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Monetary Policy Report (p. 6)

The economic upswing in the major economic regions continued in the second quarter at a slightly slower pace. While the export trade in most industrial countries continued to develop dynamically, domestic demand in many nations slackened. This was due in part to the sharp rise in oil prices, which unsettled both manufacturers and consumers. Although the higher oil prices have pushed up inflation in recent months, they are unlikely to jeopardise the economic recovery. Leading indicators point to a sustained recovery in the second half of the year, both for the US and Europe.

The economy in Switzerland also developed favourably, and the recovery – which has been export-driven since the second half of 2003 – became more firmly established. In the second quarter, real GDP grew by an annualised 1.6% on the previous period, which was only marginally weaker than at the beginning of the year. In a year-on-year comparison, the growth came to 2.0%. This development was broadly in line with the expectations of the SNB. The turnaround on the labour market has not yet materialised, however. Following the stabilisation in the winter half-year 2003/2004, the number of persons in employment in the second quarter rose slightly on the previous period and was thus at the same level as a year earlier. The seasonally adjusted unemployment rate was flat at 3.9% and the percentage of job seekers remained unchanged at 5.6%.

On 16 September 2004, the SNB decided to raise the target range for the three-month Libor rate by 0.25 percentage points to 0.25%–1.25% and to keep the rate in the middle of the target range at around 0.75% for the time being. This second interest rate rise of 25 basis points reversed the cut of March 2003 which came in response to deflationary trends. The increase is evidence of the SNB's confidence in a continued recovery. The monetary policy of the SNB will remain expansionary and continue to support the upswing.

The economic situation from the vantage point of the delegates for regional economic relations (p. 38)

One year after the economic trough in summer 2003, talks held with almost 150 companies have revealed quite a favourable picture. Economic recovery has broadened yet further in recent months. This notwithstanding, the companies believe that it has failed to gather any additional momentum, and continue to describe it as moderate. The economic outlook for the coming months has brightened further. Over a medium-term horizon, however, uncertainty seems to have grown somewhat. Contributing factors are likely to have been the sharp rise in oil prices and the increase in competition from abroad.

The Swiss franc money market: instruments and market participants (p. 42)

The money market is a market for the short-term lending and borrowing of funds. It is usually defined so as to include only transactions with maturities of up to 12 months. Market participants tend generally to be banks, but the Swiss National Bank also plays a key role, at least on the repo market. Money market instruments are used both for short-term liquidity management and for hedging risks, as well as for entering into speculative positions. Against the backdrop of extraordinarily low money market rates in 2003, activity on the CHF money market was subdued. Various innovations, however, have enhanced the attractiveness of the money market in the past few years. The repo business and transactions with derivative money market instruments in particular have expanded substantially. Banks are becoming increasingly aware of the significance of collateral in hedging credit and liquidity risks. The growing importance of the repo business in short-term liquidity management is offset by a corresponding decline in (unsecured) deposits. Eurex Repo, the electronic trading platform, the triparty services of SIS, and SIC provide the CHF money market with a modern infrastructure which makes efficient repo trading possible. Given the international significance of the Swiss franc, foreign-based banks that are already very active in derivative money market instruments are likely to become increasingly active in the repo interbank market in the future.

Monetary Policy Report

This report is based primarily on the data and information available as at mid-September 2004. Sections 1–3 were drawn up for the September 2004 quarterly assessment of the Swiss National Bank's Governing Board.

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About this report

The Swiss National Bank (SNB) has the statutory mandate to pursue a monetary policy serving the interests of the country as a whole. It ensures price stability while taking due account of economic development.

It is a particular concern of the SNB that its monetary policy be understood by a wider public. However, it is also obliged by law to inform the public regularly of its policy and to make its intentions known. This Monetary Policy Report performs both of these tasks. It describes economic and monetary developments in Switzerland and explains the inflation forecast. It shows how the SNB views the economic situation and what conclusions it draws from this assessment.

Sections 1–3 of the present report were drawn up for the Governing Board's assessment of September 2004. The survey and section 4 (inflation forecast) take due account of the Governing Board's monetary policy decision of 16 September 2004.

Unless otherwise stated, all rates of change from the previous period are based on seasonally adjusted data and are annualised.

Survey

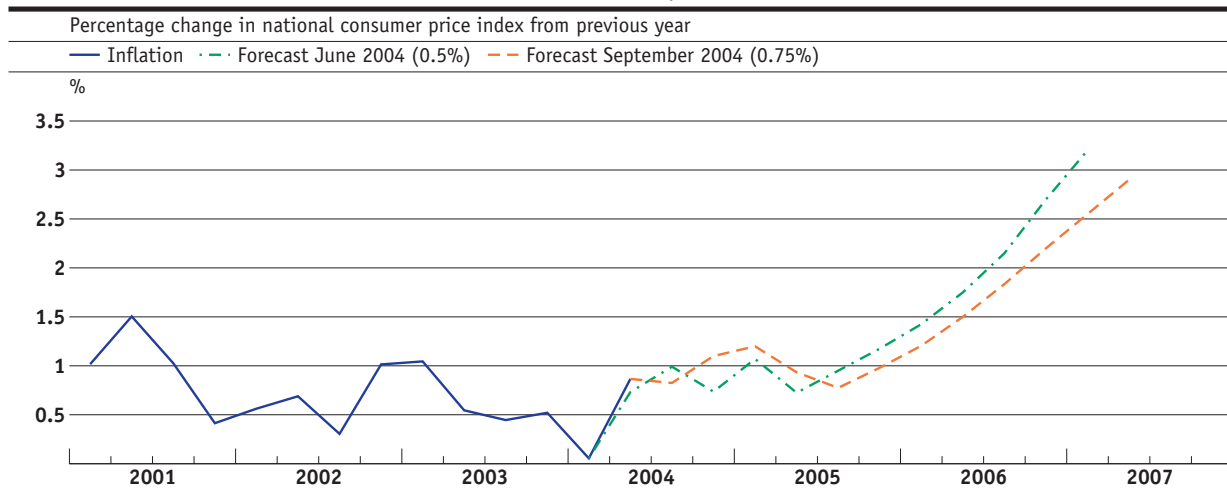
The economic upswing in the major economic regions continued in the second quarter at a slightly weaker pace. The economy in Switzerland also developed favourably, and the recovery – which has been export-driven since the second half of 2003 – became more firmly established. In the second quarter, real GDP grew by an annualised 1.6% on the previous period, making it marginally weaker than at the beginning of the year. In a year-on-year comparison, the growth came to 2.0%. This development was broadly in line with the expectations of the SNB.

On 16 September 2004, the SNB decided to raise the target range for the three-month Libor rate by 0.25 percentage points to 0.25%–1.25% and to keep the rate in the middle of the target range at around 0.75% for the time being. This second interest rate rise of 25 basis points reversed the cut of March 2003 which came in response to deflationary trends. The increase is evidence of the SNB's confidence in a continued recovery. The monetary policy of the SNB will remain expansionary and continue to support the upswing.

For 2004, the SNB still expects real GDP growth of close to 2%. Although the hike in oil prices will push up inflation in the near term, it does not pose a threat to the economy. Sustained growth, which is driven by improved domestic and export demand, is expected for the two subsequent years. Consequently, the utilisation of economic production capacity will steadily improve, while unemployment will gradually decline. The improved utilisation rate will increase inflationary pressure in the medium term.

According to the current inflation forecast, which has an underlying three-month Libor rate of 0.75%, average annual inflation will amount to 0.7% this year, to 1% in 2005 and to 1.7% in 2006. Compared with the June forecast, which was based on a constant three-month rate of 0.5%, there are two deviations that need to be mentioned. Firstly, owing to the higher oil prices, the new forecast up to the second quarter of 2005 exceeds the June forecast. Secondly, as of the fourth quarter of 2006, the projected inflation rate exceeds the 2% mark less sharply than in the June forecast. The tightening of the monetary policy in September thus contributes to an improvement of the inflation prospects. However, as the June forecast has already shown, even the current monetary policy is too expansionary in the longer term. This suggests that the SNB will probably have to pull more tightly on the monetary reins in the next three years in order to guarantee price stability.

Inflation forecast of June 2004 with Libor at 0.5% and of September 2004 with Libor at 0.75%



Inflation forecast September 2004 with Libor at 0.75%

	2004	2005	2006
Annual average inflation in percent	0.7	1.0	1.7

1 Development of the global economy

The global economic recovery slowly picked up speed in the second quarter of 2004. While the export trade in most industrial countries continued to develop dynamically, domestic demand in many nations slackened. This was due in part to the sharp rise in oil prices, which unsettled both manufacturers and consumers. Although the higher oil prices have pushed up inflation in recent months, they are unlikely to jeopardise the economic recovery. Leading indicators point to a sustained recovery in the second half of the year, both for the US and Europe.

Growth in the US slows temporarily

Compared with the previous period, real GDP growth in the US fell back from an annualised rate of 4.5% in the first quarter to 2.8% in the second. The downturn in private consumption growth in particular has had a slowing effect, while investments and exports continued to provide strong impetus for growth. The robust increase in income is likely to breathe life back into private consumption in the third quarter. The persistently high purchasing managers' indices also indicate that the economy will continue to expand at a brisk pace.

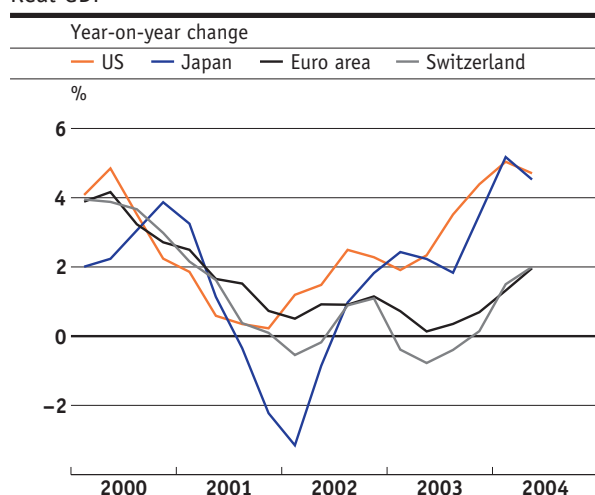
Slow recovery in the euro area – vigorous growth in the UK

In the euro area, too, real GDP grew in the second quarter slightly more slowly than in the previous period (2.6%), with an annualised rate of 2.1%. A slowdown in domestic demand growth, particularly in that stemming from private consumption, was offset by sharply increasing exports. However, the buoyant export demand has again had little effect on investments. The latest surveys show only a few signs of a pick-up in investment activity, and consumer demand is still at the mercy of a consistently sluggish labour market.

Economic differences between Germany and France became more pronounced in the first half of 2004: while robust growth in France was broadly based (2.8%), the predominantly export-driven economic recovery in Germany remained moderate (1.9%).

In contrast to the US and the euro area, economic growth in the UK was considerably stronger in the second quarter than in the previous period (3.8%). The tightened monetary policy, which has been in effect since November 2003, may nevertheless cause the overheated housing market to cool over the next few quarters, thus possibly curbing economic growth.

Graph 1.1
Real GDP



Sources: Bank for International Settlements (BIS), seco

Growth flattens off in Japan

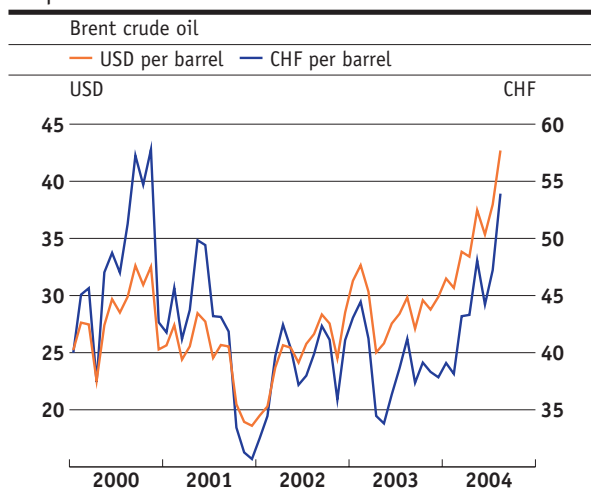
Following a massive upturn in the first quarter, growth in Japan fell off considerably in the second quarter. Real GDP increased by an annualised 1.3% compared with 6.4% in the previous period. Investment activity in particular began to flag. However, leading indicators suggest that the robust economic upswing is set to continue in the coming months, even if the high growth rates achieved at the beginning of the year can no longer be expected.

Oil prices boost inflation

Oil prices rocketed between May and August. The price of Brent crude oil in August averaged USD 42.2 per barrel, making it 43% higher than the year-earlier level. Unlike the situation in 2003, the hike in oil prices was no longer cushioned by a weakening of the dollar, with the result that inflation has risen in most industrial countries in recent months.

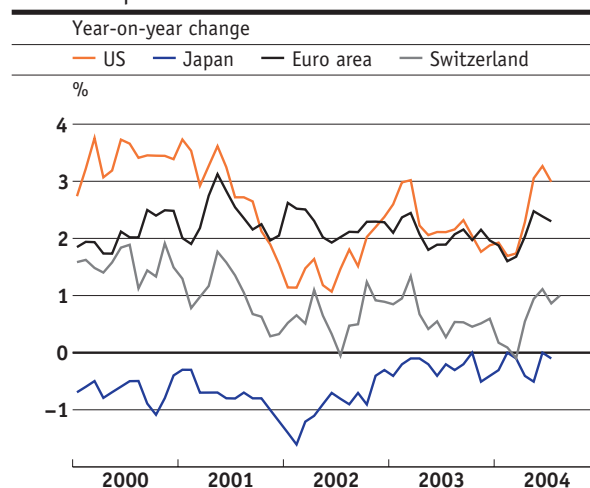
Between its February low and July, the consumer price inflation rate climbed from 1.7% to 3.0% in the US and from 1.6% to 2.4% in the euro area. In Japan meanwhile, the slight deflationary trend continued. Aside from energy prices, however, inflation rose only modestly in most industrial countries and also remained largely subdued at the production level.

Graph 1.2
Oil prices



Source: SNB

Graph 1.3
Consumer prices



Source: BIS

Key-rate hikes in the US and UK

As announced some time ago, the US Federal Reserve began mid-year to gradually tighten its monetary policy. At the end of June and in mid-August, it raised the call money rate by 0.25 percentage points each time, bringing it up to its current level of 1.5%. Given the balanced economic risk situation and the continued low level of core inflation, the Fed considers it appropriate to slowly reduce the degree of monetary expansion. The Bank of England continued with its policy of gradually raising key rates, which it initiated in November 2003. In mid-August, it hiked up its key interest rate by 0.25 percentage points for the fifth time in succession to its present level of 4.75%.

In view of the unchanged growth and inflation prospects in the medium term, the European Central Bank (ECB) kept its main refinancing rate at 2%. It also intimated that it will increase key rates as soon as the economic upturn has become more firmly established.

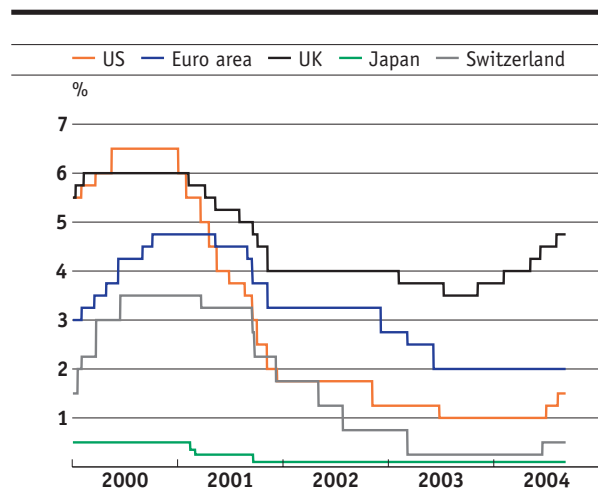
Economic outlook remains bright

Although economic prospects remain favourable in the medium term, growth in the industrial countries in 2005 is expected to dip below the 2004 level overall. This is due in part to the anticipated continued tightening of US monetary policy, which together with the phasing-out of the fiscal support measures should dampen growth in the US. If oil prices remain at their current high level, it is likely that this will have a further slowing effect on the global economy.

