services – particularly public services – have augmented at an above-average rate. The core rate of inflation calculated by the National Bank has stood at slightly below 1% for a while.

This year the National Bank began publishing its inflation forecast once every quarter. Our inflation forecast of March 2003 (the dash-dotted red curve in the graph) shows that at that time we assumed, based on a stable three-month Libor rate of 0.25%, that inflation would gradually rise to 2.5% in the fourth quarter of 2005. This inflation forecast was based on the assumption that the US economy would see a decisive recovery already from the second quarter of 2003, followed by an upswing in Europe toward the end of 2003. This proved to be too optimistic a scenario.

In our latest inflation forecast (red dashed curve) we anticipate a renewed delay in the global recovery of just over half a year. Growth in the US, however, is likely to pick up as early as 2003. The US economy is not expected to reach its growth potential before the end of 2004, however. Economic activity in Europe will only see modest growth for the time being. We anticipate that a significant acceleration of growth will not set in before the middle of 2004, with potential growth being reached in the course of 2005. We assume that the dollar/euro rate will remain at about the current level and that the oil price will be around $25 per barrel.

On the assumption that the three-month Libor rate will remain stable at 0.25% during the next three years, average inflation should amount to 0.6% in 2003, drop to 0.4% in 2004 and climb to 1.2% in 2005. It is thus forecast to remain under 1% until mid-2005. In the course of 2005, however, an acceleration will get under way, with forecast inflation reaching the 2.5% mark in the second quarter of 2006.

The new forecast is consistently below that of March 2003. The low inflation at the beginning of 2004 is attributable to a basis effect as a result of the development of oil prices. The lower inflation forecast for the period thereafter is due to the delayed economic upswing. According to the new forecast, inflation in 2006 is no longer in the range that the National Bank equates with price stability. It should be noted that these forecasts assume that monetary policy will remain expansive over the next three years. We can preempt such a rise in inflation by tightening monetary policy at a later time.

Relaxed monetary policy

Our interest rate cut of 50 basis points last March was the last possible downward interest rate adjustment. Our intention was to resolutely counter the appreciation of the Swiss franc vis-à-vis the euro in the current difficult economic environment. So far, it has been a successful step: the Swiss franc has depreciated markedly against the euro. Monetary conditions have again become considerably more relaxed. For the time being, we intend to continue to implement an expansionary monetary policy and to support the economic recovery in Switzerland. Swiss franc investments are to remain unattractive in the foreseeable future.

Economic recovery is still uncertain. There is even recurring talk of a deflation risk in Switzerland. We consider this to be a minimal risk. In a few months, inflation may well be negative. An actual deflation spiral leading to a strong decline in the demand for goods and in output is, however, highly unlikely as long as the Swiss franc does not appreciate inordinately. We shall therefore continue to take decisive steps to combat a tightening of the monetary conditions brought about by any significant rise of the Swiss franc against the euro.

You will certainly have taken note of the high growth rates of the money supply aggregates in the last few quarters. The money supply aggregates are currently growing at rates last seen at the end of the eighties. The question arises to what extent this expansion in the money supply has an inflationary effect. First, let it be said that we are deliberately conducting an expansionary policy. That partly explains the above-average money supply growth. It also must be noted, however, that the painful experiences investors have made on the stock markets and the uncertain economic situation have significantly heightened the preference for liquidity. A look at credit statistics confirms that the money supply did not grow as a result of credit creation and therefore does not serve to finance any existing demand for goods. Moreover, our economy currently has free capacities so that increased demand will not immediately push up prices. We are therefore convinced that we have sufficient time at our disposal to keep inflation within the bounds of price stability by tightening monetary policy at a later point in time.

I should like to emphasise once more that in the present situation other efforts are needed besides an expansionary monetary policy in order to maintain or to enhance the attractiveness of Switzerland as an industrial and business centre. Such efforts include a further liberalisation of the domestic economy, an increase in competitiveness in the structurally weak sectors, and sound public finances.

Adjustment of the monetary policy concept of the ECB

A few weeks ago, the European Central Bank (ECB) finalised a monetary policy assessment and slightly adjusted its monetary policy concept. In future, the ECB will no longer lay down the reference value for the money supply M_3 every year but will keep it unchanged for longer periods of time. In communicating its monetary policy decisions, the ECB will, other than in the past, first comment the general price and economic development and only afterwards the development of the money supply. Furthermore, the ECB has confirmed its definition of price stability. It considers price stability to have been achieved when the inflation rate is below 2%. At the same time, the ECB has announced that it will now be aiming at an inflation rate of nearly 2% in the medium term.

The National Bank defines price stability in the same way as the ECB. The question thus arises whether we, too, should as a principle aim at the upper level in the range of price stability. We see no reason to make any changes in our concept. Switzerland is a small open economy and the proportion of imported goods in the national consumer price index amounts to 25%. As a result of exchange rate fluctuations, the inflation rates are significantly more volatile than in the euro area. There is therefore no sense in aiming at an excessively narrow range of inflation. Such temporary fluctuations in inflation do not pose a problem for the Swiss economy and should not be countered by means of special monetary policy actions. Furthermore, the euro area also has the problem that there is a large spread in inflation between the peripheral countries and the countries at the centre. In striving for an inflation rate of less than, but close to, 2% in the medium term in the entire euro area, the ECB is trying to prevent inflation in the central countries from being pushed down towards zero, or even below zero, for any length of time. In Switzerland, this problem does not exist as only inflation measured in Switzerland is relevant for our monetary policy.

Supplementary agreement between the Federal Department of Finance and the SNB on the distribution of profits on the free assets

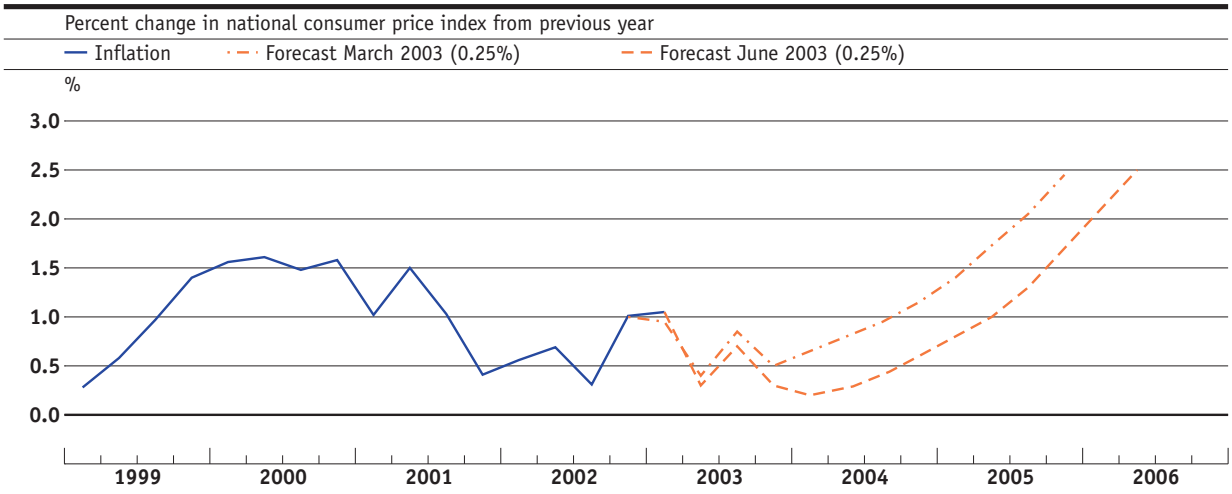
At yesterday's meeting the Bank Council of the National Bank agreed to a supplementary agreement between the Federal Department of Finance and the Swiss National Bank on the distribution of profits on the free assets (income on reinvested proceeds from gold sales). The profit distribution of the National Bank will thus increase by Sfr 300 million to a total of Sfr 2.8 billion (for the financial year 2003) in spring 2004. In 2005 and 2006, it will be gradually raised up to Sfr 3 billion. The National Bank's profit distribution has so far not taken account of this income on reinvested gold proceeds.

On discussing this transaction, the bank authorities of the National Bank expressed their concern that it was now even more obvious that the National Bank's profit transfer was reaching a level that cannot be maintained in the long term. The Governing Board shares the bank authorities' concern that a later return to the "normal level", which will only amount to approximately Sfr 1 billion, is likely to create considerable political difficulties.

From today's vantage point, it cannot be ruled out, moreover, that as a result of the additional distribution on the income-yielding free assets the National Bank's provisions will be reduced more rapidly than had been assumed when the main agreement on the National Bank's profit distribution was concluded in April 2002. At 2.9% a year, the income forecast on which this agreement was based is rather optimistic given the low yield level on the financial markets for some time to come. It may therefore well be that a downward adjustment will become necessary as early as 2007, when, in terms of the agreement, the level of distribution will be reconsidered. In any case, the National Bank does not consider an annual profit distribution of Sfr 3 billion from 2007 onward as by any means a certainty.

We think it is important to draw attention to these risks well in time. We also explained them to the Head of the Federal Department of Finance and asked him to advise the responsible persons of the cantons of our misgivings.

Inflation forecast of March 2003 with Libor at 0.25% and of June 2003 with Libor at 0.25%



Inflation forecast June 2003 with Libor at 0.25%	2003	2004	2005
Annual average inflation in %	0.6	0.4	1.2

Economic and monetary developments in Switzerland

Report for the attention of the Governing Board with a view to its quarterly assessment and to the attention of the Bank Council

The report was passed on 11 June 2003.
Data which became available at a later date has been included whenever possible. Quarter-on-quarter comparisons are always based on data adjusted for seasonal variations.

1 International environment

1.1 Economic activity

International economic activity slackened in the first quarter of 2003, with the global economic recovery that had been expected for this year becoming increasingly uncertain. The key factors weighing on economic activity included the threat of war in Iraq, an associated sharp rise in oil prices and a fresh setback for share prices. In consequence, there was a further slide in investment activity in most industrialised countries, and external trade slowed down. By contrast, private consumer spending remained relatively robust.

After a disappointing start to the year, the necessary conditions for a recovery in the world's economy improved during the second quarter. The swift end to the war in Iraq was accompanied by a significant fall in oil prices and a stabilisation in the situation on the equity markets. A number of central banks, among them the European Central Bank (ECB), opted for a further relaxation of monetary policy. Inflation prospects remained benign, thereby contributing to a further fall in long-term interest rates.

Weak growth in the US

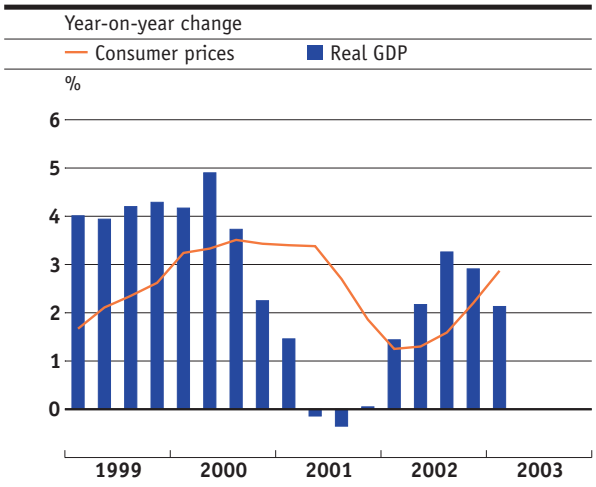
In the United States, real GDP rose at an annualised rate of 1.9% in the first quarter – slightly faster than in the previous period. Growth remained well below potential, however. Although growth in domestic demand continued to slow, exports fell less sharply than in the previous period – a key factor probably being the significant fall in the value of the dollar. In the first quarter the dollar was down 4.4% on its previous-year level in trade-weighted real terms; versus the euro the US currency's decline amounted to 22.5%.

At the outset of the second quarter the economic situation remained fragile. Output in the manufacturing sector contracted significantly, with the jobless rate edging up from an average of 5.8% in the first quarter to 6% in April. On a positive note, there was an improvement in consumer sentiment together with a renewed upturn in the order intake for manufacturing. This is indicative of rising manufacturing output in the months ahead.

Continuing economic stagnation in the EU ...

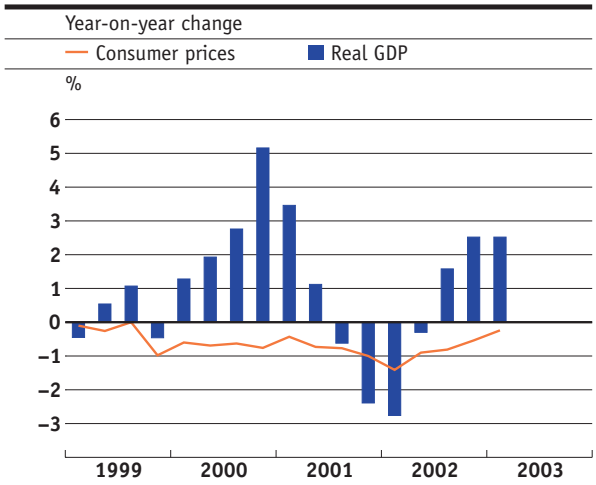
Real GDP in the euro area stagnated in the first quarter, having increased at an annualised rate of 0.3% in the previous period. Mild growth in private consumer spending was tempered by a dwindling of investment activity and exports. The slowdown in economic activity was particularly marked in Germany and the Netherlands: in both countries, real GDP fell for the second time in succession. Italy, too, witnessed a slight dip in GDP, while growth in France and Spain tapered off. Economic activity stagnated in most of the smaller countries.

USA Graph 1.1



Source: Bank for International Settlements (BIS)

Japan Graph 1.2



Source: BIS

As far as the second quarter is concerned, there have not yet been any signs of an economic revival. The order intake and orders in hand in the manufacturing sector continued to languish. Having deteriorated considerably in the period to March, consumer sentiment remained lacklustre. Gloomy job prospects had a particularly damaging effect in this regard. In May the rate of unemployment stood at 8.8% – half a percentage point higher than a year earlier.

The United Kingdom also fell victim to a substantially weaker rate of economic growth in the first quarter. Real GDP grew by 0.6% on an annualised basis, as against 1.5% in the previous period. The latest surveys for the manufacturing sector point to only modest economic growth in the second quarter. That said, there has so far been scarcely any increase in the number of people out of work, which at 5.1% is significantly lower than in the euro area.

... and in Japan

Japan's real GDP in the first quarter was unchanged from the previous quarter, when growth was rising at an annualised rate of 1.9%. Although higher capital expenditure and private consumer spending helped sustain the economy, investment in the construction sector suffered a setback. Exports lost momentum due to lower demand from Asia and the United States.

Economic activity is likely to have undergone only a modest revival in the second quarter. Output for the manufacturing sector weakened once again in April. Recent surveys show companies to be a shade more optimistic. If demand were to rise, the low inventory levels in the manufacturing sector could quickly feed through to output. Economic activity is nevertheless being restrained by the strong yen, as well as high unemployment by Japanese standards (5.4%) and its negative impact on household spending.

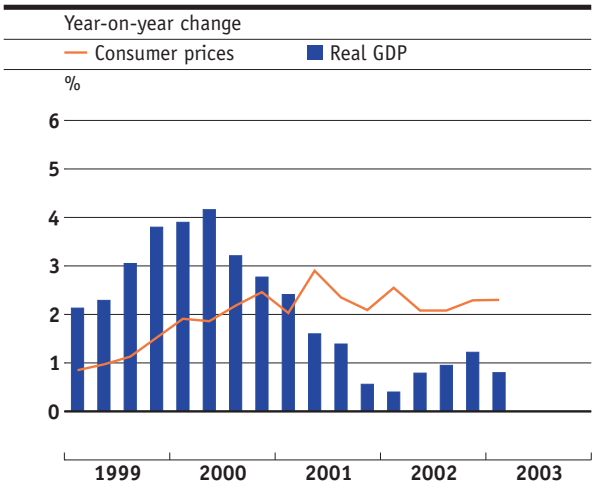
Signs of a recovery in Argentina

Argentina is still beset with difficulties, but since the beginning of the year signs of an economic recovery have been gathering. Real GDP in the first quarter was 4.5% up on the level of the previous year. The Argentinian currency appreciated as inflation fell much more sharply than expected. The new government, which took office in May, is seeking to negotiate a fresh package of measures with the International Monetary Fund (IMF) aimed at dealing with the economic crisis. The main thrust of this is to replace an agreement that expires in August. Under this agreement, the IMF gave the country a short-term reprieve for loan repayments falling due.

Growing optimism in Brazil

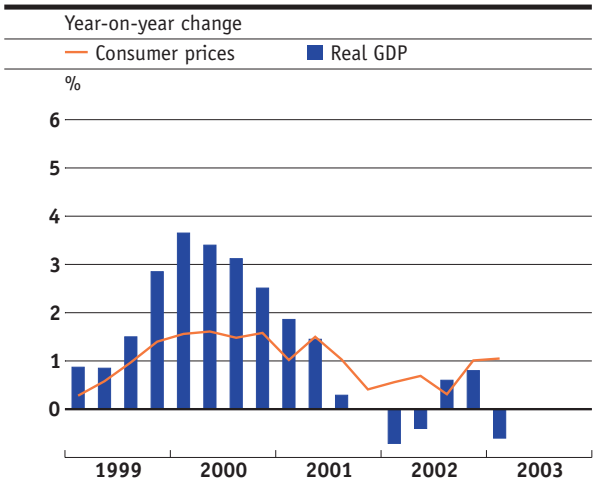
Economic activity in Brazil seems to be picking up gradually. The new government that came into power at the beginning of the year is pursuing economic policies aimed at maintaining stability – a move that has helped calm the situation on the financial markets. The Brazilian currency recovered from last year's low point, while inflation expectations eased downwards. The risk premium on government bonds fell sharply, enabling the government to resume bond issuance activity on the international capital markets.

Euro area — Graph 1.3



Source: BIS

Switzerland — Graph 1.4



Sources: Swiss Federal Statistical Office (SFSO)
State Secretariat for Economic Affairs (seco)

1.2 Monetary policy and interest rates

No change in inflation

Within the OECD (excluding high-inflation countries), average consumer price inflation stood at 1.9% in April, compared with 2.1% in January. Lower oil prices were the main factor contributing to the reduction in the rate of price rises.

The rate of inflation in the US eased from 3.0% in February to 2.2% in April, with the underlying rate edging down 0.4 percentage points to 1.5%. Inflation in the euro area fell to 2.1% in April from 2.3% in the first quarter. Germany continued to report the lowest inflation rate (1.0%) and Ireland the highest (4.5%). By contrast, price rises in the United Kingdom remained well above the 2.5% target figure at 3.0% (excluding mortgage payments). Price levels in Japan fell less sharply in February and March than in prior months due to sharply rising food prices. Taking core inflation as the basis, however, the deflationary trend remains well entrenched.

Further relaxation of monetary policy

In response to continuing weakness in economic activity, the European Central Bank (ECB) on 5 June lowered its key interest rate by 0.5 percentage points to 2.0% (minimum bid rate for main refinancing transactions). Last time round, at the beginning of March, interest rates were cut by 0.25 percentage points. The Swedish and Danish central banks also reduced their key interest rates at the beginning of June by 0.5 percentage points. Norway's central bank had already cut interest rates at the beginning of May. By contrast, the US and UK central banks left key interest rates unchanged in the second quarter at 1.25% and 3.75% respectively. The Bank of Canada increased its rates again slightly in mid-April; its call money rate currently stands at 3.25%.

Japan's rate for overnight funds was stuck at zero percent. However, the Japanese central bank significantly widened its liquidity target in the second quarter in a bid to encourage economic activity. At the beginning of June, the central bank also decided to accept asset-backed securities from companies in order to facilitate financing.

The ECB made a slight adjustment to its monetary policy framework at the beginning of May. From now on, the ECB will no longer be revising its M_3 benchmark figure on an annual basis, instead allowing it to remain unchanged for longer periods. When publishing its monetary policy decisions, the bank's statement will now focus firstly on a general analysis of prices and economic developments, before moving on to deal with changes in M_3 money supply. The ECB reiterated its definition of price stability: in future it will aim to maintain an inflation rate of close to 2% in the medium term.

Long-term interest rates at low level – revival on the equity markets

Benign inflation prospects contributed to a further fall in long-term interest rates in the industrialised countries. After rising slightly in March, they had fallen back to historic lows by the end of May. There was an improvement in the situation on the equity markets. Between March and June the MSCI worldwide index of shares rallied by 15.1% following a fall of 6.4% between January and March.

1.3 Economic outlook

Though the conditions necessary for a recovery in the world's economy improved following the end of the war in Iraq, economic activity in the industrialised countries is likely to be slow in building up steam. The prospects of a trend reversal are greater for the UK and US than they are for the euro area and Japan. Fuelled by expansionary financial policies and more buoyant consumer sentiment, America's economy is already likely to be growing more strongly again in the second half of 2003. But for the euro area and Japan there is hardly any light on the horizon. The difficulties afflicting government finances in many countries continue to pose a particularly big problem, giving rise to expectations of weak growth in government spending and hikes in taxes. In Asia, the SARS epidemic is additionally likely to dampen the pace of economic growth.

In its spring forecast, the OECD said it was expecting 1.2% growth in real GDP for the EU this year, representing a significant downgrading of its autumn 2002 forecast of 1.9%. In their consensus forecasts[1] published in mid-May, economic research institutes were forecasting EU economic growth of 1.2% – this too constituting a markdown on their expectations back in March. As for the US, both OECD and consensus forecasts were unchanged, with growth expected to be in the region of 2.5%. Forecasts for Japan were also virtually unchanged at 1% (OECD) and 0.8% (consensus). In terms of 2004, the OECD expects a significant revival in economic activity in the US and EU, while growth in Japan is set to remain sluggish.

Forecasts Table 1

	Economic growth[2]				Inflation[3]			
	OECD		Consensus		OECD[4]		Consensus	
	2003	2004	2003	2004	2003	2004	2003	2004
European Union	1.2	2.4	1.2	2.1	2.0	1.6	2.1	1.8
Germany	0.3	1.7	0.6	1.8	0.8	0.4	1.2	1.2
France	1.2	2.6	1.0	2.0	1.6	1.4	1.9	1.5
United Kingdom	2.1	2.6	2.0	2.4	3.1	2.8	2.8	2.3
Italy	1.0	2.4	1.1	2.0	2.3	1.9	2.4	2.0
United States	2.5	4.0	2.3	3.6	2.4	1.7	2.4	2.0
Japan	1.0	1.1	0.8	0.8	−0.9	−1.0	−0.6	−0.6
Switzerland	0.6	1.9	0.6	1.7	0.7	0.3	0.7	0.9

1 Consensus forecasts are monthly surveys conducted among approximately 200 leading companies and economic research institutes in roughly 20 countries, covering predictions for the development of GDP, prices, interest rates and other relevant economic indicators. The results are published by Consensus Economics Inc., London.

2 Real GDP, change from previous year in percent

3 Consumer prices, change from previous year in percent

4 Inflation EU: euro area; inflation UK: excluding mortgage costs

Sources: OECD: Economic Outlook November 2002;
Consensus: May Survey

2 Monetary situation

The effects of the National Bank's expansionary monetary policy were much in evidence between March and May. At the beginning of June, the euro climbed out of its usual trading range of the past 18 months – generally between Sfr 1.45 and Sfr 1.48 – to reach a level of Sfr 1.55. The M_1 to M_3 monetary aggregates grew at a more rapid pace, and in April were expanding at new record rates. The stagnation in banknote circulation and in domestic borrowing continues to reflect the sluggish economy.

2.1 Interest rates

Money market rates are falling

On 6 March 2003, the National Bank lowered the target range for the 3-month Libor rate by 50 basis points to 0.00%–0.75%; the target figure is 0.25%. Due to this cut in interest rates, Swiss money market rates diminished between February and May. The three-month Libor rate fell from an average of 0.59% in February to 0.29% in May. At the end of February, money market rates for all durations of up to one year were at virtually the same level; however, by the end of May the 12-month interest rate was around 10 basis points higher than the three-month Libor rate. From February to May, the issuing yield on federal money market debt register claims was 17 basis points below the three-month Libor rate on average.

European money market rates likewise fell between February and May. In contrast to the Swiss franc, however, the yield curve was inverted, which was indicative of expected cuts in interest rates. Although the US central bank left its key interest rate unchanged, US money market rates also eased slightly, with the yield curve likewise becoming slightly inverted in May.

Between the end of February and end of May, the interest differential in relation to the dollar (in terms of three-month Libor rates) increased from 75 to 100 basis points but remained unchanged against the euro at around 200 basis points.

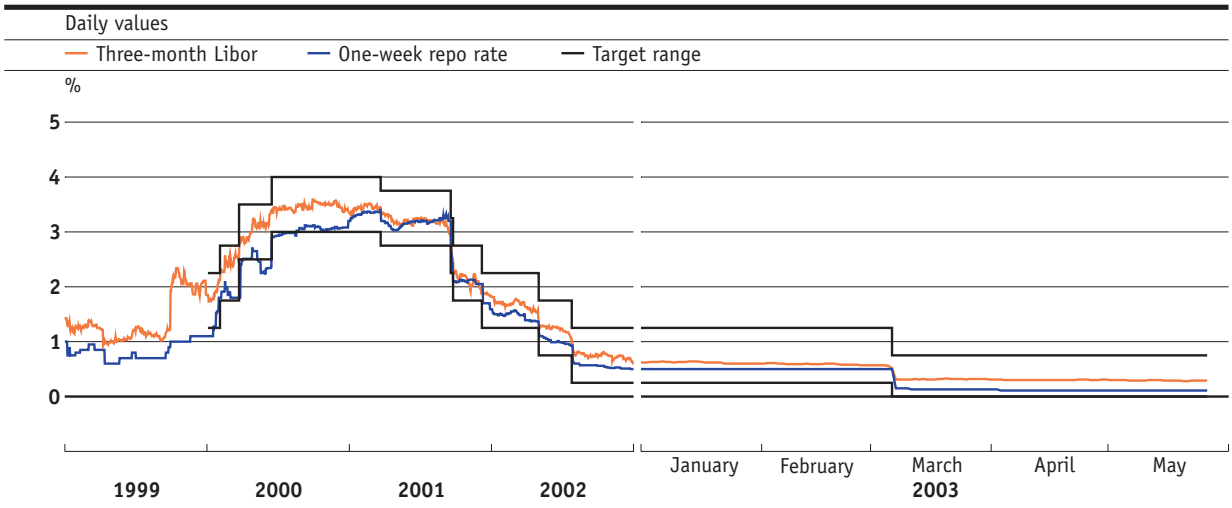
Bond yields fall to new lows

The beginning of the war in Iraq heralded a rise in yields on long-term government bonds in March. Since the end of April, however, long-term yields have fallen again just as significantly. By the end of May, yields on European, US and Japanese government bonds had reached lows not seen in many years.

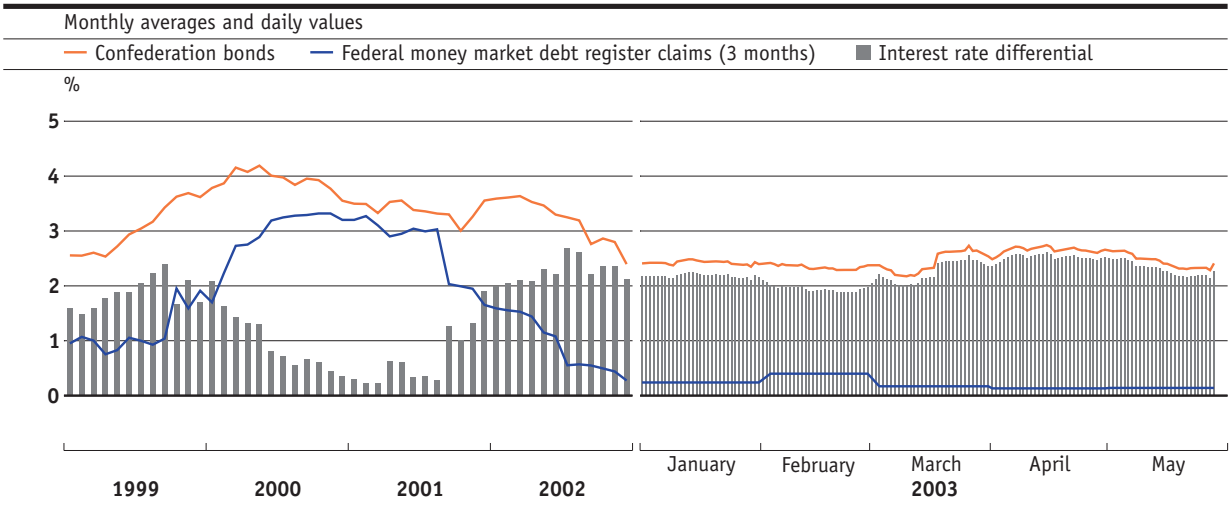
At that time, the yield on a Confederation bond with a residual maturity of 10 years was still slightly above the low it had marked at the beginning of March. This yield averaged 2.43% in May, compared with 2.34% in February. The maturity premium – the spread between the yield on federal money market debt register claims with a three-month maturity – widened from 1.94 percentage points in February to 2.29 percentage points in May.

The yield spread between foreign and domestic government bonds presented an uneven picture between February and May. Whereas the differential to US and European bonds fell significantly, the spread versus Japanese bonds widened again. Average yield differentials for 10-year maturities between February and May were as follows: 1.35 percentage points in relation to US bonds, 1.62 percentage points vis-à-vis EU bonds and –1.77 percentage points in relation to Japanese bonds.

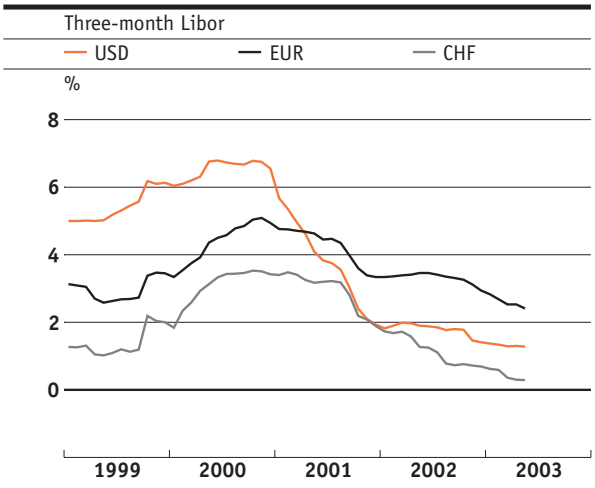
Money market rates — Graph 2.1



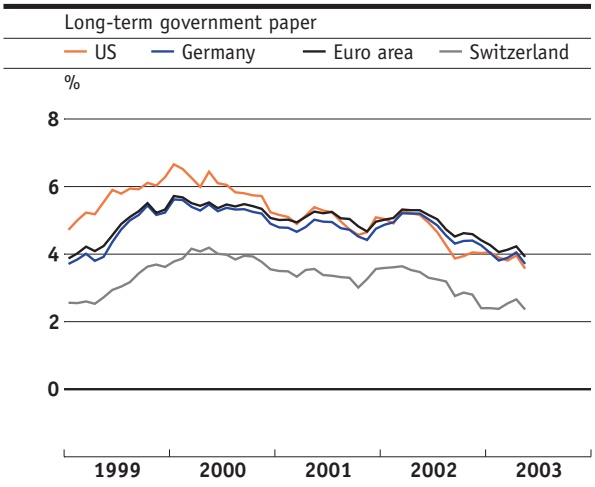
Bond yield and interest rate structure — Graph 2.2



Interest rates abroad — Graph 2.3



Interest rates abroad — Graph 2.4



Graphs 2.1 and 2.3: Source: SNB

Graph 2.2: Confederation bonds: until the end of 2000, average yield calculated by maturity: as of 2001, spot interest rate of 10-year discount bonds. Money market debt register claims: yield at auction. If several auctions per month: the last of the month. Source: SNB

Graph 2.4: US: yield on 10-year US treasury paper, secondary market. Germany: current yield on quoted 10-year German Federal securities. Switzerland: Confederation bonds; see graph 2.2. Source: BIS

Lower rates for medium-term notes, savings deposits and mortgages

Yields on medium-term notes, interest rates on savings deposits and mortgage rates continued to fall between February and May. Coupons on medium-term notes were initially lowered by the big banks from 1.74% in February to 1.43% in April, prior to a rise to 1.59% in May. The interest rate for existing mortgages stood at 3.49% in May, and for new mortgages was 3.27%. This compares with rates in February of 3.76% and 3.51% respectively. Interest rates on savings deposits with cantonal banks continued the downward trend that began in 1993, falling from February's 0.82% to 0.61% in May.

Mild recovery on equity markets

The outbreak of war in Iraq in mid-March led to a significant rally in prices on equity markets, offsetting much of the losses that had been built up since the beginning of the year. By the end of May, most stock market indices had more or less returned to their year-end 2002 level. US stock markets staged an above-average performance, with the S&P 500 index at the end of May lying 8% – and the Nasdaq as much as 18% – above its end-2002 level.

2.2 Exchange rates

Marked depreciation for the dollar

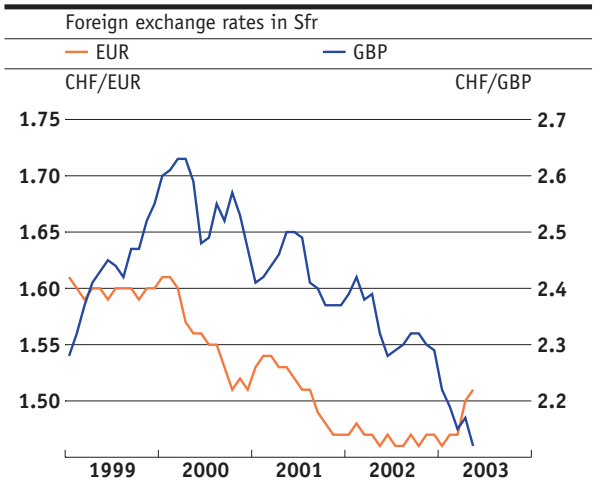
The US dollar lost considerable ground between March and May, showing an especially sharp fall against the euro. At the end of May, the dollar was trading at 1.18 USD/EUR. Since February the dollar has lost a total of 6.8% against the euro, 1.8% against the yen and 0.8% against sterling. The yen also continued its slide against the euro (−4.3%); in terms of its export-weighted external value, however, it slipped only marginally between February and May.

Slightly weaker Swiss franc

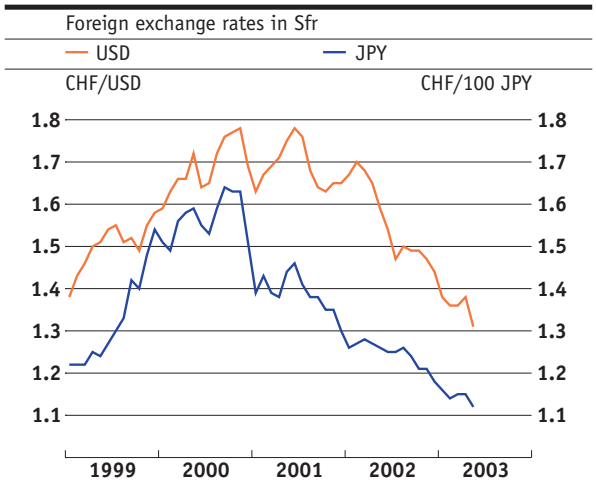
The Swiss franc's export-weighted external value fell slightly between February and May. Key to this development was its depreciation against the euro; in contrast, the Swiss currency gained ground against both the dollar and the yen. Having lain in a band of between 1.45 and 1.48 Swiss francs for more than a year, the euro traded firmer in April and at the end of May stood at 1.53 Swiss francs. The dollar initially staged a recovery from 1.35 to 1.40 Swiss francs between February and April, before resuming the downward trend that began last year: at the end of May it stood at under 1.30 Swiss francs. The yen remained stable at the outset, but between April and May slid to 1.10 Swiss francs/100 yen. Thus Japan's currency also continued in the downward direction first taken in 2001. For the British pound, the picture is a similar one: it has trended down against the Swiss franc over the past three years, falling from 2.19 to 2.13 Swiss francs between February and May.

The export-weighted real value of the Swiss franc declined by 1.0% between February and May. The currency weakness was particularly marked in relation to Switzerland's European trading partners (−2.4%); by contrast, the Swiss franc rose by 3.3% in real terms against both its North American and Asian trading partners.

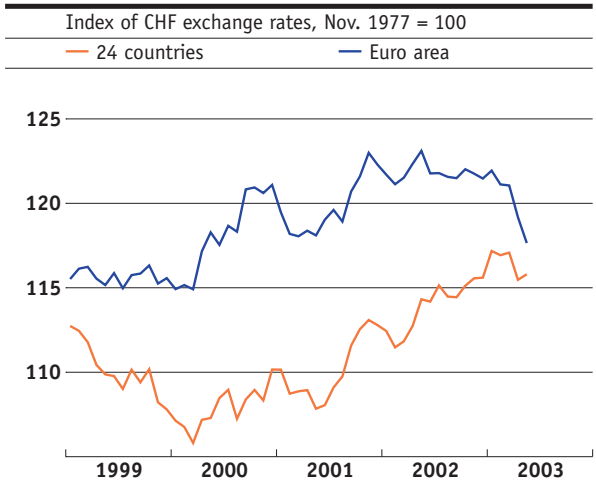
Exchange rates — Graph 2.5



Exchange rates — Graph 2.6



Real exchange rate indices — Graph 2.7



Graphs 2.5, 2.6 and 2.7:
Source: SNB

2.3 Monetary aggregates

Increase in sight deposits

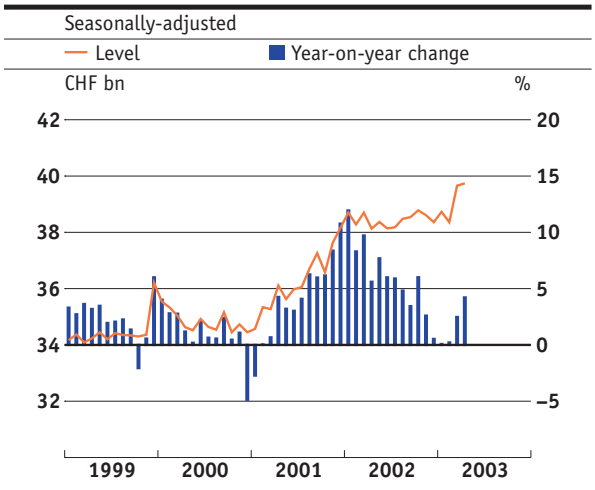
After rising sharply in the run-up to the launch of euro notes and coins, banknote circulation has stagnated in seasonally-adjusted terms since January 2002. Contrasting with this, sight deposits grew 9.1% in the first quarter compared with the previous three-month period. This produced annualised growth in the seasonally-adjusted monetary base of 3.5% in the first quarter. A slight fall in sight deposits in April was more than offset by a rise in banknote circulation, and the result was further growth in the monetary base.

The stagnation in banknote circulation is due to a decline in small notes (tens to fifties) and medium-value notes (hundreds and two-hundreds). The volume of small notes in circulation shrank in the first quarter compared with the previous quarter, at an annualised rate of 1.4%, with the volume of medium-value notes dropping by 1.9%. Only large notes were still showing slightly positive growth (0.8%).

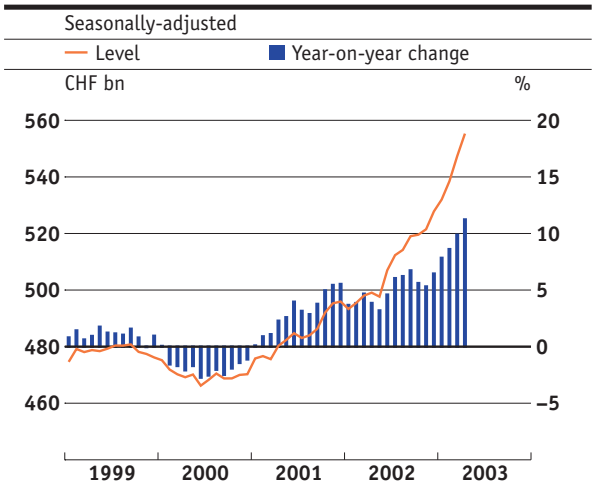
Rapid growth rates for monetary aggregates

The monetary aggregates M_1, M_2 and M_3 grew at a sharply accelerated rate in the first four months of the year. This development is mainly due to the hefty increase in sight deposits. The latter grew by around Sfr 22 billion in March and a further Sfr 7 billion in April, and in April were 47.4% above the year-earlier level. To a large extent, the rise in sight deposits is probably the result of a switch out of term deposits. The M_1 money stock grew by 27.5% in April compared with the same month of the previous year, and M_2 by 22.2%. Despite a sharp fall in fixed-term deposits (−30.5% compared with a year earlier), growth in M_3 also accelerated in April to 11.2%. Growth rates on this scale were last seen between 1978 and 1980. But at that time, term deposits also exhibited positive growth rates.

Monetary base — Graph 2.8



Money stock M_3 — Graph 2.9



Graphs 2.8 and 2.9:
Source: SNB

Monetary base and its components

Table 2

	2001	2002	2002				2003			
			Q1	Q2	Q3	Q4	Q1	March	April	May
Banknote circulation[1]	33.0	35.1	35.9	34.9	34.4	35.4	35.7	35.3	35.6	35.5
Change[2]	4.7	6.3	10.8	7.3	5.2	2.4	−0.4	−0.3	1.6	1.4
Sight deposit accounts[1]	3.3	3.3	3.1	3.3	3.3	3.4	3.6	4.5	4.0	4.3
Change[2]	0.2	0.4	0.1	−0.3	−1.6	3.6	18.4	32.7	28.0	32.0
MB[1,3]	36.3	38.4	39.0	38.1	37.8	38.8	39.4	39.9	39.7	39.7
SAMB[1,4]	**36.3**	**38.4**	**38.6**	**38.2**	**38.4**	**38.6**	**38.9**	**39.7**	**39.7**	**39.9**
Change[2]	4.1	6.0	10.0	6.4	4.7	3.0	0.9	2.5	4.2	4.1

Broadly defined monetary aggregates and their components[5]

Table 3

	2001	2002[p]	2002				2003			
			Q1[p]	Q2[p]	Q3[p]	Q4[p]	Q1[p]	March[p]	April[p]	May[p]
Currency in circulation	5.1	5.1	10.5	6.8	3.6	0.1	−0.7	0.0	1.3	2.7
Sight deposits	−0.7	11.7	4.7	6.5	17.5	18.1	27.5	41.1	47.4	46.1
Transaction accounts	1.6	8.5	8.1	8.3	9.7	8.0	9.5	10.2	12.3	13.5
M_1	**1.0**	**9.6**	**6.8**	**7.2**	**12.5**	**11.6**	**16.6**	**23.5**	**27.5**	**27.6**
Savings deposits	−6.1	9.9	3.8	8.7	12.8	14.6	15.3	15.1	15.7	15.4
M_2	**−2.3**	**9.7**	**5.4**	**7.9**	**12.7**	**12.9**	**16.0**	**19.7**	**22.2**	**22.0**
Term deposits	26.9	−11.0	−0.6	−9.3	−14.4	−19.0	−18.5	−28.4	−30.5	−33.7
M_3	**3.1**	**5.0**	**4.1**	**3.9**	**6.3**	**5.8**	**8.8**	**9.9**	**11.2**	**10.6**

1 In billions of Swiss francs; average of monthly values; monthly values are averages of daily values
2 From previous year in percent
3 MB = monetary base = banknote circulation + sight deposit accounts
4 SAMB = seasonally-adjusted monetary base = monetary base divided by the corresponding seasonal factors
5 Definition 1995, change from previous year in percent
p Provisional

2.4 Loans and capital market borrowing

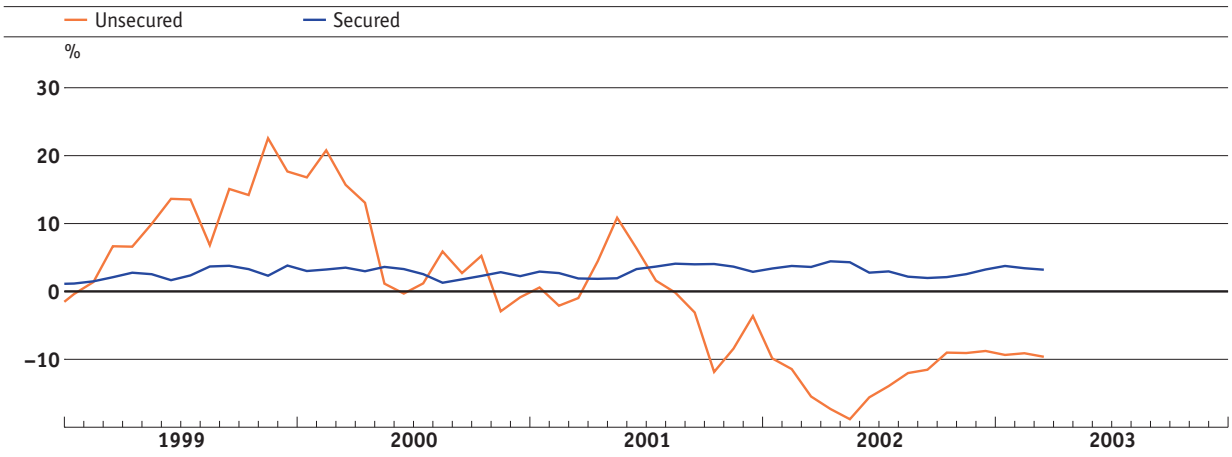
Stagnation in domestic lending

Domestic lending covers loans by banks to borrowers domiciled in Switzerland or Liechtenstein and comprises secured and unsecured customer claims, as well as mortgage claims.[1] At 86%, secured domestic lending (comprising secured customer claims and mortgage claims) accounted for the lion's share of the total; of this figure, 91% was again attributable to mortgage claims.

Total domestic borrowing in the first quarter was unchanged from the level of the previous period. After recovering somewhat in January (+0.6%), the domestic borrowing volume fell slightly on a month-on-month basis in both February and March (−0.1% and −0.3% respectively). Secured customer claims grew slightly quarter-on-quarter for the first time since the first three months of 2002 (+2.4%); this is attributable to the sharp rise seen in January (+7.7% compared with the previous month). As was the case throughout 2002 as a whole, unsecured customer claims declined in the first quarter of 2003 compared with the previous quarter (−6.0%). The rise in secured customer claims failed to match the decline in unsecured customer claims, with the result that total customer claims in the first quarter fell by a further 2.9% in relation to the previous quarter. Mortgage claims continue to increase slightly: on a quarter-on-quarter basis they rose by around 1%.

A glance at lending by the various bank categories reveals a renewed decline in domestic lending by the big banks, although at 0.3% quarter-on-quarter the fall was less pronounced than in the four quarters of 2002. At the cantonal and regional banks, the slight growth in domestic lending seen in the fourth quarter of 2002 continued. It was the Raiffeisen banks that showed the greatest increase, at 2.7% versus the previous quarter.

Annual rates of change: secured and unsecured loans — Graph 2.10



1 Owing to a change in the scope of the surveys conducted by the Raiffeisen banks in December 2002, these have been excluded for reasons of comparability.

Lively issuing activity on the Swiss bond market

Foreign issuers again constituted the biggest category of borrowers on the Swiss bond market in the first quarter with an issue volume totalling Sfr 11.5 billion. Issuing by domestic borrowers also reached a high Sfr 10.5 billion. The main factor here was the strong presence of public-sector borrowers on the capital markets: the Confederation, cantons and municipalities together issued bonds with a value of almost Sfr 7 billion. There was a high level of bond redemptions among both domestic and foreign issuers. The resulting net borrowing on the bond market totalled Sfr 3.5 billion.

The first quarter saw equity issues amounting to Sfr 1.3 billion. This sum is almost exclusively due to the capital increase at Banque Cantonale Vaudoise. Including share capital buybacks amounting to Sfr 0.8 billion, net borrowing on the equity market came to Sfr 0.5 billion.

Capital marked borrowing in billions of Swiss francs Table 4

	2001	2002	2002 Q1	2002 Q2	2002 Q3	2002 Q4	2003 Q1
Bonds and shares, total							
Price of issue [1]	73.4	77.3	24.0	20.5	13.6	19.3	23.2
Conversions/Redemptions	60.4	60.5	13.7	9.4	19.7	17.7	19.2
Net borrowing	13.0	16.8	10.3	11.1	−6.1	1.5	4.0
Swiss bonds							
Price of issue [1]	27.0	26.2	8.0	9.2	5.5	3.4	10.5
Conversions/Redemptions	21.1	22.5	6.9	4.0	5.5	6.0	8.9
Net borrowing	5.9	3.7	1.1	5.3	0.0	−2.6	1.5
Swiss shares							
Price of issue [1]	12.3	7.4	1.5	0.2	0.7	5.1	1.3
Redemptions	7.3	9.1	0.8	0.9	6.6	0.8	0.8
Net borrowing	5.0	−1.7	0.7	−0.8	−5.9	4.3	0.5
Foreign bonds [2]							
Price of issue [1]	34.0	43.7	14.4	11.1	7.4	10.8	11.5
Redemptions	32.0	28.9	5.9	4.4	7.6	11.0	9.5
Net borrowing [3]	2.1	14.8	8.5	6.7	−0.2	−0.2	2.0

1 By date of payment
2 Without foreign-currency bonds
3 Without conversions

3 Aggregate demand and output

3.1 GDP and industrial output

Real GDP falls in first quarter

Switzerland's real GDP fell in the first quarter of 2003 compared with the previous period, slipping 0.6% below the year-back figure. The renewed weakness in economic activity is primarily due to the sharp decline in exports of goods and services, and therefore reflects the ongoing sluggishness of the international economic situation. Domestic demand produced a more favourable performance. Private and public-sector consumption continued to increase slightly, and the rate of decline in investment began to slow. Inventories also made a positive contribution to growth, with the result that overall demand increased slightly compared with the previous period – despite declining exports. However, the fact that imports exhibited a much more significant rise meant that real GDP declined, both in relation to the previous quarter and on a year-on-year basis.

GDP forecasts for the first quarter involved a considerable revision of growth rates for the second half of 2002. According to the latest information, real GDP growth had already begun to slow considerably in the third quarter. In the fourth quarter there was a slight fall compared with the previous period, after the figures released initially put growth at 1.4%. A major factor was the sharp downward revision of export figures, which pushed the highly positive net contribution from foreign trade into negative territory.

GDP and its components Table 5

At prices of 1990; percentage-point contribution to year-on-year change in GDP

	2001	2002	2002 Q1	Q2	Q3	Q4	2003 Q1
Private consumption	1.1	0.5	0.9	0.4	0.5	0.2	0.4
Govt. and social insurance consumption	0.4	0.3	0.0	0.4	0.5	0.4	0.3
Investment in fixed assets	−1.4	−1.6	−2.1	−1.6	−0.9	−1.9	−0.7
Construction investment	−0.6	−0.2	0.0	0.2	−0.4	−0.4	−0.3
Equipment investment	−0.8	−1.5	−2.0	−1.8	−0.5	−1.5	−0.5
Domestic final demand	**0.1**	**−0.8**	**−1.2**	**−0.8**	**0.1**	**−1.3**	**0.0**
Inventories	0.7	−0.5	−0.8	1.0	−1.8	−0.3	1.6
Exports, total	0.0	0.2	−1.5	−1.2	1.5	1.8	−1.5
Aggregate demand	**0.7**	**−1.1**	**−3.5**	**−1.0**	**−0.2**	**0.1**	**0.0**
Imports, total	0.1	1.2	−2.7	−0.6	−0.8	−0.7	0.6
GDP	**0.9**	**0.1**	**−0.7**	**−0.4**	**0.6**	**0.8**	**−0.6**

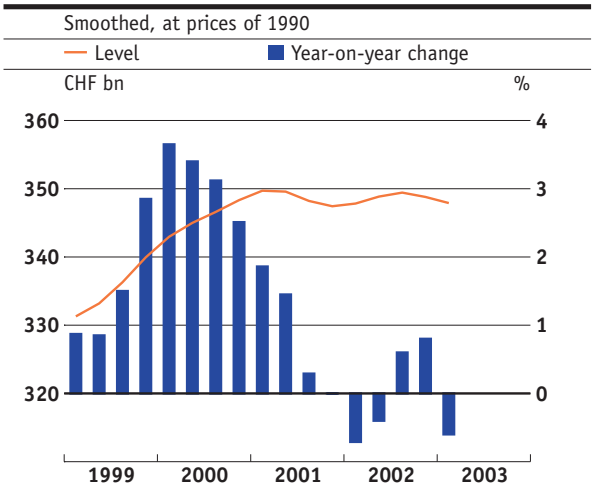
Sources: SFSO, seco

Further slowdown in industrial activity

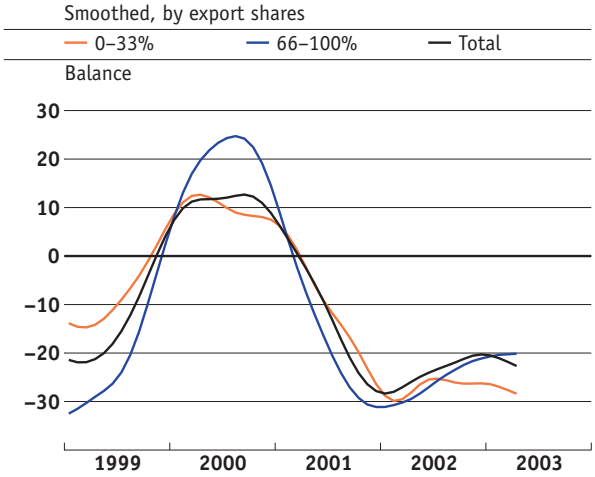
The situation in the industrial sector remained depressed in the first quarter of the current year. Both the KOF/ETH monthly industrial survey and the Purchasing Managers Index (PMI) remained at an unsatisfactory level. Uncertainties surrounding the conflict in Iraq probably exacerbated the situation. But the expected improvement following the end of the war in Iraq was still not forthcoming. Order intake showed no evidence of an improvement at the end of May, and outstanding orders declined again. Although there were further cutbacks in output, companies continued to consider inventories of finished and semi-finished goods to be excessive. A further winding down of inventories must be expected if demand remains weak.

In May, companies were increasingly pessimistic in their assessment of short-term prospects. Both exporting companies and firms geared to the home market were expecting a further drop in orders over the three months ahead.

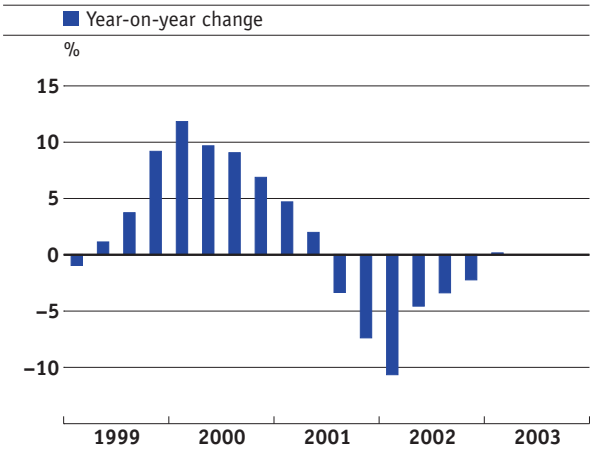
GDP — Graph 3.1



Industrial activity — Graph 3.2



Industrial output — Graph 3.3



Graph 3.1:
Annualised estimate for the quarter
Source: seco

Graph 3.3: Source: SFSO

Graph 3.2: The synthetic index of industrial activity consists of the results of the following four questions: orders received and output compared with the corresponding year-earlier month, as well as evaluation of the order backlog and of the finished goods inventories.
Source: Swiss Institute for Business Cycle Research at the Federal Institute of Technology (KOF/FIT)

3.2 Foreign trade and current account

Exports of goods and services fell significantly in the first quarter compared with the previous period and were 3.2% lower than the year-back level. Exports of services – accounting for around 20% of total exports – declined particularly sharply. In the first quarter they were down 11.8% year-on-year, after having risen by nearly 5% in the fourth quarter. This clear drop is first and foremost due to greatly reduced commission income in the banking sector as well as a slump in receipts from tourism.

While exports contracted, imports of goods and services exceeded the year-back figure (1.3%) for the first time since the third quarter. Rising imports tend to be indicative of an economic recovery. They should therefore be regarded as positive, even though they may – as in the first quarter – turn out to weaken GDP in the short term.

Falling goods exports

According to the Swiss General Directorate of Customs, exports of goods fell in the first quarter compared with the previous period, putting them 0.3% below the year-earlier figure[1]. The biggest fall was in exports of consumer goods, which was primarily attributable to a sharp decline in shipments of pharmaceutical products. Due to the continuing lull in investment, exports of investment goods, as well as raw materials and semi-finished products, also fell back. Unlike consumer and investment goods, however, exports of raw materials and semi-finished products were slightly higher than a year earlier.

Real exports by use[2] Table 6

Change from previous year in percent

	2001	2002	2002 Q1	2002 Q2	2002 Q3	2002 Q4	2003 Q1
Total	**2.9**	**1.8**	**–3.5**	**0.5**	**5.3**	**5.4**	**–0.3**
Raw materials and semi-manufactures	–1.5	–0.4	–8.6	1.6	1.0	5.8	2.8
Capital goods	–0.4	–4.4	–12.4	–5.7	–2.0	2.8	–0.7
Consumer goods	9.4	8.5	8.2	4.9	14.6	7.3	–2.0
Export prices	1.2	–2.7	–2.5	–0.5	–3.9	–4.3	0.4

Real imports by use[2] Table 7

Change from previous year in percent

	2001	2002	2002 Q1	2002 Q2	2002 Q3	2002 Q4	2003 Q1
Total	**1.1**	**–2.5**	**–6.1**	**–0.6**	**–1.3**	**–1.7**	**2.0**
Raw materials and semi-manufactures	0.1	–2.5	–9.7	–2.6	0.5	2.8	4.0
Energy sources	7.9	–2.1	6.0	–0.8	–1.7	–11.1	–11.4
Capital goods	–5.0	–6.2	–12.1	–7.9	–2.0	–2.3	0.6
Consumer goods	5.8	0.0	–0.6	6.2	–2.0	–2.9	3.2
Import prices	0.1	–2.9	–3.1	–2.9	–3.5	–2.2	–1.2

1 Real exports of goods according to the definition by the Swiss General Directorate of Customs (total 1) correspond to real exports of goods reported by seco excluding exports of electrical energy and the subcategory "Other goods".

2 Without precious metals, precious stones and gems as well as objets d'art and antiques (total 1). Source: Swiss General Directorate of Customs

Weak demand from the EU

Nominal exports of Swiss goods to the EU continued to drop in relation to the previous period, although they were slightly above the corresponding year-earlier level (1.1%). While there was a marginal rise in exports to Germany, shipments to France and the United Kingdom fell. In contrast, exports to central European countries continued their upward trend, exceeding the year-earlier figure by 6.3%.

Dollar weakness much in evidence

The decline in the value of the dollar has had a clear effect: in total, around one-quarter of Switzerland's foreign trade is billed in dollars. Nominal exports to the US fell more sharply in the first quarter, though they were still slightly above the year-earlier level (2.5%). There was a particularly noticeable loss of momentum in shipments to Asia, although exports to both China and Japan were still above the corresponding year-back figures (37.1% and 4.9% respectively). There was a marked slump in exports to the OPEC countries, with a contraction of around 17% in relation to the previous year.

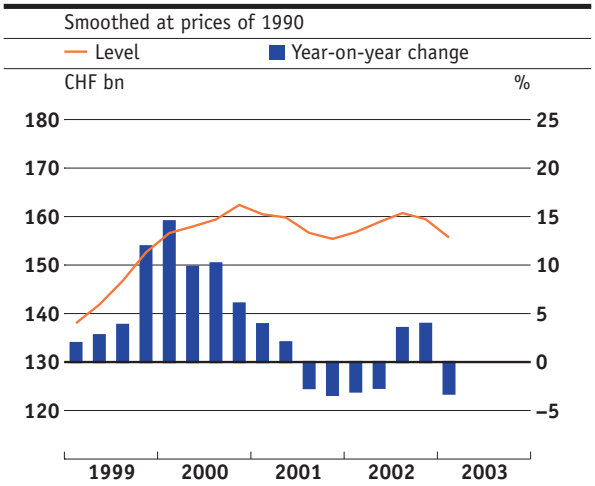
Exports weak in April and May

On average in April and May, real exports were 0.7% below their corresponding year-earlier levels. Given the export industry's reduced order intake in the period to May, exports are likely to remain weak.

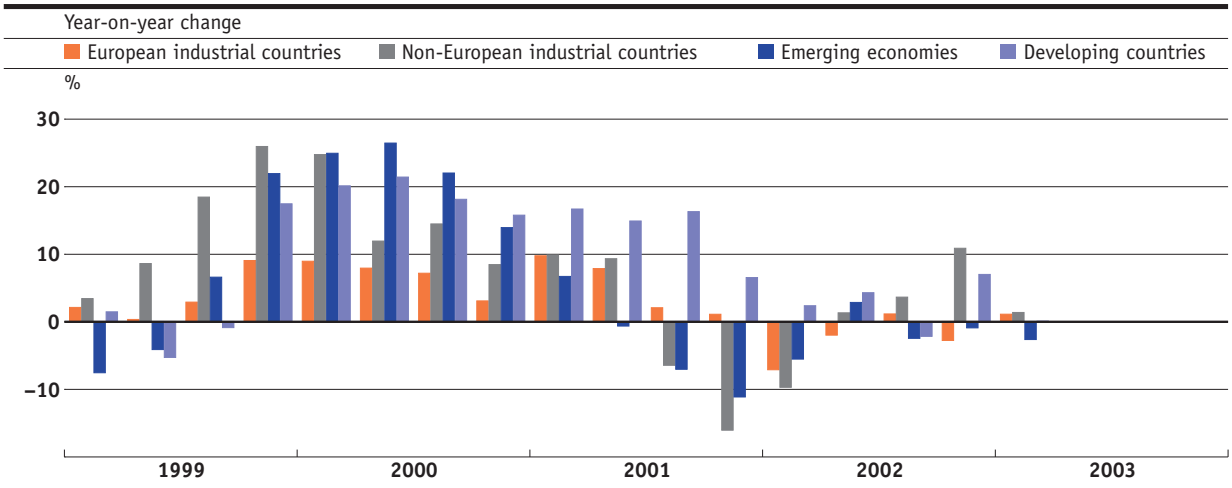
Slight recovery in goods imports

Due to a sharp rise in the first two months of the year, real imports of goods increased slightly in the first quarter compared with the previous period.[3] They were 2.0% higher year-on-year, after having shrunk by another 1.7% in the fourth quarter of 2002. Imports of raw materials and semi-manufactures, as well as consumer goods, rose at a faster rate compared with the previous period, while the decline in imports of investment goods and energy sources slowed. For the first time in nearly two years, imports of investment goods exceeded the year-earlier level. However, this recovery of imports did not continue in April and May: on average during these two months, they were 7.4% below their year-back levels in real terms.

Exports — Graph 3.4



Exports by trading partners — Graph 3.5



Graph 3.4: Annualised estimate for the quarter, without precious metals, precious stones and gems as well as objets d'art and antiques (total 1).
Source: seco

Graph 3.5: Without precious metals, precious stones and gems as well as objets d'art and antiques (total 1).
Source: Swiss General Directorate of Customs

3 Real imports of goods according to the definition by the Swiss General Directorate of Customs (total 1) correspond to real imports of goods reported by seco excluding imports of electrical energy and the subcategory "Other goods".

Rising export prices – falling import prices

In the first quarter, export prices (mean figures calculated by the General Directorate of Customs) were slightly higher than a year earlier (0.4%) for the first time in a year. The producer price index for goods earmarked for export calculated by the SFSO also stabilised, after having fallen in the previous four quarters. The rise in prices to some extent reflects the weaker Swiss franc against the euro and is likely to have led to an improvement in margins again for the first time in quite a while. In contrast, the year-on-year decline in import prices seen over the past two years or so has continued (–1.2%). The major factor as far as imports are concerned was the Swiss franc's strength against the dollar. The terms of trade, i.e. the relationship between export and import prices, improved by 1.6% compared with the first quarter of 2002.

Current account surplus narrows

Nominal exports and imports of goods showed only a marginal rise in the first quarter compared with the previous year. Imports increased by 1.2%, while exports stagnated (+0.2%; special trade, not working day-adjusted). This resulted in a trade surplus of Sfr 0.6 billion, compared with Sfr 0.9 billion a year earlier. The total goods trade – i.e. also including trade in electrical energy plus imports and exports of precious metals, precious stones and gems, etc. – closed with a deficit of Sfr 0.3 billion, however.

The surplus from services fell by Sfr 0.3 billion in relation to the previous-year period to Sfr 7.4 billion. The decline is mainly due to lower receipts from tourism and a massive drop in commission income for the banks. Owing to lower net earnings from portfolio and direct investment, the surplus from labour income and investment income fell from Sfr 6 billion in the same quarter of the previous year to Sfr 4.9 billion. This resulted in a current account surplus of Sfr 10.4 billion in the first quarter compared with Sfr 11.6 billion a year earlier. As a percentage of nominal GDP, the current account surplus was 10.3% compared with 11.6% in the same quarter of the previous year.

Current account Balances in billions of Swiss francs Table 8

	2001[1]	2002[2]	2002[2] Q1	Q2	Q3	Q4	2003[2] Q1
Goods	–4.6	4.5	0.1	0.6	1.9	1.9	–0.3
Special trade	1.7	7.3	0.9	1.4	1.9	3.1	0.6
Services	24.2	24.9	7.7	5.1	6.2	5.9	7.4
Tourism	2.0	1.1	1.3	–0.3	0.1	0.1	1.1
Labour income and investment income	25.2	26.7	6.0	6.7	7.8	6.2	4.9
Investment income	33.8	35.9	8.2	9.0	10.1	8.6	7.3
Current transfers	–6.9	–6.6	–2.2	–1.5	–1.5	–1.4	–1.6
Total current account	**37.9**	**49.6**	**11.6**	**11.0**	**14.4**	**12.6**	**10.4**

1 Provisional
2 Estimates

3.3 Investment

After two years of steeply declining investment in fixed assets, the downtrend began to slow. Construction investment increased somewhat from the previous period, and equipment investment declined less markedly than in the preceding quarters. In a year-on-year comparison, real investment in fixed assets diminished by 3.5%, following a decrease of 7.6% in the fourth quarter of 2002.

Slight increase in construction investment

Notwithstanding a slight rise from the previous period, construction investment still fell almost 3% short of the corresponding year-earlier level. Residential building activity showed a particularly positive trend and – measured in terms of the number of dwellings under construction – expanded markedly. According to a survey by the Swiss contractors' association, however, civil engineering projects are expected to have contracted slightly while commercial construction has been cut back considerably compared with the previous year.

Improved prospects for residential construction

In the coming quarters, building activity threatens to be weak overall since negative and positive trends will probably more or less balance each other out. Residential construction, accounting for roughly 40% of total building investments, seems to have bottomed out. The number of building permits issued for dwellings again rose markedly in Q1 2003, and the market prices published by property consultants Wüest&Partner point to a continuing strong demand for residential space. Falling building costs and historically low mortgage rates should support the recovery of building activity. Civil engineering, however, is feeling the impact of municipalities' and cantons' cost-cutting measures. Due to declining employment and a high level of vacancies, investment in commercial property is expected to contract significantly until the end of the year.

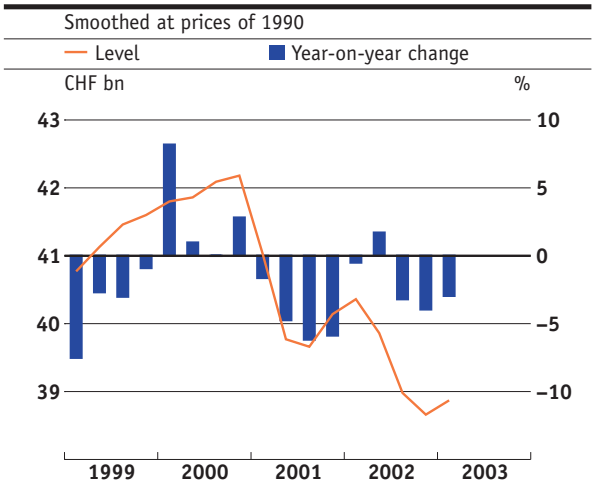
Weaker downtrend in equipment investment

The marked downtrend in equipment investment, which has been continuing for two years, weakened perceptibly in the first quarter. Year-on-year, it fell by 4% following a decline of 10.5% in Q4 2002. Imports of capital goods slightly exceeded the year-earlier level. According to a survey conducted in Switzerland's capital goods industry (Swissmem) in the first quarter, domestic turnover in domestic capital goods continued to decline; nevertheless, it stabilised compared with the previous quarter.

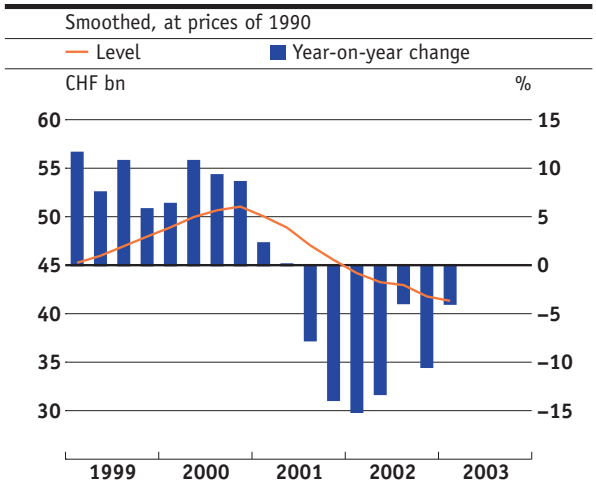
Recovery in the second half-year at the earliest

Given continued weak demand in Switzerland and abroad, no change in the equipment investment trend can be expected yet in the second quarter. The signs of a recovery increased, however. According to the survey conducted by Swissmem, Switzerland's capital goods industry reported a modest rise in domestic incoming orders for the first time since the summer of 2000. If global economic activity picks up in the second half-year, the business situation in industry should brighten and capacity utilisation improve once more. Experience shows that in such an environment investment activity revives rapidly. Low interest rates and rising replacement needs in the capital goods sector should further boost this development.

Construction investment — Graph 3.6



Equipment investment — Graph 3.7



Graphs 3.6 and 3.7:
Annualised estimate for the quarter
Source: seco

3.4 Consumption

Slow growth in private consumption

Private consumption rose slightly in the first quarter compared with the previous period, exceeding the corresponding year-back level by 0.7%. It continued to be driven by the increase in real disposable household income, estimated at approximately 1.5% for 2003.

While consumer spending on foodstuffs, health care and housing continued to grow, households practised restraint in their purchases of luxury goods and durable consumer goods. Real turnover in the retail trade fell in the first quarter by 3.5% year-on-year, after having diminished by 1.6% in the fourth quarter. Motor vehicle sales saw a particularly steep decline. This was also reflected in the number of new car registrations, which in the first quarter fell 13.6% short of the corresponding year-back level. Domestic tourism, by contrast, experienced comparatively robust growth. The number of overnight stays in the first quarter accounted for by visitors from Switzerland was only slightly lower than a year earlier; during the months March and April an average year-on-year increase of 1.3% was recorded.

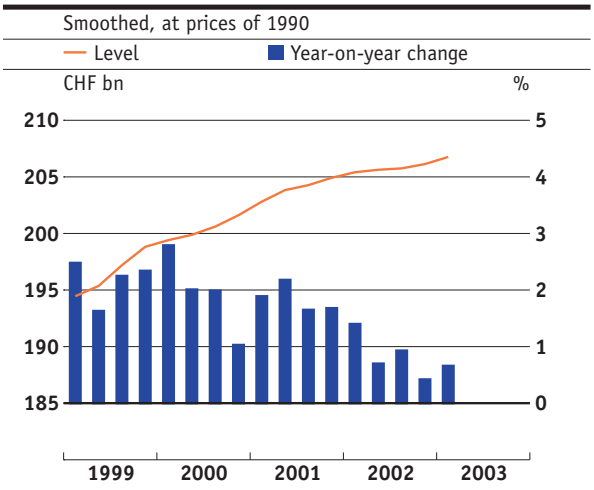
Growth in consumption remains weak

The rise in real disposable household income is expected to buoy up private consumption in the coming months too. Given the persistently sluggish economic climate, however, consumption will probably still increase less markedly than incomes.

Consumer restraint was reflected in the consumer sentiment index, which in April again almost equalled the October 2002 low. Households considered the economic and financial prospects in the next twelve months and the timing for major investments to be less favourable than three months ago. Job security was also viewed more pessimistically than at the beginning of the year.

The low-key prospects for private consumption were also reflected in the KOF/FIT surveys. Retail companies considered their business situation up to April to be unsatisfactory and expect mainly stagnating or falling turnover in the near future. The hotel industry also remained pessimistic. The number of businesses expecting a contraction in domestic demand grew slightly.

Private consumption — Graph 3.8



Annualised estimate for the quarter
Source: seco

3.5 Capacity utilisation

The development of aggregate demand in relation to disposable production capacities provides important pointers to the cyclical situation and price risks. Two indicators are of primary importance: the utilisation rate of technical capacities in industry and the macroeconomic output gap, which are presented together in graph 3.9. Both show that considerable overcapacities still existed in the production sector at the beginning of 2003.

Below-average capacity utilisation in industry

Capacity utilisation in industry is measured by the quarterly KOF/FIT survey. In the first quarter, utilisation was again unchanged and, at 81%, remained well below the long-term average of 84%. The results of the survey indicate that technical capacities were unchanged in the first quarter. More than half the companies identified lack of demand as the chief factor inhibiting production.

Widening output gap

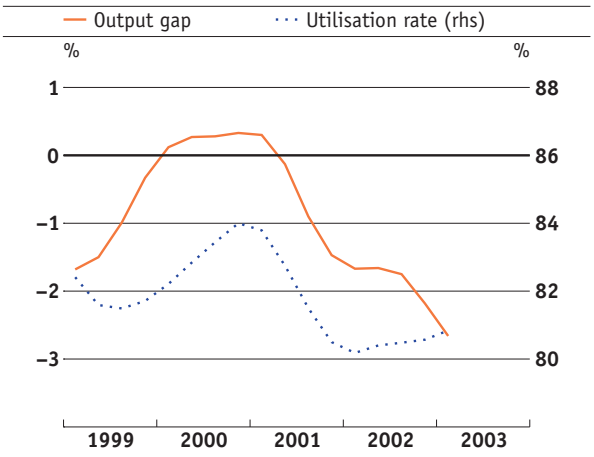
"Production potential" indicates the level of production that can be achieved during normal utilisation of the available production factors without triggering inflationary effects in the medium term. The output gap is the difference between actual production (measured by real GDP) and production potential. As a result of the declining demand, the output gap widened further to –2.7% in the first quarter. A negative output gap signifies under-utilisation of capacity, while a positive output gap is a sign that the production factors are being over-utilised.

3.6 Economic outlook

Available indicators show that the economic slump is likely to last until mid-year. The development of real GDP is thus expected to be unsatisfactory again in the second quarter. The National Bank, however, assumes that the Swiss economy will return to moderate economic growth as an international upswing gradually emerges. As a consequence of the extremely weak first half-year, the National Bank revised its forecast for 2003 downwards and expects zero growth for the year as a whole.

With economic development in the first quarter having proved disappointing, the Confederation and most economic research organisations and banks revised their forecasts for 2003 in the spring. Both the seco and the KOF/ETH now expect zero growth in the current year.

Capacity utilisation — Graph 3.9



Source: KOF

4 Labour market

4.1 Employment

Further fall in employment

The state of the labour market deteriorated again in the first few months of 2003. In the first quarter, the number of employed persons fell by 0.6% from the previous quarter's level, resulting in a year-on-year decline of 1.1%. While full-time employment and the number of employed persons working less than 50% fell by 0.8% and 1.6% respectively from the year-earlier level, the number of persons working part-time between 50% and 89% continued to rise (1.4%).

Employment decreased in all three sectors. The industrial and construction sectors suffered an above-average fall (−1.0% and −1.5% respectively). In the service sector, employment declined by 0.4% compared with the previous period. For two quarters it has also fallen slightly short of the corresponding year-earlier level. Banks and insurance companies as well as retail companies have made particularly significant staff cuts.

No rapid improvement in the employment situation

The employment forecasts published by the Swiss Federal Statistical Office (SFSO) and the development of vacancies point to a further fall in employment in the coming months. The Manpower Index, which measures the space occupied by job advertisements, declined in March. The same applies to the Job Pilot Index, which reflects the vacancies published in the Internet. The number of vacancies registered at the regional employment offices also decreased in April after stabilising in the first quarter.

Labour market Figures not seasonally-adjusted — Table 9

	2001	2002	2002				2003		
			Q1	Q2	Q3	Q4	Q1	April	May
Full- and part-time employed[1]	1.1	−0.4	−0.3	−0.3	−0.2	−0.8	−1.1	–	–
Full-time employed[1]	0.7	−1.3	−1.0	−1.3	−1.3	−1.6	−1.9	–	–
Unemployment rate[2]	1.9	2.8	2.6	2.5	2.6	3.3	3.9	3.9	3.6
Unemployed[3]	67.2	100.5	93.5	91.2	97.1	120.2	140.9	141.6	140.6
Jobseekers[3]	109.4	149.6	139.8	139.7	146.3	172.6	196.6	200.6	201.1
Persons on short working hours[3]	2.4	9.1	13.6	11.6	4.4	6.8	10.6	10.4	–
Registered vacancies[1]	−18.1	−40.4	−38.0	−46.3	−39.5	−35.9	−39.5	–	–

1 Change from previous year in percent
2 Unemployed registered until April 2003 in percent of the economically active population according to the 1990 national census (working population: 3,621,716 persons); from May 2003: in % of the economically active population according to the 2000 national census (working population: 3,946,988 persons)
3 In thousands; yearly and quarterly values are averages of monthly values
Sources: SFSO, seco

4.2 Unemployment

Further rise in unemployment

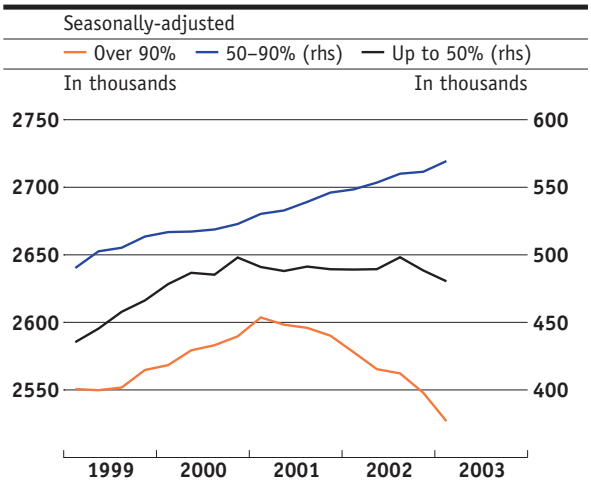
Unemployment continued to rise in the first four months of the year. In April, unemployed persons and job seekers numbered 140,400 and 183,700 respectively, and the unemployment rate and the number of job seekers moved up to 3.9% and 5.5% respectively (seasonally-adjusted).

Both the proportion of unemployed persons who have been out of a job for more than a year and the average duration of unemployment increased. In the past year the number of persons no longer receiving benefits from unemployment insurance has also shown a rising trend. As at 1 July the revised unemployment law will enter into force; among other things, it will shorten the period during which unemployment benefits will be paid out from 520 to 400 days. The number of persons no longer receiving unemployment benefits is therefore likely to increase considerably from July onwards.

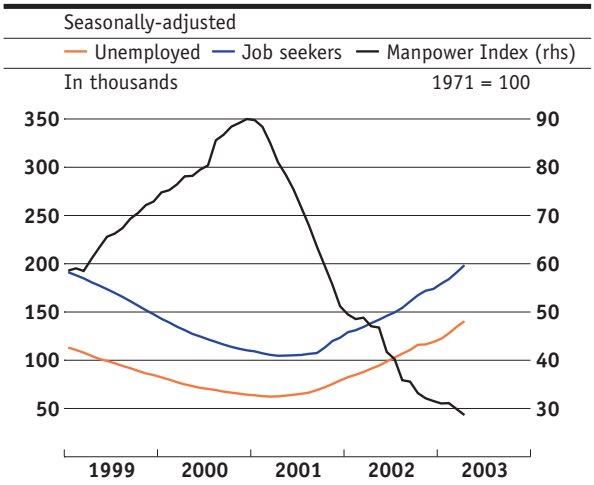
As unemployment increased, regional differences became less marked. In April, the unemployment rate in German-speaking Switzerland was still below the national average, but at the same time it moved up more than in other regions. In Ticino and western Switzerland it rose somewhat less markedly (4.4% and 4.8% respectively).