According to the consensus forecast issued in August by Consensus Economics, GDP growth in the US may fall back by almost one percentage point to 3.5% compared with 2004. Growth in Japan is also expected to moderate, while in the euro area it is expected to remain unchanged at 2.2%. For most countries, the consensus forecasts for 2005 are just marginally lower than those of the IMF and the assumptions made by the SNB based on the inflation forecast of September 2004 (cf. chapter 4).

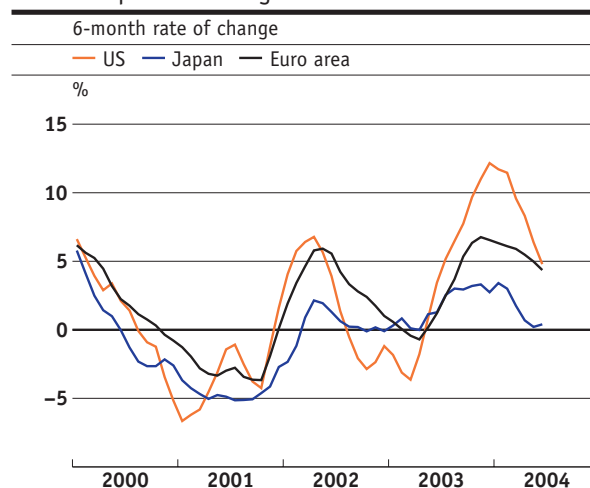
According to the consensus forecast, inflationary pressure is expected to ease in 2005. With the exception of the UK, annual inflation in all the major industrial nations is forecast to be lower than in 2004. This reflects the assumption that oil prices will not climb further, and that an inflation-dampening statistical effect will thus come into play in the coming year.

Graph 1.4
Official interest rates



Sources: BIS, SNB

Graph 1.5
OECD composite leading indicators



Source: OECD

	Economic growth ¹				Inflation ²			
	IMF		Consensus ³		IMF		Consensus ³	
	2004	2005	2004	2005	2004	2005	2004	2005
United States	4.3	3.5	4.4	3.6	3.0	3.0	2.7	2.4
Japan	4.4	2.3	4.3	1.9	-0.2	-0.1	-0.1	0.0
Euro area	2.2	2.2	1.8	2.1	2.1	1.9	2.1	1.8
Germany	2.0	1.8	1.8	1.6	1.8	1.3	1.6	1.3
France	2.6	2.3	2.3	2.1	2.4	2.1	2.2	1.7
Italy	1.4	1.9	1.1	1.9	2.1	2.0	2.3	2.1
United Kingdom	3.4	2.5	3.3	2.6	1.6	1.9	2.3	2.4

1 Real GDP, change from previous year in percent

2 Consumer prices, change from previous year in percent

3 Consensus forecasts are monthly surveys conducted among over 240 leading companies and economic research institutes in more than 20 countries, covering predictions for the expected development of GDP, prices, interest rates and other relevant economic indicators. The results are published by Consensus Economics Inc., London.

Sources: IMF World Economic Outlook September 2004; Consensus: August 2004 Survey

2 Development of the Swiss economy

2.1 Aggregate demand and output

Continued economic growth

Economic recovery in Switzerland slowly gathered pace in the second quarter of 2004. Real GDP grew by an annualised 1.6% on the previous period, following a 2% increase (revised figure) in the first quarter. In a year-on-year comparison, growth climbed from 1.5% to 2.0%.

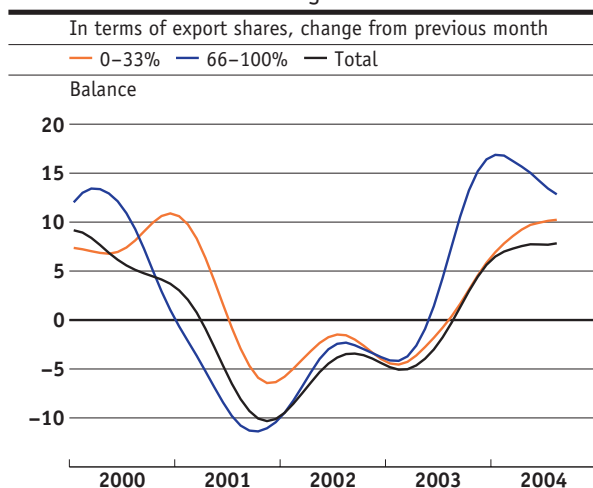
Unlike in the first quarter, domestic demand provided the main impetus for growth, with both private consumption and investment activity performing favourably. Exports of goods and services, by contrast, fell slightly compared with the previous period – a development owing in part to special factors. Due to the fact that imports picked up at the same time, the external contribution was negative.

Industry recovers further

The situation in industry has improved further in the last few months. In the second quarter, industrial output climbed by an annualised rate of almost 4% compared with the previous period, and exceeded the year-earlier level by 4.8%. According to the monthly survey conducted in industry by the Institute for Business Cycle Research at the Swiss Federal Institute of Technology (KOF/FIT), incoming orders, orders in hand and production up to July increased further both on the previous year and on the preceding months. Although the recovery was broadly based, it failed to gain additional momentum in recent months. This is particularly true of the export industry, where the number of incoming orders slowed slightly between April and July.

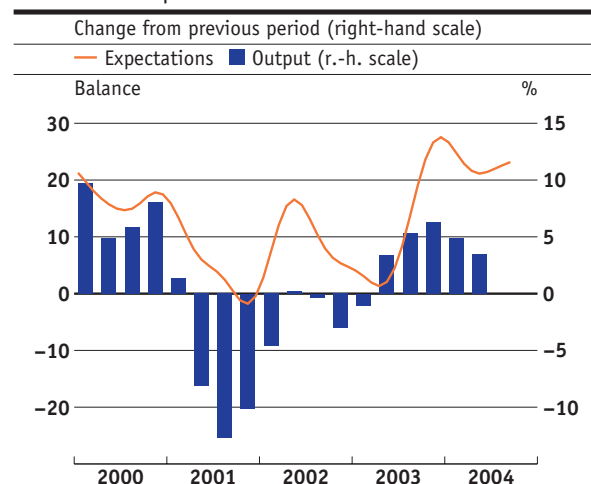
Nevertheless, companies remained optimistic for the months ahead. They continue to anticipate a rise in orders and are planning to boost production and the purchase of primary products. In contrast to developments at the beginning of the year, domestic-oriented companies appeared slightly more optimistic in their outlook than those in the export trade.

Graph 2.1
New orders in manufacturing



Source: KOF/FIT

Graph 2.2
Industrial output



Sources: KOF/FIT, SFSO

Real GDP and components
Year-on-year growth rates

Table 2.1

	2000	2001	2002	2003	2002		2003				2004	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Private consumption	2.3	2.0	0.3	0.5	0.2	-0.1	-0.3	0.3	0.4	1.4	1.7	1.9
Government consumption	2.6	4.2	3.2	1.4	4.2	2.7	1.7	1.7	0.9	1.4	1.8	1.4
Investment in fixed assets	4.3	-3.1	0.3	-0.3	2.6	2.0	0.9	-3.2	-1.7	2.8	2.8	9.0
- Construction	2.7	-3.4	2.2	1.8	2.6	1.8	1.2	0.8	1.8	3.3	4.8	4.9
- Capital goods	5.5	-2.9	-1.1	-2.0	2.4	1.9	0.5	-6.4	-4.6	2.2	1.1	13.6
Domestic final demand	2.8	1.0	0.7	0.4	1.4	0.8	0.3	-0.5	-0.1	1.8	2.0	3.6
Domestic demand¹	2.1	2.3	-0.8	0.2	-0.6	-0.3	1.9	-2.7	0.0	1.7	-0.4	3.4
Total exports	12.2	0.2	-0.2	0.0	2.5	4.2	-1.2	-1.5	-0.2	2.8	7.5	4.2
- Goods ²	11.9	3.7	0.3	0.7	3.4	3.6	-0.2	-1.0	0.0	3.9	7.9	4.8
- Services	13.6	-2.8	-3.8	0.6	-3.6	0.6	-3.5	-1.0	2.2	4.6	4.9	2.3
Aggregate demand	5.2	1.7	-0.6	0.1	0.4	1.1	0.9	-2.3	-0.1	2.1	1.9	3.6
Total imports	9.6	3.2	-2.8	1.4	-1.3	0.7	3.2	-4.8	1.0	6.2	3.1	6.3
- Goods ²	9.7	1.6	-2.2	2.7	-1.7	-1.0	3.7	-4.9	2.8	9.3	3.2	9.4
- Services	5.9	11.2	-1.7	-1.4	-3.0	-3.9	-1.5	-0.4	-1.6	-2.2	-0.5	-0.1
GDP	3.6	1.0	0.3	-0.4	0.9	1.1	-0.4	-0.8	-0.4	0.1	1.5	2.0

1 Including precious metals, precious stones and gems as well as objets d'art and antiques

2 Excluding the above under FN1

Source: seco

Economic upswing broadens

The impression of a solid economic upswing was also confirmed by the talks held between the delegates for regional economic relations and companies in various industries. While exports and housing construction were initially almost the exclusive economic growth drivers, companies in the service sector have now also reacted positively to business developments and economic prospects (cf. "The economic situation from the vantage point of the delegates for regional economic relations", Quarterly Bulletin 3/2004).

Slowdown in goods exports

In real terms, exports were 4.2% up on their year-back level in the second quarter. This slight decline on the previous period was due largely to the development of goods exports. Meanwhile, services exports shrank only marginally, thanks to higher revenue from tourism and the financial industry.

The fall in exports of goods as shown in the quarterly GDP estimate is not reflected in the relevant monthly data (cf. graph 2.3). Goods exports continued to climb, albeit more slowly than in previous quarters. This flattening-off was due in particular to negative developments in two product groups.

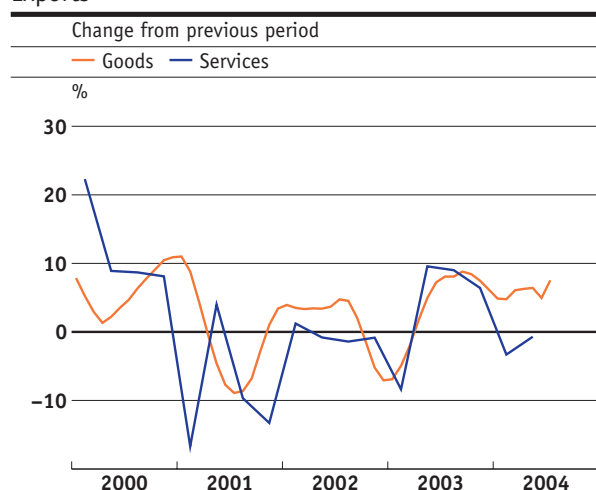
On the one hand, exports of pharmaceuticals and chemicals, which make up almost 30% of all goods exports, fell off. On the other hand, fewer aircraft were exported than in the first quarter. By contrast, capital goods exports grew at a slightly above-average rate, as was also the case in the first quarter. Export growth appears to have picked up steam again in July and August.

While export demand from the US and Asia continued on its strong growth path, demand from the 25 EU member states remained sluggish. Although exports to France and Italy improved considerably, those to Germany and the UK stagnated. Exports to southern and eastern European countries actually fell.

Imports on the rise again

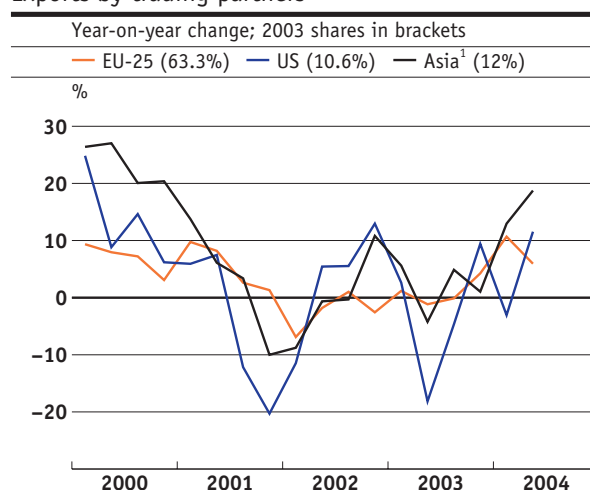
Following a decline in the first quarter, real imports picked up again in the second quarter and exceeded their year-earlier level by 6.3%. Goods imports, particularly consumer goods, were the driving force behind the improvement. By contrast, growth in imports of services virtually came to a standstill. This can largely be ascribed to the decline in transport expenditure abroad. Goods imports increased at an accelerated pace in July and August.

Graph 2.3
Exports



Sources: Swiss Federal Customs Administration (FCA), seco

Graph 2.4
Exports by trading partners



1 Asia: Japan, China, South Korea, Hong Kong, Singapore, Taiwan, Malaysia, Thailand, Philippines, Indonesia
Source: FCA

Slightly weaker uptrend in private consumption

Private consumption, which climbed by 1.9% year-on-year, continued to buoy up economic activity in the second quarter. The consistently robust consumer demand was also reflected in consumer goods imports, which were up 8.4% on the year-back figure in the second quarter. This upward trend continued in July.

Following the sharp increase in the first quarter, turnover in the retail trade grew at a slower pace in the second quarter, exceeding the previous year's level by 1.3%. Demand for consumer durables such as watches, jewellery and household furnishings remained brisk. The number of new car registrations, however, dipped once again slightly below the 2003 level (-1.0%).

Demand in the domestic tourism industry picked up marginally. Despite the poor weather, the number of overnight stays by Swiss guests in the second quarter was slightly higher than the year-back level.

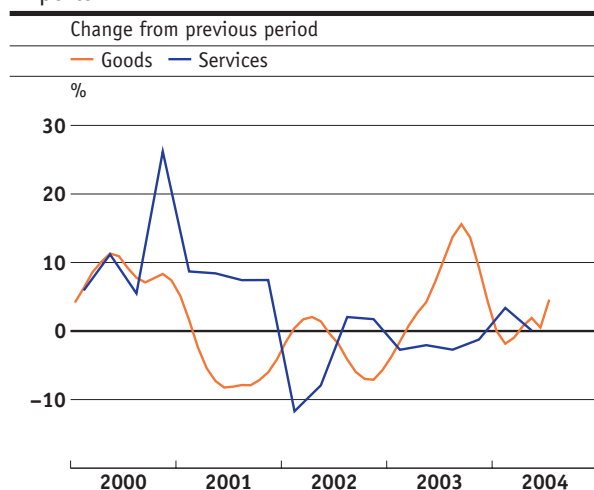
Consumer sentiment almost unchanged

The consumer sentiment index improved only slightly in July on the previous survey in April, edging up to -12 points. Consumer confidence thus hardly changed, with the households surveyed rating the economic situation a shade better than three months previously, and the personal financial situation somewhat poorer. Furthermore, sentiment regarding job security continued to worsen.

Future is still bright

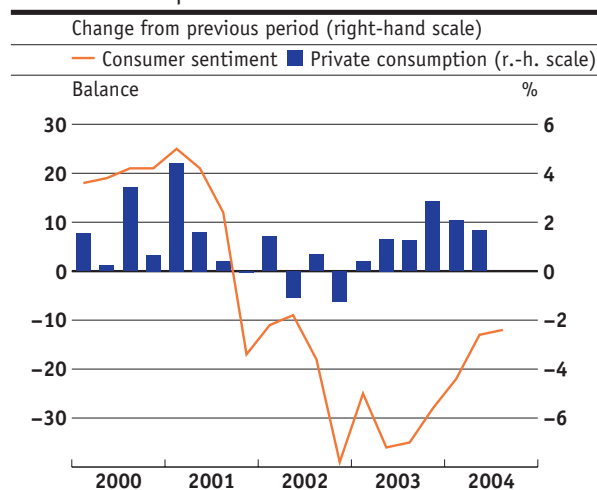
The surveys conducted by the KOF/FIT give the impression that consumer growth is robust. In July and August, the retail industry's assessment of the current business situation as well as business prospects for the second half of 2004 was brighter. In the hospitality sector survey conducted in the second quarter, hotels in particular were more optimistic about domestic demand, so the recovery of domestic tourism can be expected to continue.