In May, the unemployment rate and the proportion of job seekers dropped by 0.2 and 0.3 percentage points to 3.7% and 5.2% respectively. This decline in the unemployment rate is due to a change in the basis of calculation. Starting in May, the number of unemployed is placed in relation to the number of employed persons according to the 2000 census, higher by 9% than the 1990 census used previously.

Full- and part-time employment — Graph 4.1



Unemployment and vacancies — Graph 4.2



Graphs 4.1, 4.2:
Source: SFSO

4.3 Wages and salaries 2003

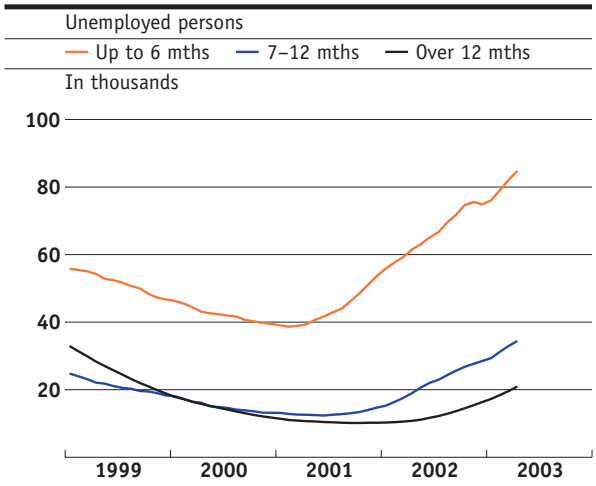
Smaller rise in real income – falling unit wage costs

The wage index published quarterly by the SFSO showed that nominal pay rose by an average of 1.8% in 2002. This corresponded to a rise in real income of 1.1%. Even though wages and salaries rose less markedly than in 2001, the increase was higher than the average of the preceding ten years. This year, wages are likely to grow at a slower rate due to the deterioration in the labour market situation. According to the salary survey conducted by UBS, an average rise in nominal wages and salaries of 1.3% and real growth of 0.6% are a strong possibility. Pay rises are thus likely to be lower than the increase in productivity, and a decline in wage unit costs may thus be expected. This should improve the financial situation of enterprises and consequently also the conditions for an economic recovery.

4.4 Free movement of persons between Switzerland and the EU

On 1 June 2002, the seven bilateral agreements between Switzerland and the EU entered into force, including the agreement on the free movement of persons. This accords EU and Swiss nationals the right of residence in each others' territory and the right to pursue gainful employment. The agreement provides for a transition period of five years for Switzerland during which there will be quotas for access to the Swiss labour market. So far demand for long-term residence permits has increased much more significantly than for short-term residence permits. Overall, the number of foreign employees declined from the previous year's level in the first quarter after having risen until the end of 2002.

Duration of unemployment — Graph 4.3



Source: SFSO

5 Prices

5.1 Consumer prices

The weak economic environment was also mirrored by the development of consumer prices. Annual inflation as measured by the national consumer price index moved down from 0.9% in February to 0.4% in May. The price rise for domestic goods again eased somewhat, and the inflationary stimuli emanating from imported consumer goods also diminished perceptibly.

Further decline in domestic inflation

Annual inflation in domestic goods and services amounted to 0.8% in May, the lowest level since October 2000. Inflation for services, which account for approximately three-quarters of the domestic commodities basket, declined from 1.2% to 0.9%. Annual inflation for private services excluding rents eased from 1.5% to 1.0%. Rents for apartments remained stable in May, and annual inflation in rentals fell to 0.1%. This was the lowest level since December 1998. Price rises for public services declined by 0.3 percentage points to 2.1% year-on-year. Annual inflation for domestic goods, however, rose from 0.1% to 0.6%. This applied in particular to certain foodstuffs such as meat and vegetables.

Inflation rates for imported goods negative again

Whereas goods of foreign origin recorded a positive year-on-year inflation rate between November and March, the rate turned negative again in April. In May, prices for foreign goods were down by 0.7%. Inflation for imported goods was significantly influenced by the development of oil products (fuel and heating oil). The price surge in March was followed by a decline in April and May so that in May the price index for oil products fell short of the previous year's level by 3.0%. Between February and May, other imported goods exerted a negative inflationary effect: in May they became cheaper by 0.4% compared with the previous year.

Breakdown of the national consumer price index Table 10

Change in percent

	2002	2002		2003				
		Q3	Q4	Q1	February	March	April	May
National consumer price index total	**0.6**	**0.3**	**1.0**	**1.0**	**0.9**	**1.3**	**0.7**	**0.4**
Domestic goods and services	1.4	1.3	1.2	1.0	1.0	1.1	0.9	0.8
Goods	1.1	0.7	0.6	0.1	0.1	0.5	0.5	0.6
Services	1.5	1.4	1.3	1.3	1.2	1.2	1.0	0.9
Private services without rents	1.9	1.8	1.9	1.6	1.5	1.6	1.2	1.0
Rents	1.0	0.9	0.6	0.4	0.3	0.3	0.3	0.1
Public services	1.5	1.6	1.3	2.4	2.4	2.4	2.2	2.1
Imported goods and services	−1.7	−2.6	0.5	1.2	1.0	2.2	−0.1	−0.7
Without oil products	−0.8	−1.7	0.5	−0.4	−0.5	−0.1	−0.4	−0.4
Oil products	−6.8	−7.6	0.2	11.7	10.0	16.7	1.9	−3.0

Sources: SFSO, SNB

5.2 Core inflation

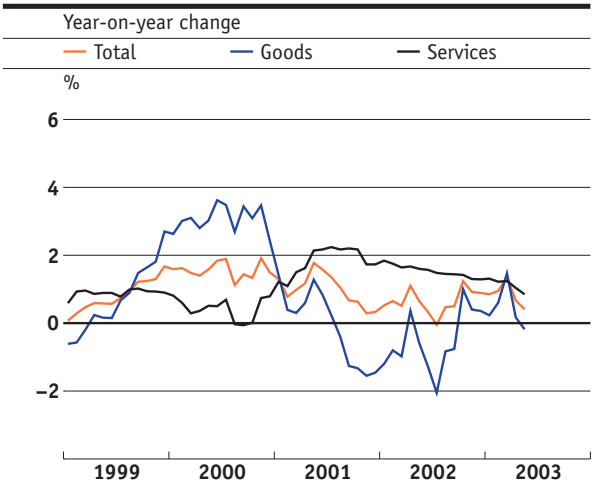
Slightly lower SNB figure for core inflation

Inflation, as measured by the national consumer price index, is subject to numerous short-term influences which may distort the perception of the general price trend. The National Bank therefore calculates a core inflation rate. This core inflation rate excludes, in any period, the goods with the highest and the lowest annual inflation rate (15% each) from the commodities basket of the consumer price index. Between February and May, the core inflation rate declined by 0.2 percentage points to 0.6%, falling to its lowest level since February 1999. Since the effects that put downward and upward pressure on inflation more or less balanced each other out, the core inflation rate differed very little from inflation measured by the overall consumer price index.

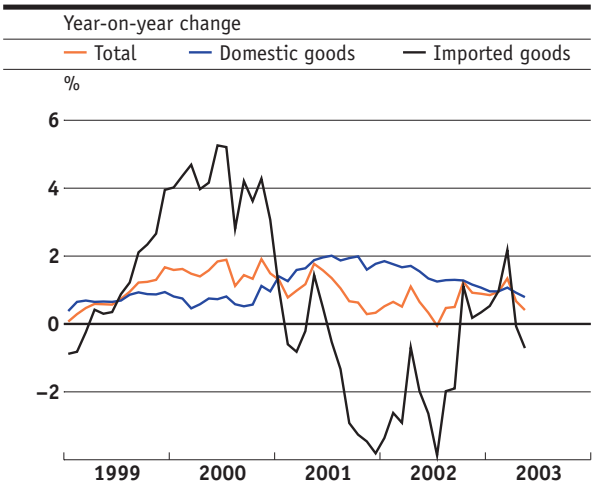
Decline in SFSO core inflation rates

Unlike the core inflation rate of the National Bank, the two core inflation rates calculated by the SFSO always exclude the same goods from the commodities basket. In the case of core inflation 1, these are foodstuffs, beverages, tobacco, seasonal products, energy and fuel. Core inflation 2 additionally excludes products with administered prices. Between February and May, core inflation rate 1 eased from 0.7% to 0.5% and core inflation rate 2 from 0.4% to 0.3%.

Consumer prices — Graph 5.1



Consumer prices — Graph 5.2



Graphs 5.1, 5.2:
Sources: SFSO

5.3 Prices of total supply

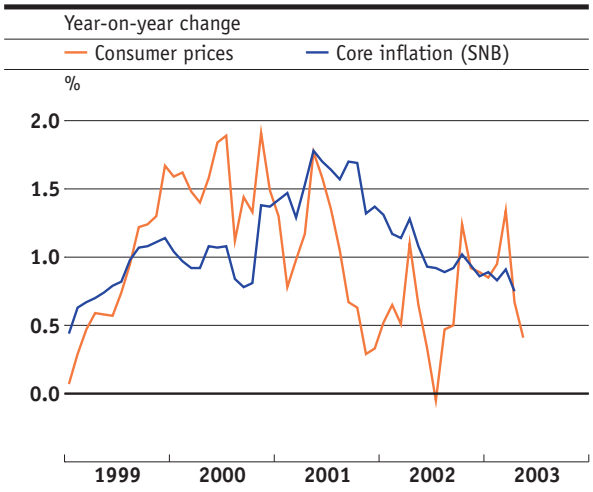
Total supply prices remain stable

Producer and import prices again failed to generate any inflationary stimuli at the downstream consumer level.

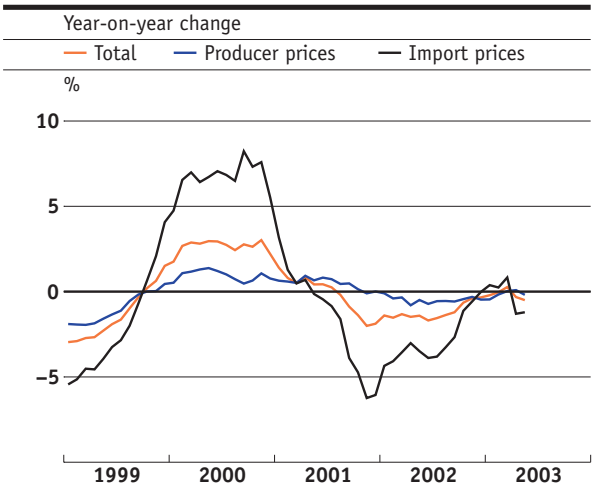
After having stagnated on average between February and April, producer prices fell 0.2% short of their year-earlier level in May. Raw materials registered a 4.9% increase compared with the previous year. Inflation of consumer and capital goods, however, remained modest (0.1% and 0.3% respectively). By contrast, prices of semi-manufactures – which account for roughly 56% of the producer price index – continued to fall (–0.8%).

After prices for import goods had risen between December and March year-on year, their index figure in April and May fell 1.3% and 1.2% respectively short of their previous year's level. This decline was mainly attributable to raw materials and to investment and consumer goods, whose prices dropped by 2.3% and 1.4% respectively, compared with the previous year. Prices of semi-manufactures and raw materials, however, receded only moderately (–0.4% and –0.8% respectively).

Core inflation Graph 5.3



Prices of total supply Graph 5.4



Sources: SFSO, SNB

6 Inflation prospects

6.1 International price development

No inflationary pressure from abroad

With the beginning of the Iraq war on 20 March, the price per barrel Brent of crude was pushed down from approximately 33 dollars to around 25 dollars. The situation on the crude oil market has thus eased much more rapidly than the National Bank had expected at the end of February. Expressed in Swiss francs, the price for crude oil in May was 16% below the previous year's level. However, this fall was primarily due to the weaker dollar vis-à-vis the Swiss franc compared with the previous year (−18%). Given the sluggish global economy and the stagnant international airline business, the National Bank expects crude oil prices to remain stable at approximately 25 dollars in the coming months, which is roughly in line with the previous year's level. This plus a perceptibly lower dollar compared with the previous year, is helping to curb consumer price inflation. Due to the weak global environment and the exchange rate situation, no notable inflationary stimuli are likely to emanate from the other import goods in the near term.

6.2 Price development in Switzerland

Little inflationary pressure from economic trends

Developments within Switzerland are also not expected to exert any upward price pressure in the near future. Overcapacities, which will probably persist for some time to come owing to the leisurely economic upturn, are the main factor holding back price rises. In view of the negative situation on the labour market, the wage front in particular is unlikely to generate any cost pressure. Price expectations of companies surveyed by KOF/FIT that focus on the domestic market showed a distinct downward trend in the first quarter too. With competition remaining stiff, the scope for price adjustments is being held within narrow limits.

Stable residential rents

At just under 20%, the weighting for residential rents is highest in the commodities basket of the consumer price index. This is why they are particularly important when assessing the inflation prospects. The quarterly survey in May revealed a continued decline in annual residential rent increases to 0.1%. They are likely to remain stable within the short term. Two opposing forces will probably balance each other out: on the one hand, the slide in mortgage rates observable since mid-2002 will tend to cushion any rent increases. On the other hand, the situation on the housing market is particularly strained in the Zurich and Basel metropolitan areas, driving up rents when an apartment is rented for the first time. However, according to Wüest&Partner, there were signs of an easing in the residential housing market in the first quarter. This development was evident both from the larger number of apartments available for rent and from the slightly higher vacancy level compared with the previous quarter.

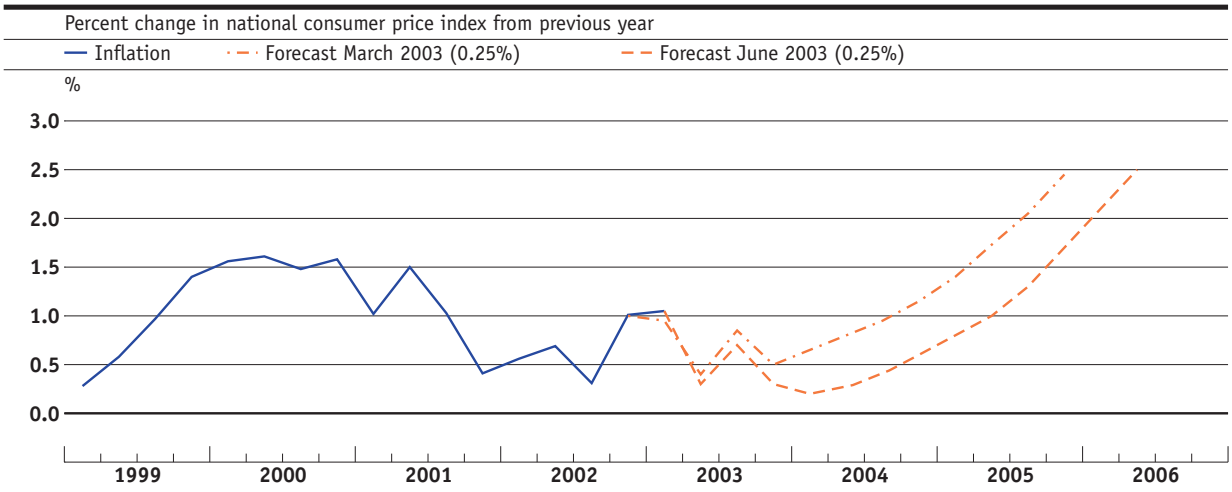
6.3 Inflation forecast for 2003–2005

At its quarterly assessment of 11 June 2003, the National Bank reviewed its medium-term inflation forecast. On the assumption that the three-month Libor rate will remain stable at 0.25% during the next three years, average inflation should amount to 0.6% in 2003, drop to 0.4% in 2004 and climb to 1.2% in 2005. The forecast inflation will remain under 1% until mid-2005, but will accelerate thereafter and reach 2.5% by the second quarter of 2006.

As evidenced in graph 6.1, the new forecast is below that of March 2003 for the entire forecasting horizon. The latter was also made on the assumption of a three-month Libor rate remaining constant at 0.25%. The drop in the inflation rate to 0.2% in the first quarter of 2004 is attributable to the statistical effect of oil price changes. The lower rate of inflation in the ensuing quarters reflects the delay in the global economic upswing by roughly half a year compared with the March forecast. Even though the US economy is likely to grow at a somewhat faster pace in the second half of 2003, it is not expected to reach its potential growth path before the end of 2004. For Europe the National Bank does not expect to see any significant increase in growth before mid-2004. Furthermore, the National Bank assumes that the dollar/euro exchange rate will remain close to its mid-June 2002 level and that the oil price will be around 25 dollars per barrel.

Economic recovery is still uncertain. At the same time, inflation will be extremely low in the following quarters and may even be negative in certain months. The National Bank nonetheless considers the risk of deflation, i.e. a slide into a deflationary spiral coupled with a significant decline in the demand for goods and in output, as highly unlikely so long as the Swiss franc does not appreciate inordinately. To counter this threat, it will therefore continue to take decisive steps to combat a tightening of the monetary conditions brought about by any significant rise of the Swiss franc against the euro.

Inflation forecast of March 2003 with Libor at 0.25% and of June 2003 with Libor at 0.25% Graph 6.1



7 Assessment of the economic situation from the regional vantage point

The offices of the National Bank are constantly in touch with a large number of enterprises from various sectors of the economy. Their reports, which contain the subjective evaluations of the enterprises, are an important additional source of information for assessing the economic situation. In the following, the most important results of the talks held from February to May on the current and future economic situation are summarised.

7.1 Production

The business climate in the first few months of the year was mainly unfavourable for companies. Given the uncertain economic trend many companies cut back on capital spending. Even though there is a growing backlog of demand, they are only making the most urgent replacement investments for the time being.

After incoming orders from abroad had picked up in the meantime to a certain degree, some companies thought the trough had been reached. Moreover, the efforts of many companies to cut production costs and to market new products will probably bear fruit in the not-too-distant-future. Even though measures to shore up efficiency resulted in staff redundancies and cutbacks in technical capacities, companies were successful in improving their earnings situation despite stagnating turnover. However, certain sectors, e.g. tourism and construction, continued to struggle with considerable overcapacities. The restructuring process in these sectors is probably far from complete.

Manufacturing

Manufacturing was particularly affected by the flat German economy, with no positive stimuli coming from France, the United Kingdom or the US either. Exports to China, Eastern Europe and Russia, on the other hand, continued to show a dynamic trend. While sentiment improved in some areas after the end of the Iraq war, there was still no detectable change in the general trend.

The situation in the computer, semi-conductor and telecom sector presented a particularly bleak picture. Overall, no quick recovery is expected in this area. Many suppliers were particularly hard hit by the slump in the automobile and aircraft industry. Sub-suppliers to the construction industry continued to register dwindling sales and sharply falling prices. A certain recovery was discernible in the metal and plastics industry, however. In the heavily Asia-oriented textile machine building area and in the medical technology sector business activity remained buoyant.

The situation for manufacturers of near-consumer products was mixed. Manufacturers of pharmaceuticals and foodstuffs benefited from constantly brisk demand, and their earnings remained sound. Textile, paper, and watch manufacturers, however, voiced their discontent about declining orders and overcapacities.

Services

Poor consumer sentiment has had a serious impact on the retail trade. Most major retail chains managed to keep up their sales volume, but were forced to grant hefty price cuts, which in turn led to dwindling margins. Suppliers of luxury goods continued to incur considerable losses, not least because foreign guests stayed away. An improvement of the business situation is not expected in the coming months. The hotel and restaurant industry suffered from sluggish consumption as well, with upscale businesses bearing the brunt of the setbacks.

In the financial sector, asset management and investment banking still suffered from low trading volumes and commission income. Business in the IT services area was unsatisfactory as well. Printing companies and newspapers continued to struggle with declining sales.

Business in the tourist industry was mixed. Thanks to favourable snow and weather conditions winter sport areas enjoyed a good season. Hotels in cities, however, registered heavy losses as a result of lacklustre business travel and fewer tour groups coming from the US and Asia. Travel restrictions in many areas due to the SARS outbreak compounded the problem. Based on the low level of bookings, the coming summer season is awaited with apprehension.

Construction

Construction activity remained weak in the first quarter. The construction industry is heavily segmented, however, so the situation varied greatly from one sector and region to another. In some regions, positive signs came from residential construction, and some construction companies benefited from large public-sector infrastructure projects. Other survey respondents, however, complained that the order backlog was at a record low. In the meantime, the situation in the interior construction business, which had seen relatively healthy capacity utilisation until recently, has deteriorated. Owing to the excess capacity in the building sector, prices have been pushed down again. Consequently, many companies saw their earnings situation deteriorate further.

7.2 Labour market

Weak demand and cost-cutting measures led to more severe personnel reductions in the last few months. Most sectors nevertheless judged their workforce to be too high still. This particularly applies to the financial, electronics and travel industries, which are all considering further layoffs.

7.3 Prices and margins

Due to weaker demand competition has become fiercer, putting renewed pressure on prices and eroding margins even more. Hotels and construction companies in particular had to grant considerable price reductions in some cases. In other sectors, some firms were only able to maintain their margins with rigorous cost management. The appreciation of the euro against the Swiss franc brought many exports welcome relief. The sharply declining dollar, however, is squeezing the margins of quite a few companies.

Annual General Meeting 2003
Opening Speech of the President of the Bank Council

Hansueli Raggenbass

on 25 April 2003

I will devote the opening speech at this year's Annual General Meeting to the financial statements for 2002, free assets, corporate governance and the revised National Bank Law.

1 The 2002 financial statements

From a commercial viewpoint, the past year was one of conflicting trends for the National Bank, but one which ended on balance with a satisfying result.

Sharp drop in gross income

Last year, the National Bank's gross income was Sfr 2.6 billion. The year before, it was as high as Sfr 4.5 billion. This sharp drop was due mainly to high exchange rate losses resulting from the conversion of foreign currency positions, especially those in US dollars.

The net result from gold rose by Sfr 0.2 billion to Sfr 1.5 billion, as the rise in the gold price produced valuation gains and the gold lending business generated interest income. Around half of this result was earned on forward foreign exchange transactions concluded to hedge the dollar-denominated proceeds of gold sales.

The net result from foreign currency investments was just Sfr 0.5 billion for 2002, compared with Sfr 2.4 billion the previous year. Interest income and capital gains alone would have brought in Sfr 4.7 billion. However, as the exchange rate for the US dollar fell from 1.68 to 1.39, and that for the euro slid from 1.48 to 1.45, the figure had to be offset against exchange rate losses of Sfr 4.2 billion. Other foreign currency balances – the reserve positions in the IMF, international payment instruments and balance of payments support – produced a loss of Sfr 0.3 billion.

At Sfr 0.8 billion, the net result from financial assets denominated in Swiss francs was the same as in 2001. While the corresponding figure for the most important monetary policy instrument – Swiss franc repo transactions – fell markedly following the reduction of money market rates, the net result from Swiss franc securities increased significantly. There were major price gains on bonds as interest rates plummeted.

Reduction in ordinary expenses

Ordinary expenses declined by Sfr 105 million to Sfr 320 million. This is attributable chiefly to lower expenses for interest on Confederation funds, which came to Sfr 75 million, after Sfr 204 million the previous year.

The other items that come under ordinary expenses increased by 10.5% year-on-year to total Sfr 245 million.

A higher number of banknotes in circulation and a rise in the proportion of banknotes withdrawn from circulation caused banknote expenses to mount by 20%. Personnel expenses were up by around 6%. The increase is due primarily to an expansion in staff numbers in the Economic, International Affairs, Financial Stability and Oversight, Risk Management and Information Technology Divisions, as well as pay increases, comprising inflation adjustments and individual pay rises.

Aggregate income

Aggregate income for 2002 amounted to Sfr 2.3 billion, which is only just over half the previous year's figure of Sfr 4.1 billion.

This Sfr 2.3 billion income has been used for the time being to add Sfr 1.1 billion to the provision for the planned assignment of free assets, taking the total set aside to Sfr 20.3 billion. The provision originally corresponded to the 1,300 tonnes of gold no longer required for monetary policy purposes. It is now measured according to the market value of the portion of that gold which has not yet been sold, plus the proceeds received from gold sales and income from transactions to hedge the currency risk on US dollar-denominated gold sale proceeds. A further Sfr 0.4 billion was allocated to the provisions for market and liquidity risks on monetary gold. This increase would appear wise in the light of fluctuations in market value. The net total after these two allocations was Sfr 0.8 billion. Under the terms of the new profit distribution agreement, an increased distribution of Sfr 2.5 billion must be paid to the Confederation and the cantons for the financial year just ended. Sfr 1.7 billion therefore had to be taken from the provisions for market, credit and liquidity risks in order to pay out the Sfr 2.5 billion-plus distributions to the Confederation, cantons and the Bank's shareholders.

The National Bank's profit distributions and earnings potential

The financial statements for 2002 reflect once again the considerable gold price, exchange rate and interest rate risks that the Bank faces. The National Bank is dependent on adequate currency reserves, and these can only fulfil their function satisfactorily if they are not hedged on the market. The National Bank therefore does not distribute its entire earnings surplus, but instead uses it – as per the profit distribution agreement with the Federal Department of Finance – to increase its provisions in line with average growth in Switzerland's nominal gross domestic product.

Over the years, these provisions have risen to well above their target levels, as earnings have been higher than was estimated in 1998, when the last profit distribution agreement was concluded. The new agreement, concluded in 2002, takes this fact into consideration and foresees annual distributions of Sfr 2.5 billion up to 2012. Two-thirds of the National Bank's net profit goes to the cantons, while the other third goes to the Confederation. This distribution is greater than the Bank's long-term earnings potential and thus constitutes a gradual reduction in that part of the provisions that exceeds the target level. This reduction began in the course of the financial year just ended. Once complete, the distributions made by the National Bank will return to much lower levels. As things stand, the Bank's profit distribution potential will be around Sfr 0.9 billion per year from 2013 onwards. The Confederation and the cantons must thus anticipate lower profit distributions in the future.

2 Free assets

Since May 2000, the National Bank has gradually been selling off the 1,300 tonnes of gold that it no longer needs for monetary policy purposes. These are known as free assets. The proceeds of these sales are being invested in a variety of financial assets that are managed apart from other financial assets, but not reported separately by the Bank. As will no doubt be remembered, the national referendum of 22 September 2002 did not produce any clarity about the ultimate destination of this money. As a result, the free assets will remain under the management of the National Bank, and reported in its balance sheet, until further notice.

Including earnings from reinvestment, free assets stood at Sfr 21 billion at the end of last year. Today, financial assets account for the lion's share of this figure – the as yet unsold 627 tonnes of gold represented only 46% of the total at the end of 2002. If no gold had been sold, total free assets as at the end of 2002 would have been Sfr 1.1 billion lower. The proceeds from the sales and their reinvestment have been fed into the provisions for the assignment of free assets and for market and liquidity risks on gold. The decision to sell the surplus gold has therefore proven worthwhile with regard to the allocation of free assets.

The Bank sold 282 tonnes of gold at an average price per kilogramme of Sfr 15,500 in 2002. The marked (23%) rise in the gold price in dollar terms was almost entirely cancelled out by the fall in the dollar exchange rate. However, the Bank systematically hedged 35% of its dollar risk, thereby softening the impact of the drop in this currency. Since the sales began, hedging the dollar income from gold sales has nonetheless generated a profit of Sfr 500 million.

The policy of reinvesting the proceeds of gold sales is aimed primarily at maintaining the quality of the Bank's portfolio. At the end of 2002, 68% of the money was invested in fixed-income Swiss franc investments, or fixed-income instruments that hedge against exchange rate risks and are denominated in other currencies. The remainder was divided among investments in euros (21%), dollars (4%) and other currencies (8%), with an average remaining term to maturity of three years. The return on investment was 5.2%, up from 4.4% the previous year. This pleasing result is thanks to the decline in bond interest rates and the related increase in value of bond holdings, as well as a conscious policy of avoiding major exchange rate risks.

After almost three years in practice, the Bank's pointedly conservative investment strategy can be regarded as a success. The investment restrictions laid down in the National Bank Law have not impacted negatively on returns. The ban on acquiring equities, in particular, has proven to be a good thing in the adverse stock market climate of the last three years, and concentrating on top-rated bond issuers has also worked in the Bank's favour. Past performance is not always a good indicator for the future, however. While the risk profile of the Bank's investment strategy should safeguard it against major falls in value, it cannot guarantee long-term returns like those we have enjoyed over the last couple of years. Looking at free assets as a whole, the main risk lies in fluctuations in the gold price, although this risk will recede as the gold sale programme continues.

3 Corporate governance and the revised National Bank Law

The economy has not lived up to our expectations in the period since our last Annual General Meeting. Uncertainty and disappointment have reigned, with the many corporate scandals to blame alongside the world's geopolitical crises. Switzerland was not left untarnished and although our scandals were isolated cases, some of them were spectacular enough to give cause for concern. It was not only a matter of the massive loss of material and immaterial value, but of something more fundamental: the devastation of confidence.

Confidence is an indispensable, indeed basic resource in a complex world. This is true of both organisations and personal relationships, and entire social and economic systems. We need confidence because the future is always uncertain. Our own decisions are not the only determining factors. Anyone wanting to take a flight to a holiday destination or conference must be able to rely on the airline keeping to its flight schedule. Anyone who bases their decision to buy shares on figures in a balance sheet must be able to assume that the stated figures are correct. Without this confidence, fundamental processes in our society and in our economy are called into question. A loss of confidence can send out such shockwaves that consumption and investment – and thus economic growth as a whole – suffer long-term damage.

A general feeling of distrust spreads if confidence in the underlying mechanisms of the economy is disappointed. This brings with it the risk that commercial freedoms will be overly restricted by defensive regulatory and preventative measures. Confidence must therefore be placed on a new footing. Endeavours in this regard at corporate level are reflected in effective corporate governance, which essentially describes, from the point of view of the various stakeholder groups, the rules and systems by which a company is managed and regulated. After all, although different groups may have conflicting interests, they ultimately all have a common interest in a prudent business policy and the efficient and sustainable management of invested resources. Systematically disregarding this common interest damages not only the companies concerned and their staff, but can also weaken entire sectors, business locations and the economic system in itself.

When the stock markets were going through a euphoric phase, the prevailing view was that raising shareholder value and linking management reward packages to a company's share price would automatically lead to a positive outcome for all stakeholder groups. We now know better. Today, we realise that it was precisely these conditions that released the energies that led to the various recent scandals. That is why the focus is now on management and control structures aimed at ensuring that business policy also takes account of other stakeholder groups in addition to shareholders. A central role is played here by the board of directors, which must meet professional standards. A transparent information policy is also regarded as essential. It should enable shareholders and investors to base their investment decisions on as objective a basis as possible. Although corporate governance and the rules of responsible corporate management cannot guarantee commercial success, they can help to identify and correct undesirable developments at an early stage. This not only rebuilds lost trust. Amid global competition, an effective corporate governance culture is becoming an increasingly important locational factor. Although Switzerland has been relatively slow to discover corporate governance as a regulatory sphere, a look at the relevant regulations where the financial markets are concerned, for example, shows that we do not need to fear comparison with the rulebooks of other countries.

That confidence in the institution of money is extremely important to society is undisputed. This is one of the main reasons why corporate governance at the National Bank will also be tightened up as part of the ongoing revision of the National Bank Law. The proposed new structure is aimed at establishing more efficient and more professional supervision with stringent checks and balances. The Bank Committee will be dissolved and the Bank Council strengthened. The planned reduction of this body from 40 members to 11 will mean that the remaining members will carry much more weight and responsibility. The powers of the Bank Council are to be extended. They include: determining the Bank's organisational structure, adopting the Terms of Business, ultimate responsibility for personnel management, determining necessary provisions and monitoring risk management and the investment of assets. Under the new law, the auditing aspects of corporate governance at the National Bank will also be brought into line with today's circumstances, and the Auditing Committee is to be replaced by an audit body comprising independent financial auditors. The basic outline of the Federal Council's Message was upheld by the Council of States, as the primary council, in its spring session.

Ladies and gentlemen, I firmly believe that the revised law will give the National Bank corporate governance structures that meet contemporary needs. They will help to ensure that we can continue to have the necessary confidence in our central bank. In addition to statutory principles and organisational precautions, however, this will also depend in large measure on the people entrusted with guiding the Bank's fortunes in the future. They will rely on our confidence at all times, because their fundamental decisions on central bank policy usually have to be made under conditions of considerable uncertainty.

Finally, I would like to thank the Members of the Governing Board and each member of the National Bank's staff most warmly for the work that they have done over the past year.

Speech given at the Annual General Meeting of Shareholders of the Swiss National Bank

by Jean-Pierre Roth, Chairman of the Governing Board,

on 25 April 2003

2002: a disappointing year

2002 was a very disappointing year for the Swiss economy. Just over 12 months ago, with the shock of September 11, 2001 subsiding, the international situation seemed to be gradually returning to normal. There thus seemed to be grounds for cautious optimism. The first quarter of 2002 was relatively buoyant, and it looked as though the world economy would gradually resume its growth trajectory. We forecast an average GDP growth rate for Switzerland of approximately 1% for the year as a whole, with a significant acceleration in the second quarter. At the time, this forecast was regarded by most observers as overly pessimistic.

We soon had to revise our forecast. The contradictory signals started to multiply already in the second quarter of 2002. At the same time, the Swiss franc firmed against the euro. This appreciation of our currency came at the worst possible time, as it amounted to nothing less than a tightening of the monetary climate. In May we responded by lowering the target range for the three-month Libor by 50 basis points. This step not only halted the Swiss franc's hike but gave the domestic economy something of a respite.

From the summer onwards it became clear that the keenly awaited recovery was not imminent. The US economy looked increasingly fragile, and positive signals were continually giving way to other, negative ones. Dark clouds began to gather on the European horizon, especially in Germany. The delayed economic upswing was all the more unwelcome because the Swiss franc was soaring to new heights against the euro. At the end of July we lowered the Libor target range by another 50 basis points. Moreover, just a few weeks ago we acted to cut interest rates again, lowering the three-month Libor to 0.25%, as the economic recovery was retreating even further into the distance and the foreign exchange markets were especially nervous.

Not all the current difficulties originate in Switzerland. The world economy is going through a painful adjustment phase. The bursting of the stockmarket bubble and the exaggerated investment boom – particularly in the IT field – are now behind us. These events shook investors' confidence, and the risk premiums demanded by the market rose. For many small and medium-sized enterprises (SMEs), financing costs rose even though monetary policy had been greatly eased. Investment plans were scaled back, and the financial sector was forced to make far-reaching structural changes in order to cope with the repercussions of the stockmarket correction. Added to this were geopolitical factors that further accentuated the nervousness and inaction of all economic players – consumers and companies alike.

Switzerland, half of whose earnings traditionally come from foreign trade, could not remain immune to these adverse trends. Like the majority of its neighbours, it too was hit by a sharp fall-off in capital spending and a slowdown in the world economy. Since capital goods account for a very high proportion of our exports, the global investment crisis dealt a severe blow to our country. It should be also borne in mind that the financial sector occupies a key position in the Swiss economy. As it accounts for an estimated 10% of gross domestic product, the stockmarket losses coupled with lower earnings from financial assets put a serious damper on growth.

Consequently, 2002 was a year of stagnation. This economic stagnation was reflected in lower corporate profits, a sharp rise in unemployment and a rapid worsening of public-sector budgets. On the foreign exchange markets, the Swiss franc remained relatively stable against the euro. Most of the time, the single European currency fluctuated between Sfr 1.45 and Sfr 1.48. Like all other European countries, however, we had to contend with a sharp downward correction in the US dollar. Although this had been expected for a long time, its timing could hardly have been worse for the business cycle. The dollar lost almost a fifth of its value during the year, plunging to its 1998 level. The development of price levels was rather more satisfactory. Our goal of price stability was reached once again: the purchasing power of the Swiss franc remained intact throughout the year.

Outlook for 2003

In many respects, therefore, 2002 was a bleak year – and the situation is similarly shaky today. Like a year ago, we are still waiting for an imminent upturn in the world economy that is essential for growth in Switzerland. Compared with last year, however, conditions have become more difficult for our companies. The social fabric is under strain, and fewer resources are available to the public sector. This situation is likely to persist for some months yet. There are grounds for hope, however: monetary and fiscal policies are relaxed, interest rates are at historic lows in most countries, and banks' finances are relatively sound, permitting them to perform their allotted role.

After the numerous restructurings of recent years, the Swiss economy is now well positioned to benefit from a global upturn. If our assumptions about the international environment are confirmed, economic activity in Switzerland should begin to pick up in the course of this year. Consumption and exports should remain stable, and equipment investment should start making a positive contribution to growth for the first time in several years. Economic growth will, however, be lower than we estimated last December. Our economy is taking longer than anticipated to haul itself out of the stagnation phase it entered in the second half of 2001.

From the point of view of monetary policy, the upswing is facilitated by low interest rates and ample liquidity. Price stability is not threatened, however. Our forecasts assume an average inflation rate of about 0.7% for the current year, approximately 1% for 2004 and just under 2% for 2005. The fact that price rises will accelerate in the years to come suggests that current monetary policies will have to be adjusted once the economic situation returns to normal.

However, the situation in Switzerland and abroad could still deteriorate further – a risk that should not be underestimated. The industrial countries could still be the target of terrorist attacks, and future developments in the Middle East remain very uncertain. Even from the purely economic point of view, many questions remain unanswered. International trade is highly dependent on an upswing in the United States – and such a revival is emerging only hesitantly. Much closer to home, Germany is having great trouble hauling itself out of the stagnation that has afflicted its economy for several years.

In concrete terms, we are worried about two scenarios in particular: first, the risk that an economic recovery could be delayed still further; and second; the danger of upward pressure being exerted on our currency in the foreign exchange markets. In the first scenario we would see a further deterioration in operating conditions without being able to do much about it, whereas in the second scenario we would be faced with a problem specific to our country. If our currency were to meet with turbulence on the foreign exchange markets, we could admittedly resort to intervention. Use of this instrument entails risks, however, as it can result in very strong growth in domestic liquidity. It would nevertheless have to be used, should the markets behave irrationally.

So, as you see, the Swiss franc remains a source of continual concern even if it was relatively stable in 2002. We know from experience that sharp fluctuations on the foreign exchange markets cannot be ruled out, and that correcting them can often prove a lengthy and expensive process for our economy.

Since we have to be prepared for shocks on the financial markets at all times, we try as far as possible to integrate exchange rate considerations into our monetary strategy. Those who criticise us for not doing enough in this respect do not take proper account of our very proactive interest rate reduction policy in the last two years or of the concern we have repeatedly expressed about developments on the financial markets. For four years now, we have been living with the single European currency – which experienced its fair share of teething troubles – and have seen some spectacular swings in the dollar's exchange rate over the same period. While both of these developments were disruptive, neither of them destabilised the Swiss franc as much as might have been feared. Since the single currency was launched in 1999, our currency has appreciated against the euro in real terms by a little over 1% per year. This rise is greater than the franc's previous appreciation against the D-mark. But it should not come as a surprise, as the euro is not the D-mark – just as Euroland cannot be likened to the former Federal Republic of Germany. Consequently, things have developed rather better than we had feared.

The challenge of attaining growth

In 2002, economic growth in Switzerland was again below the figures reported by other industrial countries, and that will probably be the case again this year. We almost seem to be getting used to this situation, as Switzerland's real GDP growth rates are the lowest in most international comparisons of industrialised countries. The Swiss franc exchange rate is often seen as the main obstacle to more sustained growth. I by no means subscribe to this view. Even though the franc may generally have been strong, trade now accounts for a much larger proportion of GDP than it did twenty years ago. Today the competitiveness of our export industry is threatened more by the burden of domestic costs than by an overvalued franc.

While it should be put in its proper perspective, we must nevertheless address the problem of weak growth. It is paradoxical that whereas Switzerland is at the bottom of the growth league tables, it is consistently near the top when it comes to per capita income. With its very high standard of living, Switzerland has occupied an enviable position for some time now. There is a reason why Switzerland always remains in the lead even though it is moving forward more slowly than its peers: it is because the usual method for calculating GDP tends to underestimate value added in our country, as it disregards to some extent the positive effects arising from the steady improvement in our terms of trade. It should also be borne in mind that, each year, our economy invests large sums abroad and that the returns on these investments are not factored into the calculation of domestic product. Thus our nominal per capita income – including both internal and external revenues – rose by an average of 2.4 percent a year between 1992 and 2000 while per capita GDP rose by only 1.7 percent a year in the same period.

Switzerland's economic performance in the last ten years was nonetheless disappointing. With the population ageing as a result of a low birth rate and a high life expectancy, this presents our country with a considerable challenge. The crux of the problem is how to safeguard the progress that we have achieved in terms of social welfare.

With regard to funding, extraordinary efforts will be required to uphold the proper functioning of the old-age pensions system and to maintain the stability of our occupational pension schemes against a background of very low interest rates. If pensions are to be maintained at their current level in the longer term, higher revenues – in the form of taxes or higher contributions – will probably be needed. Such additional transfers will be more easily absorbed if economic growth is stronger.

On the production side, we have to ensure that the volume of goods and services produced in our country is sufficient to meet the rising needs of both the active and the inactive segments of the population.

Whatever approach is adopted, the preservation of our social welfare system and of our prosperity in general depends on our future economic performance. We thus have to do everything possible to promote labour input, innovation and investment. This means:

- encouraging everyone to take part in the production process; from this angle, raising the retirement age appears inevitable in the longer term;
- promoting mobility of labour and avoiding any obstructions to the work process;
- steadily improving our education system by promoting scientific research and the dissemination of knowledge and thereby encouraging technological progress; growth in productivity is a key factor in achieving full employment;
- making the best possible use of the comparative advantages arising from our high value-added activities; only then can we benefit fully from the gains promised by international trade;
- steadily adapting, modernising and expanding our country's productive assets, as investment remains the driving force behind growth.

And finally, we must not forget that the success of any economic activities hinges on favourable operating conditions: an efficient public infrastructure, a sound social structure, an effective and reliable legal system and economic policies conducive to sustained growth are all essential to sustained growth.

Major efforts also need to be made in the domestic Swiss economy, as excessive red tape, lack of competition and declining productivity are stifling free enterprise and burdening consumers with unreasonable costs. While Swiss industries that are exposed to global competition are generally very efficient, many of those geared to the domestic market are lagging behind. Trusts, distorted competition and administrative or other obstacles to the functioning of the markets are holding back growth.

How can monetary policy help here?

The National Bank is aware of the importance of sustained economic growth. According to its constitutional mandate, the central bank must pursue a monetary policy that is in the country's overall interest – and this of course includes maintaining long-term growth. In the draft National Bank Law now being discussed in Parliament, this constitutional mandate has been supplemented by an additional task: that of ensuring price stability and, in so doing, taking due account of the development of economic activity (Art. 5).

By referring to price stability, the draft law underlines the importance of the contribution which monetary policy makes to promoting growth. A monetary policy that fails to create stability has adverse implications for the functioning of the economy: it can be likened to a poorly tuned engine that sputters and does not deliver full power.

The effects of maintaining monetary stability may not seem very spectacular, but they are of crucial importance. Monetary stability allows the economy to achieve its growth potential and at the same time enables it to save unnecessary costs. Moreover, it stimulates investment by keeping interest rates low, and it prevents resources from being misallocated. However, it should not be expected to achieve the impossible, i.e. boost the economy and raise its productive capacity. After all, one cannot expect a mechanic – however skilled he may be – to defy the laws of physics and coax an engine into generating more power than its potential allows. Any attempt along these lines would result in overheating and ultimately in a breakdown.

Total revision of the National Bank Law

Last year I informed you about the main aspects of the planned total revision of the National Bank Law. What is the situation today?

The total revision of the National Bank Law is currently being discussed in Parliament. Following the entry into force of the new constitutional article on monetary policy in the year 2000, modernisation of the corresponding legal provisions began. This process will be concluded with the ratification of the new law. The National Bank will be defined as an independent central bank that must perform a precisely defined mandate and which is accountable for its performance. The National Bank's legal structure will be retained, though its management bodies will be simplified. In particular, this will affect the Bank Council, the number of whose members will be reduced from 40 to 11. From now on, the General Meeting of Shareholders will appoint five of the 11 members. In all other respects, the General Meeting's powers remained unchanged.

The draft law has already been passed by the Council of States and has been submitted to the National Council's Committee for Economic Affairs and Taxation. Although it has been well received so far, one key point has given rise to debate: the arrangements regarding the election of members of the Governing Board and their deputies. The draft law incorporates the existing arrangement whereby the Bank Council must submit proposals for new members of the Governing Board and their deputies to the Federal Council. The Council of States would like to amend the draft law so that the Federal Council can appoint the members of the Governing Board after having simply consulted the Bank Council.

It is quite conceivable that this rule will be adopted. Indeed, it corresponds to the practice in other countries. However, the arrangement proposed in the draft law – which corresponds to the time-honoured practice in Switzerland – offers undoubted advantages. It requires the Bank Council to identify candidates and then submit a proposal to the Federal Council, which makes the final decision. This is a balanced approach, as the Bank Council is familiar with the functioning of the National Bank and, according to the new Law, should be even better informed in this respect. It meets the necessary technical requirements for selecting candidates and for putting forward an objective proposal. The Federal Council for its part has the legal power and moral authority to counter any proposal it feels is contrary to the country's interests.

It would thus be my wish if, when it comes to the final vote, Parliament were to duly honour the advantages of the existing procedure as set out in the draft law. This procedure has proven its worth and allows the most balanced possible choice of candidates.

If the law-making process runs to plan, the new National Bank Law could already be passed by the autumn, in which case it could enter into force next spring once the deadline for holding a referendum has expired. The 2004 General Meeting could then duly proceed to appoint the new bank authorities.

Concluding remarks

These are difficult economic times, and all the signs are that the coming months will be difficult too. Our companies are striving to defend their position on an unusually depressed world market. Restructuring is necessary – and is all the more painful at a time when the outlook remains somewhat clouded.

The National Bank seeks to pursue a monetary policy that takes the nation's overall interests into account. It is not in a position to shield our economy completely from external turbulence or to offset its structural weaknesses. Tomorrow, like today, it can only strive to create the best possible operating environment in which the private sector can adapt to current conditions. It secures monetary stability and, in this way, gives the economy every possible opportunity to unleash its growth potential.

Dear Shareholders,
Dear Guests,

Thank you for your attention and for coming here today. And thank you also for showing an interest in the National Bank and its activities.

Report on the Stability of the Financial System

Report on the Stability of the Financial System[1]

1 Introduction

Central banks have a legitimate interest in the stability of the financial system. A stable financial system plays a vital role in ensuring the smooth functioning of a market economy and the implementation of monetary policy. In return, a monetary policy that ensures price stability while taking into account the development of economic activity, helps create the conditions required for a stable financial system. Central banks also contribute to this stability as operators or overseer of the payments system. Finally, during periods of turmoil, central banks can help maintain or even restore stability by injecting liquidity into the market.

This report looks at the main trends in the Swiss financial sector with a view to their impact on stability. The aim is to give the public an insight into the state of the financial system. The report thus provides an evaluation of the stability of the system and contains a synthesis of information and indicators. Besides, it enables the Swiss National Bank (SNB) to draw attention to tensions or imbalances that could jeopardise the stability of the system.

A stable financial system can be defined as a system where the various components fulfil their functions and are able to withstand the shocks they are exposed to. This report focuses on two vital elements in the system, the *banking sector* and the *financial market infrastructure*.

The banking sector stood up well to the deterioration in economic and stock market conditions in Switzerland and elsewhere in 2002. Most banks have reported positive results and have been able to maintain their capacity to withstand shocks. Those banks that suffered severe losses have often taken action to strengthen their capital base. Moreover, no major imbalances have been identified that could trigger a crisis. As a consequence, the banking system can be considered stable. Nevertheless, attention should be drawn to two potential sources of tension:

Firstly, if the economy remains sluggish, the quality of borrowers is likely to deteriorate, which could raise provisioning requirements at Swiss banks. The banks' relatively prudent lending policy in recent years should, however, enable them to avoid a massive rise in such provisions. Besides, the relaxation of the SNB's monetary policy should help restrict the extent and duration of the economic slowdown in Switzerland. Secondly, if the adverse stock market situation continues or worsens, the banks will have little scope to raise earnings. However, efficiency enhancement should enable them to lessen the impact on earnings of stagnating trading and asset management income.

In the area of clearing and settlement of payments, securities and other financial instruments the Swiss financial system can rely on the payment system Swiss Interbank Clearing (SIC) and the securities settlement system SECOM, two well-established systems whose architecture minimises settlement risks. The introduction of the multi-currency payment system Continuous Linked Settlement (CLS) in September 2002 and the central counterparty SIS x-clear in May 2003 has reduced the risks involved in the settlement of foreign exchange and securities transactions. Moreover, various organisational and technical measures are planned or have already been implemented to raise the operational reliability of these systems. Overall, Switzerland has a well-functioning financial infrastructure and safety and efficiency are very high by international standards.

1 Document based on the data available as at May 15, 2003.

2 The Banking Sector

2.1 Overview

The analysis of the stability of the banking sector is based on three elements. Firstly, the development of systemic risk factors such as economic and stock market conditions is described. Secondly, the banking sector's exposure to these risk factors is evaluated. Finally, the banking sector's resilience to these shocks in terms of capitalisation is measured.

This analysis shows that the Swiss banking sector faced unfavourable conditions in 2002. Following a prolonged stock market boom, share prices plunged for the second consecutive year. Moreover, the Swiss economy stagnated and global economic growth was low. The profit downturn in the Swiss banking sector, which started in 2001, therefore continued in 2002.

Overall, the Swiss banking sector was nevertheless profitable in 2002. Furthermore, it has essentially managed to preserve the equity base required to absorb shocks, mainly as a result of capital increases by most of the banks that have sustained losses. At the end of 2002, the capitalisation of the banking sector was still high, both historically and by international standards.

The relative robustness of the results published by the banking sector reflects the dominance of lending as a source of revenue. The downturn on the stock markets caused a sharp drop in revenues from operations such as asset management and investment banking. Moreover, some banks reported losses – sometimes substantial ones – on their own investment portfolios. By contrast, the results from lending business remained relatively good despite the economic slowdown. The quality of the Swiss banks' loan portfolios has not deteriorated visibly in spite of the cyclical rise in credit risk.

The current rise in credit risks throughout the economy represents the principal short to medium-term risk to the banking sector. Experience suggests that there is normally a time lag between an economic slowdown and a rise in bank provisions for credit risks. After two years of low economic growth, a sharp rise in provisioning requirements cannot be ruled out in 2003. This would put pressure on the performance of bank lending operations. In addition the stock market environment remains unfavourable, the banks will only have a limited scope for raising revenue from trading and asset management activities.

However, the related risks need to be put into context. Firstly, the only moderate growth in bank loans in recent years suggests that the banks pursued a relatively prudent lending policy during the stock market boom. Secondly, the moderate rise in real estate prices indicates the absence of a speculative bubble – and the attendant risks – in this sector. Thirdly, the banks have taken action to restore profitability, especially in the trading and asset management segments.

2.2 General operating conditions

Both financial market conditions and the general operating environment for the banking sector deteriorated in 2002. For the first time since the mid-seventies, a downturn on the stock markets, accompanied by high volatility, coincided with a period of economic stagnation. The downtrend on the stock market, which started in mid-2000, continued in 2002 and volatility increased strongly, reaching a relatively high level by the end of 2002. This was accompanied by a rise in yield spreads on the bond market and an increase in the number of bankruptcies. In view of the weakness of the economy, this indicates a general reduction in the credit standing of borrowers.

Equity market downtrend accompanied by high volatility[2]

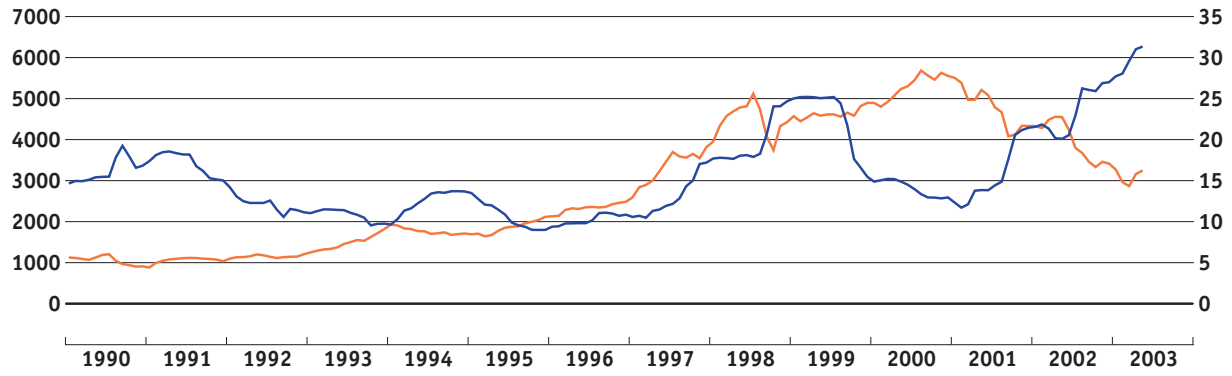
The Swiss Performance Index (SPI) dropped 26% in 2002. By the end of December it had fallen to the mid-1997 level of 3246 (see Chart 1). The equity markets in the USA, Europe and Japan suffered equally sharp declines: at year-end 2002 the S&P 500 share index was down 23% year-on-year, while the DJ STOXX 50 lost 35% over the year and the Nikkei 225 dropped 19%. Moreover, at the start of 2002, the volatility of the SPI (see Chart 1) and the S&P 500 was well above the average for the previous 14 years and volatility increased significantly again during the year. Looking back over the past 20 years, the extent and duration of both phenomena – the persistent bear market and high volatility – are exceptional.

Economic weakness[3]

The main industrialised countries and Swiss trading partners were affected by an economic downturn in 2002. In the European Monetary Union, real GDP grew by 0.9%. Growth picked up slightly in the United States but was nonetheless only 2.4%, well below the average of 3.2% in the previous ten years. In view of this, the Swiss economy stagnated in 2002, having grown by 0.9% in 2001 (see Chart 2). The situation improved slightly from the second quarter. The growth momentum registered at the end of 2002 was roughly in line with the average annual economic growth rate for 1980–2000. The leading economic indicators point to a slight drop in growth in the first quarter of 2003 but suggest that it should pick up again in the second half of the year.

Development of the Swiss Performance Index (SPI) — Chart 1

left-hand scale: — SPI (monthly average)
right-hand scale: — Volatility of the SPI (standard deviation of daily returns; 250 day moving average; annualised)



2 Sources: SNB, Thomson Financial Datastream and Freeman & Co.

3 Sources: SNB, Swiss Institute for Business Cycle Research of the Federal Institute of Technology Zurich (KOF), European Commission and OECD.

Chart 1:
Sources: SNB; Thomson Financial Datastream.

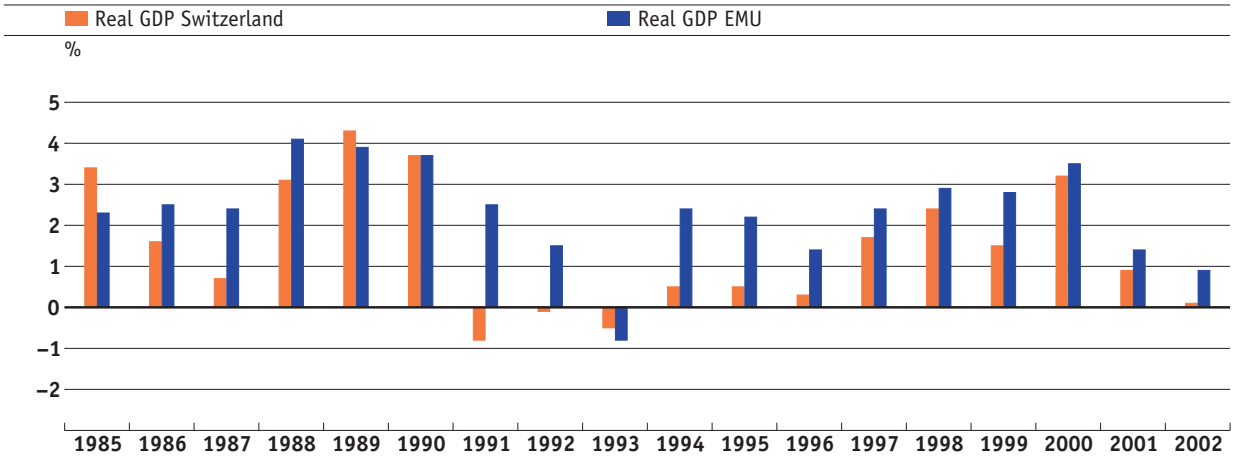
Deterioration in the credit standing of borrowers[4]

There was a substantial global decline in the average credit standing of borrowers in 2002 compared with the year before. This was mainly reflected in a rise in the number of bankruptcies and the yield spreads on corporate bonds, which are mostly issued by major corporations.

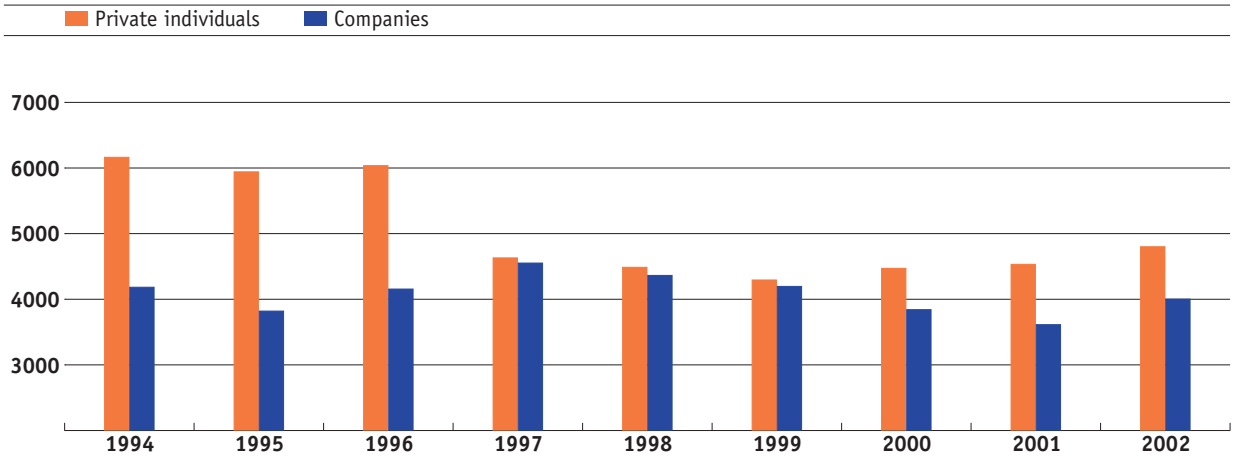
In the Swiss corporate sector, there was an 11% rise in bankruptcies in 2002 compared with 2001 (see Chart 3). Although the number of bankruptcies is still below the average for the last nine years, the latest trend points to a deterioration in the position of small and medium-sized enterprises. Moreover, in the fourth quarter of 2002 the yield spread between corporate and government bonds increased compared to the corresponding year-back figure by 19 basis points[5] in Europe, 24 bp in Switzerland and 39 bp in the USA (see Chart 4). Another sign of the deterioration in the credit standing of borrowers is the volume of bonds affected by bankruptcies, which is calculated by Moody's. In 2002 this indicator rose 53% worldwide.

Since the start of 2003, the yield spreads between corporate and sovereign bonds have declined slightly in the USA as well as in Europe and in Switzerland. This development may be interpreted as a first sign of a medium-term improvement in the credit standing of either domestic or foreign borrowers.

Growth in GDP — Chart 2



Number of bankruptcies in Switzerland — Chart 3



4 Sources: SNB, Creditreform, Lehman Brothers, Moody's and Thomson Financial Datastream.

Chart 2: Sources: SNB; EU Commission.

5 One basis point (bp) corresponds to one hundredth of a percentage point.

Chart 3: Source: Creditreform.

2.3 Profitability

The Swiss banking sector was profitable overall in 2002. However, profits were far lower than in 2001. Moreover, there were major differences in level of profits and profit trends within the sector. Banks whose business is heavily dependent on stock market trends did far worse than those that focus on lending. Should the economic stagnation last, the need for risk provisioning will rise, leading to lower profitability at banks that specialise in lending.

Deterioration in profitability[6]

The Swiss banking sector generated a profit of CHF 9.3 billion in 2002, giving a return on assets[7] of 0.41%, a drop of 21% compared with 2001. There was an increase in the number and average size of banks reporting a loss. In 2002, 52 banks, accounting for 13% of total assets in the banking sector (32% on a consolidated basis[8]) made a loss, compared with 39 in 2001 (2.7% of total assets or 2.1% on a consolidated basis – see Chart 5). Although the year-on-year deterioration in the situation was substantial, profits reported in 2002 were close to the average level of profits in the banking sector in the previous decade (average 1990–2002: 0.47%; see Chart 6).

Interest rate spread — Chart 4

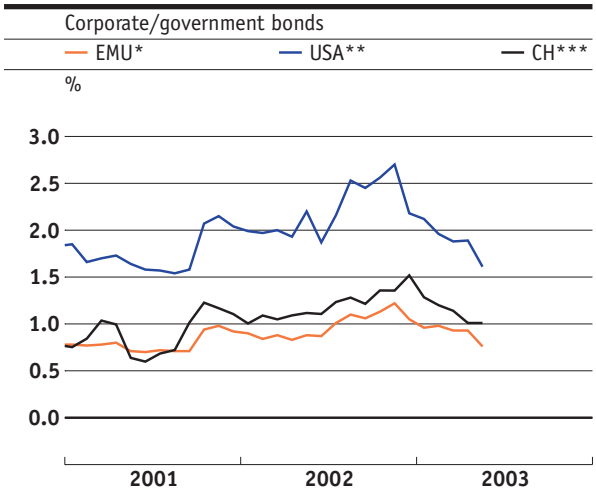


Chart 4:
Sources: SNB; Thomson Financial Datastream.

* Euro Aggregate Corporate and Euro Aggregate Government indices, Lehman Brothers

** US Aggregate Corporate Investment Grade and US Aggregate Government indices, Lehman Brothers

*** Yields (spot rates) for corporate bonds with a rating of at least BBB- and on Confederation Bonds, calculated by SNB

6 Sources: SNB, Federal Banking Commission (FBC), OECD and annual reports.

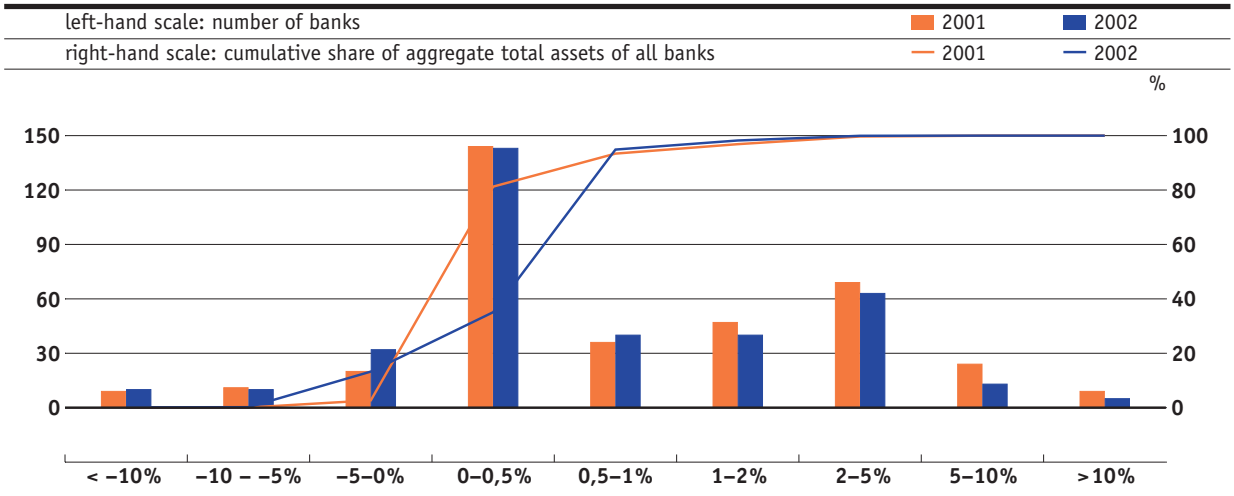
7 Net profit as a percentage of total assets stated on the balance sheet.

8 In the charts and, unless otherwise stated, in the text, the figures are calculated at the company level (i.e. on a non-consolidated basis). Where banks have majority stakes in other companies and/or are part of a holding structure, figures at the company level may differ from the consolidated data. For the big banks, where the discrepancy may be substantial and statistics where consolidated data are available, the consolidated figures are given in addition to the company level data.

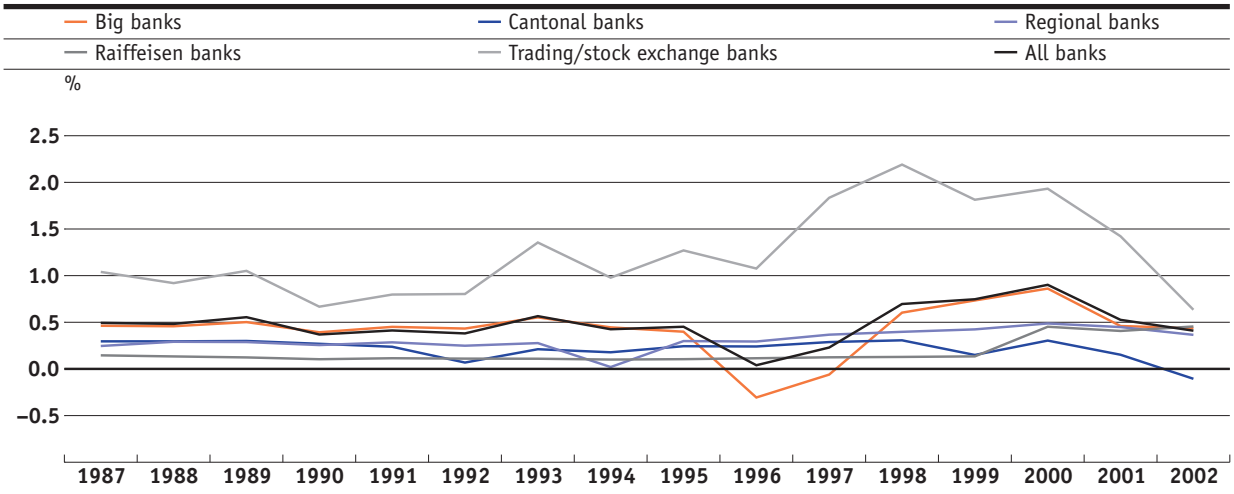
The drop in profits affected most categories of banks[9]. However, the extent of the decline varied significantly from one category to another. Measured by the return on assets, the decline was particularly marked at the big banks (on a consolidated basis: −30 bp to 0.01%; at the company level: −2 bp to 0.44%), the cantonal banks (−26 bp to −0.11%), trading and stock exchange banks (−79 bp to 0.64%) and private banks (−143 bp to 1.07%). Conversely, the regional banks (−8 bp to 0.37%) and the Raiffeisen banks (+6 bp to 0.46%) did not register any major change in profitability.

The downtrend on the stock markets and the drop in investment banking operations (mergers, acquisitions and stock market listings) were the main factors behind the systematic reduction in the profitability of the banking sector. Because of their strong focus on the financial markets, the big banks, trading and stock exchange banks and private banks have been worst affected by this trend. The decline in stock market prices and investment banking operations resulted in a reduction in commission and trading income (−11% to CHF 30.3 billion) but also in mounting losses on financial assets (at the company level: +46% to CHF 6.2 billion; on a consolidated basis: +18% to CHF 9.1 billion).[10] This drop in revenues and financial assets values was not fully offset by the reduction in operating expenses (−6% to CHF 34.8 billion).

Return on assets (individual banks) Chart 5



Return on assets (by bank categories) Chart 6



9 Cf. Box 1 for a description of the structure of the banking sector and the different types of banks.

Chart 5: Sources: SNB; FBC. Example to assist interpretation of Chart 5: In 2001 approx. 140 banks generated a return on assets of between 0% and 0.5% (red bars). The banks with a return on assets of less than 0.5% together accounted for 80% of the aggregate total assets of all banks in 2001 (red line).

Chart 6: Sources: SNB; FBC.

10 Financial assets comprise, primarily, shares in companies owned by the bank. Cf. the accounting standards (Sections 23–27 of the Swiss Code of Obligations) issued by the FBC.

The development of revenues from lending operations contrasts with the trend in commission and trading income. There was little change in income from lending operations (−2.2% to CHF 22.3 billion) and the related risk provisioning requirements (+5.8% to CHF 7.3 billion)[11]. That explains the relative robustness of profits at the regional banks, Raiffeisen banks and most cantonal banks, where lending accounts for the bulk of revenues (71%).

At the same time, there is a very wide range of profit trends within each category of bank. The aggregate figures for the big banks and cantonal banks reflect the impact of losses at one bank in each category, such as CS Group in the category of big banks and Banque Cantonale Vaudoise (BCV) in the category of cantonal banks, respectively. The extent of the loss at CS Group reflects its high exposure to the stock market through its insurance arm (Winterthur) and investment bank (CSFB). At BCV, the losses result chiefly from the use of unsuitable provisioning methods and accumulated credit risks during the nineties, whereas the recent deterioration in economic and stock market conditions played only a minor role.

Outlook[12]

At present there are few signs of an upturn on the financial markets. Consequently, commission and trading income is likely to remain low in 2003. Moreover, tougher competition is expected, especially in the investment banking sector, and that will put additional pressure on margins. Furthermore, the earnings outlook for lending business has deteriorated owing to the sluggish economy.

Consequently, if the economic situation does not improve, the decline in profitability in the Swiss banking sector is likely to continue in the medium term. Moreover, the types of banks that have not yet been affected by the economic and stock market downtrend could report lower profits in 2003. Efforts to reduce costs should, however, help reduce the impact on profits. Many banks took steps to raise efficiency through alliances or mergers in 2002 (see Box 2) or through in-house measures, especially at the big banks. This is part of an ongoing process which reduced the number of banks from 625 to 356 between 1990 and 2002, accompanied by a reduction in the number of branches from 5,444 to 3,673 and in the number of employees in the Swiss banking sector from 120,000 to 104,500.

11 Cf. Section 2.4 (risks).
12 Sources: SNB and FBC.

2.4 Risks

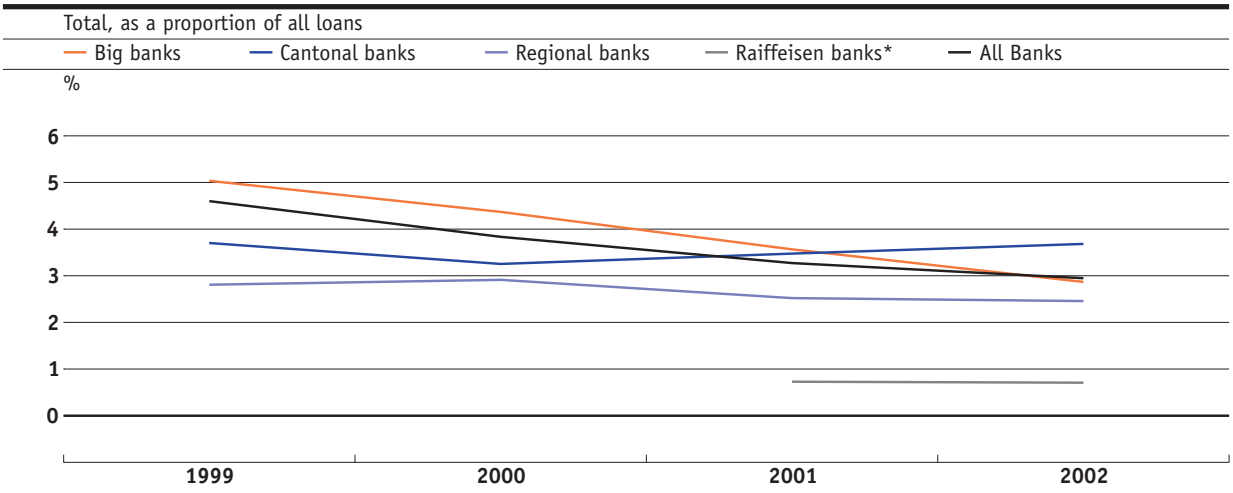
The SNB disposes of indicators for three types of risk: credit risk, interest-rate risk and market risk. In terms of the proportion of non-performing loans and the level of write-downs and provisions, there was a further decline in the credit risk of Swiss banks compared with 2001, bringing this indicator to a low level. Interest-rate risk remains low and market risk declined slightly in 2002 compared with 2001. In short, the risk factors in the banking sector therefore declined slightly last year. However, credit risk is expected to rise this year as a result of the poor economic conditions.

Lower credit risk despite sluggish economy[13]

Credit risk measures the risk of default by a counterparty, in other words, the risk that a counterparty will fail to make the agreed interest and repayment instalments in full. Write-downs and provisions by banks can be taken as an indicator of this because they reflect both the average quality of the present loan portfolio (credit standing) and anticipated future changes in the creditworthiness of borrowers.

Write-downs and provisions for default risks, as a percentage of total lending, declined from 3.3% at year-end 2001 to 2.9% at year-end 2002. At the same time, non-performing loans[14], as a percentage of total lending, declined from 3.6% to 3.1%. This indicates that overall the average quality of the loan portfolio improved slightly between year-end 2001 and year-end 2002. Write-downs and provisions for default risks and non-performing loans vary between approximately 1% and 4% of total lending depending on the type of bank (see Charts 7 and 8). The differences are primarily due to differences in the composition of their loan portfolios. For example, mortgages account for 90% of total lending[15] at regional and Raiffeisen banks, 80% of total lending at cantonal banks and only slightly over 40% at the big banks. At all types of bank, the majority of mortgages, i.e. about 90%, are first rank mortgages.[16] Since the loan to value ratios are low, these types of mortgage are very low-risk. The attendant write-downs and provisions are therefore comparatively low. Moreover, more than half of customer claims at regional and Raiffeisen banks are secured by collateral. By contrast, at cantonal banks and the big banks, about 40% of loans are secured by collateral, resulting in higher write-downs and provisions even if the quality of the loan book is identical.

Write-downs and provisions for default risks — Chart 7



13 Sources: SNB, FBC, Wüest & Partner.

14 Non-performing loans are customer claims and mortgage loans where interest payments are at risk or are no longer expected to be made.

15 Mortgages plus customer claims.

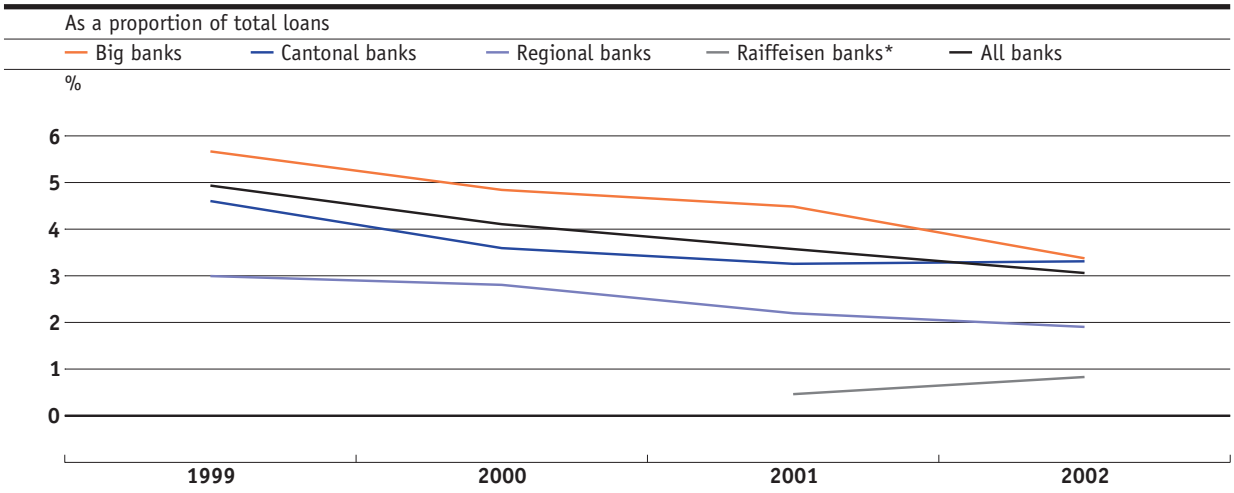
16 First rank mortgages are granted for a maximum of ⅔ of the market value of the property in the case of residential property or ½ of the market value in the case of building land and commercial premises. For major commercial properties and industrial premises the limit is just ⅓ of the market value.

Chart 7: Sources: SNB; FBC.
* Statistics for the Raiffeisen banks only available from 2001.

In 2002 there was only a slight year-on-year change in *new* write-downs and provisions as a proportion of total lending volume. The aggregate write-down for the entire sector was 0.76% (2001: 0.72%). The new write-down and risk provisioning requirements were thus below the average for the previous ten years (1.15%). Looking at the split by types of bank, new write-downs and provisions were 0.74% of total lending at the cantonal banks, 0.89% at the big banks, 0.36% at regional banks and 0.09% at the Raiffeisen banks.

The soundness of the lending operations at Swiss banks is probably due to efforts in recent years to raise the quality of loan books. By streamlining lending portfolios and improving the quality of loans (e.g. by demanding higher collateral and implementation of plans of action) the Swiss banks have managed to reduce the proportion of bad loans. However, a continued economic downswing in 2003 would probably raise credit risk again, firstly because it could reduce the credit standing of borrowers who currently have a good credit profile and secondly, because experience indicates a certain time lag before the credit quality indicators analysed here respond to changes in economic conditions (see Chart 9). Consequently, it should be assumed that the decline in economic growth in 2002 will continue to have an impact this year.

Non-performing loans — Chart 8



GDP and new write-downs — Chart 9

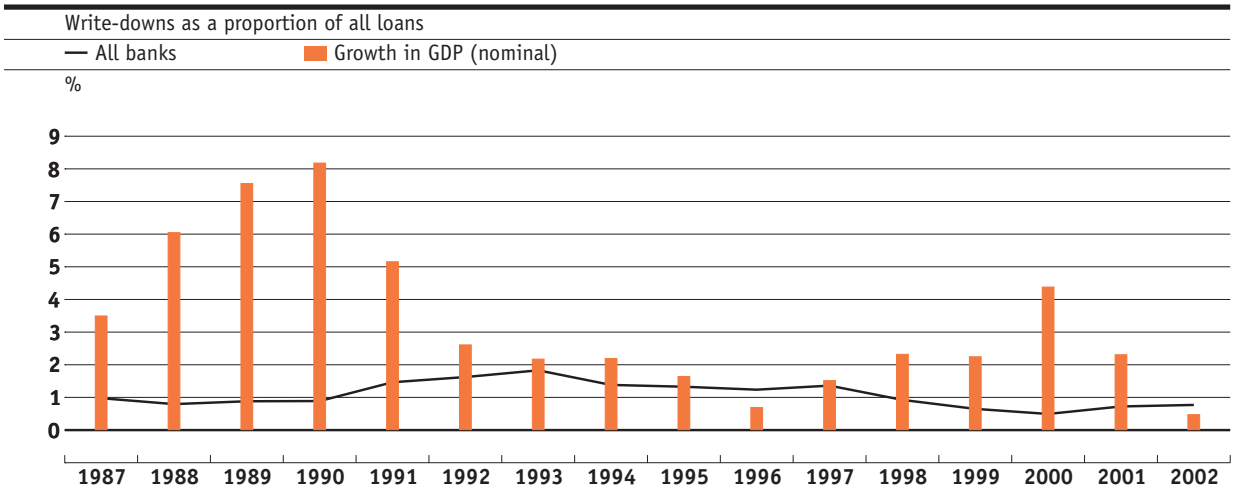


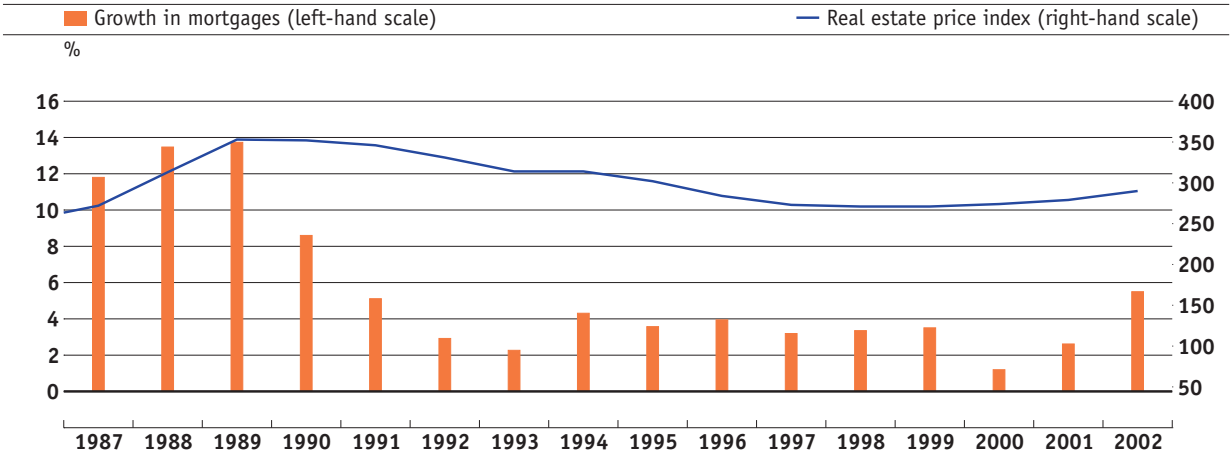
Chart 8: Sources: SNB; FBC.
* Statistics for the Raiffeisen banks only available from 2001.