Graph 2.5
Imports



Sources: FCA, seco

Graph 2.6
Private consumption



Source: seco

Consumer demand is currently being bolstered by a backlog of demand for consumer durables. However, this effect is expected to wane in 2005. Instead, consumer sentiment is likely to benefit from the improved employment situation. In view of the more upbeat labour market, the SNB expects that the nominal income of wage and salary earners in 2005 will rise by 2.6%, compared with 1.7% in 2004.

Buoyant housing market

In addition to private consumption, construction investment also contributed positively to economic development in the second quarter, rising 4.9% in a year-on-year comparison. This notwithstanding, housing construction continued to be almost the sole driving force behind this growth. In the second quarter, the number of new apartments under construction was nearly 13.0% higher than a year earlier. According to the quarterly survey conducted by the Swiss Association of Builders, commercial construction stabilised after two very slack years, while the civil engineering market continued its downtrend.

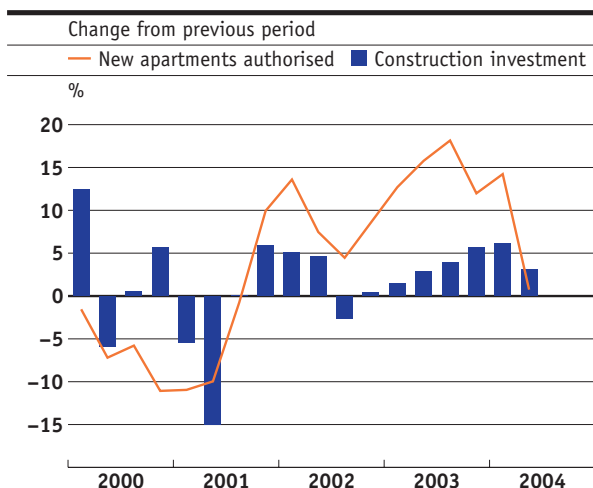
Thanks to the favourable interest rate situation, housing construction has expanded vigorously since the beginning of 2003. In the construction statistics published in August by the Swiss Federal Statistical Office (SFSO), an increase of 16.6% in housing construction investment for 2003 was reported. Owing to the solid backlog of work in this sector, construction

activity can be expected to remain robust until year-end. However, given the recent increase in the supply of accommodation on offer and the higher vacancy rate for rented apartments¹, housing construction is likely to lose momentum in 2005. Although rising employment levels in the service sector are helping to boost commercial construction, investment activity in this sector is still being held back by the persistently high vacancy rate of almost 10%.

Delayed upswing in equipment investment

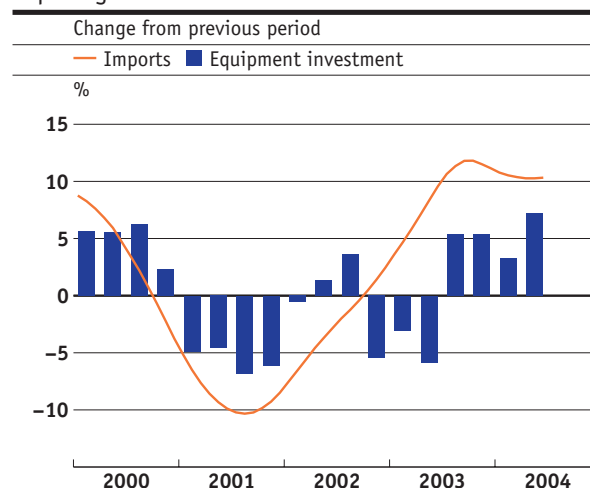
Following weak growth in the first quarter, capital expenditure on equipment climbed in the second quarter by an annualised 7.2%, thus exceeding the year-earlier level by 13.6%. Admittedly, the increase in aircraft sales was largely responsible for this improvement. Not counting this category, however, corporate investment activity was significantly more subdued than in previous periods of economic recovery. This is due in part to the level of investments between 2001 and 2003 – according to the revised data in the national accounts, capital spending shrank only moderately during this period. In other words, the chance of recovering lost ground is smaller than had previously been assumed. Nevertheless, an upswing in equipment investment could set in towards the end of the year, thanks to the positive impact of the increase in technical capacity utilisation, the improved earnings situation and low interest rates.

Graph 2.7
Construction



Sources: SFSO, seco

Graph 2.8
Capital goods



Sources: FCA, seco

1 Source: Wüest & Partner

2.2 Capacity utilisation

The rate of capacity utilisation of an economy's aggregate production factors is a useful indicator for assessing the economic situation and inflation prospects. Full utilisation of production factors points to cyclical overheating and inflation risks, while below-average utilisation is indicative of recessionary forces and easing price pressure.

The over-utilisation or under-utilisation of macroeconomic production factors can be calculated as the difference between real GDP and production potential. Production potential indicates the output level of the Swiss economy that is attainable when utilisation of production factors is at a normal, i.e. average, level. Based on a macroeconomic production function, the growth in production potential is currently estimated at approximately 1.1%. More than one-third of the potential growth level (0.4 percentage points) can be attributed to the growth in capital stock and 0.6 percentage points to the increase in total factor productivity, while no significant incentives are currently being provided by the production factor "labour".

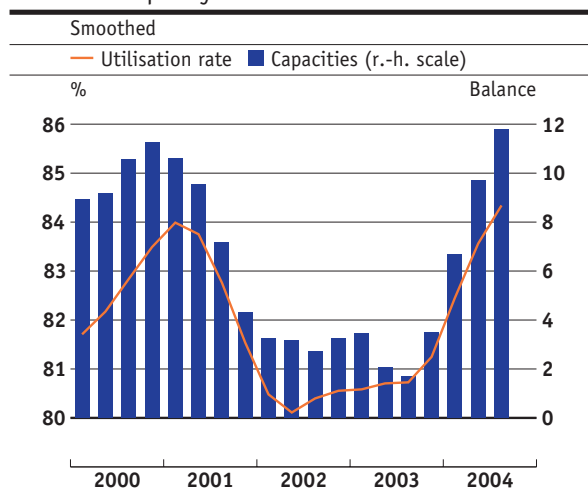
Output gap continues to close

As in the three previous quarters, real GDP exhibited stronger growth than production potential in the second quarter. This is true not only of the calculation of production potential using the production function approach, but also of estimates conducted with the Hodrick-Prescott filter or a multivariate filter (cf. Quarterly Bulletin 2/2004, p. 21, for a brief description of the three methods used by the SNB in the calculation of production potential). The output gap, which is calculated as the difference between real GDP and production potential, therefore closed irrespective of the method applied. Depending on the approach used, this gap was put at between -1.1% (Hodrick-Prescott filter) and -2.3% (production function approach) in the second quarter. The gap remained in the negative zone, thus signifying an under-utilisation of the macroeconomic production factors.

Capacity utilisation in industry at long-term average

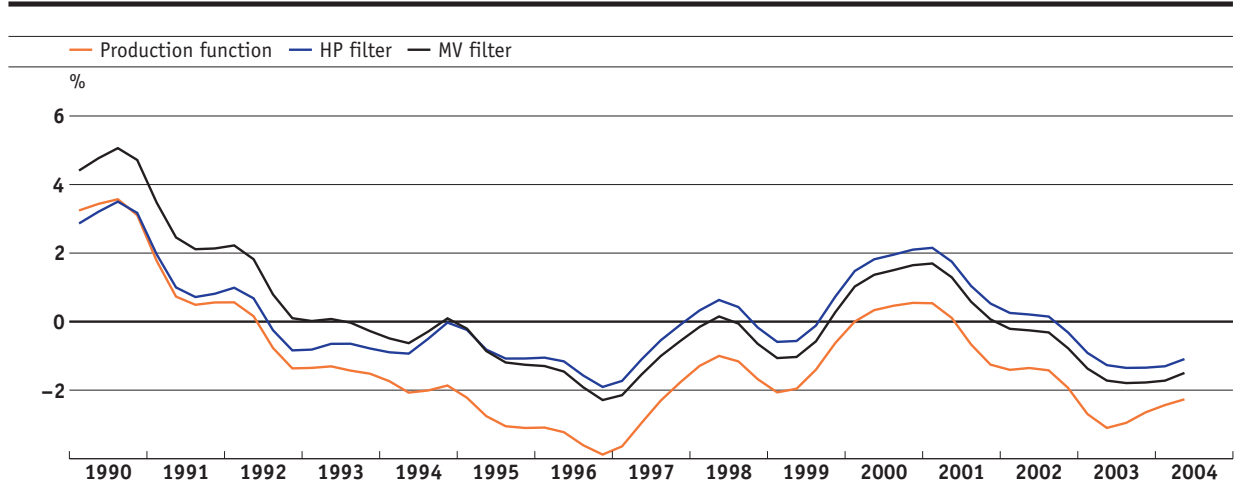
Development of capacity utilisation was more favourable in some areas of the economy than others. Utilisation of technical capacity in industry as measured by KOF/FIT thus already reached the long-run average of 84% in the first quarter. This points to a widespread normalisation in the manufacturing sector. The utilisation rate edged up again in the second quarter. However, this had no influence on the assessment made by the companies surveyed. As in the previous quarter, the majority of respondents judged the level of technical capacity to be adequate.

Graph 2.9
Industrial capacity



Source: KOF/FIT

Graph 2.10
Output gap



Source: SNB

2.3 Labour market

Still no turnaround on the labour market

The turnaround on the labour market has not materialised yet. Following the stabilisation in the winter half-year 2003/2004, the number of persons in employment rose in the second quarter by an annualised 0.4% from the previous period, reaching the year-back level.

Broken down by sector, changes in employment levels were mixed: in the service sector, the slight rise in employment (roughly 1% in annualised terms) observable in the previous four quarters continued, whereas the manufacturing sector shed more jobs (-2.0%). The drop in employment in the construction segment (-4.6%) was even more pronounced than in manufacturing. Against the background of higher production in manufacturing and construction, this development points to considerable productivity gains in both segments.

These sectoral trends were also reflected in the development of full- and part-time employment. The number of full-time jobs, most of which are in manufacturing and construction, fell distinctly in the second quarter. By contrast, part-time employment, which is common in the service sector in particular, was on the increase. Overall, the work volume (measured in hours) contracted by an annualised 0.7% in the second quarter relative to the previous period.

Unemployment unchanged

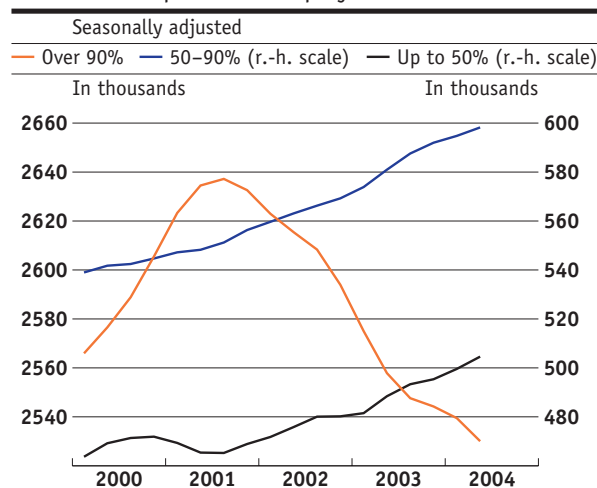
After unemployment figures had declined at the beginning of the year, they rose slightly from 3.6% to 3.7% between June and August, versus 3.9% in April. The seasonally adjusted unemployment rate was flat at 3.9% and the percentage of job seekers remained unchanged at 5.6%.

Unemployment in Switzerland's three main regions exhibited mixed trends: in Ticino and in French-speaking Switzerland, the unemployment rate continued to climb to 4.6% and 5.2% respectively. In German-speaking Switzerland, unemployment was steady at 3.5%.

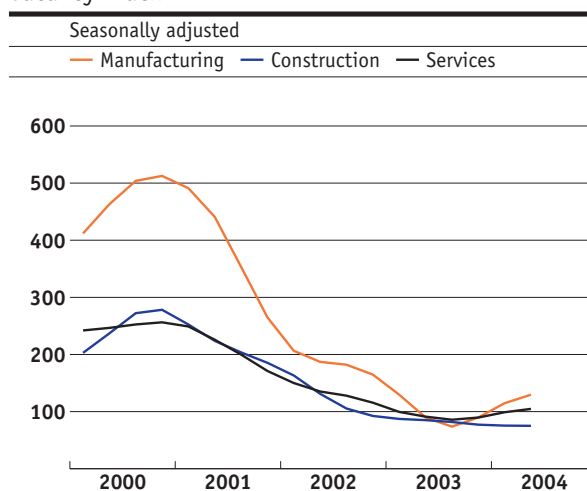
Muted outlook

Second-quarter employment prospects were disappointing after having improved slightly at the beginning of the year. The Manpower Index, which measures the area of job advertisements in the newspapers, stagnated. The job vacancies index compiled by the SFSO climbed only slightly in the second quarter, and according to the KOF/FIT surveys, companies in the retail and manufacturing segments still considered staff levels to be excessive. The situation in construction and in the hospitality industry developed more favourably, with both reporting higher demand for labour.

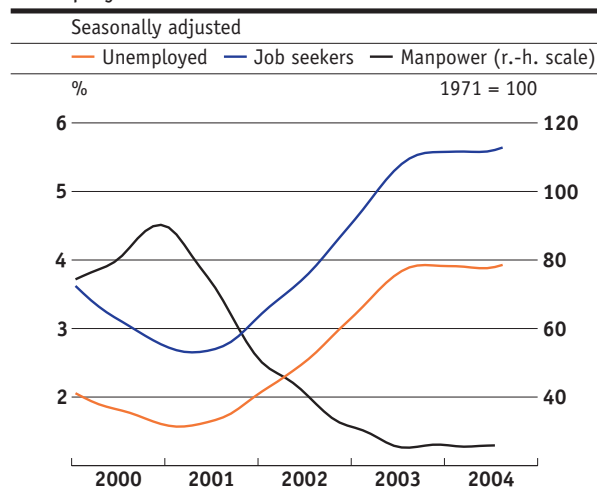
Graph 2.11
Full-time and part-time employment



Graph 2.12
Vacancy index



Graph 2.13
Unemployment rates and vacancies



Graphs 2.11, 2.12:
Source: SFSO

Graph 2.13:
Unemployed and job seekers registered with the regional employment offices in percent of the economically active population according to the 2000 census (3,946,988 economically active persons)
Sources: Manpower, seco

2.4 Goods prices

Slight rise in import and producer prices

The inflationary stimuli generated by import and producer prices for the downstream consumer level intensified only moderately between May and August. After the decline in the prices of import products had come to a halt in April, the annual inflation rate for these goods moved up to 1.8% by August. Price hikes for mineral oil products and metal products were particularly strong. In contrast, prices of imported capital goods dropped further, albeit at a slower pace. Annual producer-price inflation, however, edged down by 0.1 percentage points to 1.3% from May to August. Once again, prices of goods for the domestic market rose more steeply than prices of export goods.