Chart 9: Sources: SNB; FBC.

A long-term view taking economic conditions into account shows that the volume of lending has remained within reasonable limits in recent years. Between 1992 and 2002, total mortgage loans rose by an average of 3.3%, whereas real estate prices declined by an average of 1.3% p.a. over the same period. Consequently, there is no sign of a speculative bubble accompanied by high growth in mortgages, as there was in the late eighties (see Chart 10). Similarly, by the end of last year, there had been virtually no change in total customer claims: both domestic and foreign claims were the same as at year-end 1998 (see Chart 11). This suggests that overall the banks have pursued a cautious lending policy and have not succumbed to the temptation of expanding lending aggressively by lowering lending standards.[17] Accordingly, neither mortgages nor customer claims seem to show any structural imbalances that could result in a divergence between lending business and economic fundamentals.

Loans to domestic customers declined by more than 10% in 2002. However, this sharp decline should be seen at least partly as a correction of the equally strong rise in domestic lending in 1999. The aggregate data do not provide any information on whether the decline was primarily due to lower demand from companies or to lending restrictions imposed by the banks. The decline in customer claims is not in itself a problem. Indeed, if it is due to an active reduction in lending volume in order to minimise credit risks, it should be seen as positive for financial stability. However, an exceptionally restrictive lending policy could possibly accentuate the economic downswing.

Mortgages and real estate prices — Chart 10



17 The sharp rise in loans to foreign customers in 1996–1998 is attributable to the big banks, which were realigning their strategic focus and expanding their international presence in this period.

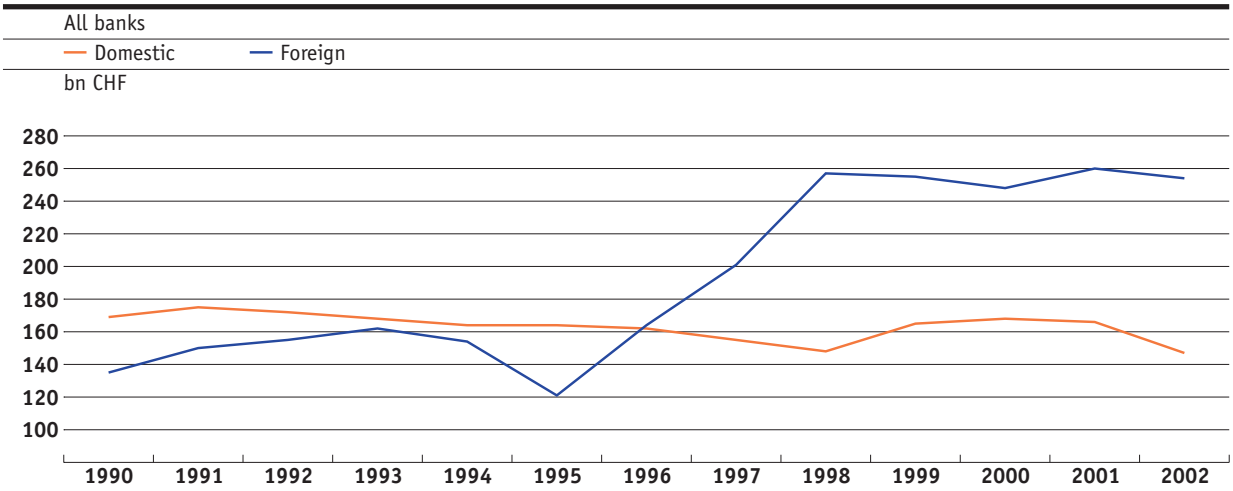
Chart 10:
Sources: SNB; Wüest & Partner.

Low interest-rate risk in the banking book[18]

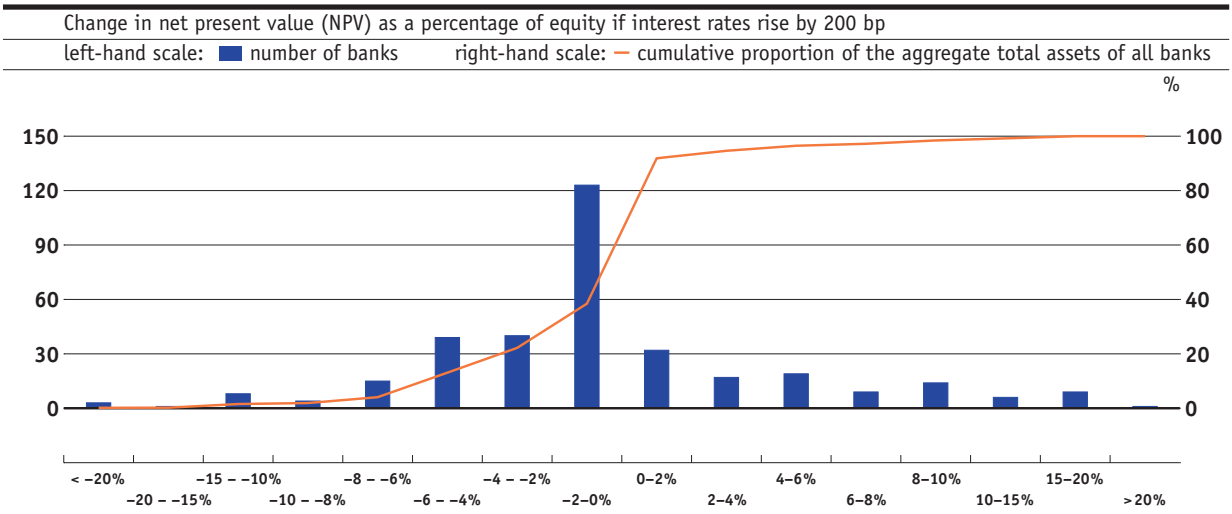
An interest-rate risk exists if there is serious mismatching between the repricing maturities of a bank's assets and liabilities. In principle, banks use short-term liabilities to refinance long-term loans. As a result, interest rates on assets may be fixed for a longer period than interest rates on liabilities. A rise in interest rates would reduce the present value of assets more significantly than the present value of liabilities, thus reducing the net present value of the bank. The interest-rate risk statistics compiled by the SNB for the FBC measure the exposure of individual banks to changes in interest rates. Essentially, the change in the present value of individual on-balance and off-balance sheet items resulting from a change in interest rates is calculated. The sum of the changes in the present value of both assets and liabilities shows the change in the net present value of the bank.

An evaluation of these interest-rate statistics shows that the Swiss banking system as a whole is well hedged against the risk of changes in interest rates. If the general level of interest rates were to rise by 200 bp, the aggregate result for all banks would be a reduction in the net present value corresponding to 0.5% of available capital. At most banks, interest-rate risk is close to this mean. Major deviations are comparatively rare (see Chart 12).

Customer claims (secured and unsecured) — Chart 11



Interest-rate risk — Chart 12



18 Sources: SNB, FBC.

Charts 11 and 12:
Sources: SNB; FBC.

Since banks generally finance long-term lending through short-term borrowing ("maturity transformation"), the low level of interest-rate risk in the Swiss banking sector seems surprising. The explanation is that although the banks grant long-term loans, interest rates are only fixed for short periods. Variable-rate mortgages are the best example. At the same time, banks are not simply financed through sight deposits. A considerable proportion of their financing comprises debt papers (for example, bonds and mortgage-backed securities). The discrepancy between the effective maturities of assets and liabilities is therefore low.

However, it should be noted that these data only relate to the valuation risk resulting from interest-rate movements. For instance, a sharp rise in interest rates is likely to cause more borrowers with variable-rate loans to have difficulty paying, resulting in a higher risk to the bank. This risk, however, manifests itself in a higher credit risk, but does not have any impact on the interest-rate risk statistics. It should also be stressed that the present estimate of interest-rate risk is based to some extent on the banks' hypotheses regarding the extent to which fluctuations in interest rates can be passed on to their clients.[19]

Slight reduction in market risk[20]

Market risk is the risk that changes in market prices will generate profits or losses. These price risks mainly affect banks' trading portfolios, financial assets and non-consolidated stakes in other companies.[21] At year-end 2002, market risk was 8.5% of the aggregate minimum capital requirement of all Swiss banks (2001: 9.3%). A breakdown by type of bank shows that the risk was 8.8% at the cantonal banks (2001: 9.3%), 11.3% at the big banks (consolidated data; 2001: 11.9%), 4.7% at the regional banks (2001: 4.6%) and 2.6% at the Raiffeisen banks (2001: 3.3%). The market risk exposure of the Swiss banks thus declined slightly year-on-year.

Measured in this way, the *direct* valuation risk, i.e. the risk that the banks' own securities portfolio could lose value, seems low relative to the credit risk. However, the figures need to be put into context on two counts. Firstly, they do not reflect the *indirect* risks arising from the financial markets. For example, the performance of asset management and investment banking operations depends heavily on financial market trends. These risks thus have an impact on bank revenues, although they do not appear on the balance sheet[22]. Secondly, this risk factor only relates to potential changes in the value of financial investments without taking costs into account. If a bank has high overheads, for example for own-account trading operations, a lower (but still positive) trading profit could cause it to report a loss. This risk may be substantial. For example, the aggregate trading performance of all banks dropped from CHF 12.4 billion in 2000 to CHF 7.5 billion in 2002. Assuming unchanged costs, that would have trimmed profits by almost CHF 5 billion.

19 For certain items such as sight deposits, savings deposits and some mortgages, the procedure for adjusting interest rates is not specified exactly in the agreement with the client. In such cases, therefore, the banks must present a hypothesis on how the interest rates will be adjusted.

20 Sources: SNB and FBC.

21 We take the minimum capital requirements derived from items exposed to market risks as a measure of market risk.

22 Section 2.3 above (profitability) addresses the extent to which indirect financial market risks can affect the banks' profits.

2.5 Capital adequacy

At year-end 2002 the banks as a whole had a lower capital base than at the end of the previous year. The level of capitalisation is nevertheless adequate overall and only a few banks are characterised by a low level of capital adequacy. Historically and by international standards, Swiss banks can be considered to be well capitalised.

Regulatory framework

Swiss banking law prescribes minimum capital adequacy ratios.[23] Essentially capital backing is required for all on-balance-sheet assets and off-balance-sheet operations. The underlying risks vary depending on the counterparty and collateral provided. To take account of this, the various items are risk-weighted. 8% of these risk-weighted items must be backed by capital at all times (*required* capital).

The *eligible* capital used to calculate capital adequacy comprises three components: core capital, supplementary capital and additional capital. Core capital comprises paid-up share capital, reserves and profits. Supplementary capital comprises hidden reserves, subordinated debt papers and certain hybrid instruments (e.g. mandatory convertible bonds). Additional capital comprises unsecured, subordinated and fully paid-up liabilities that are subject to a lock-up clause which prevents the payment of interest and repayment of the principal if the capital adequacy requirements are not met.

If banks have more eligible capital than required, they are said to have *excess capital*. The risk-weighted capital ratio comprises eligible capital as a percentage of *risk-weighted* assets. The *non-weighted* capital ratio comprises eligible capital as a percentage of the total assets.

Slight decline in eligible capital[24]

The *eligible capital* in the Swiss banking sector as a whole declined by 2.7% year-on-year in 2002. The cantonal banks (–0.2%), regional banks (+1.3%) and Raiffeisen banks (+9.9%), which focus on lending business, have a stable capital base. The increase in eligible capital at the Raiffeisen banks is mainly due to the fact that reporting has been extended to include a further 37 banks. A decline in the eligible capital at the cantonal banks as a result of the massive loss at BCV[25] was prevented by a recapitalisation. By contrast, the big banks' eligible capital declined by 6.3%, with an even more pronounced drop registered on a consolidated basis: core capital dropped 7.7% year-on-year while total eligible capital declined by 8.6%. This is mainly attributable to lower revenues and higher write-downs. Share buy-backs also reduced their capital base.

At the same time, the entire banking sector and especially the big banks reduced risk-weighted assets and thus their minimum capital requirement. *Required capital* for the sector as a whole was reduced by 4.1%. At the big banks the reduction was 5.8% at company level and 8.5% on a consolidated basis. Since their total assets have increased, this was due first and foremost to a reduction in assets requiring capital backing.[26] Secondly there has been a shift in the classes of assets. The proportion of assets with a higher risk weighting has been reduced in favour of assets with a lower risk-weighting.

Stable risk-weighted capital ratios[27]

Overall, neither the economic slowdown nor the stock market downtrend has had a major impact on the capitalisation of the banking sector as a whole. *Risk-weighted capital ratios* have remained stable. At the big banks, excess capital as a percentage of required capital has declined 2.0% at the company level and 0.4% on a consolidated basis. The ratio has declined by 3.1% at the cantonal banks and by 0.3% at the regional banks. A rise of 8.9% was registered by the Raiffeisen banks (see Chart 13).

23 Cf. Banking Ordinance, Articles 11–14.

24 Sources: SNB and FBC.
25 Cf. section 2.3 (profitability).
26 Not all assets have to be backed by capital. In addition, some claims can be offset against liabilities, reducing the volume of assets requiring capital backing (cf. Article 12f Banking Ordinance).
27 Sources: SNB and FBC.

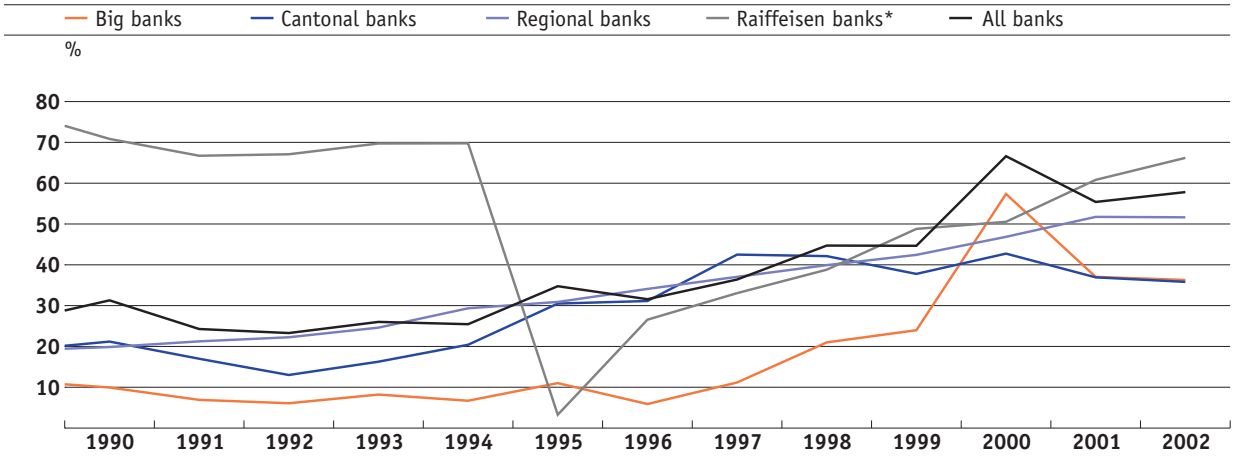
A long-term comparison shows that the capitalisation of the Swiss banks is still good (see Chart 14). Since 1989 risk-weighted capitalisation of individual banks has risen considerably. At the start of this period, about 28% of banks had 20% or less excess capital. By 2002, the proportion had dropped to just over 2%. There has thus been a substantial reduction in the number of banks that only just meet the capital adequacy requirements.

The *non-weighted capital ratio* has declined slightly at all categories of banks (all banks –3.7%; cantonal banks –2.8%; regional banks –0.2%; Raiffeisen banks –2.3%). There was also a reduction at the big banks (–8.1% at company level, –2.7% on a consolidated basis) (see Chart 15).

Mixed picture at the big banks[28]

Contrary to the situation at the other types of banks, the two capital ratios have diverged at the big banks in recent years. While the risk-weighted ratios are essentially rising, the non-weighted ratios are declining. In other words, capital coverage of total assets is declining but they are able to report a rise in risk-weighted capital ratios. An international comparison highlights this divergence (see Chart 16). On the one hand, the two big Swiss banks[29] have the

Excess capital in % of required capital — Chart 13



Excess of capital in % of required capital (individual banks) — Chart 14

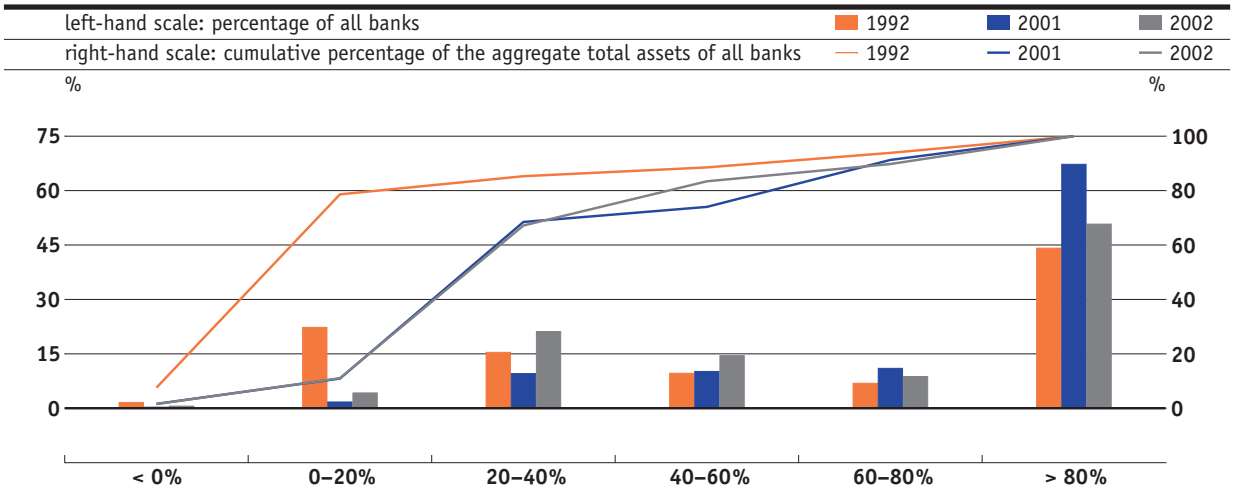


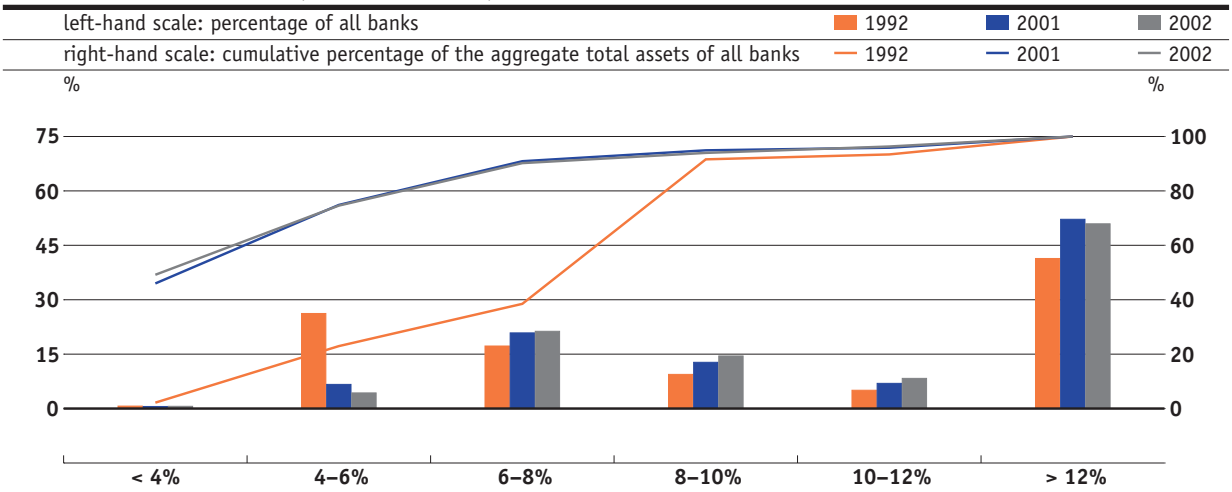
Chart 13: Sources: SNB; FBC.
* A significant proportion of capital at the Raiffeisen banks comprises the members' obligation to pay in additional capital. Since 1995, only part of this can be included in eligible capital, hence the sharp drop in capital at the Raiffeisen banks. It will be excluded entirely when the New Basel Accord comes into account.

Chart 14:
Sources: SNB; FBC.

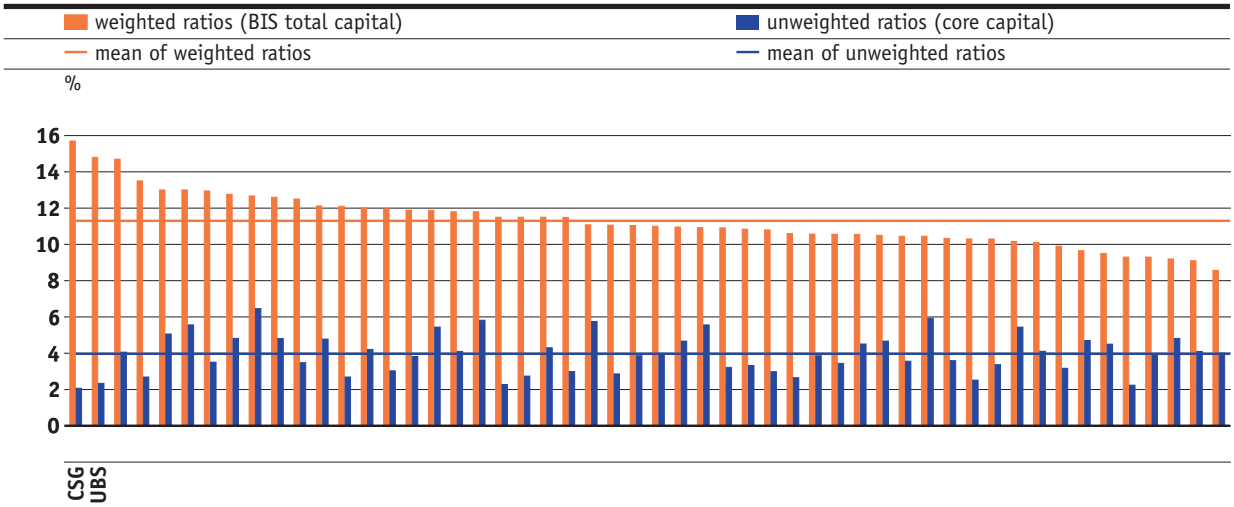
28 Sources: SNB, FBC and annual reports.
29 Data on a consolidated basis.

highest risk-weighted capital ratios[30] among the 50 major international banks. On the other hand, they are ranked among the last-placed banks in terms of non-weighted capital ratios[31]. This is partly because interbank claims account for a high proportion of the balance sheet by international standards (27%). Moreover, mortgages and other secured customer claims total 18%. These items result in relatively high total assets, but according to capital requirements only represent a low risk. If the non-weighted capital ratio were merely calculated on the basis of assets for which capital backing is required, rather than total assets, the capital ratio for the big banks would be 5.2% rather than 3.7%.[32]

Unweighted capital ratios (individual banks) Chart 15



Capital ratios of major international banks* (consolidated) Chart 16



30 Risk-weights according to Bank for International Settlements (BIS).

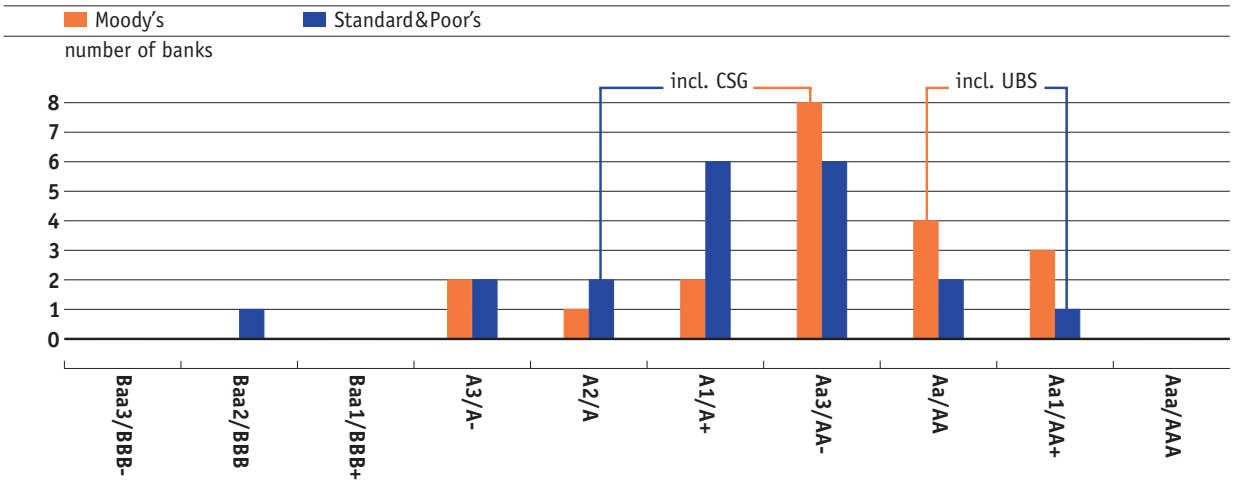
31 Core capital as a percentage of total assets.

32 These quotients were calculated at the company level and therefore differ from the quotients calculated on a consolidated basis in Chart 16.

Chart 15:
Sources: SNB; FBC.

Chart 16:
Source: Annual reports for 2001.
* Comprises the five largest banks in the USA, Canada, Japan and all European countries according to "The Banker" (July 2002), where their total assets are over USD 100 bn.

Distribution of ratings of the world's largest banks* Chart 17



2.6 Market assessment of the solidity of Swiss banks

Market assessment on the soundness of a bank is reflected in credit ratings, yield spreads and share prices. Although these indicators suggest that the Swiss banking sector is in relatively good shape, its position has deteriorated considerably over the past few years. This trend is mainly due to difficulties at certain banks.

General deterioration in credit ratings[33]

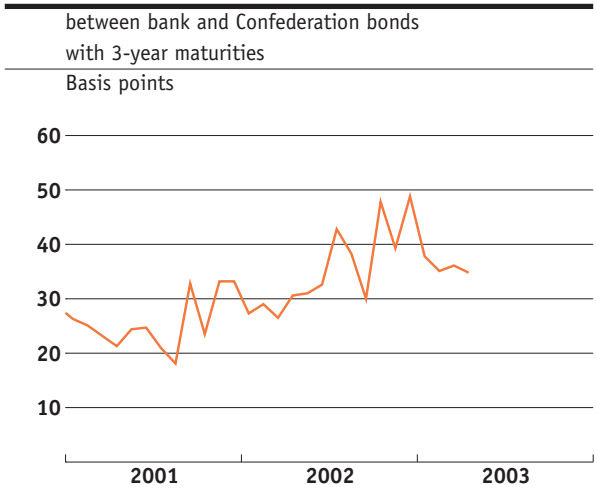
20 of the 356 banks in Switzerland are rated by either Moody's or Standard & Poor's. In 2002 Standard&Poor's downgraded Banca de Gottardo by one grade and CS and CSFB by two grades, while Moody's upgraded Valiant Bank. With a few exceptions, all the rated banks have a medium to very high rating. As well as their ratings, the rating agencies issue an outlook showing the anticipated medium-term trend. Overall, the outlook reports issued by both rating agencies contain more anticipated downgradings than upgradings in Switzerland, indicating that a further deterioration in ratings is to be expected.

Comparing the two major Swiss banks, CS Group and UBS, with 18 among the world's largest banks shows that UBS ranks among the top-rated banks while CS Group is at best in the middle ground (see Chart 17). In 2002 Standard & Poor's downgraded CS Group by two grades to "A" while Moody's outlook downgraded it by one grade to "Aa3 negative". UBS experienced only an outlook downgrade (Standard & Poor's) to "AA+ negative". The ratings/outlooks for about half of the world's largest banks was also reduced.

Increase in the yield spread on bank bonds[34]

The yield spread between bank bonds and sovereign bonds is a further indicator of market assessment of the soundness of banks. The higher the credit risk and/or the lower the liquidity of a bond,

Spreads (all banks) Chart 18



33 Sources: Moody's and Standard & Poor's.

Chart 17: Sources: Moody's; Standard&Poor's, May 2003.

* Comprises 20 of the world's largest banks according to "The Banker" (July 2002) provided they are rated by both Moody's and Standard&Poor's.

Chart 18: Source: SNB.

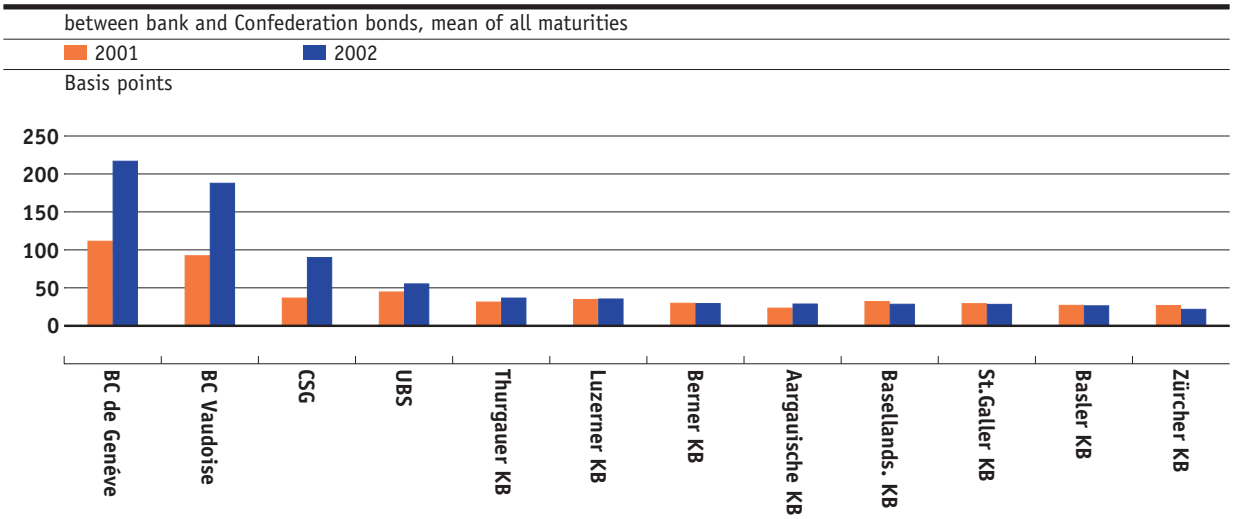
the higher the spread between the bond and a risk-free government bond. Overall, there has been a rise in the spread between the bank bond index, which comprises 21 banks, and the government bond index since the middle of 2001 (see Chart 18). This essentially reflects the rise in the spreads at two cantonal banks (BCG and BCV) and at CS Group (see Chart 19). However, since the start of 2003 a slight decline has been observed.

Decline in the market capitalisation of banks

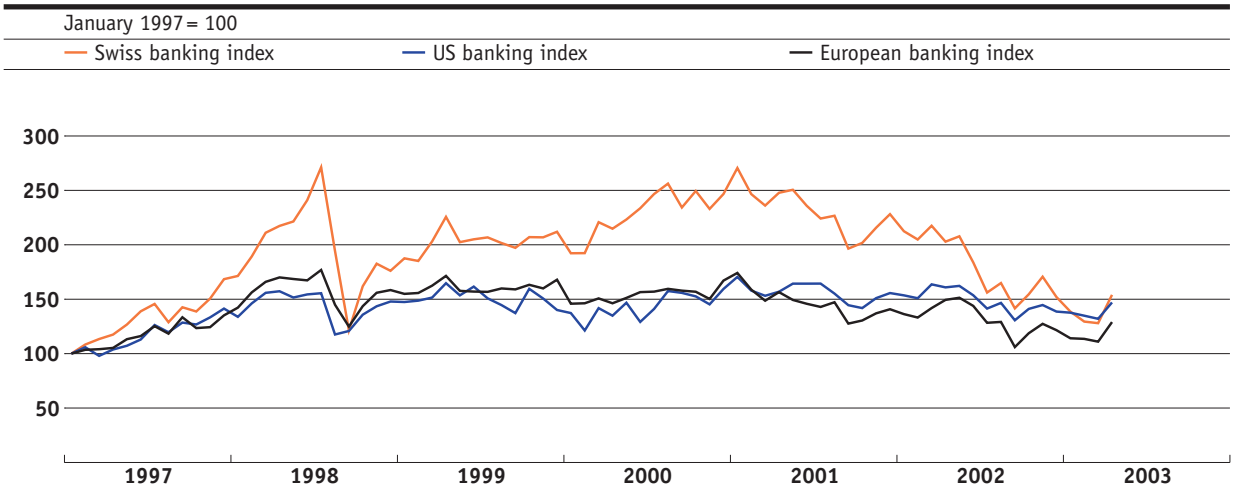
The market capitalisation of a bank reflects the market assessment of its net present value. The change in a stock market index for the banking sector can thus be seen as an indicator of the market valuation of the banks included in the index.

The SPI banking index rose steadily until the start of 2001, with the exception of a sharp dip in 1998. Since then it has been declining (see Chart 20). Comparison with the bank indices for the USA and Europe shows a similar but less pronounced trend in other countries. However, this is mainly attributable to the lower diversification of the SPI banking index and the dominance of the two major Swiss banks. All three indices are currently only slightly above the 1997 level.

Spreads (individual banks) Chart 19



Banking indices: Switzerland and abroad Chart 20



34 Sources: SNB, FBC and Thomson Financial Datastream.

Chart 19: Source: Thomson Financial Datastream.

Chart 20: Source: Thomson Financial Datastream.

Box 1: Structure of the Swiss banking sector

The Swiss National Bank assigns banks to various categories for statistical purposes. The main categories are: big banks, cantonal banks, regional and savings banks, Raiffeisen banks, trading and stock exchange banks, and private banks.

Big banks: The big banks – Credit Suisse (CS), Credit Suisse First Boston (CSFB) and UBS – are by far the largest group in the Swiss banking sector in terms of total assets, earnings and employees. They are universal banks offering a full range of banking services in Switzerland and abroad. At the end of 2002 they accounted for 64% of the total assets of all banks in Switzerland. The remaining 36% was split between some 350 other banks. At year-end 2002, the big banks accounted for 35% of total domestic lending business, i.e. total customer claims and mortgages. They also play a key role in the interbank sector, asset management and derivatives transactions.

Cantonal banks: The main feature of a cantonal bank is that the canton must own over a third of the bank's equity and have more than a third of the voting rights. These days, most of the cantonal banks are universal banks with a strong focus on savings and mortgage business. The cantonal banks accounted for 34% of total domestic lending at year-end 2002. The canton may provide full or partial guarantee for their liabilities. At the end of 2002 the 24 cantonal banks accounted for 14% of the aggregate total assets of all banks in Switzerland.

Regional banks and savings banks: The business focus of the regional banks and savings banks (subsequently referred to as "regional banks") is similar to the cantonal banks, but their geographical reach is normally narrower. Most of the regional banks belong to the Association of Swiss Regional Banks (RBA). RBA-Holding acts as an umbrella organisation for the regional banks and provides various services for them. At year-end 2002 the regional banks accounted for 4% of the aggregate total assets of all banks in Switzerland and 10% of the domestic lending business.

Raiffeisen banks: These banks belong to the Swiss Association of Raiffeisen Banks. The association guarantees member banks' liabilities, while they guarantee the liabilities of the association itself. This group of banks has a federal structure and is based on cooperative principles. The roughly 1 million members of the cooperative are the owners of the Raiffeisen banks. At year-end 2002 the total assets of all Raiffeisen banks amounted to 4% of the aggregate total assets of the Swiss banks and they accounted for 11% of the domestic lending market.

Trading and stock exchange banks: These are mainly universal banks whose activities comprise commercial loans to trade, industry and commerce plus mortgage lending. The stock exchange banks specialise in securities transactions and asset management. The trading and stock exchange banks accounted for 5% of the aggregate balance sheet total of the sector at year-end 2002 and 6% of domestic lending.

Private banks: Private banks specialise in (off-balance-sheet) asset management. They accounted for 0.2% of domestic lending at year-end 2002 and 0.7% of the aggregate total assets of the Swiss banking sector. Providing they do not advertise publicly for deposits business, they are not subject to the statutory capital adequacy and disclosure requirements applying to other banks. They may be sole proprietorships, partnerships or limited liability companies, which means the owners have personal liability.

For further information and data see: The Banks in Switzerland, SNB (annual publication).

Box 2: Examples of cooperation and consolidation in the Swiss banking sector

Regional banks: Ten of the largest regional banks (RBA) signed a cooperation agreement to enable them to carry out joint projects (e.g. in IT and private banking). Luzerner Regiobank, IRB Interregio Bank and Valiant Bank merged in December 2002 under the roof of Valiant Holding, which will rank among the 15 largest banks in Switzerland on the basis of its total assets. Smaller and medium-sized regional banks have also set up closer alliances: 32 regional banks have agreed contractually to form Clientis AG, which is scheduled to start operating in 2004. There were also several mergers and takeovers of smaller regional banks.

Raiffeisen and cantonal banks: The Raiffeisen group plus eight cantonal banks (Appenzell, Fribourg, Glarus, Lucerne, Nidwalden, Obwalden, St. Gallen and Thurgau) decided to set up their own securities clearing bank.

Private banks: Darier, Hentsch & Cie and Lombard Odier & Cie merged in summer 2002 to form the Lombard Odier Darier Hentsch & Cie. The Dutch bank Rabobank acquired a 28% stake in Bank Sarasin & Cie AG last year.

3 Financial market infrastructure

3.1 Introduction

A safe and efficient financial market infrastructure is a key prerequisite for a stable financial system. Alongside exchanges, the financial market infrastructure mainly comprises clearing and settlement systems for payments and for transactions in securities and other financial instruments (subsequently referred to as payment and securities settlement systems).

Payment and securities settlement systems harbour a number of risks (see Box 3). All systems that could trigger a systemic risk and thus jeopardise the stability of the financial system are regarded as systemically important. In the event of serious operational failures, such systems could cause widespread credit or liquidity problems. At the same time, credit or liquidity problems affecting one member could spread to the others through the system. Systemically important payment and securities settlement systems may thus be either the cause of a systemic crisis or the channel through which it spreads. Precautions can be taken to reduce this systemic risk, for example through organisational and technical measures that minimise operational risks and contingency plans that reduce the vulnerability of a system should a crisis occur. Moreover, suitable rules and tools can be used to reduce the probability of credit or liquidity risks spreading.

Deciding which systems are systemically important is not an exact science. In practice a number of criteria are used. These include, specifically, the total value or level of individual transactions settled via the system, the type of transactions (e.g. foreign exchange, money market and capital market transactions) and links to other systems. Another important factor from the SNB's viewpoint is whether the system is used for clearing or settlement of transactions that have a bearing on the implementation of monetary policy. On the basis of these criteria, the following payment and securities settlement systems at the very least are classed as being of systemic importance for the Swiss financial system: the Swiss Interbank Clearing (SIC) payment system, the SECOM securities settlement system, the Continuous Linked Settlement (CLS) multi-currency payment system and the SIS x-clear central counterparty system. A brief outline of these systems is given below, together with an assessment of the inherent credit, liquidity and operational risks. We then look at two regulatory changes that have a direct bearing on efforts to ensure a safe and efficient financial market infrastructure.

3.2 Credit and liquidity risks

SIC and SECOM

Swiss Interbank Clearing (SIC) is a real-time gross settlement (RTGS) system with a queuing mechanism. It has been operated since 1987 by Swiss Interbank Clearing AG. Payment instructions are settled continuously, individually and on a gross basis but only on the condition that the participant issuing the payment instruction has a corresponding balance on its giro account at the SNB. If the balance is not sufficient to cover the payment, the transaction is automatically placed in pending status in a queue file until sufficient funds are available. To facilitate liquidity management, users have access to all relevant information at all times. In particular, they are given information on their present account balance and pending payments. Moreover, the SNB provides intraday liquidity arrangements for SIC participants in the form of interest-free intraday repos. These are triggered via the Eurex Repo trading platform and can be settled within a few seconds via SIC and SECOM respectively. A full description of SIC can be found at www.snb.ch.

The SECOM securities settlement system, run by SIS SegaInterSettle AG (SIS), has been linked to SIC since 1995. This allows continuous settlement of securities transactions on the principle of delivery versus payment on a gross basis. In other words, delivery of the securities and transfer of funds take place simultaneously on the same value day. Settlement is normally three days after closing of the transaction. Users are kept informed at all times which transactions have been settled and which are still pending. To facilitate securities settlement, SIS offers participants securities lending and borrowing facilities. For additional information on SECOM please see www.sec.sisclear.com.

The architectures of the SIC and SECOM systems allow a significant reduction in settlement-related credit and liquidity risks. Above all, intraday finality, i.e. continuous and irrevocable settlement of payments and securities deliveries, minimises credit and liquidity risks. Another key element is the settlement of payments via SIC through giro accounts at the SNB. Using these balances to make payments means that the recipient has a claim on the SNB once a transaction has been completed. Unlike claims on private-sector banks, claims on the SNB do not entail any credit or liquidity risks: since the SNB can issue legal tender, it can always meet its payment obligations in full. When assessing credit risks, the principle of delivery versus payment is particularly important as it eliminates the principal risk inherent in the settlement of securities transactions. Moreover, the various liquidity and securities management tools available to systems participants reduce liquidity risks. The experience gained with both systems shows clearly that both systems (and the link between them) play a key role in containing the systemic risks of Switzerland's financial sector and thus contribute to the stability of the financial system.

Continuous Linked Settlement

The Continuous Linked Settlement (CLS) system has been offering settlement of foreign exchange transactions on a payment versus payment basis since September 2002. Both sides in a transaction are settled by simultaneously crediting or debiting the counterparties' accounts at CLS Bank, which has direct links to all RTGS systems in all countries with participating currencies (i.e. the Australian dollar, pound sterling, euro, Japanese yen, Canadian dollar, Swiss franc and US dollar). The direct participants have to meet payment obligations to CLS Bank in the relevant currencies between 7 a.m. and 12 noon Central European Time. At the end of May 2003 53 banks with direct links to the system were using CLS to settle foreign exchange transactions, including three Swiss banks: Credit Suisse First Boston, UBS and Zürcher Kantonalbank. A few other Swiss banks also used CLS to settle foreign exchange transactions as third parties, i.e. by using the services of a direct member. Detailed information on CLS can be found at www.cls-group.com.

The principle of payment versus payment eliminates principal risk in foreign exchange transactions. CLS thus plays a key role in reducing systemic risks in the settlement of such transactions and meets one of the long-standing demands of the central banking community. Its ability to reduce risk will depend on the market share it captures in the medium to long term. It is difficult to assess the extent to which CLS helps reduce liquidity risks. Two arguments suggest that it reduces these risks. Firstly, members only have to pay in net positions in the individual currencies, thus greatly reducing liquidity requirements on balance. Secondly, CLS has secured liquidity facilities that it can draw on if any participant should face payment difficulties. Conversely, the liquidity risks could be increased by the fact that payment obligations to CLS Bank are extremely time-critical, in other words, they have to be made via the RTGS systems almost exactly to the minute. That places very high demands on banks' liquidity management systems and normally requires access to intraday borrowing facilities at a central bank.[35]

SIS x-clear

In consultation with the SNB, the FBC granted SIS x-clear AG (x-clear) a banking licence by its order of 19 March 2003. This was the regulatory precondition for x-clear to start operating on 5 May 2003 as a central counterparty. Its members are primarily Swiss users of the London-based trading platform virt-x. Its role as an intermediary enables trading parties to remain anonymous once a transaction has been closed and replaces the numerous counterparty risks faced by each party with a single counterparty risk. The x-clear system also allows settlement of transactions on a net basis if this is required by the counterparties. Further information on x-clear can be found at www.ccp.sisclear.com.

Guaranteed settlement by x-clear eliminates the mutual credit and replacement cost risks between participants and reduces liquidity risks.[36] However, it also results in a concentration of credit, liquidity and replacement cost risks at x-clear. Risk management is therefore vital. x-clear's risk management system comprises three elements: a mechanism for meeting margin calls, a default fund and equity. These three elements are designed to prevent systemic risks as a result of non-performance by one or more users of the system. Once it has evaluated the data for the first six months of operation, the FBC (in consultation with the SNB) will consider whether additional insurance will also be needed to cover the default risk, as in some foreign central counterparty systems.

To ensure that it can meet its delivery and payment obligations on time, x-clear must also have sufficient liquidity on both the cash and the securities side. It therefore deposits securities as collateral with SIS SegaInterSettle AG (SIS), which is responsible for managing its liquidity position. SIS can use these securities to obtain liquidity either from the SNB (intraday or overnight repos) or from other banks. Temporary bottlenecks on the securities side can be bridged by securities lending.

Given the specific nature of x-clear's operations, the FBC – with the agreement of the SNB – has exempted it from certain regulatory requirements (liquidity, capital and risk diversification requirements). Since neither the FBC nor the SNB has any practical experience in the monitoring and regulation of a central counterparty and the reporting obligations for normal banking operations are not adequate for x-clear, they have imposed a special, near-real-time, risk-based reporting system. Further, x-clear is required to inform both authorities immediately if at any time the cumulative risk of its two biggest participants exceeds the current level of the default fund. The secretariat of the FBC and the SNB will evaluate the data they receive on the activities of x-clear. If necessary, on-site inspections will be carried out. Initial practical experience with the system will permit a more detailed assessment of the risk management situation. The regulators will therefore be monitoring the model continuously and will require modifications to be made as and when necessary.

35 Most non-Swiss CLS participants use one of the two big Swiss banks as correspondent banks to make payments into the system in Swiss francs. Exceptions are Bank of America, Citibank and HSBC Bank, which settle their Swiss franc payment obligations through their Swiss subsidiaries.

36 The liquidity risks are not eliminated entirely because x-clear cannot guarantee settlement on the value date.

3.3 Operational risks

Over the past few years, the operators and participants in payment and securities settlement systems and the regulatory authorities have been looking more closely at ways of increasing the operational reliability and resilience of the systems, improving contingency plans and reducing vulnerability to crises. This is due to the recognition that the demands made on operational reliability have risen as a result of the increasing globalisation and networking of financial market infrastructure. At the same time, a number of crises triggered by operational disruptions have made it clear how vulnerable the technical integrity of the various components are and how far-reaching the implications of operational disruptions can be for the stability of a financial system.

Operational problems may be caused either by a component of the financial market infrastructure itself or by external factors such as natural disasters or deliberate acts of sabotage. The terrorist attacks in New York on 11 September 2001 are an example of an operational disruption caused by external factors. Key elements of the local financial market infrastructure were forced to cease operating temporarily, causing liquidity bottlenecks for some market participants and disruption on the securities markets. However, considering the scale of the events, most systems proved extremely resilient and the shock to the financial markets was relatively small. Nevertheless, the events of 11 September 2001 clearly showed the importance of intact contingency plans to ensure the continued operation of settlement systems in the event of disruption to one or more elements of the financial market infrastructure.

An example of a problem caused within the system itself was the breakdown of the SIC on 17 June 2002 as a result of faulty hardware. The nature of the failure prevented the SIC switching to the back-up system and the entire system was out of action for several hours. This technical failure did not simply mean that SIC was unable to settle payments transactions during this period: because of the central role played by SIC in the Swiss financial market infrastructure, it also prevented the settlement of securities transactions in SECOM and the procurement and repayment of intraday liquidity.

These examples show that more attention needs to be paid to controlling operational risks given the growing interdependence of the financial markets and the rising complexity of settlement procedures. A distinction can be made between two types of action. Firstly, suitable precautions need to be taken to increase the reliability of financial market infrastructure and reduce the probability of a crisis caused by operational problems. Secondly, organisational and technical measures need to be taken to maintain operation in the event of a crisis or restore operation within a short time if operational problems should occur despite all the precautions that have been taken. That essentially means ensuring that both the operators and systems users have suitable contingency plans and back-up systems and that these are tested regularly. Moreover, the contingency plans for the individual systems need to be carefully co-ordinated. In other words, cross-system and cross-infrastructure solutions are required to prevent inconsistencies and safeguard resilience of the financial system.

A number of measures have been introduced in Switzerland in recent years to improve the reliability and resilience of systems, reduce their vulnerability and enhance interaction. In particular, the operator of SIC introduced a number of technical modifications following the systems breakdown to prevent a similar incident recurring in the future. To further improve reliability and resilience in the medium to long term various organisational and technical measures geared to eliminating current weaknesses are being defined and tested. Moreover, prior to the introduction of CLS, various precautions were taken to ensure that direct participants are able to obtain intraday liquidity from the SNB and ensure that time-critical payments to CLS Bank can be made, even in the event of a crisis. Alongside technical adjustments to the systems involved, this required various organisational measures to ensure that the system operator, participants and SNB are able to take rapid action.

3.4 Regulatory changes

Ensuring the safety and efficiency of systemically important payment and securities settlement systems is a major goal for all regulatory authorities. The rising importance of this goal in the context of general efforts to ensure the stability of the financial system is reflected in a number of regulatory changes. On the one hand, increasingly widespread use of recognised international standards is placing a variety of demands on payment and securities settlement systems and their operators. At the same time, the oversight of payment and securities settlement systems has been put on a formal statutory footing in most countries in recent years. The new National Bank Law in Switzerland will also explicitly define oversight of payment and securities settlement systems as one of the SNB's tasks.

Increasingly widespread use of international standards

In 2000 the Committee on Payment and Settlement Systems (CPSS) of the Bank for International Settlements published ten core principles for systemically important payment systems (www.bis.org). In 2001 the CPSS and the International Organisation of Securities Commissions (IOSCO) jointly issued 19 recommendations for securities settlement systems (www.bis.org). Both standards contain minimum requirements. They are directed at all financial markets and are used regularly by the International Monetary Fund (IMF) and the World Bank to assess the national regulatory framework and the resistance of the financial sector to crises.

Alongside a well-founded legal basis, the core principles for systemically important payments systems specify various requirements relating to rules and procedures for the system in order to reduce credit and liquidity risks. They also recommend using central bank money as means of payment and stress the importance of the operational reliability of the system and adequate contingency plans and back-up sites to make the system resistant to crises. Further, the core principles demand fair and open access to the system and effective, accountable and transparent governance and administrative arrangements.

The recommendations for securities settlement systems also look at clearing and settlement risks, the legal and operational risks of securities settlement procedures and the governance and administrative structure of the systems operators. In addition, a number of recommendations are made that relate specifically to the settlement of securities transactions. For instance, they recommend that the creation of a central counterparty should be considered and that securities lending and borrowing be encouraged. The settlement of transactions should take place on the principle of delivery versus payment, not later than three days after the conclusion of the transaction.

As complement to the CPSS-IOSCO recommendations, the Group of Thirty (G30), an international body comprising representatives of the private sector, the public sector and academic research, published the report "Global Clearing and Settlement: A Plan of Action" in 2003 (www.group30.org). This report contains 20 best practice recommendations for financial markets in the developed world. These recommendations aim to reduce the inefficiencies and risks inherent in the settlement of cross-border securities transactions. Alongside these recommendations, the report contains concrete proposals on action to be taken by market participants, service providers and the public sector in a five to seven-year time frame in order to achieve these goals.

The new National Bank Law

The new National Bank Law, which is currently being discussed by the Swiss parliament, proposes that the SNB should have explicit powers to oversee payment and securities settlement systems. The SNB defines oversight as all of its efforts to influence the rules and architecture of payment or securities settlement systems. In this function, the SNB will pay particular attention to systemically important payment and securities settlement systems.

A three-step oversight approach is proposed. In the first step, operators of payment systems are required to provide statistical data. This enables the SNB to exclude smaller payment systems from close oversight from the outset. The second step comprises extended disclosure requirements and applies to both securities settlement systems and payment systems where the total value of transactions handled means that a systemic risk cannot be ruled out. Extensive information on such systems is required to enable the SNB to decide whether they are of systemic importance for the stability of the financial system. Finally, the SNB can impose minimum requirements on systems that could jeopardise the stability of the financial system. These requirements will be closely based on recognised international standards.

Box 3: Risks in payment and securities settlement systems

The Bank for International Settlements distinguishes between the following types of risks in payment and securities settlement systems:

Credit risk: the risk that a party within the system will be unable to fully meet its financial obligations within the system either at the due date or at any time in the future.

Principal risk (specific type of credit risk): the risk that a party within the system will be unable to fully meet its financial obligations under a securities or foreign exchange transaction either on the due date or at a later date, even though the other party ensures full and timely fulfilment of its obligation.

Liquidity risk: the risk that a party within the system will have insufficient funds to meet its financial obligations on the due date, although it may be able to do so at some time in the future.

Replacement cost risk: risk that a party fails to deliver its side of the transaction by the due date. This may leave the solvent counterparty with an unhedged market position or prevent it from realising potential gains on a position. The resulting exposure represents the replacement cost of the original transaction at current market prices.

Legal risk: the risk that a poor legal framework or legal uncertainties will cause or exacerbate credit or liquidity risks.

Operational risk: the risk that operational factors such as technical malfunctions or human error could cause or exacerbate credit or liquidity risks.

Systemic risk: the risk that the failure of one of the participants to meet its obligations, or a disruption in the system itself, will cause other system participants or financial institutions in other parts of the financial system to be unable to meet their obligations when due. Such a failure may cause widespread liquidity or credit problems and, as a result, might threaten the stability of the financial system or even of the economy as a whole.

Gold Standard, Deflation and Depression: The Swiss Economy during the Great Depression

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The Great Depression of the 1930s was the most serious economic crisis of the 20th century. The USA and Germany were the two epicentres, but no country integrated into the global economy was spared. In Switzerland, industrial production fell by 20% between 1929 and 1932 and, other than in 1937 and 1939, remained below the 1929 level until the end of the decade (and, indeed, the end of World War II). It is not surprising, therefore, that people have worried ever since about the possibility of the Great Depression being repeated.

The international economy of the interwar period was shaped by developments in the USA, Germany, the UK and France. Hence, most of the literature on the Great Depression focuses on these four countries – first and foremost the USA, where the discussion on the role of monetary policy triggered by Friedman and Schwartz in 1963 dominated the field for years (cf. Brunner, 1981; Temin, 1978). In the last two decades, however, researchers have shown growing interest in comparative studies of large sets of countries. Bernanke (1995) sees two particular advantages in this approach. First, the Great Depression was a global event that should be dealt with in an international context; and second, comparative empirical treatment of 20 or 30 countries improves the likelihood of more accurately identifying causes and effects.

Although the Great Depression was a defining event for Switzerland too, the number of macroeconomic studies using Swiss data remains small. This holds both for traditional country studies, of which there are few on Switzerland (Kneschaurek, 1952; Rutz, 1970; Weber, 1983; Faber, 1997), and for the comparative studies performed in recent years, which often disregard Switzerland. The main reason in both cases is the lack of data, which severely limits the possibility of empirical analyses. For instance, figures for Swiss national product in the 1930s do not allow us to break down expenditure clearly according to components of demand or according to quantity and price indices.

The available data are, however, entirely adequate for tracing the development of the Swiss economy. This is the starting point of the present study, which is consciously data-oriented, making substantial use of charts and tables. Moreover, an effort is made to place Switzerland in an international context. Historical details of Swiss economic policy on the other hand are discussed only in passing; for a comprehensive treatment of this topic, see Rutz (1970). The contemporary debate on economic policy in political and business circles is largely ignored as well; it has been dealt with by Müller (2000).

Today, it is generally agreed that there was no single cause for the Great Depression. The stock market crash, bank failures, and growing trade protectionism all played a role. However, monetary factors – most notably the role of the international gold standard – were of particular importance. The fixed exchange rates of the gold standard transmitted deflation around the world. And by sticking to the gold standard, central banks allowed a relatively normal recession to turn into a full-scale depression. Although Cassel (1936) and Hawtrey (1939) had expressed similar views in the 1930s, this international monetary view of the Great Depression has found general acceptance only in the last two decades. This can be attributed to the comparative studies by Choudhri and Kochin (1980), Eichengreen and Sachs (1985) and Bernanke and James (1991) and the syntheses by Temin (1989), Eichengreen (1992, 2002) and Bernanke (1995).

The international monetary view of the Great Depression is the approach we adopt in the present paper. The first part deals with the international background and the interplay between the gold standard, deflation and depression. The second part examines the development of the Swiss economy between 1929 and 1937. Besides some indicators of economic activity and prices, we explore interest rates and exchange rates, money aggregates and their determinants, and the difficulties of the banking sector. The paper concludes with a brief summary and an outline of the main lessons central banks have learnt from the Great Depression.

1 The international crisis

The first part of this paper deals with the international backdrop to developments in the Swiss economy. With the help of some major indicators, we illustrate the phenomena of international deflation and depression and the relationship between the two. This is followed by a description of the international gold standard and its deflationary effect on the world economy. Finally, we look at the gradual collapse of the gold standard, which provided the basis for global economic recovery.

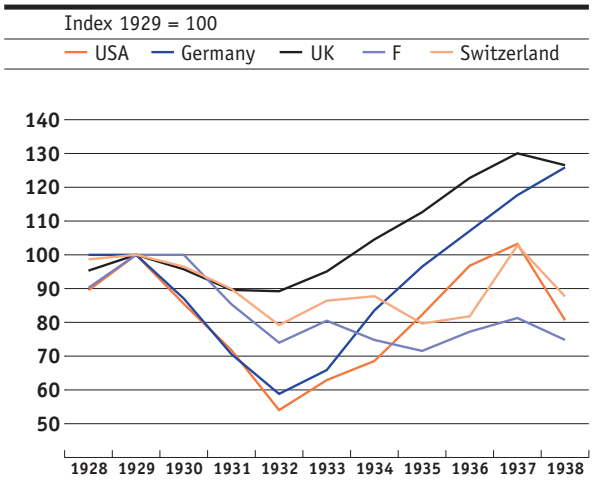
This presentation of the international context focuses on just a few points. Many aspects that contribute to a deeper understanding of the Great Depression are omitted, in particular the historical background to the Great Depression, which includes World War I and various key events of the 1920s such as hyperinflation in Germany and other countries, the international crisis in agriculture, and the dispute about German reparations and intra-allied war debts. For an excellent survey that integrates the Great Depression into the economic history of the interwar period, see Eichengreen (1992) or Feinstein, Temin and Toniolo (1997).

1.1 Deflation and depression

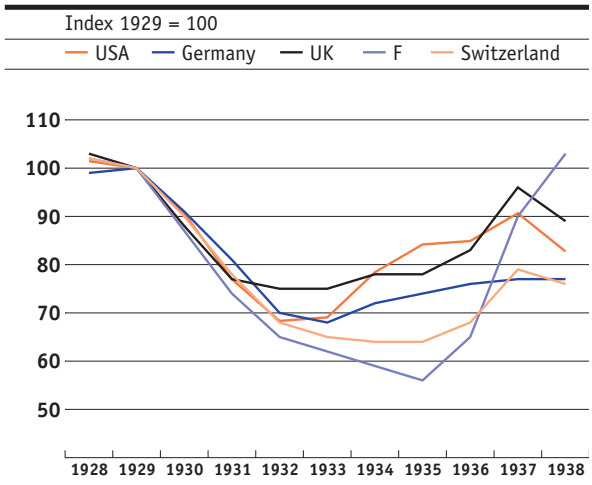
Chart 1 shows the development of industrial production in the four largest economies (the USA, Germany, the UK and France) and Switzerland from 1928 to 1938.[1] The data show that output peaked in the USA, Germany, the UK and Switzerland in 1929. In France, industrial production in 1930 remained steady at the 1929 level, before falling there as well. The USA, Germany and the UK all bottomed out in 1932 and started to recover in the following year. Switzerland, like France, experienced only a brief revival, before dropping back again in 1935 and 1936.

These annual figures indicate that the collapse was most severe in the USA (1929–32: –46%) and Germany (1929–32: –41%) and least severe in the UK (1929–32: –11%). France (1930–35: –28%) and Switzerland (1929–32: –21%) were in between. The chart also indicates that by 1937 global production returned to the level of 1929, before falling back into recession in 1938. This defines the timeframe of the Great Depression used in this paper: 1929–1937.[2]

Industrial production — Chart 1



Wholesale prices — Chart 2



1 The sources used for the charts and tables are listed in the Annex.

2 The literature does not agree on a single date for the end of the Great Depression. The main reason is differences in the start and scale of the recovery in the various countries. Apart from this, some authors use trend-adjusted data or some indicator for economic activity other than industrial production.

One of the best-known features of the Great Depression is the enormous drop in prices recorded in the initial years. Chart 2 shows the development in wholesale prices for the same five countries as in Chart 1. Although prices were already falling in 1929, the rate of decline accelerated substantially by 1930. Prices fell at much the same pace in all countries through 1931, which can be explained by the fixed exchange rates of the gold standard. After that, developments fanned out. Whereas prices stabilised in the UK, and subsequently in the USA and Germany, and then soon began to recover, in France and Switzerland they continued to fall for another three years. According to the annual data in Chart 2, the largest falls in prices ranged from 25% (UK, 1929–32) to 44% (France, 1929–35). The figure for Switzerland was 36% (1929–35).

Although there are instances in economic history in which moderate deflation is accompanied by economic growth, deflation as extreme as in the 1930s is virtually always linked to falling output and employment. The literature suggests various mechanisms through which deflation may affect production and employment. Three in particular appear to have played a role in the Great Depression (see Bernanke and James, 1991; Bernanke, 1995):

The first mechanism is based on the stickiness of wages. If nominal wages do not decrease in line with falling prices, real wages are rising. Real wage increases in excess of productivity gains reduce the demand for labour and raise production costs. The data show that during the Great Depression real wages rose in all major countries except Germany. Furthermore, there is a strong inverse relationship between real wages and industrial production, both over time and in an international comparison (cf. Eichengreen and Sachs, 1985; Bernanke and Carey, 1996).

The second mechanism works through the real rate of interest, which is defined as the nominal rate of interest less the corresponding expected rate of inflation. Inflationary expectations are not direct observations, only estimates. In his study with US data, Hamilton (1992) concludes that although deflation initially took the markets by surprise, after about a year a substantial portion of the deflation yet to come was anticipated. As real interest rates exceed nominal interest rates by the extent of deflationary expectations, this suggests that real interest rates were high in the early 1930s.

A third mechanism by which deflation can reduce production is through the balance sheet of net debtors. An unexpected fall in the level of prices raises the real value of all nominal debts, thereby increasing the risk that loans may not be repaid. Borrowers will react by reducing the amount of credit they are willing to grant, which in turns leads to cutbacks in plans for investment and consumption. This mechanism was first described by Irving Fisher (1933). Owing to the popularity of microeconomic models of imperfect credit market, it has enjoyed a renaissance in recent years.[3]

In the model by Bernanke, Gertler and Gilchrist (1996) the credit market is imperfect because lenders are not in a position to inform themselves about the borrowers' activities and characteristics at zero cost (i.e. it involves an agency cost). For this reason, self-financing or external financing against collateral costs less than external financing without collateral. The premium varies with the borrower's net worth. If deflation reduces the borrowers' net worth, financing costs rise. As a result, some projects that would otherwise have been implemented are no longer realised, and production and employment will fall.[4]

3 Calomiris (1993) discusses various empirical applications of this approach to the Great Depression.

4 Besides the credit mechanism described here, which is based on the effects of deflation on the balance sheets of firms and households, there is a second credit mechanism that analyses the effects of deflation on the balance sheets of banks. When banks' balance sheets deteriorate, these banks will charge more for loans or restrict their lending activity. As bank loans are the only source of external financing for many firms and households, this second credit mechanism may supplement and strengthen the first.

1.2 The deflationary effect of the gold standard

What, then, are the causes of deflation? One of the usual suspects is the supply of money. A decrease in money supply – everything else remaining equal – causes prices to fall. Indeed, statistical evidence indicates that the global supply of money did fall in the first years of the Great Depression (Bernanke and Mihov, 2000). This raises the question of the monetary regime in effect at the time: the international gold standard.

The international gold standard collapsed at the outbreak of World War I in 1914 and was reinstated between 1922 and 1927. As the standard had functioned reasonably well in the 40 years up to 1914, its reconstruction was founded on hopes that it would help stabilise the international economy after the chaos of the early postwar years. Of the major countries, only the USA had never left the gold standard. Germany, Britain and France effectively retied their currencies to gold in 1923, 1925 and 1926 respectively. Switzerland took the step de facto in 1924 and de jure in 1930. Only a few countries (Denmark, the UK, the Netherlands, Norway, Sweden and Switzerland) restored the prewar parities; rampant inflation since 1914 effectively forced the other countries to return to the gold standard with devalued currencies.

The basic idea of an international gold standard is that every country undertakes to buy and sell gold in its own currency at a fixed price. This keeps the gold price stable, and, indirectly, the exchange rates with other currencies too. Imbalances between two countries are stabilised by inflows and outflows of gold. For example, if a country is growing at a faster rate than its long-term potential and prices are rising, the country's balance of payments starts to deteriorate and gold flows abroad. As a result, the money supply also falls, which causes interest rates to rise, putting pressure on production and prices. Thus, the gold mechanism automatically ensures that stability is restored.[5]

In reality, the gold standard did not function quite as simply and elegantly as described. One major difference is that movements in gold were not always reflected in corresponding movements in the money supply. Hence, it was possible for the global supply of money to grow at a slower rate than the gold holdings of the central banks. Three factors were crucial to this development:

First, the international reserves of most countries did not only consist of gold but also included foreign exchange.[6] These funds – for the most part US dollars, pounds sterling and French francs – could be exchanged for gold at the central banks of the respective issuing countries at any time. As long as there was confidence in the gold parities, this solution was beneficial to all involved. The central bank that held foreign exchange could earn interest on it and the international gold standard was able to function with comparatively small gold reserves in the vaults of the centre countries. But as confidence in the gold parities began to weaken, central banks turned in their foreign exchange holdings for gold. As a consequence, the proportion of foreign exchange in international reserves declined substantially. According to data from 24 countries, it fell from 42% at the end of 1928 to 35% at the end of 1930 to 8% at the end of 1932 (Nurske, 1944, p. 235). International reserves thus grew at a slower rate than gold reserves.

Second, in addition to international reserves, central banks held domestic securities. This enabled them to sterilise the effects of gold flows on the monetary base by adjusting their portfolio of domestic credit. However, a country's options varied greatly depending on whether it was running a current account surplus or a deficit. A country in deficit whose gold reserves were running out would sooner or later be forced to reduce the money supply, whereas a country running a surplus, and experiencing an inflow of gold, was not under pressure to increase the supply of money. This asymmetry is the main argument for the common view that a gold standard tends to be deflationary. In our context, the behaviour of the French and US monetary authorities is of particular interest. Both countries experienced heavy inflows of gold in the crucial years and both sterilised these inflows' effects on the monetary base by reducing their domestic credit (cf. Hamilton 1987). The reasons differed, however. France was afraid of inflation and wanted to take preventive action. The US authorities, on the other hand, wanted to counter the bull market in equities, which they viewed as a speculative excess. Regardless of how we view these domestic economic concerns, the actions contradicted the rules of the gold standard. The result was that the monetary base increased at a slower rate than the international reserves.

5 See Niehans (1978) for an analytical model of the gold standard and Eichengreen (1992) or Hawtrey (1939) for institutional and practical details.

6 For this reason, the gold standard in the interwar period is also referred to as a gold-exchange standard. Although the central banks also held foreign exchange before World War I, the proportion was lower.

Third, in addition to the behaviour of the central banks, there is the behaviour of the general public and the banking sector. This was shaped by the growing uncertainty in the early years of the Great Depression. The response of the public was to cut back on bank deposits in favour of cash. The banks in turn had to defend themselves against any runs on deposits by holding sufficient reserves. As a consequence, the money supply increased less than the monetary base.

Together, the behaviour of the central banks (exchanging foreign exchange for gold and sterilising gold inflows), the banks (higher reserve ratios) and the public (higher currency ratios) was responsible for the money supply of the global economy growing more slowly than gold holdings (see Bernanke and Mihov, 2000). Eichengreen (1992) argues that the deflationary pressure of the gold standard could have been corrected if all countries had devalued their currencies in concert, i.e. simultaneously cut the value of their currencies as expressed in units of gold. The opportunity was lost because governments and central banks had different views on the situation and could not agree on joint action.[7] In these circumstances, every country had to seek its own solution. Between 1931 and 1936 every country either devalued its currency against gold or introduced foreign exchange controls. Both contradicted the basic thinking behind the gold standard. Though many countries continued to tie their currencies to gold in some way or other, the international gold standard as a device to harmonise monetary policy had collapsed.

1.3 Abandoning the gold standard and surmounting the crisis

The international gold standard disintegrated in a number of steps. It began in 1931 with the banking crisis in Germany and Austria. In May 1931, the largest Austrian bank, the Creditanstalt in Vienna, failed. The impact of this event was felt particularly in Germany, where banks had large short-term foreign liabilities and the Brüning government strained the confidence of foreign investors by demanding an end to reparations and a customs union with Austria.[8] The most prominent victim was the Darmstädter und Nationalbank (DANAT), the fifth largest bank in the country, which closed its doors in July of the same year. After the gold reserves of the German Reichsbank had been severely depleted and efforts to obtain an international loan were unsuccessful, the German government was faced with the choice of abandoning the gold standard or introducing exchange controls to curb the outflow of capital; it chose the latter. In mid-August it issued a foreign exchange decree and an emergency decree to prevent capital flight and tax evasion. At the same time, it opened negotiations with foreign banks that resulted in a moratorium on foreign deposits at the end of August ("standstill" agreement). In the following years capital controls were successively extended.

In summer 1931 the pound sterling came under pressure. The overvalued pound, along with high unemployment and strained public finances, was the Achilles' heel of the British economy. Hence, it was generally expected that the Labour government would not defend the gold parity regardless of cost. When private investors and foreign central banks began to exchange their sterling holdings for gold, the Bank of England moderately raised the Bank Rate to 4.5%. This failed to restore the confidence of the markets, and on 20 September 1931 the British government suspended the obligation of the Bank of England to sell gold at a fixed rate. Sterling immediately depreciated sharply against all other major currencies. The countries of the British Empire and the Scandinavian states followed London's example, while many Central and Eastern European countries took the German course of adopting capital controls.

7 See Cassel (1936) and Eichengreen (1992, pp. 258–286).

8 See Ferguson and Temin (2002). For a brief introduction to the modern debate about Brüning's economic policies, also see Feinstein, Temin and Toniolo (1997, pp. 120–124).

In September 1931, the currency crisis crossed the Atlantic. Investors' doubts about the dollar's gold parity triggered demand for gold. The US Federal Reserve reacted by raising the discount rate. This calmed currency markets for a while, but worsened the ongoing banking crisis. The turning point in the USA came in 1933, after Franklin D. Roosevelt was elected President. The new Administration implemented policies to increase production and prices, and was not going to be distracted by the gold standard. In March 1933, an embargo was placed on gold exports and the dollar was allowed to float. It immediately fell, and on 31 January 1934 was provisionally fixed at 59% of its former gold value.

After the USA left the gold standard, the remaining countries – Belgium, France, Italy, the Netherlands, Poland and Switzerland – formed the "gold bloc" (8 July 1933). Owing to other countries' currency devaluations, the gold bloc countries suffered a huge fall in the competitiveness of their economies. The logic of the gold standard left them no other choice but to cut costs and prices. These policies were strongly resisted by trade unions and other interest groups. In the following years, the gold bloc currencies were repeatedly the object of speculators. In March 1935, Belgium devalued its currency after a banking crisis. In the same year Italy and Poland introduced capital controls. The end came in 1936. After the Popular Front led by Léon Blum won the national elections in France in May 1936 and started to implement a programme of social reforms, the French franc came under heavy pressure. On 25 September 1936, a Friday, France left the gold standard and devalued its currency. Switzerland and the Netherlands followed that weekend. The Swiss franc was devalued by 30%.

Switzerland had stuck to the gold standard to the very last. Through the years, the Swiss government and the Swiss National Bank (SNB) had used two arguments to resist devaluing the Swiss franc. First, devaluation would not help matters but would only generate inflation. Second, devaluation would be a breach of trust and faith.[9] Even after the devaluation of the French franc, the SNB first argued against devaluation and for the existing policy. In the discussions with the Swiss government, it could point out that the gold backing of the currency far exceeded the statutory minimum and that the economic situation had improved slightly since the beginning of the year. Yet the Swiss cabinet (Federal Council) voted five to two to devalue. It justified the decision with economic arguments and the hope that the Tripartite Agreement between the USA, Great Britain and France held out the prospect of a new currency system.[10]

Most contemporaries took a negative view of the devaluation cycle of the 1930s. A typical example is the study that the League of Nations commissioned from Nurske (1944). Eichengreen and Sachs (1985, 1986), on the other hand, argue that the unilateral devaluations did more than simply neutralise one another. Together they led to looser monetary conditions for the world economy, thereby hastening economic recovery. As a coordinated devaluation had proved impossible, this was the second best solution.

As can be seen in Chart 1, economic recovery occurred first in those countries that freed themselves from the straitjacket of the gold parity. While not all countries were equally quick to grasp the potential, the pattern is unequivocal: the later the break with the gold standard, the later the economic recovery. This is supported by several empirical investigations using various data sets (Choudhri and Kochin, 1980; Eichengreen and Sachs, 1985; and Bernanke and James, 1991). On the whole, the results of these studies are a strong argument that it was a mistake to stick to the gold standard, as this worsened and prolonged the Great Depression. They also support the view that monetary factors make an important contribution to explaining the causes of the Great Depression.[11]

9 For a revealing presentation of the "gold standard mentalité", i.e. of the economic ideas and beliefs that shaped the actions of the elite at the time, see Eichengreen and Temin (2000).

10 For a history of the Swiss devaluation debate, see Müller (2000).

11 For an account of the recovery phase, see Temin (1989, pp. 89–137) for the global economy and Romer (1992) for the USA.

2 The Swiss economy in the Great Depression

The first part of this paper looked at the relationship between the gold standard, deflation and depression. The second part will deal with developments in the Swiss economy. First we shall analyse two crucial indicators of economic activity: national product and unemployment. As will be seen, the available data for the period in question are not completely satisfactory. Therefore, we shall also look at various indicators of demand components. The subsequent sections deal with prices and wages, interest rates, exchange rates, monetary aggregates and their determinants and developments in the banking sector.

2.1 National product and unemployment

Switzerland has had national accounts only since 1948. However, they were in preparation for some time before then. At the beginning of the 1940s the Federal Statistical Office presented estimates of nominal net national income for 1938 and subsequently used the same methods to calculate figures for the years from 1929 to 1937. Net national income differs from the better known concept of gross national product (GNP) in that indirect business taxes and the decline in the value of existing capital are subtracted. We have figures for indirect taxes, but not for depreciation. Hence, in addition to net national income we can calculate net national product (NNP), but not GNP.

To obtain income series at constant prices, the Federal Statistical Office deflated nominal net national income with the national consumer price index (CPI). Later authors worked in the same way with NNP (see Historische Statistik der Schweiz, 1996). Andrist, Anderson and Williams (2000), who estimated real gross domestic product for the years 1914 to 1938, also base their figures for the period from 1929 to 1938 on CPI-deflated official estimates of nominal NNP.[12]

Table 1 shows the development in nominal net national income, nominal NNP and real NNP (where the latter is CPI-deflated nominal NNP). For our purposes, the most interesting series is the development in real NNP. In 1930, this measure still shows a marginal increase, before falling by about 5% in total over the following two years. In contrast to Swiss industrial production, real NNP is affected later and less severely by the global economic crisis. After a temporary recovery in 1933–34, real NNP declined again in 1935–36. Strong recovery did not ensue until the Swiss franc was devalued.

Net national income and net national product Table 1

Year	Net national income	Indirect taxes	Net national product (NNP)	CPI, 1929=100	CPI-deflated NNP (1929=100)
1929	9469	284	9753	100.0	100.0
1930	9344	290	9634	98.3	100.5
1931	8609	296	8905	93.2	98.0
1932	7685	302	7987	85.9	95.3
1933	7698	308	8006	81.5	100.7
1934	7599	314	7913	80.3	101.0
1935	7429	320	7749	79.5	99.9
1936	7457	326	7783	80.9	98.6
1937	8160	332	8492	84.8	102.7
1938	8202	340	8542	85.0	103.1

12 I was unable to reconstruct the index series that Mitchell (1992) used for real NNP. Apart from differences in rounding, the nominal values correspond with the official estimates. However, the implicit deflator deviates from both the consumer price index and the wholesale price index.

The problem with this estimate of real NNP is the use of the CPI as deflator. It is a stopgap, because the Federal Statistical Office does not provide a deflator geared to national product before 1948. The CPI differs from a conventional national product deflator since the CPI measures the price level of goods purchased by consumers while a national product deflator would measure the prices of output produced from Swiss-owned inputs. The differences are twofold:

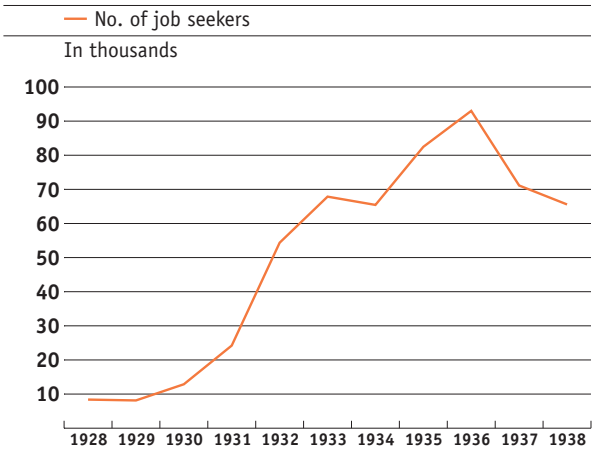
On the one hand, the prices of imported goods show up in the CPI, but not the national product deflator. Since all the available data indicate that prices of imported goods fell considerably more than the prices of domestically produced goods, the CPI, everything else being equal, exaggerates the decline in the national product deflator.

On the other hand, the CPI is based on a fixed basket of goods (Laspeyres Index), whereas a national product deflator measures the prices of goods produced in the period in question (Paasche Index).[13] Hence, the CPI ignores the possibility that consumers react to changes in relative prices and substitute products whose prices have fallen for goods whose prices have risen. This suggests that, all else being equal, the CPI registers a lower rate of deflation than a national product deflator would.

As the two conceptual differences do not work in the same direction, we cannot draw any clear conclusions. However, if we do not make implausibly high assumptions about the elasticity of substitution, the second difference – the difference between the Paasche and Laspeyres Indices – should have a noticeably weaker effect than the first. In that case it is probable that the CPI fell more than a conventional national product deflator would have. Hence, the real Swiss NNP calculated using the CPI may well not reflect the full decline in aggregate output during the Great Depression.