Consumer price inflation stable

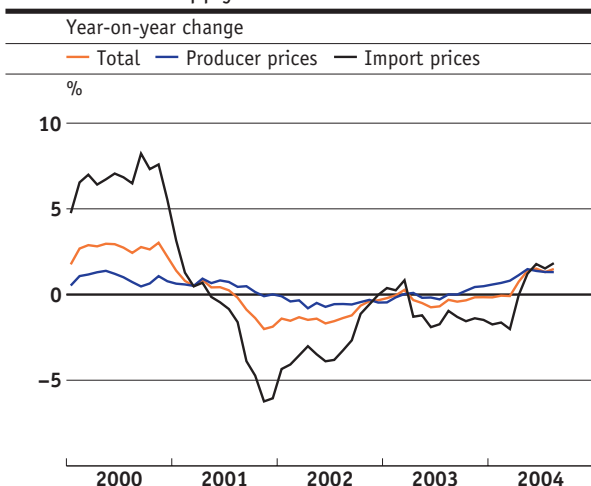
As forecast by the SNB in June 2004, annual inflation (as measured by the national consumer price index) hovered around 1% between May and August. It stood at 1.0% in August, compared with 0.9% in May. Whereas the price inflation for domestic goods and services was almost steady, the inflation rate for imported consumer goods fluctuated considerably due to the sharp price movements of oil products.

Domestic inflation almost unchanged

The annual inflation for domestic goods and services climbed by 0.1 percentage points to 0.9% from May to August. This slight increase was largely due to the steep rise in apartment rents, which account for roughly one-quarter of the domestic commodities basket. The quarterly rentals index rose by 0.9% in August versus May, and the annualised rate of rent inflation accelerated by 0.6 percentage points to 1.6%. According to the SFSO, however, roughly half of the increase in rents was brought about by an updating of the sample register used for the survey on rents. The new register includes a higher proportion of newer apartments, which tend to be more expensive. As one-eighth of the sample is renewed each quarter, the rentals index is expected to be distorted in the next two quarters as well. Subsequently, however, these effects should flatten off steadily.

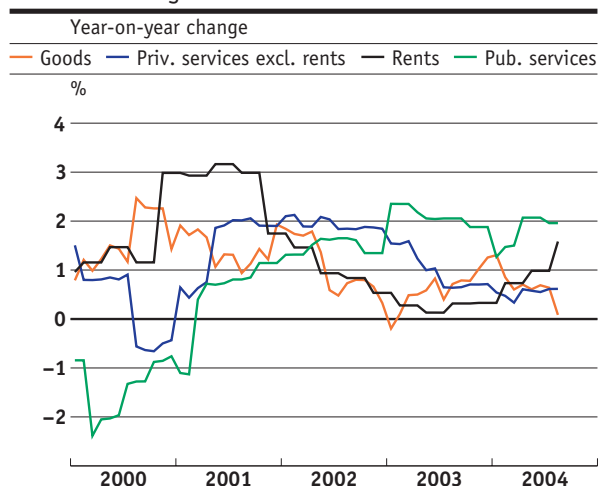
The annual inflation rate for the other private services remained at 0.6% from May through August, while the upward price pressure on public services eased slightly to 2.0%. Domestic goods inflation, however, eased significantly to 0.1%. The sharp price reductions for certain foodstuffs, notably for perishables, had a particularly marked effect.

Graph 2.14
Prices of total supply



Source: SFSO

Graph 2.15
CPI: Domestic goods and services



National consumer price index, 2000 = 100
Sources: SFSO, SNB

Higher import prices due to oil price hike

Owing to the surge in the price of oil products (fuel and heating oil), the annual inflation rate for imported consumer goods perked up. It came to 1.4% in August, up from -0.2% in April. Averaged from May to August, oil products became approximately 14% more expensive year-on-year. The decline in the prices of the other imported goods accelerated from -0.5% in May to -0.9% in August. Price reductions in the area of consumer electronics such as photo and video cameras (-11.5%), television sets and video recorders (-7.6%) and PC hardware (-7.3%) were again above average. Lower prices were also recorded in the "clothing and footwear" category (August: -2.9%), which has an import share of around 85%.

Slightly higher core inflation calculated by the SNB ...

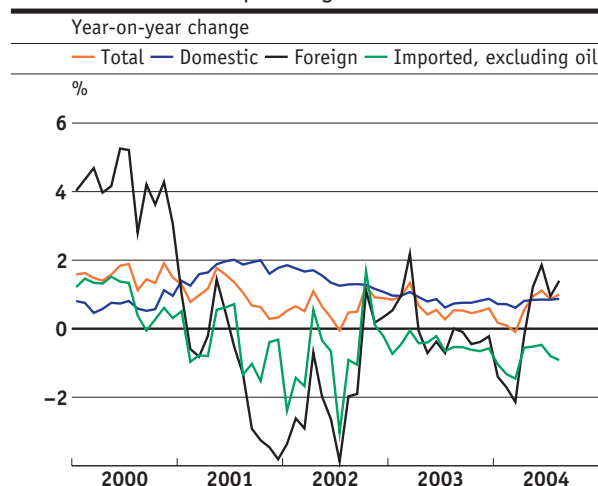
Inflation, as measured by the national consumer price index (CPI), is subject to numerous short-term influences which may distort perceptions of the general, long-term price trend. The SNB therefore computes a measure for the core inflation rate, which, for any given period, excludes the 15% of goods with the highest annual inflation rate and the

15% of goods with the lowest annual inflation rate from the CPI commodities basket. From May to August, the SNB core inflation rate edged up by 0.1 percentage points to 0.9%, the highest level in approximately one-and-a-half years. This figure indicates that, since May, the general price trend has increased slightly, but still remains moderate.

... and by the SFSO

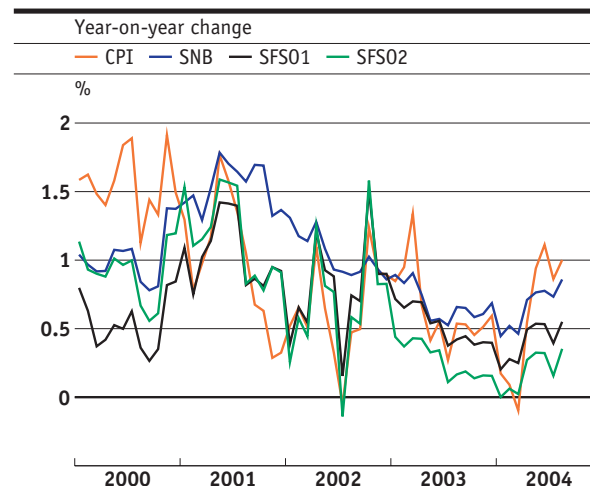
Unlike the core inflation rate calculated by the SNB, the two core inflation rates calculated by the SFSO exclude the same goods from the commodities basket in any given period. In the case of core inflation 1, food, beverages, tobacco, seasonal products, energy and fuel are excluded. Core inflation 2 additionally excludes products with administered prices. From May to August, the core inflation rates published by the SFSO rose by 0.1 percentage points each to 0.6% (core inflation 1) and 0.4% (core inflation 2) respectively.

Graph 2.16
CPI: Domestic and imported goods and services



National consumer price index,
2000 = 100
Sources: SFSO, SNB

Graph 2.17
Core inflation



Sources: SFSO, SNB

National consumer price index and components
Changes from previous period in percent

Table 2.2

	2002	2003	2004					
		Q4	Q1	Q2	May	June	July	August
Overall CPI	0.6	0.5	0.1	0.9	0.9	1.1	0.9	1.0
Domestic goods and services	0.8	0.8	0.7	0.8	0.8	0.9	0.8	0.9
Goods	0.6	1.0	0.9	0.7	0.6	0.7	0.6	0.1
Services	0.9	0.7	0.6	0.9	0.9	0.9	0.9	1.2
Private services excluding rents	1.0	0.7	0.4	0.6	0.6	0.6	0.6	0.6
Rents	0.3	0.3	0.6	0.9	1.0	1.0	1.0	1.6
Public services	2.1	1.9	1.4	2.1	2.1	2.1	2.0	2.0
Foreign goods and services	0.0	-0.4	-1.8	0.9	1.2	1.9	0.9	1.4
Excluding oil products	-0.5	-0.6	-1.3	-0.5	-0.5	-0.5	-0.8	-0.9
Oil products	3.2	1.0	-4.5	10.3	12.5	17.1	11.8	15.1

Sources: SFSO, SNB

3 Monetary development

3.1 Interest rates

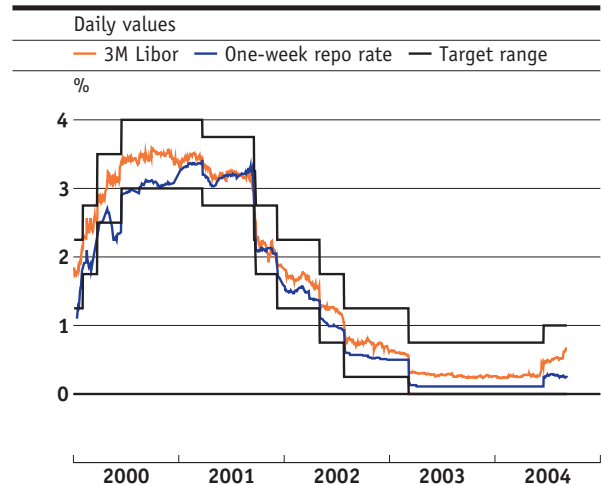
Money market rates on the rise

On 17 June, the SNB raised the target range for the three-month Libor rate by 25 basis points to 0.0%–1.0%. Since then, the target range has had a width of 100 basis points again. At the same time, the SNB stated its intention to keep the three-month Libor in the middle of the target range at around 0.5%. The repo rates, which stood at 11 basis points before 17 June, have since fluctuated between 24 and 30 basis points.

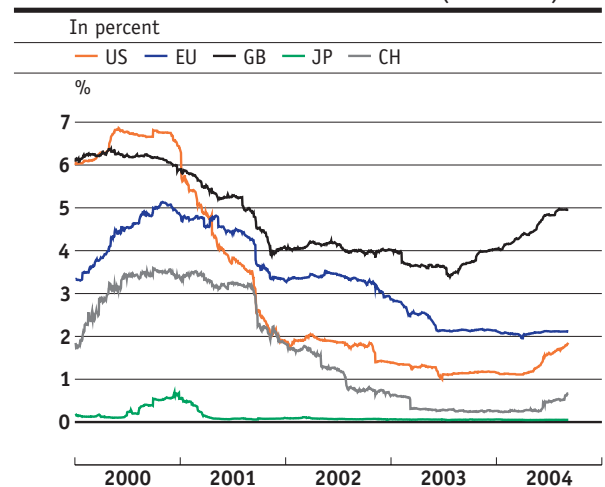
Despite the upturn in Swiss money market rates, the differential to US money market rates – which are higher – has widened. Measured by the interest rates on three-month money market investments, the differential grew from an average of 100 basis points in May to 120 basis points in August. During the same period, the interest rate differential relative to comparable euro investments narrowed from 180 basis points to 160 basis points. These developments reflect the monetary policy of the respective central banks. Whereas the ECB left its reference rates unchanged, the Federal Reserve raised its key rate by 0.25 percentage points both at the end of June and at the beginning of August.

Market expectations of interest rate rises have become more moderate. Graph 3.3 shows the expectations for the three-month Libor on the futures market with a maturity date shortly before the monetary policy assessment of 16 September. While rates of up to 0.9% had been expected in June and July, the futures figure was around 0.7% at the end of August, which is roughly 20 basis points above the middle of the Libor range targeted since 17 June.

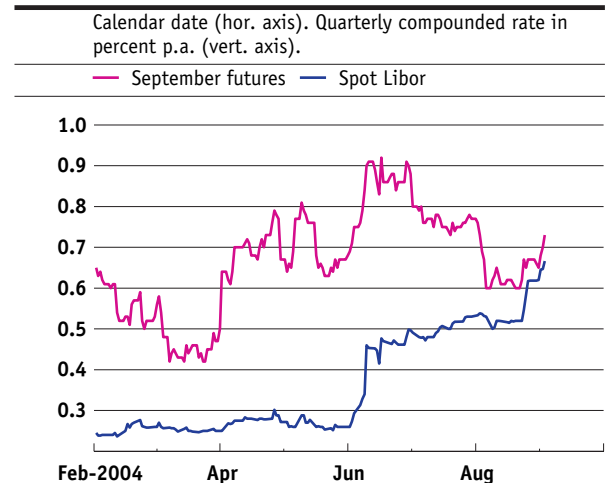
Graph 3.1
Money market rates



Graph 3.2
International short-term interest rates (3 months)



Graph 3.3
The three-month interest rate futures



Graphs 3.1, 3.2, 3.3:
Source: SNB

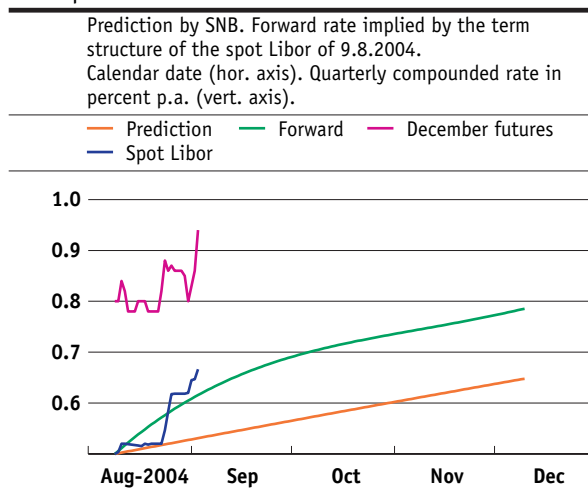
For the rest of the year, too, the financial markets are expecting money market rates to rise only marginally (cf. graph 3.4). The futures maturing on 13 December, i.e. shortly before the last monetary policy assessment of this year, and the forward rate computed for this date based on the interest rate structure of the Libor rates stood at 0.79% in mid-August. At that time, on the basis of an empirical estimate of an interest structure model, the SNB calculated a three-month Libor of 0.65% for mid-December. This model thus suggests that in mid-August the markets anticipated an interest rate rise of 15 basis points by mid-December.

Real annual interest rate slightly higher

Graph 3.5 shows the development of the real interest rate with a one-year maturity. The real interest rate is the difference between the twelve-month nominal interest rate and the expected annual inflation rate. The inflation rates correspond to the average expectations of 14 forecasting institutions². Their projections are published quarterly as “consensus forecasts”.

Two opposing effects influenced the real twelve-month rate in the second quarter. On the one hand, the three-month Libor was raised in June by 25 basis points. On the other hand, inflation expectations increased slightly on the back of higher oil prices. Most of the forecasting institutions mentioned, however, assume that the effect is only temporary. Overall, the real annual interest rate rose from -0.5% in the previous quarter to -0.1%. Real financing conditions in Switzerland in the second quarter were unchanged from a year earlier and thus remained favourable by historical standards.

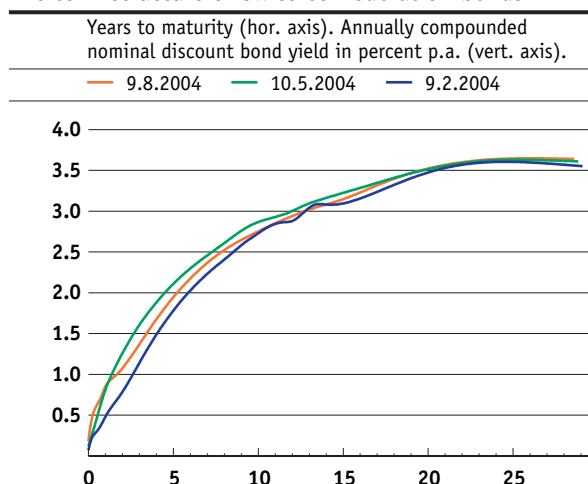
Graph 3.4
Anticipated Swiss three-month interest rate



Graph 3.5
Estimated real interest rates



Graph 3.6
The term structure of Swiss Confederation bonds



Graphs 3.4, 3.5, 3.6:
Source: SNB

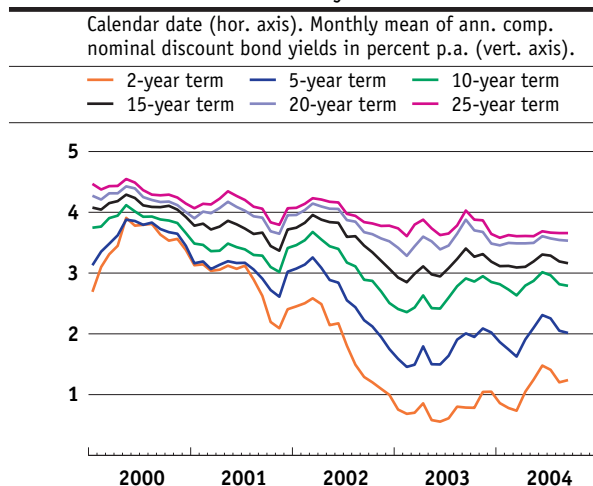
² JP Morgan, Pictet & Cie, Goldman Sachs, UBS, Bank Vontobel, Zürcher Kantonalbank, Bank Julius Baer, Economist Intelligence Unit, HSBC, ING Financial Markets, BAK, Credit Suisse, Institut Créa, KOF/FIT.