The unemployment figures raise different problems. We know the number of unemployed registered with the labour bureaux, as shown in Chart 3. According to these figures, there were about 8,000 unemployed on average in 1929. In the following years, with the exception of 1934, this figure rose from year to year, finally peaking at 93,000 in 1936. The highest monthly figure was 124,000 registered unemployed in January 1936. If these figures are set in proportion to the labour force (1930: 1,943,000 people), we obtain a rise in the unemployment rate from 0.4% in 1929 to 4.8% in 1936, peaking in January 1936 at 6.4% (not seasonally adjusted). However, many of those without a job will have seen little point in registering as unemployed, since there was no general, compulsory unemployment insurance, and there was little chance of getting a job through the labour bureaux. Hence, actual unemployment was probably higher than the official figures.

Unemployment Chart 3



13 This difference refers to the CPI in use at the time (1921 = 100). The current CPI (May 2000 = 100) is a chain index in which the weighting of the components is adjusted once a year.

Another method of determining the unemployment rate tries to take these reservations into account. Its approach uses the ratio between the number of unemployed insured with public and private unemployment relief funds and the total membership of these funds.[14] As expected, the unemployment rate calculated in this way is considerably higher than the conventional figure: it averaged 14.6% in 1936 and peaked in January 1936 at 20.9% (not seasonally adjusted).[15] That said, the development pattern of the two figures over time is similar. The second method also has its weaknesses. In particular, the attraction in joining an unemployment benefits fund was probably greater for people in occupations with a high unemployment risk than for others. Accordingly, an unemployment rate calculated on the basis of fund membership may be too high.

The flaws in the data for real NNP and unemployment indicate that comparisons with today or with other countries yield only a approximate picture of reality. This qualification should not be exaggerated, however. In the USA, real GDP dropped by 30% between 1929 and 1933, and in 1933 25% of the labour force on average was registered as unemployed (see Mitchell, 1992). In Germany, the other epicentre of the crisis, real NNP fell by 23% from 1928 to 1932, and in 1932, 30% of the labour force was registered as unemployed (see Mitchell, 1993). In the light of such figures, there can be no doubt that in Switzerland the effects of the Great Depression were comparatively mild.

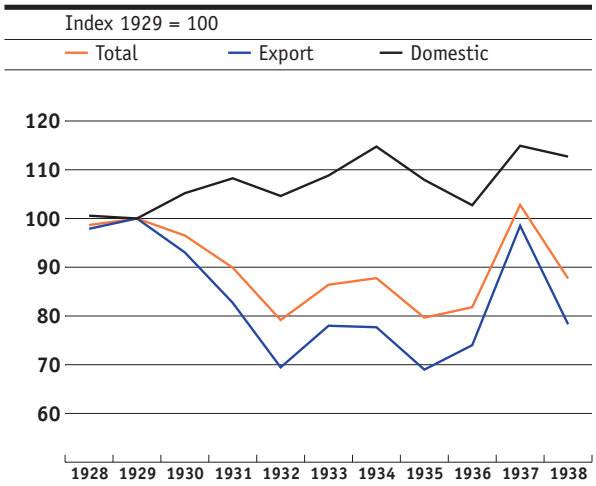
2.2 Industrial production, building investment, foreign trade and government spending

There are a number of other economic indicators that supplement our picture of the course of the Great Depression in Switzerland. First and foremost is industrial production, which we have already seen in an international comparison in Chart 1. The data for industrial production are estimates by David (1996), who aggregated various sector indices. According to these estimates, industrial production fell with increasing speed from 100 in 1929 to 79 in 1932. It then recovered a little (1934: 88), before dropping back towards the trough of 1932 in 1935 (80) and 1936 (82). The devaluation of the Swiss franc was the turning point: in 1937 industrial production rebounded to about the level of 1929 (103).

The breakdown by sector highlights the forces that act on Swiss industrial production. Hit earliest and hardest was watchmaking, a typical export industry. Other export industries, such as machinery, textiles and chemicals, also suffered heavy losses early on. Of all these sectors, only the chemical industry recovered relatively well from 1933 onwards; in all other sectors, production only picked up noticeably in 1937. The picture presented by industries producing mainly for the domestic market is very different. Cement production rose steadily until 1931, and results in the food processing industry were also better in 1931 than in 1929. Although cement production then fell continuously until 1936, food processing continued to fill its order books.

Chart 4 shows the development in the sub-indices for export and domestic-market-oriented industries.[16] As can be seen, production in the export industries fell by about 30% between 1929 and 1932, and more or less reached the 1929 level only in 1937. By contrast, industrial production of domestic-market-oriented industries continued to rise from 1929 to 1931 and from 1932 to 1934. A slump followed in 1935 and 1936, but the index still remained slightly above the 1929 level.

Swiss industrial production — Chart 4



14 The calculation uses the data of 15 public unemployment benefits funds in German-speaking Switzerland and 15 private unemployment benefits funds (see Historische Statistik der Schweiz, 1996).

15 The increase in full-time unemployment lagged that in part-time unemployment. It already peaked in 1932 (average of 11.6% of unemployment relief fund members). In 1935, it was 4.9%.

16 David (1996) calculates sub-indices for individual sectors; he counts the chemical, footwear, machinery and metal, textile, and watchmaking industries as export industries, and the cement, food processing, and paper sectors as domestic industries.

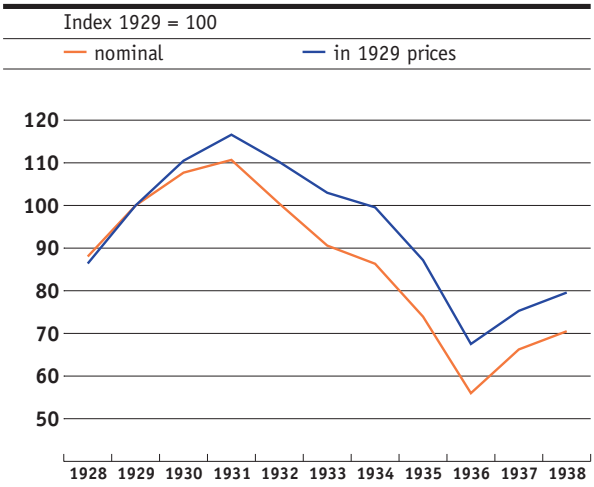
The opposite developments in the export and domestic-market-oriented industry provide an explanation for the discrepancy between the development of real NNP and industrial production at the beginning of the Great Depression. Whereas industrial production fell from 1929 onwards, real NNP continued to rise in 1930. This rise reflects the robust domestic economy, which is better expressed in real NNP than in industrial production, in which the export industry plays a greater role.

In the early years of the Great Depression, the domestic economy held up thanks primarily to construction investment. As mentioned above, production in the cement industry rose solidly until 1931. This is confirmed by the development in construction expenditure. As Chart 5 shows, expenditure on construction in real terms rose by 17% from 1929 to 1931. It then fell back to the 1929 level in 1934 and posted further steep declines in 1935 and 1936. Spending on construction in real terms did not return to the level reached in the first half of the 1930s until after the war.[17]

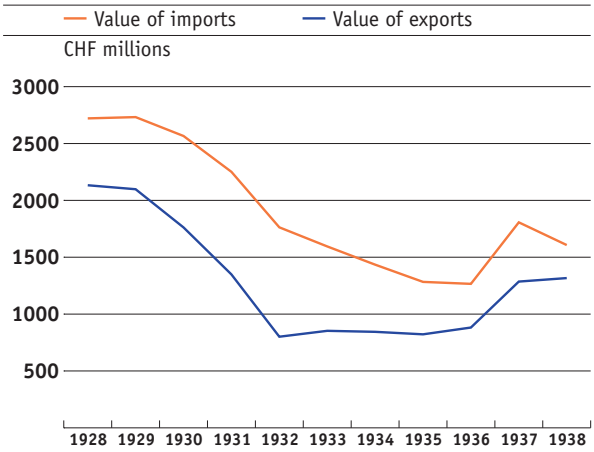
The influence of foreign demand is best examined using foreign trade statistics. These show that the value of merchandise exports fell by about two thirds from 1929 to 1932 (Chart 6). Part of this reflects the global drop in prices. But even measured in tonnes, exports declined in these three years by more than 50% (Chart 7). The development of nominal merchandise trade as a proportion of NNP points in the same direction. Its share fell from 22% in 1929 to 10% in 1932, at which level it more or less stagnated until 1936. The devaluation of 1936 brought some relief, but the situation of the export industry remained difficult. In 1937 and 1938 the share of nominal exports in NNP was barely that of 1931 (15%).

Whereas in the first two years of the depression, developments in exports can be explained almost entirely by economic activity abroad, from 1931 onwards there are two other major factors to consider: the first devaluations among leading trading partners and growing trade protection. At the end of 1931, Switzerland reacted by moving from a multilateral to a bilateral trade policy on the principle of "placing imports in the service of exports". The instrument of this policy was quotas. Switzerland also introduced bilateral exchange clearing for trade with countries that had introduced exchange controls.[18] Between 1931 and 1937, Switzerland signed exchange clearing agreements with 12 countries, the most important of which was that with Germany

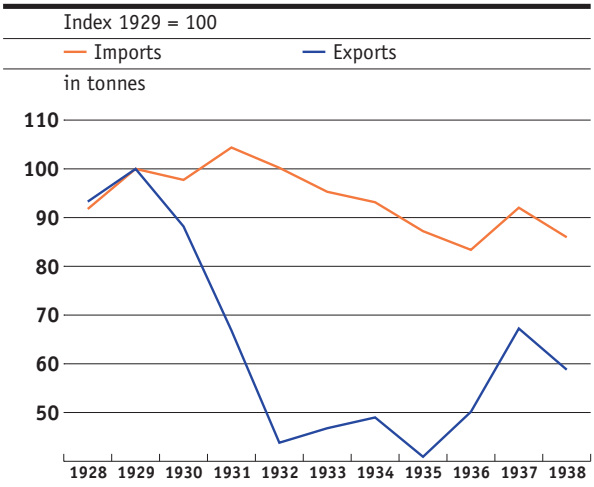
Construction investment — Chart 5



Foreign trade — Chart 6



Foreign trade (2) — Chart 7



17 For the construction sector we have data on nominal construction expenditures. To obtain figures for construction expenditure in real terms, we have deflated the nominal figures using the Zurich construction cost index.

18 After Switzerland signed the first clearing agreements with Austria and Hungary in 1931, the SNB explained the working of the exchange clearing system as follows: "The method used to settle payment transactions functions as follows: Swiss buyers of Austrian goods pay the purchase price in Swiss francs into a pooled account that is held with the Swiss National Bank in the name of the Austrian National Bank. Similarly, Austrian buyers of Swiss goods settle their debts with Swiss sellers by paying the purchase price in Austrian schillings to the Austrian National Bank for account of the Swiss National Bank. The central banks keep each informed about payments into their respective accounts and then pay out these amounts to the sellers as and when the amounts as defined in the agreement are available" (SNB Geschäftsbericht 1931, pp. 9–10). For a comprehensive treatment of the clearing with Germany and Italy, see Frech (2001).

(1934). Because of this policy of bilateral trade agreements, the trade deficit remained relatively small, despite currency devaluations abroad. As can be seen in Chart 6, it rose sharply in 1931 and 1932 but then fell again. As a proportion of nominal NNP, the trade deficit rose from 7% in 1929 to 12% in 1932, before declining steadily to 5% in 1936 and 3% in 1938. Between 1935 and 1938 it was always lower than at the beginning of the crisis in 1929.

Finally, let us glance at government spending and fiscal policy. Table 2 shows figures for government budgets at different levels of government: federal, cantonal and large municipalities (all as a proportion of nominal NNP).[19] Public spending as a proportion of NNP rose moderately during the Great Depression. Between 1930 and 1936, the share of spending by the federal government increased from 5.0% to 6.7% and by the cantonal govern-ments from 6.1% to 8.6%. As government revenues as a proportion on NNP were also increasing, deficits at all levels of government remained modest. The federal government ran a small deficit only in 1933 and 1934. Although the cantons and municipalities constantly ran deficits from 1931 onwards, the shortfalls were modest. The total budget deficits of the federal, cantonal and large municipal governments never exceeded 1.2% (1933) of NNP.

The development in government budgets shows just how little stimulus was provided by fiscal policy. The clear aim of fiscal policy was to balance the budget. Memories of the early 1920s, when budget deficits and inflation went hand in hand in many countries, were still fresh. Moreover, people were aware that a loose fiscal policy could undermine the markets' confidence in the currency. So if it was considered necessary to raise spending in order to alleviate the effects of the crisis (job creation programmes, unemployment benefits, etc.), attempts were made to offset this with savings in other areas or with selective tax increases.

Government budget (administrative accounts) Table 2

Year	Expenditures, in % of NNP			Revenues, in % of NNP			Surplus, in % of NNP		
	Federal government	Cantons	Large municipalitie	Federal government	Cantons	Large municipalitie	Federal government	Cantons	Large municipalities
1929	3.9		2.8	5.3		2.9	1.4		0.1
1930	5.0	6.1	2.9	6.6	6.4	3.0	1.6	0.4	0.1
1931	4.5	7.1	3.4	5.5	7.1	3.4	1.0	−0.1	−0.0
1932	5.4	8.3	3.9	5.9	7.8	3.7	0.5	−0.5	−0.2
1933	5.6	8.6	4.0	5.5	7.7	3.8	−0.1	−0.9	−0.2
1934	6.3	8.6	4.0	6.1	7.9	3.9	−0.1	−0.7	−0.1
1935	6.5	8.6	4.2	6.8	8.1	4.0	0.3	−0.5	−0.1
1936	6.7	8.6	4.1	7.0	8.1	4.0	0.3	−0.5	−0.2
1937	6.3	8.1	3.8	6.6	8.0	3.7	0.3	−0.1	−0.0
1938	7.1	8.5	3.8	6.7	8.2	3.8	−0.4	−0.3	0.0

19 The municipalities are the members of the Swiss Association of Towns and Cities (*Städteverband*), the number of which varied from 59 to 64. To avoid double counting, the gross figures for the federal, cantonal and municipal budgets cannot simply be added together.

2.3 Prices and wages

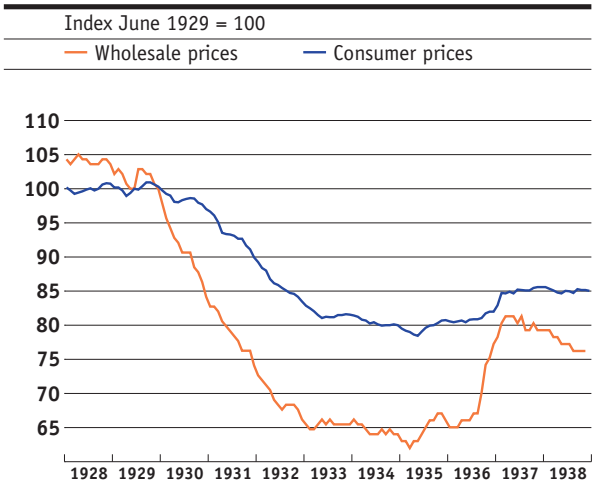
A striking feature of the Great Depression was the massive drop in prices. As shown above, wholesale prices fell at about the same rate in Switzerland and abroad from 1929 to 1931, i.e. before countries started to devalue. After that, developments fanned out, depending on individual monetary policies (Chart 2). Chart 8 shows the development of Swiss wholesale prices based on monthly data, which makes it possible to pinpoint turning points. According to these figures, wholesale prices started to fall in August 1929 and declined virtually without a break until March 1933. The low point was reached in March 1935 (July 1929–March 1935: −39.6%). After the Swiss franc was devalued in September 1936, wholesale prices jumped, but remained well below the level of 1929 through to the end of the observation period in December 1938.

As a rule, consumer prices are less volatile than wholesale prices, because many components of the CPI face less international competition. As can be seen in Chart 8, between mid-1929 and the first half of 1935 the drop in consumer prices was only about half that of wholesale prices. Consumer prices started to fall in November 1929, i.e. a little later than wholesale prices, and also bottomed a little later than wholesale prices, i.e. in May 1935 (October 1929–May 1935: −22.0%).[20]

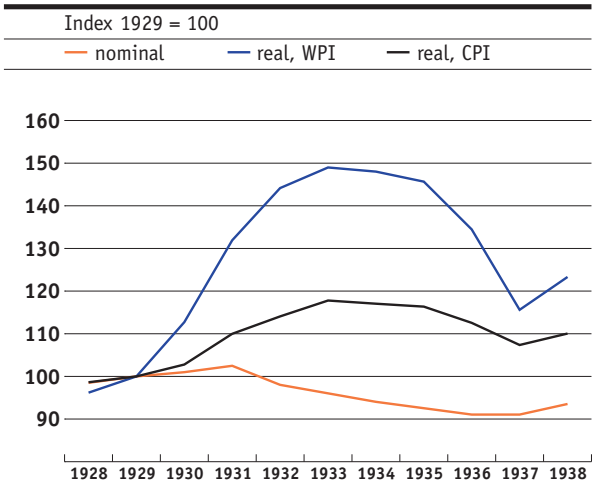
Unlike the prices of goods, nominal wages fell only modestly during the Great Depression. As Chart 9 shows, they actually continued to rise into 1931, before declining steadily until 1936.[21] But even then, they had fallen less than 10% from their 1929 level. The sharp contrast between developments in prices and wages means that real wages posted a noticeable increase during the Great Depression, most of it in the early years. CPI-deflated nominal wages rose by 17% between 1929 and 1933. After that, they declined until 1937, at which point they were still a good 7% above the 1929 level.

From the producer's point of view, nominal wages must be deflated by producer prices. Given the available data, we have to use wholesale prices as an approximation. Real wages calculated in this way rose considerably more than those deflated with consumer prices. Even after steep corrections in 1936 and 1937, they were still substantially above the wage level at the start of the Great Depression. Despite the uneven quality or the data, the general impression is one of a hefty increase in real wages.

Prices — Chart 8



Wages — Chart 9



20 The two price indices exceeded the average 1929 level from 1940 (wholesale price index) and 1941 (consumer price index) onwards.

21 These data refer to nominal hourly earnings of workers who had had an accident at work. The corresponding data for weekly earnings yield almost identical results.

The authorities were aware that high real wages were an obstacle to re-establishing international competitiveness and contributed to high unemployment. However, they had no means of directly influencing wages in the private sector and therefore had to settle for an attempt to reduce wages in the public sector. The unpopularity of this move became clear when the government and parliament passed a law to temporarily cut nominal salaries and wages of federal employees by 7.5% in 1933 and 1934. The law was subject to a mandatory referendum. The referendum was duly launched, and on 28 May 1933 the government's proposal was rejected in a national vote by a majority of 55%.[22]

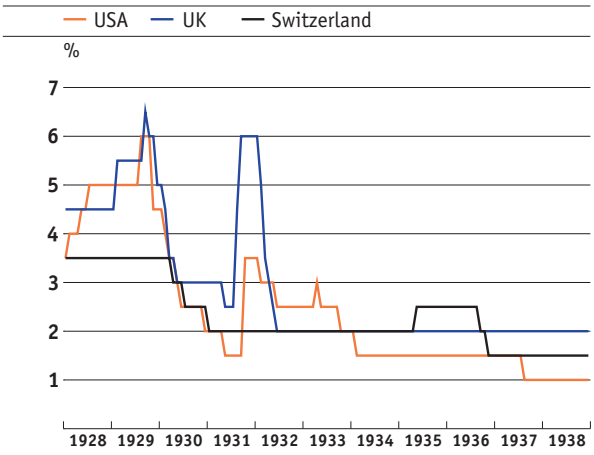
By comparison with countries that left the gold standard at an earlier date, Switzerland experienced a very strong rise in real wages during the Great Depression. In this it shared the fate of all gold bloc countries. Eichengreen and Sachs (1985) and Bernanke and Carey (1996) show that from 1932 onwards real wages in the gold bloc countries were systematically higher than in other countries. The lack of wage flexibility was one reason why the depression lasted so long in the gold bloc countries.

2.4 Interest rates

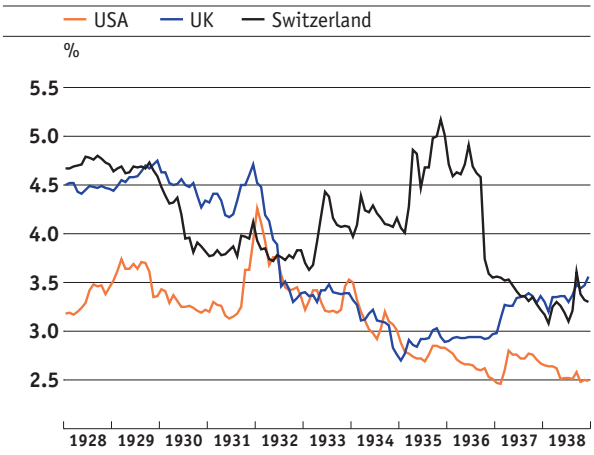
The next two sections deal with the monetary conditions under which the Swiss economy operated during the Great Depression. As in any system of fixed exchange rates, which the gold standard was, the feasibility of influencing interest rates was limited. This holds all the more for a small country like Switzerland. Although the SNB fixed the official rates (discount rate, Lombard rate), in doing so it had to take account of the exchange rate and the metal backing of notes in circulation. The Coinage Law of 3 June 1931 fixed the gold content of the Swiss franc at 290.322 mg, and the National Bank Law prescribed a metal backing of notes in circulation of 40%.

Between April 1930 and January 1931, the SNB reduced the discount rate in three steps (3 April 1930, 10 July 1930 and 22 January 1931) of half a percentage point each from 3.5% to 2%. More than four years later, in response to heavy pressure on the Swiss franc, the SNB raised the discount rate from 2 to 2.5% (3 May 1935). But shortly before the devaluation of the Swiss franc in 1936, the Bank reduced it to 2% again (9 September 1936), a sign of how secure the SNB felt at that time. After the devaluation, the SNB cut the discount rate to 1.5% (26 November 1936), the lowest level since the SNB was established in 1907. The Lombard rate was always held above the discount rate. The difference between the two amounted to half a percentage point between 8 February 1933 and 3 May 1935, and to one percentage point before and after this period.

Official discount rates in selected countries Chart 10



Bond yields in selected countries Chart 11



22 However, the government later got its way (albeit with slight modifications) by a decree. See Rutz (1970, p. 185).

Chart 10 shows developments in the Swiss discount rate as well as the US and the British discount rate. It shows the tightening of monetary policy in the USA in 1928-29, which in Hamilton's (1987) view triggered the recession that eventually grew into the Great Depression. Britain was forced to follow suit. Switzerland, by contrast, left its discount rate unchanged for the time being. This pattern was repeated in 1931, when Germany, Britain and the USA temporarily hiked up their discount rates to 10%, 6% and 3.5%, respectively, while the SNB again left its rate unchanged. These events demonstrate the confidence the markets had in the Swiss franc in the early years of the Great Depression.

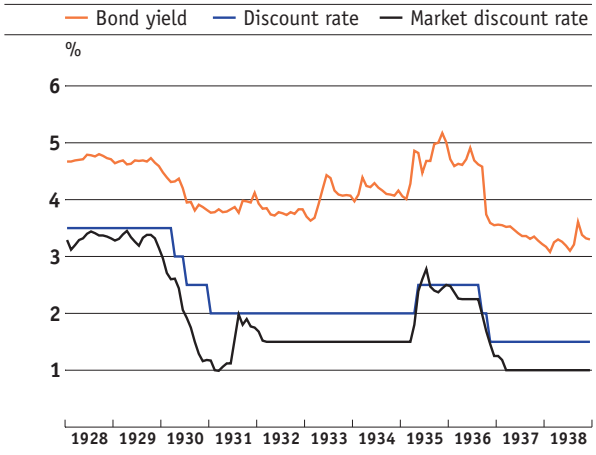
The situation was reversed after the UK and the USA left the gold standard and geared their monetary policy towards domestic goals. Now it was the gold bloc countries that tried to defend the gold parity by raising their discount rates, while the UK left the discount rate (Bank rate) at 2% and the USA cut its discount rate to 1.5%. By comparison with other gold bloc countries, the SNB still found itself in a relatively comfortable position. While it raised the discount rate on 3 May 1935 to 2.5% for a period, France had to push its rate up to 6% at times.

The general reasons for the loss of confidence in Switzerland's ability to maintain the gold standard in early 1935 lay in the weakness of overall demand and the rise in unemployment. Another factor was the initiative launched by the trade unions and the Young Farmers' Movement to tackle the crisis (the so-called Crisis Initiative), which was put to the public vote in June 1935. The Initiative was an attempt to force the state to take the lead in resolving the economic crisis. Opponents of the Initiative argued that if it passed devaluation was unavoidable. On 2 June 1935, the Swiss electorate rejected the Crisis Initiative by a vote of 563,000 to 423,000 and 18 to 4 cantons.[23]

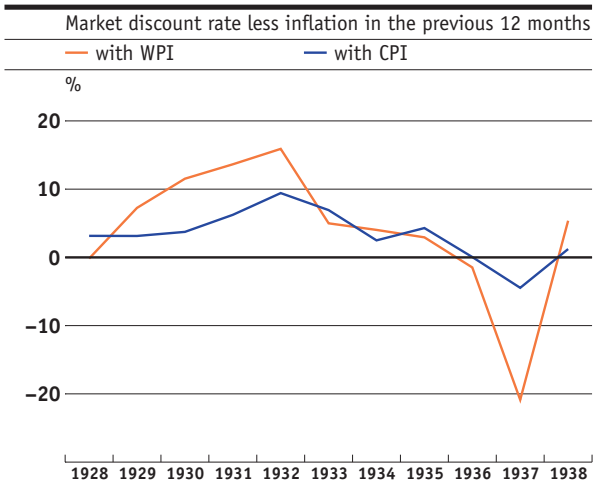
The pattern of bond yields is similar to that of discount rates (Chart 11). The average yield on Swiss government bonds fell by a little more than one percentage point between the end of 1929 and the beginning of 1933, before rising again. For most of 1935 and 1936 it fluctuated between 4.5 and 5%. After the devaluation in September 1936, average bond yields fell overnight to the level of British bond yields, reminiscent of the pattern in 1928 and 1929. Movements in bond yields thus confirm that countries which left the gold standard enjoyed lower interest rates.

For the real economy, the crucial rates are not nominal but real interest rates. How high were real interest rates during the Great Depression? The first difficulty is that inflationary and deflationary expectations can be determined only indirectly. To simplify this problem, we assume that the markets project past price developments into the future. In other words, the change in the price level expected over the coming 12 months is the same at that realised

Swiss franc interest rates — Chart 12



Real interest rates — Chart 13



23 For the debate on the Crisis Initiative, see Müller (2000).

over the past 12 months.[24] The second difficulty is the lack of short-term, fixed-maturity Swiss franc interest rates. Hence, as an approximation of nominal 12-month money market rates we take the market discount, which was widely held as a good indicator of money market developments at the time.[25]

Under these assumptions, the short-term interest rate in real terms equals the nominal market discount rate less the actual price level change over the previous 12 months. The graphs in Chart 13 are plotted on the basis of the figures for June of each year. The results indicate that short-term real interest rates were very high from 1930 to 1932. This is particularly true if the wholesale price index is used for the calculation. Real interest rates only fell sharply after the devaluation of the Swiss franc in September 1936, when the combination of falling nominal interest rates and rising prices produced negative real interest rates for a short period.

2.5 Exchange rates

A second important monetary variable besides interest rates is the exchange rate. As most countries on the gold standard devalued before Switzerland did, the Swiss economy suffered from a substantial appreciation in the exchange rate of the Swiss franc from 1931 to 1936. The appreciation lowered the Swiss franc prices of internationally traded goods. Above all, this exacerbated the crisis in the export and tourism sectors.

Charts 14a-d show the development in the exchange rate of the Swiss franc against the leading currencies (US dollar, British pound, French franc and German reichsmark) from 1928 to 1938. A fall in the benchmark exchange rate (June 1929 = 100) is tantamount to an appreciation of the Swiss franc. In addition to the nominal exchange rates, the charts include two real exchange rates. The difference between the two real rates relates to the price deflator; one uses the consumer price index and the other the wholesale price index of Switzerland and the respective foreign country.

The charts show that in both nominal and real terms the Swiss franc appreciated in particular against sterling and the dollar. As US and UK consumer prices were falling faster than Swiss prices before these countries abandoned the gold standard, the Swiss franc was already appreciating in real terms in the initial years of the Great Depression. Then, the situation worsened dramatically after first Great Britain (1931) and then the USA (1933) let their currencies float. The nominal exchange rate of the dollar when it was stabilised at the beginning of 1934 was about 40% below that of June 1929. The CPI-deflated real exchange rate declined practically at the same rate, whereas the real rate calculated with wholesale prices dropped by about 30%. Only after the devaluation of the Swiss franc in September 1936 did the wholesale-price-deflated exchange rate return to about its 1931 level.[26]

The nominal exchange rate of the Swiss franc was virtually constant against the French franc for almost the entire observation period. In September 1936, France and Switzerland devalued by the same amount, which had no effect on the bilateral exchange rate. However, owing to the gradual emergence of inflation in France since mid-1935, the French franc came under pressure again shortly after its devaluation. A few months later the French government gave in and let the currency float.

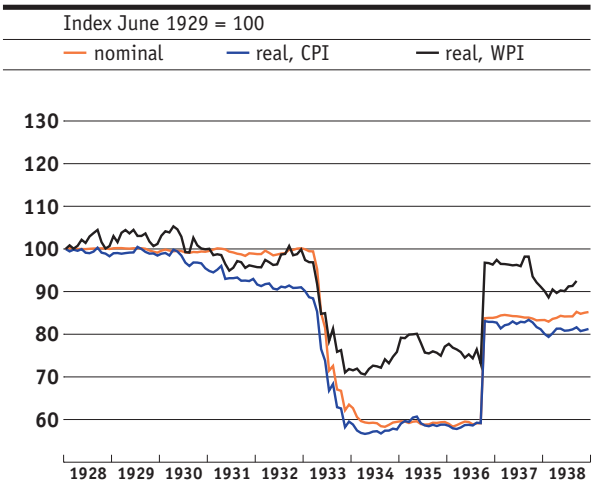
The exchange rate between the Swiss franc and the reichsmark is of little interest in the context of this study. Germany reacted to the bank and currency crisis of 1931 by introducing foreign exchange controls and blocking foreign bank deposits. Chart 14d shows the foreign exchange rate, which continued to track the official gold parity of the reichsmark even after 1931, and does not give a true picture. German banknotes were traded abroad at a considerable discount. The same applies to the different kinds of marks resulting from the 1931 "standstill" agreement and the 1933 moratorium on currency transfers. Table 3 shows the development in the exchange rates of three of these kinds of mark: the Registermark, the Effektensperrmark and the Reisemark. All three traded at a large discount, which widened over time.

24 An alternative would be to assume perfect foresight, i.e. that the inflation expected over the next 12 months coincides exactly with the actual inflation over this period. This alternative was not chosen because in the first year of the Depression deflation probably took most of the markets by surprise (see Hamilton, 1992). This was also the case with devaluation in 1936, as we shall see in the next section.

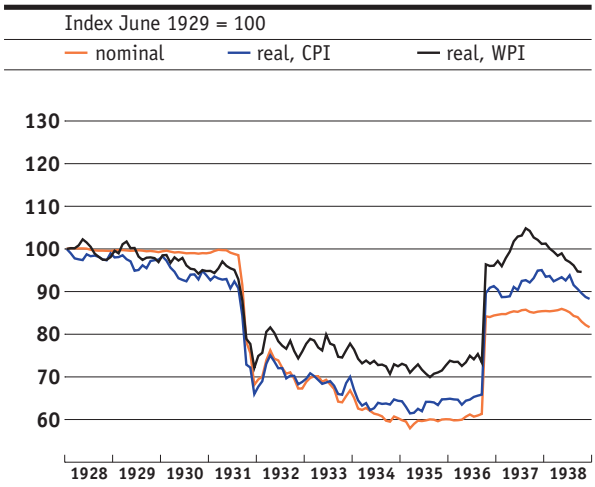
25 However, by agreement between the banks, the market discount was fixed for part of the period covered.

26 The 30% devaluation of the Swiss franc (measured in gold units per Swiss franc) corresponds to an appreciation in the exchange rate of 43% (measured in Swiss francs per gold unit or foreign currency unit).

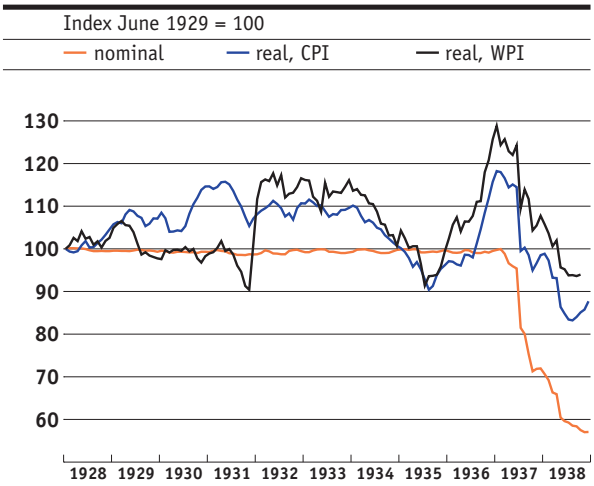
CHF per USD Chart 14a



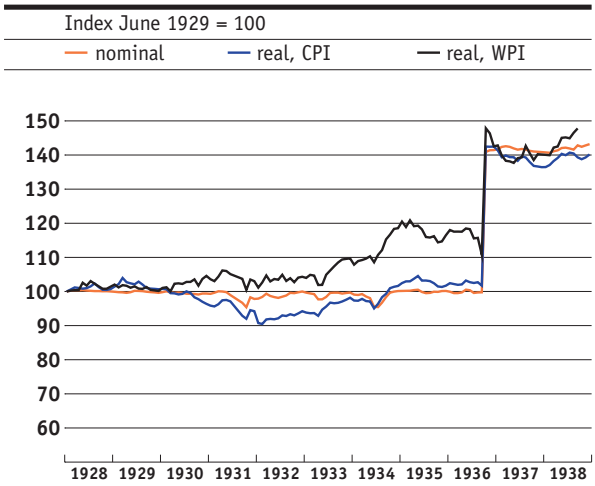
CHF per GBP Chart 14b



CHF per FRF Chart 14c



CHF per RM Chart 14d



Taken together the charts make it clear that the Swiss economy did not regain its competitiveness with much of the world until the devaluation of the Swiss franc in September 1936. The effects of the nominal devaluation of the leading currencies were only partly offset by higher deflation (or lower inflation) than abroad. In his study of Swiss economic policy, Rutz (1970) argues that efforts to regain competitiveness were undermined by numerous government measures that tended to support prices.[27] The SNB saw the situation similarly and, in addition, pointed to the role of the mortgage debt. In its 1936 Annual Report it noted: "Until 26 September 1936 the economic policy of the Federal Council sought to adjust the level of prices in Switzerland to that abroad by lowering prices and wages (...). However, measures to protect ailing industries counteracted the practical implementation of this guideline. One major obstacle to this adjustment was the mortgage debt of the private sector" (SNB Geschäftsbericht 1936, p. 11).

This background of failed adjustment raises the question of whether the devaluation of 27 September 1936 was anticipated or not. One indicator of market expectations of exchange-rate movements is the forward exchange rate. Chart 15 shows the movement of the three-month premium of the Swiss franc versus the pound sterling from the beginning of 1935 to the end of 1936. For comparison, the

27 Among the measures that reduced supply were the cartelisation of the watchmaking industry, the ban on hotel construction, the prohibition on opening or extending department stores and similar measures to support the needlework industry, the footwear industry and the shoemakers' trade. Measures to raise demand included purchase guarantees for agricultural products and milk price supports.

Exchange rates for 100 reichsmark in Switzerland Table 3

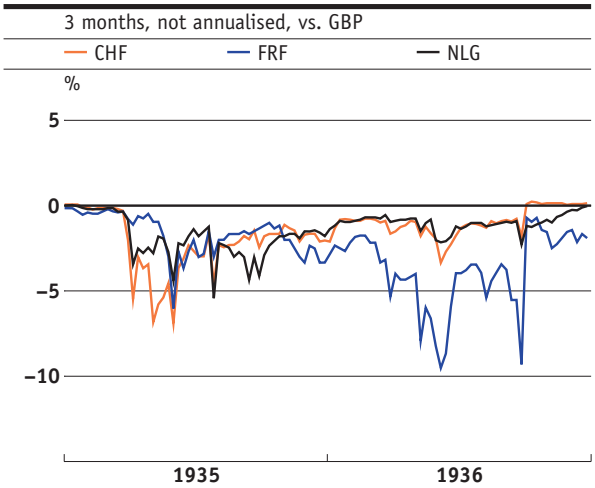
Year	Foreign exchange Average December	Clearing Year end	Banknotes Year end	Registermark Year end	Effekten-sperrmark Year end	Reisemark Year end
1934	123.82	123.50	113.50	75.50	49.50	85.00
1935	123.86	123.60	–	64.75	27.75	77.00
1936	174.90	174.50	–	80.50	36.25	95.00
1937	174.16	174.00	88.00	92.50	29.00	109.00
1938	177.05	176.85	53.50	76.00	18.75	105.00

chart also shows the corresponding premiums for the French franc and the Dutch guilder, the other currencies in the gold bloc.[28]

The chart shows that all three currencies traded at a discount to the British pound. In quiet markets the Swiss franc traded at a discount of a good 1% (three-month premium, not annualised). Large speculative attacks occurred in April 1935, after Belgium devalued its currency, and June 1936, after the election of the Popular Front government in France. In these two phases the Swiss franc traded at a discount of about 6% and 2.5% respectively.

In the weeks before the devaluation of 27 September 1936, the discount was generally below 1% while the discount on the French franc soared. On 26 September 1936 the discount on the Swiss franc was 1.8%, implying an expectation that the Swiss franc's exchange rate in sterling terms would fall by 1.8% in the next three months. In other words, the market thought there was a probability of about 6% that the Swiss franc would devalue by 30%. Thus, developments in the forward exchange market support the supposition that the devaluation of the Swiss franc took just about everybody by surprise.

Forward exchange rate premiums Chart 15



28 Weekly data (Saturday). A discount (–) implies that the forward rate of the gold bloc currency (expressed in pounds sterling) was below the spot exchange rate. Note that in chart 15 the exchange rate is defined as pounds sterling per Swiss franc, whereas in chart 14 all exchange rates of foreign currencies are expressed in terms of Swiss francs.

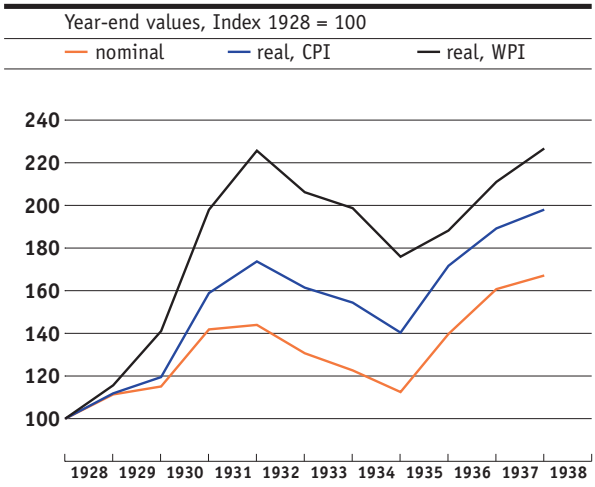
2.6 Monetary aggregates and gold movements: levels

Besides interest rates and exchange rates, monetary aggregates and their components also offer a perspective on monetary developments. Since Friedman and Schwartz (1963), they play a major role in the literature on the Great Depression. Friedman and Schwartz argue that the decline in the US stock of money was the main reason for the decline in overall demand, and that the US Federal Reserve should have prevented this: "Prevention or moderation of the decline in the stock of money, let alone the substitution of monetary expansion, would have reduced the contraction's severity and almost as certainly its duration" (Friedman and Schwartz, 1963, p. 301). The question is whether the gold standard allowed the Federal Reserve this scope. It probably did, as the USA held about 40% of the world's gold reserves at the time (see Bordo and Schwartz, 2001). But for small countries the possibilities were rather limited.[29]

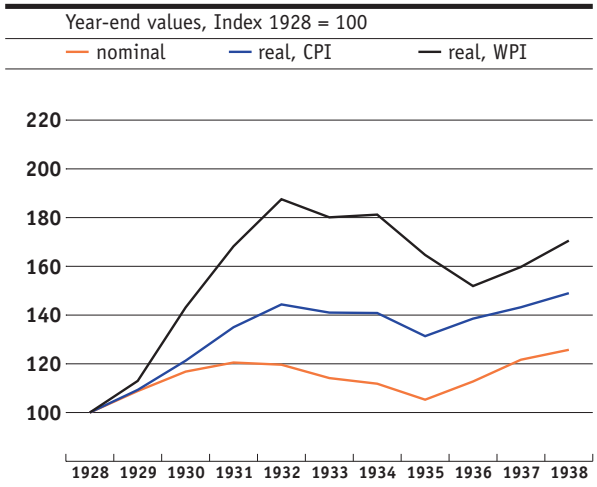
Nonetheless, it is revealing to trace the development of the Swiss monetary aggregates. Charts 16 and 17 show the nominal and real development of the M_1 and M_3 aggregates. M_1 includes notes and coins in circulation plus demand deposits held by the public with banks and the post office. M_3 comprises M_1 plus all time deposits and saving deposits that the public hold with banks. All data are year-end values.