Capital market yields on the decline

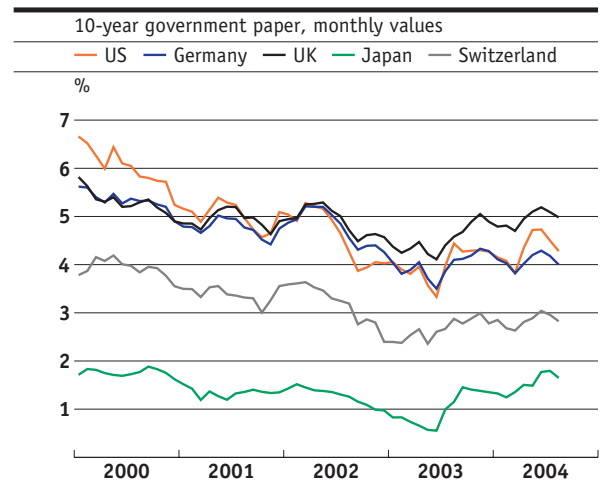
With economic prospects becoming gloomier from mid-June to mid-August, yields on the capital markets dipped around the globe. The decline was particularly pronounced in the US, where the yield on ten-year government bonds slipped from 4.9% in mid-June to 4.1% at the end of August. But in Germany, too, yields dropped from 4.4% to under 4.0% during the same period (cf. graph 3.8). The decline in Switzerland was relatively moderate: the yield on ten-year Swiss Confederation bonds receded from 3.0% to 2.8%. The yields on Confederation bonds with a longer maturity remained largely unaffected by this development (cf. graph 3.7).

The decrease in capital market yields coincided with the substantial rise in oil prices. This suggests that the market is expecting an oil-price-induced slowdown in the economy and, as a result, a less pronounced tightening of monetary policy.

Graph 3.7
The Swiss Confederation bond yields



Graph 3.8
Interest rates abroad



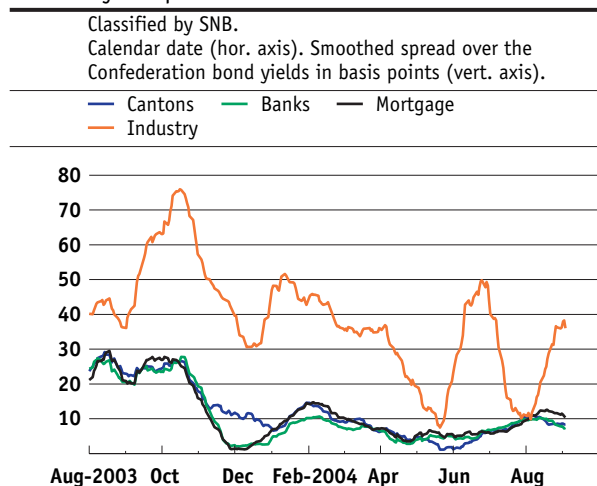
Graphs 3.7, 3.8:
Source: SNB

Higher volatility of credit interest rate spreads

The development of financing conditions for bond issuers with different ratings can be illustrated by means of interest rate spreads. Graphs 3.9 and 3.10 depict such spreads for two-year discount bonds issued by four and three sectors respectively, namely the cantons, banks, mortgage bond institutions and industry. Prime bonds are shown in graph 3.9, lower-rated bonds in graph 3.10. Each interest rate spread is computed as the difference to the corresponding yield on Swiss Confederation bonds (cf. "Box: Assignment of bonds to ratings classes", Monetary Policy Report 1/2004, p. 33).

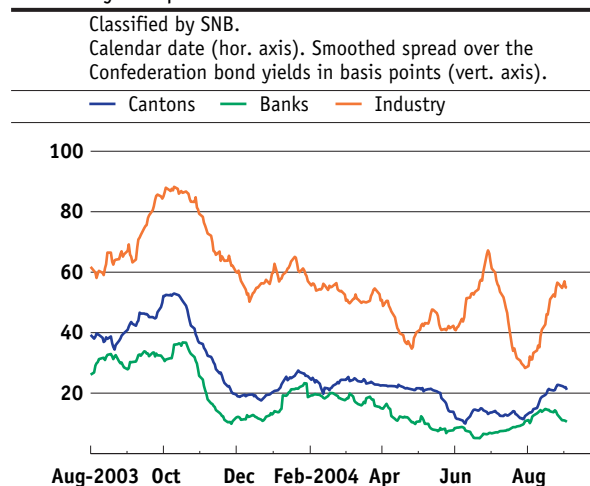
As the two graphs show, the downtrend in interest rate spreads observed since the beginning of the year has given way to an upturn in the past three months. At the same time, the interest rate spreads have become more volatile. This points to the investors' increased uncertainty as to the rating of the bond issuers. The interest rate spreads are just slightly narrower than a year earlier.

Graph 3.9
The two-year spread of Swiss first-class bonds



Graphs 3.9, 3.10:
Source: SNB

Graph 3.10
The two-year spread of Swiss second-class bonds



3.2 Exchange rates

Swiss franc almost unchanged

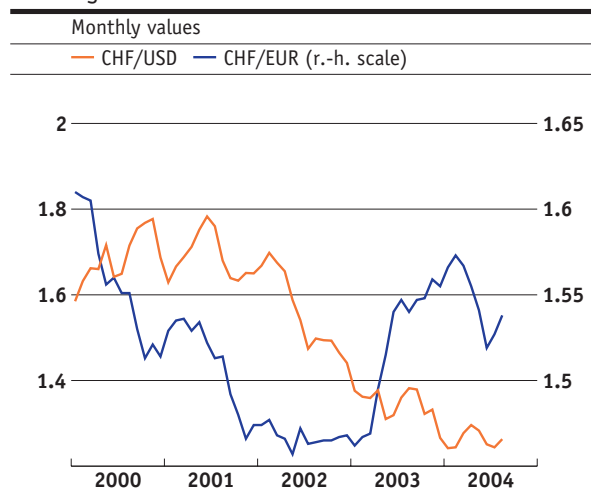
Prior to the SNB's interest rate increase, the euro eased from CHF 1.54 at the end of May to below CHF 1.51. After the interest rate decision, though, the Swiss franc forfeited this gain again: by the end of August, the euro was back at CHF 1.54. The US dollar did not exhibit any clear trend over the past few months. After the greenback had firmed in July, reports of a new record US trade deficit and worse-than-expected labour market figures sent it plunging. At the end of August, the dollar staged a similarly marked recovery, finishing at CHF 1.28.

In real terms, the Swiss franc weakened in July and August by 1.8% in total after having appreciated by 3.6% from March to June. In August, the trade-weighted real external value of the Swiss franc (24 trading partners) topped the year-ago level by 0.8%. The Swiss franc gained 7.1% in real terms against the currencies of the North American trading partners (US and Canada) while falling by 1.0% versus the currencies of the European trading partners.

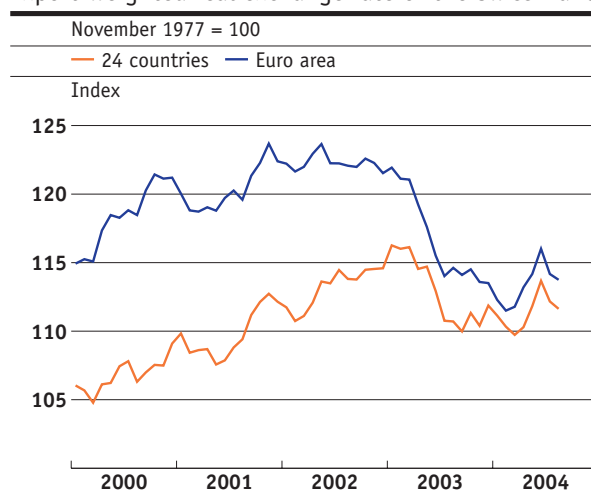
MCI

Whether the monetary conditions to which the Swiss economy is exposed are to be considered expansionary or restrictive depends not only on interest rates but also on the Swiss franc's exchange rate. The Monetary Conditions Index (MCI) combines these two factors with a weighting of 5:1 and 3:1 respectively in an indicator (cf. "Box: The Monetary Conditions Index (MCI)", Monetary Policy Report 1/2004, p. 27). This index rose substantially from March to June, which corresponds to a considerable tightening of monetary conditions. Shortly after the SNB's interest rate increase in June, the MCI reached its highest level since May 2003. The depreciation of the Swiss franc since June onwards, however, resulted in a decline in the MCI of 30 to 60 basis points by the end of August. Correspondingly, monetary conditions have recently become somewhat more expansionary again in spite of the higher three-month Libor. At the beginning of September, the three-month rate rose due to market expectations, thus also pushing up the MCI.

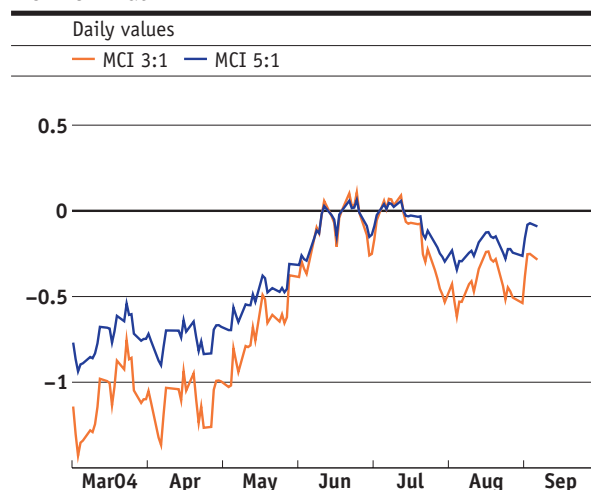
Graph 3.11
Exchange rates



Graph 3.12
Export-weighted real exchange rate of the Swiss franc



Graph 3.13
MCI nominal



Graphs 3.11, 3.12, 3.13:
Source: SNB

3.3 Share and real estate prices

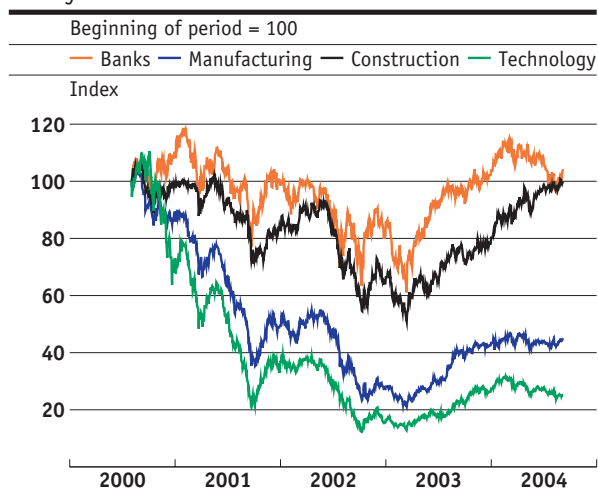
Slide in stock market indices

Stock market prices declined worldwide from June to August. The SPI stood at 4,037 points at the end of August, approximately 7% below the annual high of 4,330 points reached in May. This slide was triggered by bank and technology stocks, which suffered most from the deterioration in sentiment on the international financial markets. Construction sector shares, which are barely affected by influences from abroad, managed to withstand the downtrend and strengthened even further in line with the bright outlook for the domestic economy. Industry stocks remained virtually unchanged.

Rent and real estate price trends continue

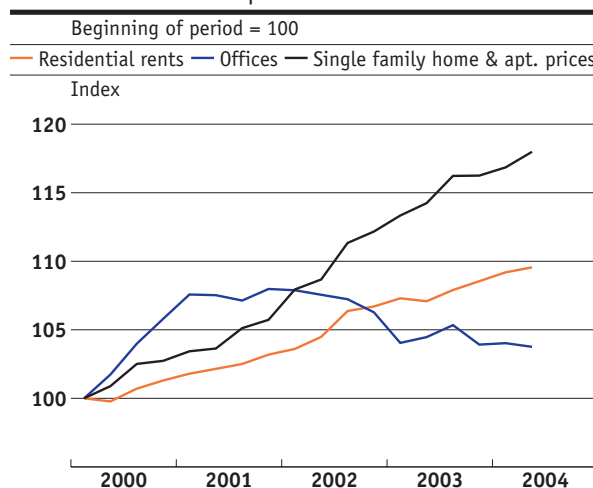
On the real estate market, the trends that have been observable for quite some time continued in the second quarter: the price index for single-family homes and owner-occupied apartments as well as rents for dwellings rose further, while office rents stagnated. A detailed breakdown shows that the prices for single-family homes and owner-occupied apartments increased by 3.3% in the year to the second quarter of 2004, while apartment rents went up by 2.3% year-on-year. By contrast, office rents fell by 0.7%.

Graph 3.14
SPI by sectors



Source: Swiss Exchange (SWX)

Graph 3.15
Rents and real estate prices



Source: Wüest & Partner

3.4 Monetary aggregates

Surplus liquidity down slightly

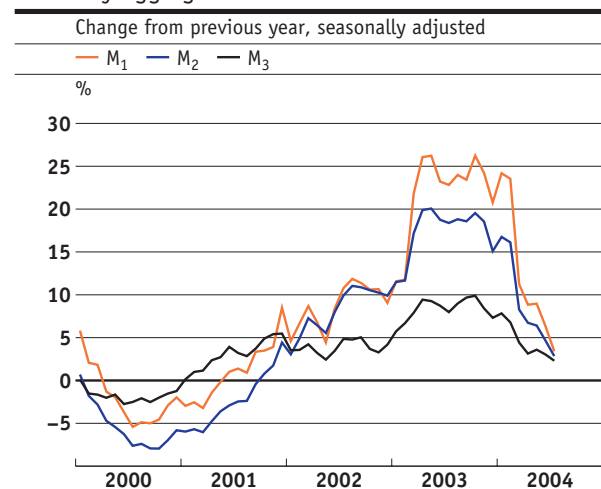
In July, all three monetary aggregates shrank again month-on-month. M_1 – which is composed of currency in circulation, sight deposits and transaction accounts – receded by 15.4% (annualised) month-on-month in July. This decline was attributable to a sharp drop in sight deposits, while currency in circulation and transaction accounts still expanded somewhat. Even though savings deposits (excluding pension fund monies) grew, M_2 , i.e. M_1 plus savings deposits, fell by 7.6%. After having declined from mid-2001 onwards, time deposits continued their upward trend, which had begun in May. Even so, M_3 – composed of M_2 and time deposits – also contracted, losing 4.4%. A decline in all three monetary aggregates was last observed in March of this year. Year-on-year, however, they expanded by 3%–4%.

The demand for liquidity by companies and households depends on the transaction volume and the opportunity costs in holding reserves. In macroeconomic analyses, the transaction volume is usually approximated with nominal GDP. The opportunity costs for M_3 money holding, i.e. lost interest earnings, are traditionally measured with long-term inter-

est rates. Consequently, the money-to-GDP ratio, which indicates the relation of M_3 to nominal GDP, should move inversely to long-term interest rates. As shown in graph 3.17, this is in fact generally the case. In particular, the increase in money-to-GDP ratios since the beginning of the 1990s can be attributed to the falling long-term interest rates.

On the other hand, an equilibrium money stock can also be determined based on the transaction volume and the opportunity costs for holding money. The money stock actually at the disposal of the econo-

Graph 3.16
Monetary aggregates



Source: SNB

Monetary aggregates¹

Table 3.1

	2002	2003	2003			2004				
			Q2	Q3	Q4	Q1	Q2	May	June	July
Monetary base²	38.4	40.4	39.9	41.0	41.5	42.2	41.7	41.4	41.7	42.0
<i>Change³</i>	5.7	5.3	4.6	8.6	7.4	7.7	4.5	4.1	3.7	2.2
$M_1$²	224.4	273.7	273.0	279.0	293.6	298.9	296.6	299.1	291.8	285.1
<i>Change³</i>	8.7	22.0	25.2	23.5	23.9	20.0	8.6	9.6	7.0	4.0
$M_2$²	404.8	475.6	475.0	482.5	500.0	511.0	509.1	512.0	503.2	496.1
<i>Change³</i>	8.1	17.5	19.6	18.6	18.1	14.9	7.2	7.6	5.9	4.1
$M_3$²	503.0	545.3	545.2	547.4	558.6	568.6	567.9	569.2	565.4	559.8
<i>Change³</i>	3.8	8.4	9.1	8.9	8.9	7.3	4.2	4.5	4.0	3.2

1 1995 definition

2 Level in CHF billions

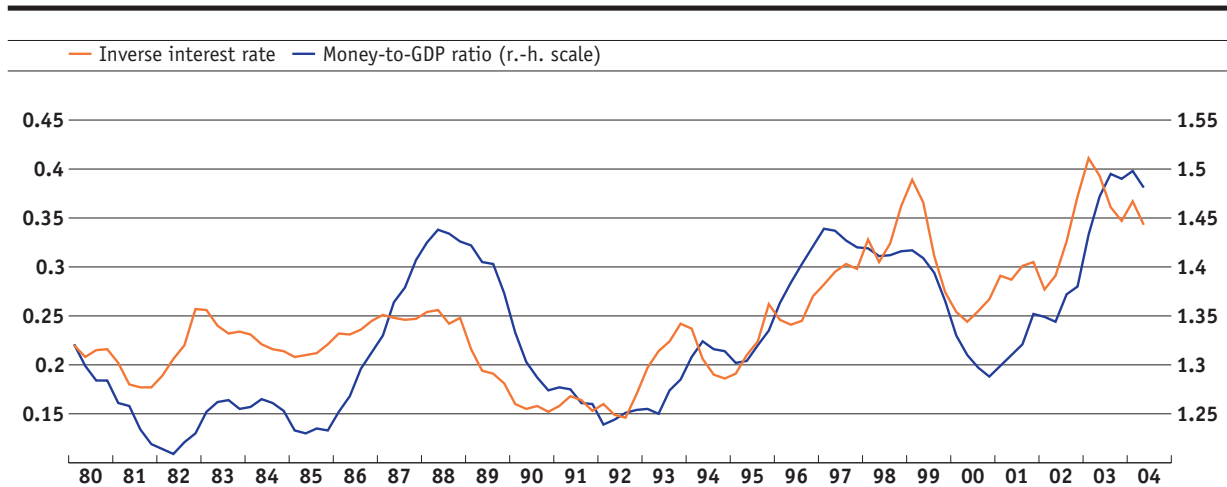
3 Year-on-year change in percent

Source: SNB

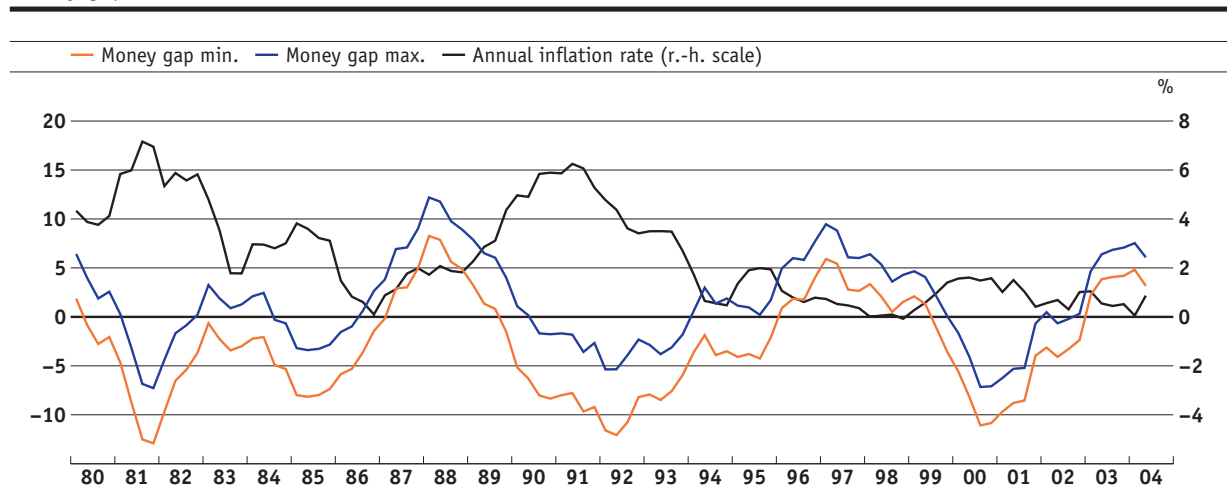
my will, for the most part, deviate from this figure to a greater or lesser degree. If the money stock exceeds the equilibrium value, this is referred to as a positive money gap, while the reverse is known as a negative money gap. In graph 3.18, two estimates of the percentage deviation of M_3 from its equilibrium are contrasted with the annual inflation development since 1980. In this calculation, M_3 was expanded by domestic fiduciary transactions, because they represent a narrow substitute for time deposits. The graph evidences an empirical connection between a positive

and negative money gap and inflation. A positive money gap is usually followed by a rise in inflation, a negative money gap by a decline in inflation. Since the beginning of 2003, there has been a positive money gap. After having reached its maximum extent in the first quarter of 2004, however, the money overhang shrunk again in the second quarter. The inflation potential according to this indicator has therefore decreased slightly compared with the previous quarter.

Graph 3.17
Money-to-GDP ratio



Graph 3.18
Money gap & annual inflation rate



Graphs 3.17, 3.18:
Source: SNB

3.5 Loans

Bank lending continues to rise

At the end of July, bank loans again exceeded the previous year's level. The credit development continues to be shaped by two trends moving in opposite directions. Loans to households, which account for approximately two-thirds of total bank loans, continued their steady expansion since 2003. By contrast, corporate loans declined further. There are no signs of a recovery in corporate lending yet.

In the breakdown of loans by type of credit (mortgage loans and other loans) a similar difference is still evident. Other loans, which are primarily utilised by companies, have fallen sharply in the last few years, though the negative growth rates have become significantly less pronounced. Approximately four-fifths of bank loans, however, are secured by a

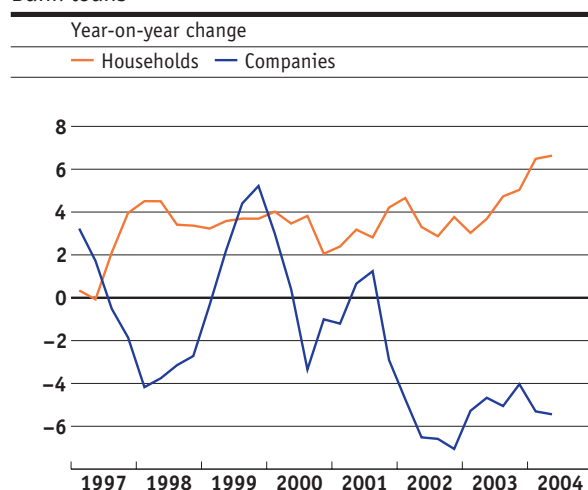
mortgage. Contrary to other categories of loans, this type of loan – primarily extended to households – shows a clearly rising trend.

Within the "other loans" category, secured loans again exhibited an upward trend this year, whereas – like unsecured loans – they had declined in the past two years.

At the end of July, banks' mortgage loans continued to exceed the previous year's level by 5.5%. Other loans only fell by 2.3%, compared with a 3.8% decline in the second quarter and a 4.6% drop in the first quarter of this year. This drop is attributable to the continued contraction of unsecured loans. They fell 7.5% short of their year-earlier level in the first half of 2004. Secured other loans expanded by 5.7% over the same period.

Bank lending overall expanded by 3.8% in July. This is equivalent to the highest annual rate of increase in the last three years. Overall, the credit aggregates suggest the picture of an upward trend in the economic situation.

Graph 3.19
Bank loans



Source: SNB

Bank loans¹

Year-on-year change in percent

Table 3.2

	2002	2003	2003			2004				
			Q2	Q3	Q4	Q1	Q2	May	June	July
Total	0.5	2.1	1.7	2.3	2.9	3.2	3.4	3.3	3.4	3.8
Mortgage claims	3.9	5.6	5.4	5.6	5.5	5.4	5.4	5.4	5.4	5.5
Other loans	-9.3	-8.7	-9.7	-8.3	-6.1	-4.6	-3.8	-4.1	-3.7	-2.3
of which secured	-3.2	-10.7	-14.9	-9.4	-4.3	-1.6	3.5	3.0	7.8	3.6
of which unsecured	-12.9	-7.4	-6.1	-7.6	-7.3	-6.5	-8.4	-8.6	-10.8	-6.2

1 Bank balances, level of data collection: parent company, all currencies, Switzerland; yearly and quarterly values expressed as averages of month-end values

Source: SNB

4 Inflation forecast of the SNB

Monetary policy acts on production and prices with a considerable time lag. Until monetary-policy impulses fully impact on inflation, the time lag in Switzerland is approximately three years. For this reason, the National Bank is guided in its monetary policy not by current inflation but by the inflation that is to be expected in two to three years if monetary policy remains unchanged. In so doing, it also contributes to the stabilisation of employment and production. The inflation forecast is thus an important part of the SNB's monetary policy concept (cf. "Box: Inflation forecasting as part of the monetary policy concept").

4.1 Assumptions for global economic development

Given the high degree of internationalisation of the Swiss economy, the SNB's inflation forecast is embedded in a global economic scenario reflecting the Bank's assessment of the most likely development in the next three years. Table 4.1 shows the major external assumptions underlying the current inflation forecast compared with the June forecast in the form of yearly averages.

Compared with the previous forecast, assumptions of the global economy have changed significantly in one respect. Contrary to the prediction made in June, the oil price continued to rise, which led to a perceptible surge in inflation in the industrial countries. The National Bank still anticipates that oil prices will go down throughout the forecasting period. Since inflationary factors are unlikely to subside any time soon, however, an oil price approximately four dollars above the last forecast is assumed. In the long term, the price of oil is expected to taper off to close to 30 dollars.

Based on these assumptions, inflation in the euro area will increase further until the beginning of 2005. However, as oil prices decline, it will drop to slightly under the 2% mark again. In spite of higher oil prices, the economic recovery – underpinned by a cautious tightening of monetary policy – will continue at a moderate pace. After a temporary slowdown, economic growth is likely to accelerate to just over 4% in the US and to just below 2.5% in Europe. Subsequently, slightly lower growth rates are to be expected again. Exceeding their growth potential by only a small margin, the current output gaps – which are still clearly negative – will close only gradually both in Europe and the US. Accordingly, inflationary pressure remains low. As in the previous forecast, the dollar/euro exchange rate – as a technical assumption – will be kept constant at USD/EUR 1.20.

Assumptions for inflation forecasts

Table 4.1

	2004	2005	2006
Inflation forecast of September 2004			
GDP US ¹	4.4	3.8	3.5
GDP EU-15 ¹	2.2	2.3	2.2
Exchange rate USD/EUR ²	1.21	1.20	1.20
Oil price in USD/barrel ²	36.9	35.6	31.4
Inflation forecast of June 2004			
GDP US ¹	4.6	4.0	3.6
GDP EU-15 ¹	2.0	2.3	2.3
Exchange rate USD/EUR ²	1.21	1.20	1.20
Oil price in USD/barrel ²	33.7	30.2	27.2

1 Change in percent

2 Level

Box: Inflation forecasting as part of the monetary policy concept

The SNB has the statutory mandate to ensure price stability while at the same time taking due account of economic developments.

The SNB has laid down the details of the exercise of this mandate in a three-part monetary policy concept. First, the SNB regards prices as stable when the national consumer price index (CPI) rises by less than 2% per annum. It thus takes account of the fact that the CPI slightly overstates actual inflation. At the same time, it allows inflation to fluctuate somewhat with the economic cycle. Second, the SNB summarises its assessment of the situation and of the

need for monetary policy action in a quarterly inflation forecast. This forecast, which is based on the assumption of a constant short-term interest rate, shows the CPI development expected by the SNB over the next three years. Third, the SNB sets its operational goal in the form of a target range for the three-month Swiss franc Libor rate. The target range provides the SNB with a certain amount of leeway, enabling it to react to unexpected developments in the money and foreign exchange markets without having to change its basic monetary policy course.

4.2 Inflation forecast 3rd quarter 2004 to 2nd quarter 2007

The inflation forecast derives from the analysis of different indicators, model estimates and the assessment of any special factors. The results are shown in graph 4.1. The graph shows the new forecast (September 2004), which rests on the assumption of the three-month Libor remaining constant at 0.75% over the entire forecasting horizon. This is the middle of the target range of 0.25%–1.25% applicable since 16 September. The same graph also shows the previous two inflation forecasts of June and March 2004. In contrast to the September forecast, the June forecast was based on a three-month rate of 0.5%, with a targeted range of 0%–1.0%. The March forecast rested on a constant interest rate of 0.25%; this corresponded to the level aimed at by the National Bank as long as the target range was 0%–0.75%.

As shown in graph 4.1, inflation according to the September forecast is expected to fluctuate between 0.8% and 1.2% until the end of 2005. Until mid-2005, it will exceed the level of the March and June forecasts slightly, even though it rests on a three-month Libor rate that is 25 and 50 basis points higher respectively. The reason for this is the marked rise in oil prices. The associated inflationary pressure cannot be influenced by monetary policy in the short term. The SNB continues to assume that the oil price

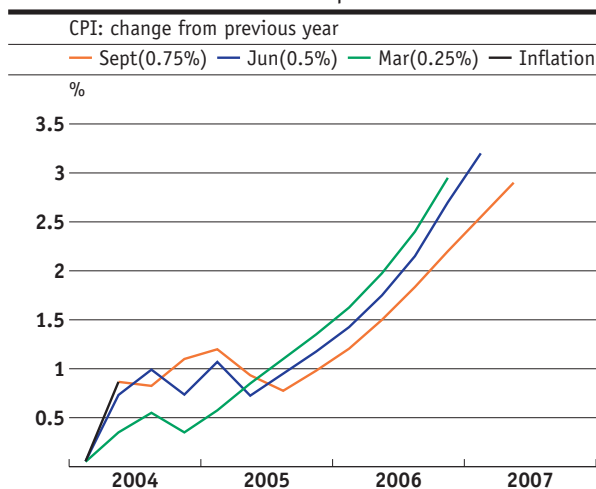
will see only a gradual decline and that the prices of those oil products (fuel and heating oil) included in the consumer price index will remain significantly above their respective year-ago levels in the months ahead. A moderate inflation-dampening effect will, however, continue to emanate from the other imported consumer goods. Inflationary pressure on domestic goods will presumably remain low, as there is still an abundance of production capacity in the economy. By contrast, services – notably apartment rents – must be expected to become more expensive. For 2004, an annual inflation rate of 0.7% is forecast and of 1% for 2005.

From mid-2005 onwards, the predicted annual inflation rate will rise continuously. In the medium term, i.e. for a period of one to two years, the development of inflation hinges on the economic outlook. Even though significantly higher oil prices are likely to hold back economic momentum somewhat, cyclical prospects point to a closing of the output gap in Switzerland from the end of 2005 onwards. Experience has shown that this makes it easier for companies to raise prices and for employees to push through increases in real pay.