The charts show that, despite sizeable fluctuations at times, the stock of money in nominal terms tends to rise. From 1929 to 1938 it was always above the level at the end of 1928. The M_1 aggregate soared in 1931 in particular, the year in which Britain left the gold standard and Germany introduced currency controls. In 1931 and 1932, M_1 was more than 40% higher than at the end of 1928. In the following three years, this aggregate gave up most of its advance and at the end of 1935 it was back where it had been at the end of 1929. In 1936, M_1 rose sharply, and was soon higher than at the end of 1932. The more broadly defined M_3 aggregate did not fluctuate as much as M_1, but the pattern of development is similar.

M_1 money stock — Chart 16



M_3 money stock — Chart 17



29 Meltzer (2003) argues that US monetary policy failed primarily because the Federal Reserve allowed the "real bills doctrine" to influence its monetary operations. The publications and minutes of meetings of the SNB reveal that the "real bills doctrine" also had proponents at the SNB. However, one must agree with Weber's (1983) observation that the effects in the case of Switzerland were small, because in practice all SNB actions were determined by the requirements of the gold standard.

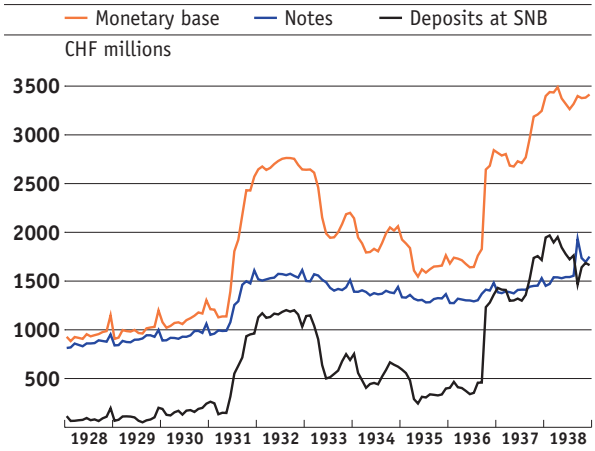
The turning points can be determined more accurately with the aid of quarterly figures, which are available from the end of the fourth quarter of 1931. According to these data, the two nominal monetary aggregates peak in the first quarter of 1932 and hit their respective troughs in the second quarter (M_1) and third quarter (M_3) of 1935.

The development of the nominal M_1 and M_3 aggregates demonstrate that prices in Switzerland were falling even though the nominal stocks of money were rising. This means that the real stocks of money rose significantly. Charts 16 and 17, which show both the nominal aggregates as well as two calculations of real aggregates adjusted by two different price indices, illustrate this. The high level of real money balances can be explained by the low interest rates and deflation. Both make it relatively attractive to hold cash and thus increase the real demand for money. Real NNP growth reduced the real demand for money from 1931 onwards, but obviously was unable to compensate for the countervailing forces.

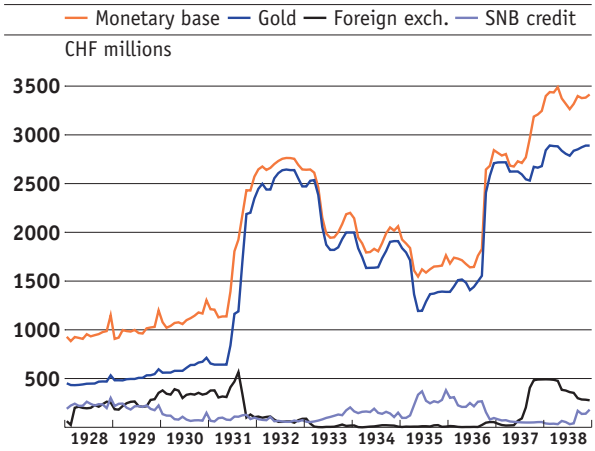
A more narrowly defined monetary aggregate than M_1 is the monetary base, for which monthly figures are available. This is made up of notes in circulation plus demand deposits with the SNB. It reflects the amount of money created by the SNB, but does not take deposits created by the banks into account.[30] Chart 18 shows the development of this aggregate from 1928 to 1938. It reveals that the monetary base doubled in the course of a few months in 1931. About two thirds of this increase in the monetary base is accounted for by demand deposits with the SNB and one third by notes in circulation. Among the notes, the increase in demand was mainly for large denominations (1000 and 500 Swiss franc notes). The situation then remained quiet until the first quarter of 1933. After the US suspended the gold convertibility of the US dollar, the Swiss franc was the target of a series of speculative attacks, with the result that the monetary base gradually decreased until the devaluation of 1936. After the devaluation, the monetary base increased again and soon exceeded the 1932 peak.

We can distinguish three waves of speculation against the Swiss franc in the period 1933–1935, each of them associated with a substantial reduction in the monetary base. The first wave lasted from March to July 1933, and was connected with speculation that Switzerland could be forced to abandon the gold parity now that the USA had done so. Confidence in the Swiss franc was restored only after the formation of the gold bloc (8 July 1933). The second wave of speculation lasted from February to April 1934. It was triggered by the move to stabilise the dollar at 59% of its former gold value (31 January 1934). This strengthened confidence in the dollar and renewed

Monetary base — Chart 18



Monetary base (2) — Chart 19



30 The demand deposits with the SNB include the giro accounts of the federal government. These were published separately only once a year. In principle, the accounts of the federal administration should be excluded from the monetary base. See Grüebler (1958) and Weber (1983) for monetary base figures calculated on the basis of annual figures.

doubts about the gold parity of the Swiss franc and the other gold bloc currencies. The third wave of speculation started in January 1935 and continued until June. Initially, it was fuelled by the banking crisis in Belgium and the subsequent devaluation of the Belgian franc (31 March 1935). Immediately after this the fierce referendum campaign on the Crisis Initiative of the trade unions and the Young Farmers' Movement generated further uncertainty. The situation only calmed down after the voters rejected the Initiative on 2 June 1935.

The SNB has a number of instruments that it can use to change the monetary base. Under the National Bank Law in force at the time, it could buy gold, foreign exchange and bonds as well as grant discount and Lombard advances.[31] Chart 19 shows the development of SNB assets as published in the SNB's return (balance sheet). It reveals that up to 1931, gold was by far the largest single item among the SNB's assets. At the beginning of the period under review, foreign exchange reserves and domestic credit together were about as large as the Bank's gold holdings. The domestic credit was sharply reduced in the course of 1930. The Bank took the same action with its foreign exchange within two months in 1931. Domestic credit rose temporarily in 1935 and 1936, but the SNB did not start buying foreign exchange again until 1937.

The profit of CHF 539 million on the revaluation of the SNB's gold holdings were credited to an Exchange Stabilisation Fund. This Fund was designed to serve the SNB in the conduct of monetary policy and as a reserve for possible currency losses.[32] Unfortunately, the Fund makes the interpretation of the SNB's return more difficult at times. What we know is that the SNB bought gold amounting to CHF 539 million on behalf of the Exchange Stabilisation Fund in the 2–3 weeks after the devaluation. By mid-October 1936, the demand deposits – temporarily distorted by the Fund's giro account – can thus again be regarded as a good indicator of the market's liquidity. When interpreting the SNB's international reserves, however, one must stay on the cautious side until the liquidation of the Fund in 1940. In the first three months after the devaluation, the investments of the Exchange Stabilisation Fund were not included in the SNB's return, and were subsequently presented only as a total separate from the "regular" gold and foreign exchange holdings. Therefore, the figures in Chart 19 – which are based on the SNB's return – do not reflect the entire gold and foreign exchange holdings of the SNB.

2.7 Money supply aggregates and gold movements: Bernanke Ratios

It is often useful and interesting to describe and interpret the development of money aggregates in terms of simple ratios. Friedman and Schwartz (1963) did this with the money multiplier and its breakdown into the currency-deposit ratio and the reserve-deposit ratio. Weber (1983) adopted the same approach in his analysis of the Swiss money aggregates. Bernanke (1995) introduced an alternative breakdown of the money supply, which Faber (1997) applied to Switzerland. This breakdown is particularly apposite for the gold standard. It is defined as follows:

$$M \equiv \frac{M}{BASE} \cdot \frac{BASE}{RES} \cdot \frac{RES}{GOLD} \cdot QGOLD \cdot PGOLD,$$

where M is the stock of money M_1, $BASE$ the monetary base, RES the international reserves in Swiss francs (sum of gold and foreign exchange), $GOLD$ gold holdings valued in Swiss francs, $QGOLD$ the quantity of gold and $PGOLD$ the gold price (purchase price of the SNB). RES and $GOLD$ differ from the data displayed in Chart 19 in that the investments of the Exchange Stabilisation Fund are included and that the gold holdings are valued at the SNB's purchase price.[33]

With this breakdown of M it is possible to illustrate the origin of movements in the money supply. Bernanke and Mihov (2000) did this for eight different countries (the USA, Germany, France, Great Britain, Canada, Japan, Poland and Sweden). Our results for Switzerland are displayed in Charts 20a–f. To facilitate a comparison with Bernanke and Mihov's results, the results are presented as cumulative changes in logarithmic monthly series from June 1928 onwards (except for $M/BASE$, which is based on year-end values).

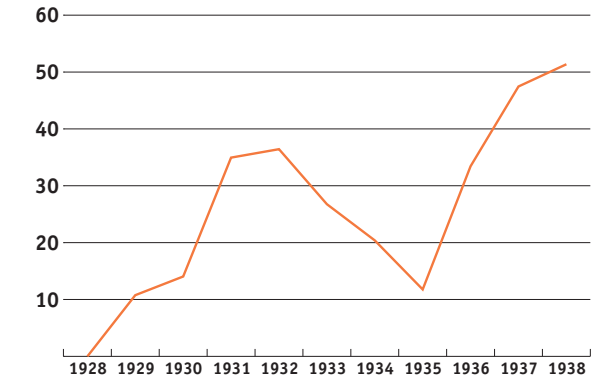
31 In practice, open market operations with domestic bonds were seldom used. The National Bank Law allowed the SNB to "buy liquid, interest-bearing debenture bonds issued by the Federal government, the Cantons and foreign states, but only for the purpose of temporarily investing funds" (Art. 14 para 7 National Bank Law).

32 The currency situation evolved such that the SNB made little use of the Exchange Stabilisation Fund. In May 1940, the Fund was liquidated and the proceeds (CHF 533 m) shared between the federal government (CHF 325 m), the cantons (CHF 150 m) and the SNB (CHF 58 m).

33 The data on the investments of the Exchange Stabilisation Fund are taken from Jaquemet (1974, Annex 3). These are monthly figures starting at the end of December 1936. Jaquemet (1974, p. 88) notes that on 15 October the SNB had new gold that could not be transferred to the Fund. We therefore assume that the Fund was already fully invested in gold at end-October and end-November 1936.

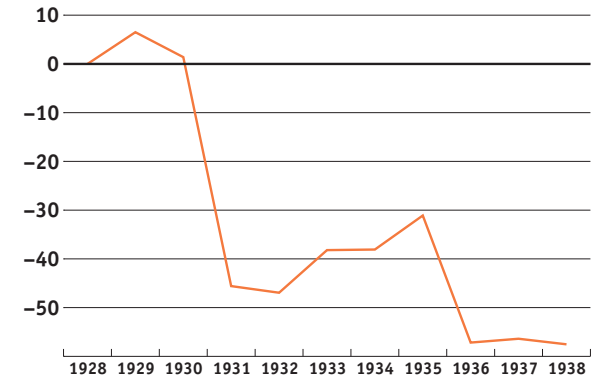
M_1 Chart 20a

Year end, cumulative log differences



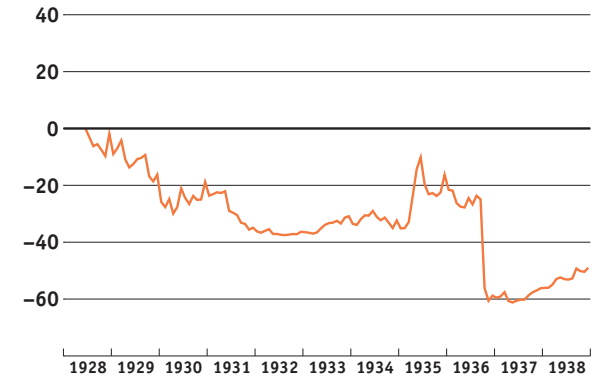
M_1/BASE Chart 20b

Year end, cumulative log differences



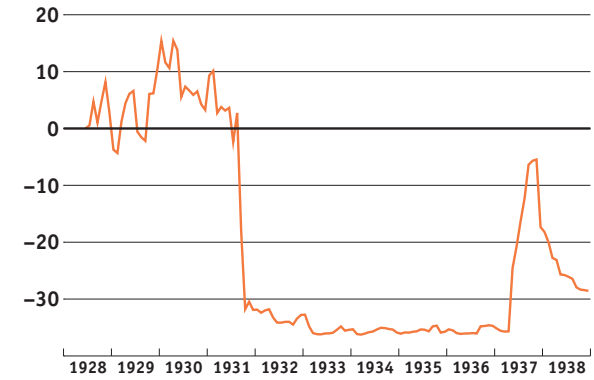
BASE/RES Chart 20c

Month end, cumulative log differences



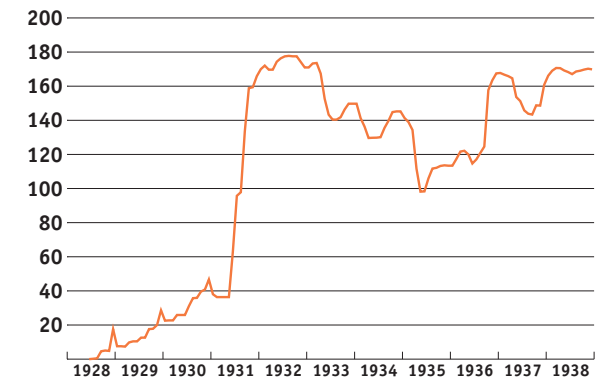
RES/GOLD Chart 20d

Month end, cumulative log differences



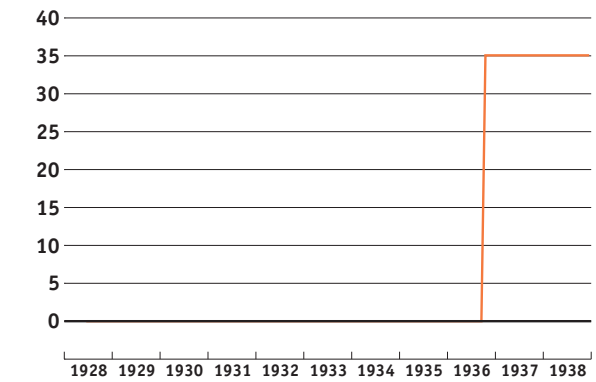
Gold holdings Chart 20e

Month end, cumulative log differences



Gold price Chart 20f

Month end, cumulative log differences



The first ratio on the right-hand side of the definition of M is $M/BASE$, the money multiplier. The money multiplier correlates negatively with the currency-deposit ratio and the reserve-deposit ratio. According to Bernanke (1995), in the Great Depression the money multiplier is above all an indicator of bank crises. Doubts about the soundness of banks prompted the public to increase their cash holdings at the expense of bank deposits. This in turn forced banks to increase their liquidity reserves to withstand a sudden run on the deposits. Both changes reduced the money multiplier $M/BASE$.

In Switzerland, the money multiplier had a value of 2.7 at the end of 1929. As Chart 20b shows, it plunged in 1931 and then rose gradually through 1935, before falling to new lows from 1936 through 1938. The massive decline in 1931 coincides with the international banking crisis, which originated in Germany and Austria and also affected Switzerland. Two major banks (Swiss Volksbank and Banque d'Escompte Suisse) ran into financial difficulties and had to turn to the federal government for assistance.

Apart from the banking crisis, the international currency crisis is also likely to have had a direct effect on the money multiplier. First, the Swiss franc was seen in 1931 as a relatively solid currency, so speculation against other currencies triggered a heavy inflow of funds from abroad. As the banks expected that part of these deposits would be withdrawn as soon as the situation stabilised, they raised their reserves. Second, Germany introduced currency controls in 1931. As banknotes are a suitable means of circumventing currency controls, this was probably reflected in a higher demand for Swiss franc banknotes.

The second ratio on the right-hand side of the money supply definition is $BASE/RES$, the ratio between the monetary base and the international reserves. Its inverse, $RES/BASE$, resembles the statutory cover requirements of the SNB.[34] Bernanke treats $BASE/RES$ as an indicator of monetary policy. It reveals whether or not the central bank sterilised the effects of international reserves on the monetary base by way of compensating changes in discount or Lombard advances, or whether it tolerated (and possibly even strengthened) them.

As Chart 20c shows, in the early years of the Great Depression, $BASE/RES$ trended downwards. In this phase, the effect of higher international reserves on the monetary base was largely neutralised by the reduction in domestic credit. However, the reduction in domestic credit was more or less completed in the second half of 1931, when the international reserves posted their strongest growth. $BASE/RES$ shot up again only in April 1935, and then maintained an average level more or less equal to that in the period from mid-1929 to mid-1931 until the 1936 devaluation. This pattern suggests that initially the SNB virtually ignored the periodic crises of confidence that hit the Swiss franc from 1933 onwards. However, as economic conditions worsened in 1935 and 1936, the SNB took steps to isolate the Swiss economy from the effects of speculative attacks against the Swiss franc.

The plunge in $BASE/RES$ in October 1936 is not a reflection of a tighter monetary policy, but of the revaluation of the SNB's gold holdings, and therefore its currency reserves. As the profits from devaluation were not distributed but credited to an Exchange Stabilisation Fund, $BASE/RES$ falls by about 35 log points.

The third ratio on the right-hand side of the money supply definition is $RES/GOLD$, the ratio between international reserves and gold holdings. This ratio tells us how the SNB deploys its foreign exchange reserves. The principal feature of the $RES/GOLD$ curve in Chart 20d is the sharp tumble in September and October 1931. In these two months the ratio fell by 29 log points. Two factors were responsible for this development: on the one hand, the currency and banking crisis abroad led to a huge increase in Switzerland's gold holdings and, on the other, the SNB exchanged its sterling reserves for gold. In 1937, the SNB temporarily increased the share of foreign exchange in the Bank's international reserves. In doing so, it was responding to discussions about a possible reduction of the international gold price (Jaquemet, 1974, p. 89). To avoid disrupting the markets, most of this restructuring was carried out within the Exchange Stabilisation Fund.

The last two charts in this group, Charts 20e and 20f, show movements in gold holdings by weight, $QGOLD$, and the gold price, $PGOLD$. $QGOLD$ includes the complete gold stock of the SNB, i. e. the "regular" gold as well as the gold of the Exchange Stabilisation Fund. $PGOLD$ reflects the SNB's purchase price for gold. With its decision to devalue, the government directed the SNB to maintain the gold value of the Swiss franc at between 190 and 215 milligrams of fine gold (compared with 290.32 milligrams under the Coinage Law of 1931) implying a devaluation of the Swiss franc of at least 25.9 % and at most 34.6 %. Shortly afterwards, the Federal Council instructed the SNB to maintain the gold value of the Swiss franc at a level that corresponded to a

34 There are differences, however. According to the National Bank Law at least 40 % of notes in circulation (not the monetary base) had to be covered by precious metal (not international reserves). Moreover, the notes in circulation had to be fully covered by a further group of assets including, among others, discount and Lombard advances.

devaluation of the Swiss franc of about 30%. This is reflected in an increase in the SNB's purchase price for gold expressed in Swiss francs of about 42% (or 35 log points).

In conclusion, we note that all three ratios, *RES/GOLD*, *BASE/RES* and *M/BASE*, fell sharply in the early years of the Great Depression. In consequence, the M_1 money supply (*M*) increased by just 26 log points between the end of 1929 and the end of 1932, although gold holdings (*QGOLD*) soared by 142 long points. After the devaluation of September 1936, *QGOLD*, *RES/GOLD* and *BASE/RES* all rose, so that *M* also grew strongly, although *M/BASE* fell further.

Comparing the Swiss case with the eight countries that Bernanke and Mihov (2000) include in their article, the strongest similarities are with France. In France, *RES/GOLD* and *M/BASE* also fell sharply in the second half of 1931. But France's M_1 and gold holdings rose between the end of 1929 and the end of 1932 only by one and 69 log points respectively. Switzerland had a larger relative increase in gold holdings than any of the eight countries studied by Bernanke and Mihov. The inflow of gold was so heavy that despite the huge drop in all three ratios, M_1 posted a solid increase in this period. Accordingly, thanks to the inflow of gold, liquidity in the Swiss economy and the Swiss banking system was higher than would otherwise have been the case. This inflow was one of the factors that enabled Switzerland to weather the Great Depression better than other countries for a time.

2.8 The banks

There are two reasons to end our analysis with a closer look at the banking sector. First, the problems of the banking sector were a major cause of the decline in the money multiplier discussed in the last section. Second, problems in the banking sector can prompt banks to raise the cost of credit, or even refuse to grant credit to certain customer segments. As bank loans are the only source of external financing for most firms and households, this has negative implications for production and employment.[35]

Bank balance sheets afford a broad view on developments in the banking sector. Table 4 shows that nominal balance sheet totals still rose modestly (by 5%) in 1930, but then fell continuously up to and including 1935 (1930–1935: –19%); only in 1936, the year of the devaluation, did they start to recover. On the asset side, we notice a marked shift towards safer investments. The proportion of money balances rose strongly, that of securities moderately.[36] Mortgage lendings also posted solid growth. On the other hand, the proportion of loans and advances declined.[37] This is the pattern that one would expect of a risk-conscious bank in those circumstances. Banks took steps to protect themselves against the danger of unexpected runs on deposits by increasing cash and securities at the expense of loans and bills of exchange. Moreover, they reacted to declines in the quality of borrowers by raising the proportion of secured loans.

We do not know the size of the write-offs that banks had to take on their assets during the Great Depression. But we do know that growing numbers of bank customers experienced financial difficulties under the burden of deflation and recession. Chart 21 shows the growth in bankruptcies among companies registered in Switzerland. As can be seen, bankruptcies peaked in 1936. This is in line with the picture presented by other indicators, which show that the crisis shifted increasingly from the export sector to the domestic-market-oriented sector with its large number of medium-sized and small firms.

35 See Bernanke (1983) and the survey article by Calomiris (1993).
36 Cash also includes current account and postal giro account balances. Securities also include permanent shareholdings.
37 Sums due from customers are the total of overdrafts, fixed advances and loans. From 1930 onwards, the share of mortgage-backed fixed advances and loans is known. This share rose substantially over the years (except in 1934).

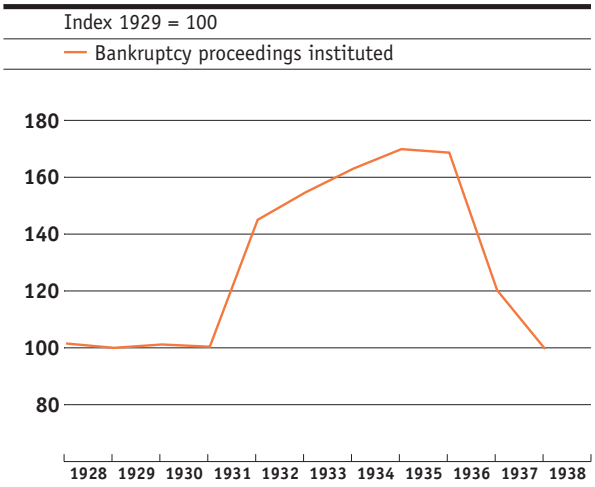
Principal asset items as a percentage of the Swiss banks' balance sheet totals Table 4

Year	Cash in %	Securities in %	Bills of exchange in %	Due from banks in %	Loans and advances in %	Mortgage loans in %	Balance sheet total in CHF m
1929	1.8	6.4	9.4	10.7	34.0	33.7	20,493
1930	2.2	6.5	9.4	11.2	34.8	33.2	21,530
1931	6.3	7.1	6.8	5.7	34.1	36.9	20,467
1932	6.3	7.5	5.8	4.4	32.3	40.7	19,945
1933	5.4	7.1	5.0	3.9	31.4	43.9	19,150
1934	5.0	7.0	5.0	3.5	30.6	46.0	18,646
1935	3.1	7.5	3.9	3.7	25.0	49.2	17,552
1936	7.3	7.8	3.8	4.3	21.8	47.6	18,080
1937	8.8	8.5	3.9	5.2	19.7	47.1	18,497
1938	9.3	8.8	3.5	4.5	18.9	48.2	18,297

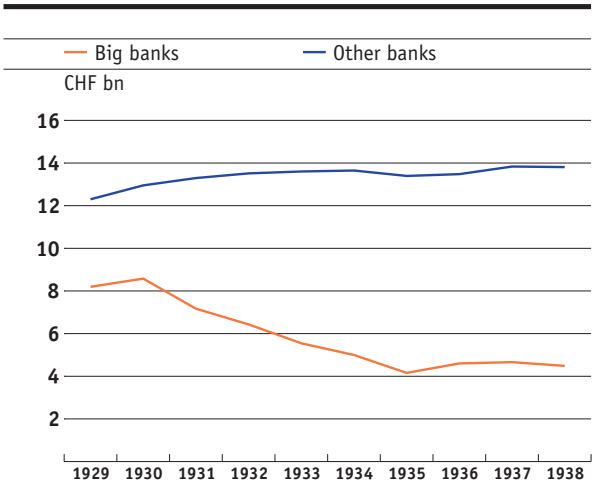
The other important reason why banks had to take write-offs against their assets was the freezing of foreign credit balances by Germany and a number of Central and Eastern European countries. In September 1931, Germany and its bank creditors signed a "standstill" agreement that was regularly renewed in the following years. Although there was a market for blocked marks subject to the "standstill" agreement, these marks (Registermark) traded at a large discount. Even more difficult was the liquidation of other investments (securities, mortgages, etc.). Thus, repatriating the blocked assets from Germany was a laborious and expensive undertaking.[38]

Not all banking groups were affected to the same extent. Worst hit were the big banks, a term used at the time to refer to the eight largest commercial banks (Swiss Bank Corporation, Credit Suisse, Swiss Volksbank, Banque d'Escompte Suisse, Union Bank of Switzerland, Eidgenössische Bank, Basler Handelsbank and Bank Leu). At the beginning of the 1930s, all of the big banks had sizeable outstanding loans in Germany and were hard hit by the transfer restrictions and the uncertainty this caused among investors. Chart 22 illustrates this. The balance sheet totals of the eight big banks fell by about half between 1929 and 1938, while those of the other banks were practically unchanged.

Bankruptcies Chart 21



Balance sheet totals Chart 22



38 See Fior (2002) and Perrenoud et al. (2002) for the development of individual big banks' exposure in Germany.

Of the eight big banks, only two, Credit Suisse and Swiss Bank Corporation, had adequate reserves to cover their losses without having to dip into their share capital. Three banks (Basler Handelsbank, Eidgenössische Bank and the Union Bank of Switzerland) turned to their shareholders for fresh funds to cover their losses. One bank (Bank Leu) had recourse not only to its shareholders, but also to its creditors. Swiss Volksbank was able to avoid taking these steps, but after a sharp drop in its cooperative capital, the bank was forced to turn to the federal government for temporary assistance. The fate of the Banque d'Escompte Suisse was even worse: despite government assistance and several years of restructuring efforts, it had to close its doors on 30 April 1934 and go into liquidation. Table 5 lists the contributions of the shareholders and creditors of these six big banks up to the end of 1937. It is clear from the table that the Banque d'Escompte Suisse and Swiss Volksbank were the most serious and most expensive cases.[39]

The 28 cantonal banks, the second most important group of banks after the big banks, generally weathered the crisis in good shape. They did not have any significant foreign business and probably benefited from their state guarantees. Just three banks (Banque Cantonale Neuchâteloise, 1935; Kantonalbank von Bern, 1939; Bündner Kantonalbank, 1939) needed to be restructured, mainly because the major industries in the respective cantons were badly hit by the crisis (watchmaking industry, the hotel business).

In response to the banking crisis, the state introduced two reforms. First, it established a federal loans institution, the Eidgenössische Darlehenskasse (1932), which was obliged to accept even such bills of exchange that the SNB would not. With this step, the traditional function of a central bank defined by Bagehot (1873), to act as lender of last resort, was partially outsourced. A guarantee fund, to which the federal government contributed CHF 75 million and the banks and insurance companies CHF 25 million, was liable for the Darlehenskasse's liabilities. Second, the Swiss Banking Law was passed (1934). Besides provisions to protect the rights of creditors, it contains various regulations applicable in the event of a bank encountering financial difficulties (deferral of debt repayment, moratorium, bankruptcy). This takes account of the specific circumstances of banks which, because of the possibility of a "run", require different regulations than other firms.[40] In the period from 1935 to 1938, 12 banks requested a deferral of debt repayments, 15 banks a bank loan moratorium and 21 a general moratorium, while eight banks had to file for bankruptcy (Ehrsam, 1985, p. 84).

Restructuring of big banks (in CHF m) Table 5

Bank	Contributions			Balance sheet total as at end-1930
	Shareholders	Creditors	Total	
Banque d'Escompte Suisse	165	85	250	677
Swiss Volksbank	195		195	1,680
Bank Leu	33	31	64	416
Basler Handelsbank	55		55	835
Union Bank of Switzerland	40		40	983
Eidgenössische Bank	33		33	854
Total	521	116	637	5,445

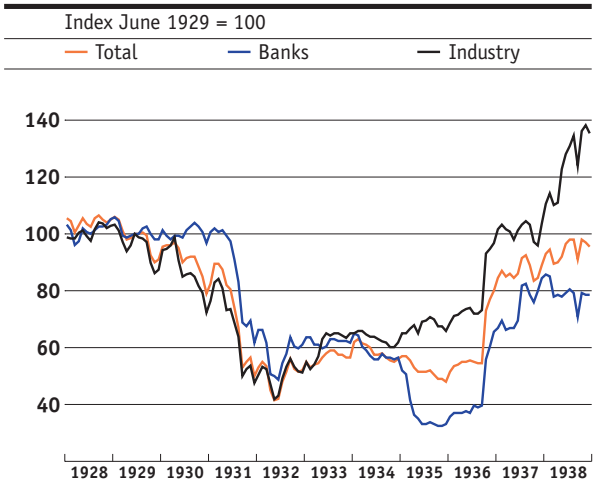
39 The data in Table 5 are taken from Paul Rossy, as quoted in Ehrsam (1985, p. 90). On the collapse of the Banque d'Escompte Suisse, see Scheuss (1960) and Ehrsam (1985, pp. 93–97). On the restructuring of Swiss Volksbank, see Ehrsam (1985, pp. 97–101).

40 On the events leading up to the Swiss Banking Law, see Bänziger (1986).

How serious were the difficulties of the Swiss banking sector compared to other sectors? The assessment of the financial markets is reflected in the development of share prices. Chart 23 shows the development of the overall market index of Swiss shares and the indices of the banking and industrial sectors. Up until 1934, bank shares tended to fall in line with the rest of the market. Whereas industrials showed signs of a mild recovery in 1935, bank shares plunged even further. From the chart it is clear that the market rocketed on the devaluation in September 1936, with bank shares outperforming other sectors. In the last three months of 1936, bank shares soared by no less than 65%. In the same period, industrials increased by 35%. Against this backdrop, the widely held view that it was in the interest of the banks to stick to the gold standard is not convincing. In the end, the financial markets at least saw this differently.

The repercussions of the crises in the banking sector on economic activity are hard to assess. By international standards, Swiss banks apparently coped relatively well with the situation. Major banking crises hit the USA, Germany and Belgium as well as most countries in Central and Eastern Europe. Many of these led to moratoria and to the temporary shut-down of all banks (bank holidays). In the USA, one out of three banks failed between 1929 and 1933 and many others merged, so that the number of banks was halved. In contrast, Switzerland saw restructurings but few mergers and liquidations (an exception being the Banque d'Escompte Suisse, one of the country's big banks). The number of banks, excluding private banks and finance companies, fluctuated in a narrow range between 357 (1934) and 365 (1937 and 1938).[41] In addition, there were no general moratoria and no bank holidays imposed by the government.

Share prices Chart 23



41 See Historische Statistik der Schweiz (1996, p. 818).

3 Concluding remarks

In this paper, the Great Depression in Switzerland has been analysed using the approach of Temin (1989) and Eichengreen (1992), who ascribe a crucial role to the international gold standard in spreading and worsening the crisis.

The causes of the Great Depression lay outside Switzerland, and the first victims were the various export sectors. Fixed exchange rates under the gold standard rapidly transferred deflation to Switzerland, as a result of which real wages, real interest rates and the real burden of nominal debt rose. After a time lag, therefore, the domestic economy – which had held up well in the early years of the Great Depression – also came under pressure.

The critical year for Switzerland was 1931, when Britain let sterling float and Germany introduced controls on capital movements. From then on, Switzerland had to live with an overvalued currency and the burden of blocked assets in Germany. The currency and banking crisis abroad also triggered huge inflows of gold into Switzerland. Consequently, and in contrast to many other countries, the money supply remained above the level of 1929–30. That said, the large gold holdings were a mixed blessing, as they contributed to Switzerland's determination to maintain the old gold parity and its attempt to restore price competitiveness through deflation. This policy failed since real wages and the real exchange rate of the Swiss franc remained well above the level of 1929–30. The turning point was the devaluation of the Swiss franc in 1936, precipitated by the devaluation of the French franc.

All the evidence supports the view that the decision to stick to the gold standard worsened and prolonged the depression in Switzerland. While it is true that abandoning the gold standard at an earlier stage would not have avoided the crisis – the devaluation of the Swiss franc did not affect the course of the international economy, international trade protectionism or the blocking of foreign assets in Germany – by sticking to the old gold parity monetary authorities prevented a departure from deflationary expectations, an increase in prices or a normalisation of real exchange rates with countries such as the USA and Great Britain. Furthermore, maintaining convertibility with gold meant that economic policymakers sought refuge in measures that distorted market mechanisms. It is ironic that in the circumstances of the 1930s the defence of the gold standard, which its supporters held to be the cornerstone of a free-market economy, ultimately led to greater intervention by the state.

The Great Depression has three main lessons for monetary policy. First, it demonstrated how dangerous an international gold standard can be. In the circumstances of the 1930s the gold standard was deflationary. In addition, like any system of fixed exchange rates, it left small countries like Switzerland no scope for an autonomous monetary policy. It took almost 30 years for this lesson to be fully grasped. The international monetary system created at Bretton Woods (1944) was a gold exchange system, and thus a fixed-exchange-rate system. Eventually this system also collapsed, though as a result of inflation rather than deflation. Switzerland reacted comparatively quickly this time and was one of the first countries to let its currency float at the beginning of 1973.

Second, the Great Depression showed that a stable banking system is essential for an economy to function smoothly. This includes central banks as lenders of last resort (Bagehot, 1873). In the Great Depression many central banks fulfilled this role only with great reluctance. This stance was due partly to the restrictions imposed by the gold standard and the concomitant fear of speculative attacks on currency reserves. Switzerland shared the other central banks' reluctance to perform their role as lenders of last resort – as propounded by Bagehot – in a forthright fashion. When it became clear that statutory restrictions on the SNB's scope of activities was at times preventing it from providing effective assistance, the reaction was not to expand this scope but to establish the Eidgenössische Darlehenskasse, which provided funds against collateral that the SNB was not allowed to advance. Today, it is generally recognised that central banks have a major role to play in ensuring the stability of the financial system, and the definition of their scope of business should not stand in the way of this function.

Third, the Great Depression illustrated the dangers of deflation. This insight is reflected in the statutory duties of many central banks. The monetary-policy goal of price stability now enshrined in the statutes of many countries expressly confers upon the central bank the task of preventing deflation as well as inflation. Moreover, definitions of goals are often defined in ways that reduce the likelihood of deflation. On the one hand, goals are often expressed in the form of annual inflation rate targets rather than in the form of price levels. This means that if the rate of inflation overshoots the target in

one year, it does not have to be offset by a corresponding undershooting the next year. On the other hand, in most countries the target is defined as a slight increase in the CPI. Both factors contribute to reducing the likelihood of deflation.

Annex: Sources

All sources cited below refer to the data used in the charts and tables. Unless otherwise stated, the data refer to Switzerland.

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Chronicle of monetary events

Message on the Federal law on international monetary assistance

On 21 May 2003, the Federal Council passed its Message concerning a Federal law on international monetary assistance (WHG) and a Federal Decree by the same name. With the new Federal law, which supersedes the Federal Decree on Switzerland's cooperation in international monetary measures, the Federal Council intends to establish a clear and comprehensive basis regarding the financing obligations that Switzerland enters into within the framework of international monetary relations. The corresponding measures can be categorised as follows: participation in financial assistance to prevent or remedy serious disruptions in international monetary relations (so-called systemic aid), participation in special funds of the International Monetary Fund (IMF), especially to finance loans to low-income countries at a concessional interest rate, and the granting of loans to countries Switzerland has especially close ties with (e.g. members of the Swiss constituency in the IMF).

The financing of guarantees, i.e. of loans within the framework of bilateral and multilateral monetary cooperation, is to be effected by means of a credit line; in the draft Federal Decree on international monetary assistance (WHB) a credit line of Sfr 2,500 million is budgeted. Parliament will continue to be responsible for approving special credit lines for Switzerland's participation in special funds and in other IMF facilities (loans and non-repayable grants).

Supplementary agreement on the distribution of profits on the SNB's free assets

On 12 June 2003 the Federal Department of Finance and the Swiss National Bank concluded a supplementary agreement regarding the distribution of profits on the free assets. According to this agreement, from spring 2004 onwards the SNB will distribute one-third of the profits from its free assets (the so-called "gold assets") to the Confederation and two-thirds to the cantons. In line with the gold sales in process, the yearly amount to be distributed will grow from Sfr 300 million in 2004 to Sfr 500 million in 2006. The supplementary agreement represents a provisional solution, which will apply until a new legal basis enters into force governing the use of the 1,300 tonnes of gold no longer required for monetary policy purposes.

The supplementary agreement amends the profit distribution agreement of 5 April 2002 concluded between the Federal Department of Finance and the National Bank which lays down a distribution of Sfr 2.5 billion per annum to the Confederation and the cantons for each of the financial years 2003–2012. The main agreement does not yet take into account income on reinvested gold proceeds. While the main agreement of April 2002 deals with the current profits of the National Bank and the reduction in surplus provisions, the supplementary agreement mainly relates to income from the National Bank's free assets. The earnings forecasts which form the basis of the supplementary agreement will be reviewed in 2007 together with the forecasts for the main agreement. This review may result in an adjustment of the distributions.

News conference of 13 June

The National Bank decided to leave the target range for the three-month Libor rate at 0.0%–0.75% and to keep the three-month Libor rate at the lower end of the corridor at 0.25%.

Federal Decree on the renewal of the IMF's General Arrangements to Borrow

On 20 June 2003 the Federal Parliament approved a renewal of Switzerland's membership in the IMF's General Arrangements to Borrow (GAB) until the end of 2008. Switzerland has been associated with the GAB since 1964 and has been a member since 1984. The Swiss National Bank is the participating institution. In the event that the IMF finds itself short of funds, the GAB enable it to borrow supplementary resources of SDR (Special Drawing Rights) 17 billion to prevent or resolve an extraordinary crisis threatening the international monetary system. The credit commitment of the National Bank amounts to SDR 1,020 million. The GAB are valid for five-year periods. The renewal of the Swiss participation will continue to be approved by the Federal Parliament and not – as proposed in the Federal Council's Message – by the Federal Council with the prior agreement of the National Bank.

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