In the long term, prices are determined in large measure by monetary factors. As mentioned in section 3.4, the liquidity overhang in the second quarter did recede somewhat, however, so that the inflationary threat emanating from liquidity developments did not increase further. The still persisting money overhang continues to present risks for price stability in the longer term. With a three-month Libor rate of 0.5%, forecast inflation will exceed the 2% price stability limit from the second half of 2006 onwards and will increase to 3.2% by the first quarter of 2007. The interest rate hike of 25 basis points in September helps to reduce the money overhang. This is reflected in inflation climbing less steeply.

Like the predictions of March and June, the current forecast shows that a three-month Libor rate of 0.75% would be too expansive in the longer term. This suggests that the short-term interest rate will probably have to be raised again in the next three years.

Graph 4.1
SNB inflation forecasts: a comparison



The economic situation from the vantage point of the delegates for regional economic relations

Summary report to the attention of the Governing Board of the Swiss National Bank for its quarterly assessment of September 2004

The Swiss National Bank's delegates for regional economic relations are constantly in touch with a large number of companies from the different industries and economic sectors. Their reports, which contain the subjective evaluations of these companies, are an important additional source of information for assessing the economic situation. In the following, the main results of the talks held from June to August 2004 on the current and future economic situation are summarised.

Summary

One year following the economic trough in summer 2003, talks held with almost 150 companies have revealed quite a favourable picture. The economic recovery has strengthened further in recent months. Nevertheless, the companies believe that it has failed to gather any additional momentum, and continue to describe it as moderate.

Overall, investment activity increased only negligibly. On the whole, the companies limited themselves to the necessary replacement investment and invested in expansion only where the order intake had increased markedly. Numerous companies still have sufficient free capacity. At the same time, however, the cost pressure, which is making itself constantly felt, seems to hinder investment activity.

The economic outlook for the coming months has brightened further. Over a medium-term horizon, however, uncertainty seems to have grown somewhat. The sharp rise in oil prices and the stronger competition from abroad are seen as reasons for this insecurity.

1 Production

Manufacturing

Most of the industrial companies surveyed saw improved capacity utilisation in recent months and considered their order backlog for the next few months as secured. The main stimuli again emanated from abroad, notably from Asia (China and India), while demand from the US and Europe (Germany and Italy) was assessed differently from one sector to another.

In particular, companies in the field of generic drugs and biotechnology reported excellent levels of business activity. Moreover, companies oriented to the semi-conductor industry experienced a marked recovery in demand. The strong dependence on this industry in particular, however, was regarded as problematic since it is feared that this sector will gradually move from Europe to Asia in the near future. Predominantly positive news came from the electrical industry, where mainly suppliers in the field of building infrastructure expect rising orders. The machinery industry, by contrast, showed a mixed picture. Overall, its development was rather low-key. Business performance remained good for the manufacturers of textile machines. In the consumer goods sector, textile manufacturing benefited from the upswing in home textiles and industrial textiles in the wake of vigorous housing construction in Switzerland and rising demand from the transport industry. Due to a continuously high level of export demand, the watchmaking industry was able to reduce its stocks of intermediate products – which had increased markedly in recent years – to a normal level.

Services

With demand from abroad picking up, the situation in the hospitality trade has brightened in the past few months. Particularly noteworthy was the return of visitors from Asia and the US, which mainly benefited central Switzerland (Lucerne). Tourism from within Europe, however, continued to exhibit muted growth. In Ticino, the situation stabilised after two exceedingly difficult years but, as demand from Germany remained hesitant, growth fell short of expectations. The hospitality trade in urban centres benefited from the uptrend in cultural and business tourism. By contrast, mainly because of slack domestic demand, alpine tourist areas did not achieve the excellent results of the previous year when weather conditions had been ideal. Nevertheless, the outlook for the coming months was judged cautiously optimistic.

In the highly diverse field of corporate services, too, the business situation seems to be gradually improving. The demand for ICT services in the retail trade and banking sectors picked up. Large-scale projects, however, were still few and far between, and prices remained under considerable pressure. Other areas such as the cleaning trade have so far seen little improvement in business activity.

Overall, the banks reported favourable business activity despite losing some of their momentum after an excellent start to the year. The regional banks surveyed were able to increase both customer deposits and lendings, but emphasised that competition for good credit risks was becoming increasingly stiff. The corporate loans segment continued to develop at a sluggish pace. In addition to low demand for new loans, repayments were brought forward in many cases. Asset management, which suffered from the weak stock market and the modest inflow of foreign funds, was also rather torpid. Competition in this segment, too, is described as tough.

The retail trade continued to develop at a leisurely pace, even if the demand for consumer durables (furniture, electronics) has been boosted by dynamic residential construction. Moreover, in Ticino and the Lake Geneva region, retail trade profited from the declining appeal of prices in the Italian and French cross-border shopping areas, while in northern Switzerland it continued to be exposed to fierce competition from Germany and Austria. In general, customers continued to be extremely price-conscious and selective. While the major retail chains were able to maintain their turnover due to aggressive pricing policies, margins came under severe pressure. Small retail stores are still in a difficult position; so far, they have hardly felt the effects of the economic upswing.

Construction

The construction industry proper and numerous ancillary companies benefited from vigorous growth in housing construction in the last few months. Prices in this sector are thus firming slightly.

Commercial construction is beginning to stabilise due mainly to robust building activity in the retail sector. In the other sectors, companies were still reluctant to invest in new construction projects. Civil engineering continued to suffer from cost-cutting pressures in the public sector, except for the large-scale road- and rail-related projects associated with the new transalpine rail link (NEAT) and Rail 2000.

2 Labour market

Some of the companies surveyed increased their staff numbers in the last few months; in particular, these include companies in the chemical and pharmaceutical segments, the metal industry and the service sector. Overall, however, companies showed restraint in employing additional staff even if their order position was good. Production bottlenecks were still frequently overcome with the aid of external partners, with temporary work or overtime. The reasons named by the companies surveyed included uncertainty as to whether the upturn will be sustained and, in particular, the outsourcing of production abroad.

3 Prices, margins and earnings situation

Owing to stronger demand and productivity increases, a number of companies were able to improve their margins. For most industries, the possibilities of raising sales prices or passing on the higher costs remained very limited. This applied both to the manufacturing and the service sector, and especially to the retail trade. The main reasons given were the strong price competition from abroad as well as the sluggish growth in demand. In many cases, therefore, the sharp price increases for raw materials led to narrower margins. As a result of the rise in the heavy vehicle fee (HVF), many of the companies surveyed expect a further wave of cost increases at the beginning of 2005, which are unlikely to be offset through price hikes.

The export industry and the tourist trade are happy with the euro's current exchange rate. Generally, these industries regard a rate of CHF 1.50 to the euro as the critical limit. The current dollar rate is hampering exports to the US and Asia, and in some cases makes it necessary to grant currency discounts. However, an appreciation of the dollar would entail a drastic rise in material costs for some sectors.

The Swiss franc money market: instruments and market participants

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Introduction

The money market is a market for the short-term lending and borrowing of funds. The money market is usually defined so as to include only transactions with maturities of up to 12 months. Banks are the main participants in the money market, which makes it primarily an interbank market. Yet on the repo market at least, the Swiss National Bank (SNB) also plays a key role as it implements its monetary policy through transactions with banks on the CHF money

market. Further participants in the CHF money market are those bank customers that place time deposits and fiduciary investments with these banks. In recent years the CHF money market has undergone profound changes. The repo business and derivative money market instruments in particular have expanded substantially. The present study gives an overview of the CHF money market. The first section sets out what instruments are traded and how they have developed. The second section then focuses on the market participants.

1 Money market instruments

The money market instruments that will be discussed in the following are foreign exchange swaps, deposits, repo transactions, customer term deposits, fiduciary investments, money market debt register claims, tom-next index swaps, forward rate agreements and interest rate futures. Of these instruments, foreign exchange swaps, deposits and repo transactions are used both for short-term liquidity management and for hedging risks as well as for entering into speculative positions. The other instru-

ments are used mainly for one of two functions: short-term liquidity management (customer term deposits, fiduciary investments, money market debt register claims), or hedging a position as well as entering into a speculative position (tom-next index swaps, forward rate agreements, interest rate futures). Table 1 gives an overview of the different instruments used on the CHF money market and of their market volumes. As some of the data refer to different sources, the volumes cannot be compared directly.

Volume of money market instruments

Table 1

Market/instrument	Volume	Description
Foreign exchange swaps USD/CHF	CHF 899 billion	Outstanding amount. Up to 1 year. Average April 2001. Own estimate. Source: Bank for International Settlements (2002).
Deposits	approx. CHF 100 billion ¹	Outstanding amount. Source: own estimate.
Repo transactions (interbank market)	CHF 22.6 billion	Outstanding amount. Average December 2003. Source: Eurex Repo.
Customer time deposits	CHF 46.1 billion	Outstanding amount. Residual maturity up to 1 year incl. call money. End of 2003. Source: SNB.
Fiduciary investments	CHF 14.8 billion	Outstanding amount. End of 2003. Source: SNB.
Money market debt register claims	CHF 10.7 billion	Outstanding amount. End of 2003. Source: SNB.
Tom-next index swaps	CHF 490.6 billion	Average outstanding book volume of 16 market makers. 2001. Source: Trauth (2002, p. 36).
Forward rate agreements	CHF 261.1 billion	Outstanding book volume. End of June 2001. Source: Bank for International Settlements (2002).
Interest rate futures	CHF 277.5 billion	Outstanding book value (open interest). End of January 2004. Source: Reuters.

¹ There is no reliable data available on deposits.

1.1 Foreign exchange swaps

A foreign exchange swap is usually a spot purchase (sale) of foreign currencies and a simultaneous forward sale (purchase) of the same currencies. The swap rate (discount or premium to the spot rate) is calculated based on the interest differential between the two currencies for the corresponding maturity. The risks entailed in a foreign exchange swap are the credit risk (risk of losing the amount due) associated with a market risk (risk of a price loss on the amount due) and the settlement risk.² With regard to volume, foreign exchange swaps dominate over both deposits and repo transactions on the interbank market. Short-term liquidity management primarily involves foreign exchange swaps in US dollars against Swiss francs. Interbank transactions are concluded for the most part via Reuters Dealing communications platform, via Reuters Matching and Voice Broker and, rarely, also by telephone. In April 2001, an estimated CHF 899 billion was outstanding. The average daily turnover was CHF 59 billion, 75% of which had a maturity of up to 7 days (see table 1).³

2 The settlement risk is the risk that a counterparty in a transaction becomes insolvent and can no longer meet its obligations although the other contractual party has already performed as agreed. The performance risk can be eliminated by both contractual parties paying simultaneously.

3 Cf. Bank for International Settlements (2002).

4 Overnight transactions (ON), tom-next transactions (TN) and spot-next transactions (SN) all have a maturity of one bank business day. ON transactions are settled on the date of conclusion T, TN transactions on T+1 and SN transactions on T+2.

1.2 Deposits

Deposits are composed of unsecured interbank money market investments and loans. Measured by the market volume, deposits are the second most important instrument in short-term liquidity management. The outstanding amount is approximately CHF 100 billion. The turnover in the tom-next⁴ maturity segment exceeds the turnover in the other maturities. Interbank transactions with maturities of up to twelve months are not subject to withholding tax. Unsecured money market investments and loans are also concluded between banks and non-banks.

Banks increasingly strive to limit their credit risks, for example by introducing a counterparty limit determining the maximum claim on a counterparty depending on the maturity of the transaction. However, as the claim is still unsecured, counterparty limits cannot completely eliminate the credit risk but simply restrict the potential loss to the amount of the limit. First, a bank decides whether or not a credit limit is opened for a potential counterparty. It can be said as a rule that the longer the maturity, the smaller the counterparty limit. Starting with maturities of about one month, liquidity on the interbank market for deposits decreases significantly. In most cases, the premiums requested on the applicable Libor⁵ within the corresponding maturity vary depending on the credit rating⁶. Pursuant to the capital adequacy requirements stipulated in art. 12 of the Banking Ordinance, the premiums for non-banks should be higher than for banks provided that the equity capital costs arising from the deposit are taken into account in determining the price. Deposits are on the decline owing to the generally lower limits and the rising level of activity on the repo market. The increased use of derivative money market instruments for hedging purposes has also contributed to the decline in volumes traded on the deposit market.

The interbank market for deposits is much less transparent than the repo market. Whereas deposits are often mediated by brokers and concluded primarily by telephone or via Reuters Dealing, the counterparties in electronic repo trading usually are in direct contact.

5 The Libor (London interbank offered rate) is the interest rate that a premium borrower would have to pay for an unsecured money market loan. The Libor rate is fixed daily by the British Bankers' Association (BBA) for the major currencies. The Libor fixing is based on the deposit rates (offered rates) of the banks participating in the fixing. When selecting these banks, the BBA takes into account their reputation, their experience in the rele-

vant currency and their credit rating. The fixing of the Libor in Swiss francs is based on the interest rates of 12 banks; the average is calculated excluding the three lowest and the three highest interest rates (cf. www.bba.org.uk).

6 A credit rating is the assessment of a borrower's quality with regard to creditability and creditworthiness. Ratings are given by specialised, independent agencies.

1.3 Repo transactions

A repo transaction is, in economic terms, a loan secured by collateral. The cash taker sells the cash provider securities and repurchases them after a previously agreed period. The cash taker pays the cash provider a repo rate depending on the maturity of the transaction.

Compared to EUR and USD repo markets, the corresponding CHF market is still quite recent. CHF repo transactions were for the first time concluded via the electronic trading platform Eurex Repo in 1999. The launch of this market in Switzerland was decisively influenced by the decision of the Federal Tax Administration not to levy a stamp duty on repo transactions. The SNB also played a key role by starting to use repos as a monetary policy instrument in 1998.

Repo transactions can be broken down into general collateral (GC) repos and special repos, depending on their purpose. If a repo's main purpose is the investment or borrowing of short-term liquid funds (as is the case for foreign exchange swaps and deposits), it is a GC repo (money market transaction). In this kind of transaction, only the category, quality and rating of the collateral are usually agreed on between the counterparties. Four different baskets are currently available for CHF repos.⁷ If, by contrast, a repo transaction involves one specific security, this is called a special repo (capital market transaction). Special repos, which play only a minor role on the CHF market, serve for financing long securities positions and covering short securities positions.⁸ Moreover, the conclusion of special repos can boost the return on a securities portfolio.⁹

Apart from counterparty limits in deposits, credit risks can also be steered through repo transactions. In fact, the use of collateral in repo transactions brings about a more substantial reduction in

credit risks. The daily valuation of collateral and the automatic margin calls additionally contribute to increasing security. If the cash taker delivers collateral, its credit rating is less significant for the cash provider. The cash taker has access to liquidity at any time through the available collateral. The growing role of collateral as a money substitute thus also limits the risks of unexpected liquidity drains (liquidity risks).

Whether a cash provider invests liquidity by means of a deposit or a repo transaction depends, among other factors, on the applicable interest rates. The larger the spread between the deposit rate and the repo rate, the more attractive a deposit becomes compared with a repo transaction.

The spread between these two types of transactions depends on the collateral costs in repo transactions on the one hand and on the risk premium on the other. The repo rate is lower than the deposit rate as the cash taker has to deliver collateral in a repo transaction. The costs for procuring collateral are likely to amount to around 10 basis points (bp).¹⁰ The cash provider bases its calculation of the credit risk premium on the counterparty's default probability. For example, the annual default rate for ratings of the "investment grade" category between 1920 and 2003 averaged 0.15%.¹¹ In addition, a deposit – unlike a repo transaction – gives rise to equity capital costs. In the case of unsecured money market claims on banks (headquartered in OECD countries) and an arithmetic return on equity of 10%, capital costs amount to 20 bp pursuant to the capital adequacy requirements stipulated in art. 12 of the Banking Ordinance. If these costs are taken into account consistently, the interest rate spread between deposit and repo transactions has to amount to at least 20 bp.

7 A basket contains one or several securities categories that are deliverable as equivalent collateral within the basket. A minimum rating or a minimum issuing volume may limit the collateral belonging to a basket. The following baskets are available on the interbank market for CHF repos: CHF GC Basket (CHF denominated debt paper of the Confederation, the cantons, foreign banks and sovereign states, as well as mortgage bonds), Euro GC Basket (EUR denominated German and Austrian government bonds with a minimum volume of EUR 1 billion), German Jumbo Pfandbriefe GC Basket (EUR denominated German mortgage

bonds with a minimum volume of EUR 1 billion) and SMI GC Basket (all SMI stocks). The securities eligible for repo transactions with the SNB are combined in a collective basket – the SNB GC Basket – comprising the CHF, Euro and German Jumbo Pfandbriefe GC Baskets.

8 A long position is a position created through the purchase of a security. A short position is created through the sale of a security that was not purchased beforehand (short sale). A long position benefits from falling interest rates or rising prices, a short position from rising interest rates or falling prices.

9 Cf. Veyrassat (2003).

10 100 basis points correspond to 1 percentage point.

11 Cf. Moody's (2004).

Graph 1 illustrates the development of the spreads (annual averages) between quoted deposit rates and actually traded repo rates on the interbank market for one-week and three-month investments. Between 2000 and 2003, spreads have narrowed from 9–11 bp to around 5–8 bp.

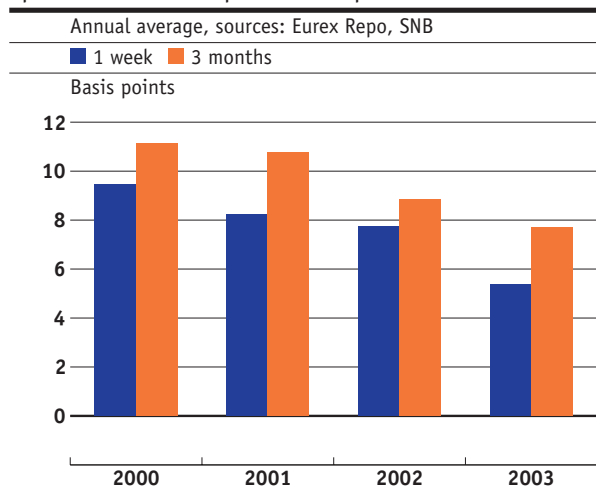
The above explanations lead to the conclusion that the price of collateralisation, i.e. the return loss on a repo compared with unsecured investments, is small for the cash provider. The decline in spreads observable since 2000 can be explained by the reduction in collateral costs thanks to the continuing activation of existing but as yet unused collateral, e.g. by means of securities lending and borrowing (SLB) and efficient collateral management systems. Since collateral costs incurred by a cash taker have declined, the latter will accept – given a certain deposit rate – a higher repo rate. Moreover, the adoption of a near zero interest rate policy by the SNB in March 2003 has – at a given repo rate – contributed to the further decline in the spread for one-week investments from an average of 8 bp in 2002 to 5 bp in 2003. In the second half of 2003, unsecured money market bid quotes for one-week investments averaged 10 bp, roughly corresponding to the collateral costs in repo transactions.

Repo trading takes place on the electronic trading platform Eurex Repo. More than 100 banks have already signed the Swiss framework agreement for repo transactions.¹² UBS Investment Bank, Credit Suisse and the Swiss Union of Raiffeisen Banks regularly act as market makers, i.e. they give binding buy quotes (bid) and sell quotes (ask) for repos with

maturities typically extending up to six months.¹³ The electronic trading platform is highly transparent: the prices and volumes of all transactions concluded along with the names of the banks giving quotes can be seen in the trading system. Repo transactions are settled via SIS SegInterSettle AG (SIS) and Swiss Interbank Clearing AG (SIC). The requirements for accessing the repo market thus follow cumulatively from the access conditions fixed by Eurex Repo, SIS, SIC and the SNB. The triparty services of SIS allow, firstly, the automatic settlement of transactions; secondly, the daily valuation of claims and liabilities in money and collateral; and thirdly, the automatic off-setting of margins and compensation.¹⁴

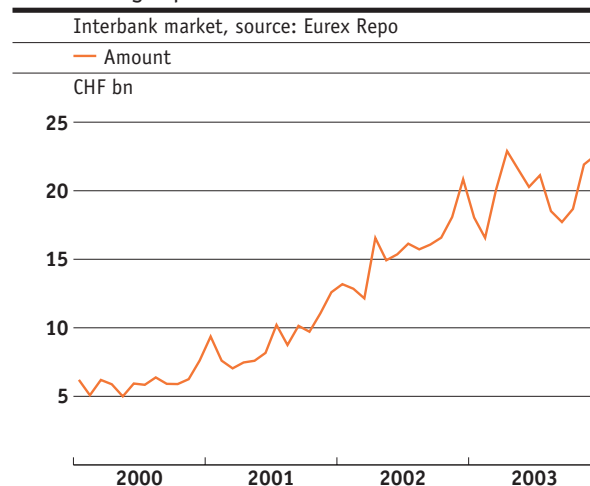
According to graph 2, the amount outstanding on the interbank market in January 2000 was CHF 6.2 billion (monthly average). By December 2003, this amount increased to CHF 22.6 billion. During the same period, the monthly turnover rose from CHF 24.5 billion to CHF 63.4 billion. The upward trend on the repo market was halted in 2003. Money market rates close to 0% led to a general decline in activity on the market. Owing to the low opportunity costs of keeping liquidity, the incentives to optimise liquidity decreased.

Graph 1
Spreads between deposit and repo rates



12 The Swiss framework agreement for repo transactions defines the legal relationship between the cash taker and the cash provider.

Graph 2
Outstanding repo amount



13 A buy or bid quote is a buying rate and a sell or ask quote is a selling rate. The buying rate is always lower than the selling rate. The difference between the buying and the selling rate is known as the bid-ask spread.

14 Compensation: the cash taker is indemnified for distributions paid on collateral (e.g. coupon payments) that are in the cash provider's custody account during the repo duration.

Graphs 3 and 4 show the outstanding amount and the monthly turnover on the interbank market for repo transactions, broken down by maturity.

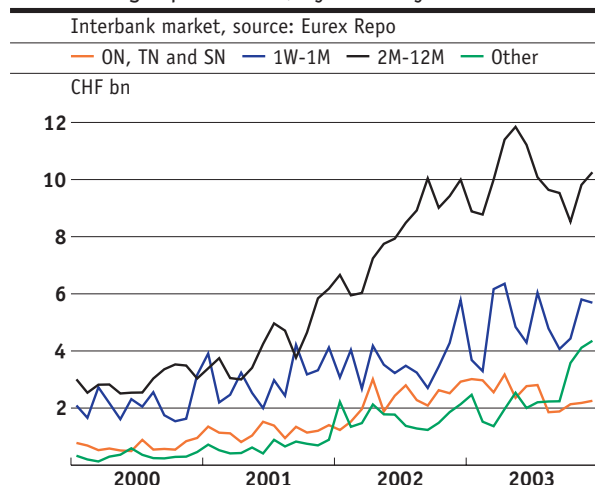
In December 2003, maturities between 2 and 12 months accounted for 45% of the outstanding amount, but for only 4% of the monthly turnover. Repo transactions are primarily used for short-term liquidity management. Day-to-day money repos (ON, TN and SN transactions), i.e. repos with a maturity of one bank business day, accounted for 74% of the turnover in December 2003, but for only 10% of the outstanding amount. The fall in the monthly turnover of day-to-day money repos is attributable to the SNB's quantitative relaxation of monetary policy in mid-2003. In 2003, an average of 57 transactions per day were concluded. The average residual maturity of all outstanding repo contracts increased from 28 days in January 2000 to 47 days in December 2003.

Graph 5 contains the number of monthly securities sales and repurchases concluded last year in the context of repo transactions (interbank market and

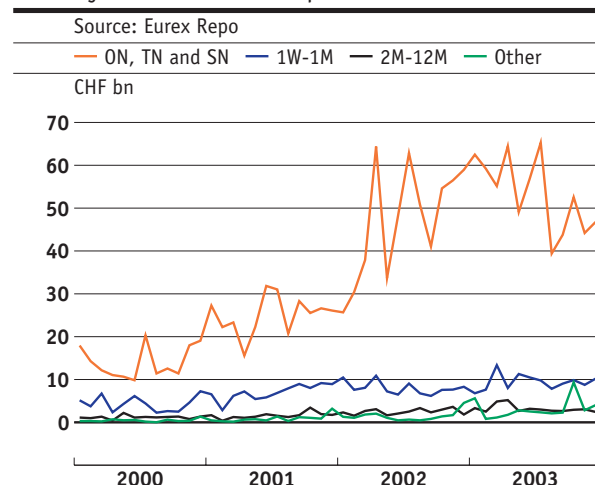
SNB). The bulk of transactions are settled on the regular settlement day. As graph 6 illustrates, a few transactions were settled only one bank business day after the regular settlement day (failed transactions). The very low number of transactions with delayed payment or delivery is an indicator of the banks' judicious liquidity and collateral management. A delay in payment or delivery results in transaction costs. In addition, the reputation of the counterparty suffers.

The interbank market for repo transactions is likely to continue growing, causing activity on the deposit market to weaken further. The increased substitution of deposits by repos is a welcome development. Instead of confidence being created through counterparty limits, repo transactions strengthen confidence in the functioning of the financial system – and thus contribute to lower systemic risks on the Swiss financial market – by reducing the credit, liquidity and settlement risks.

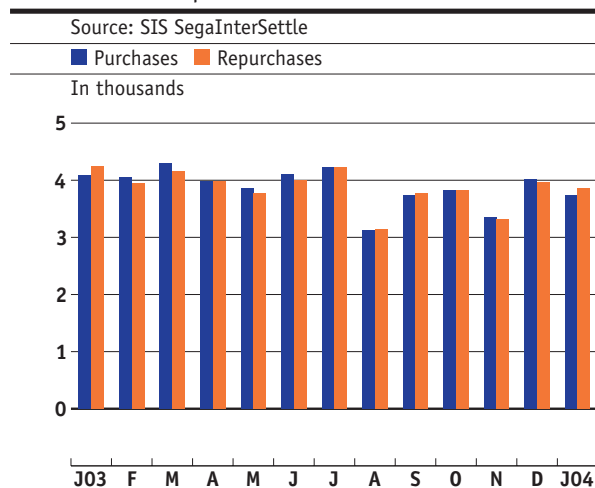
Graph 3
Outstanding repo amount, by maturity



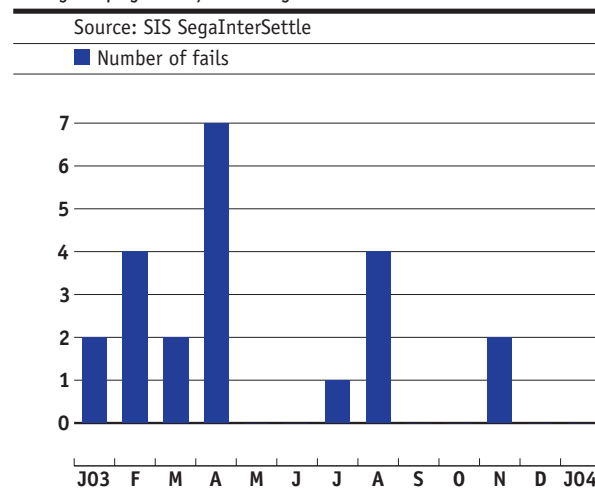
Graph 4
Monthly turnover on the repo interbank market



Graph 5
Purchases and repurchases of securities



Graph 6
Delayed payment/delivery



1.4 Time deposits and fiduciary investments

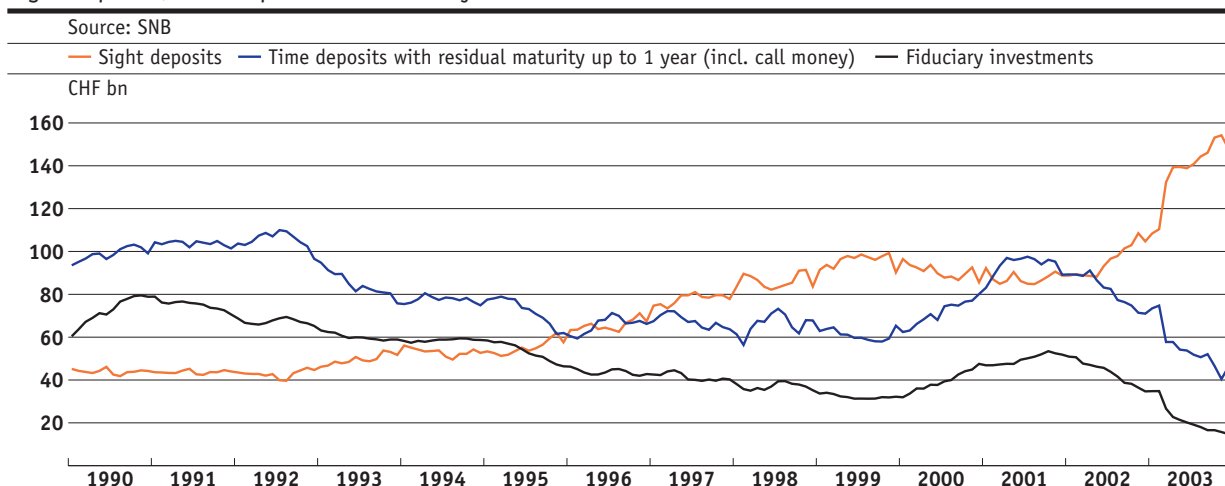
Time deposits, which are part of the M_3 monetary aggregate, are customer deposits placed with banks and have a fixed duration ranging from one to twelve months. The time deposits (including call money¹⁵) of domestic banks in all currencies amounted to CHF 71.0 billion at the end of 2003. The Swiss franc accounted for 65%. The EUR and USD portions were 17% and 14% respectively.

Fiduciary investments are time deposits concluded by a bank in its own name, but on the customer's account and at the customer's risk. Unlike time deposits, fiduciary investments are not shown in the bank's balance sheet and are therefore not a component of the M_3 monetary aggregate. Fiduciary investments are usually concluded with third-party banks abroad, including the foreign branches of Swiss banks. Fiduciary investments are so attractive because the return is exempt from withholding tax. This applies provided that the money is placed with a bank abroad, that the bank in Switzerland does not bear any risk and that a written contract has been concluded between the customer and the bank in Switzerland. The fiduciary commission payable by the customer amounts to up to 50 bp. In part, the customers decide with which bank abroad the money is to be placed. The customer's credit risk can be limited through counterparty limits. At the end of 2003, the outstanding fiduciary investments of domestic banks in all currencies amounted to CHF 408.4 billion. About 80% of the funds come from abroad.

Roughly 90% of all fiduciary investments are concluded in US dollars, euros and Swiss francs. The share of the Swiss franc was 3.6% at the end of 2003, that of the euro 33.1% and that of the US dollar 52.3%. At the end of 1990, the Swiss franc share – at over 20% – reached a record high.

Time deposits and fiduciary investments are subject to strong interest rate-induced fluctuations. Graph 7 illustrates that the introduction of virtually a zero interest rate policy by the SNB in March 2003 triggered a massive fall in customer time deposits and fiduciary investments. By the end of December 2003, the interest rate for three-month time deposits slipped to 10 bp. Time deposits (including call money) contracted by 35% to CHF 46.1 billion between the end of 2002 and the end of 2003. Fiduciary investments in CHF receded by 57% to CHF 14.8 billion during the same period. At the end of 1990, they had amounted to almost CHF 80 billion. Owing to the low opportunity costs of keeping liquid funds, customer deposits were held mostly at sight. Between end-2002 and end-2003, sight deposits surged by 41% to CHF 148.0 billion.

Graph 7
Sight deposits, time deposits and fiduciary investments of domestic banks



15 Call money is an investment without a fixed term. The total or partial amount can usually be called at 48 hours' notice. The interest rate on call money is continuously adjusted to the market rate. This type of investment is thus well suited when rising interest rates are expected.

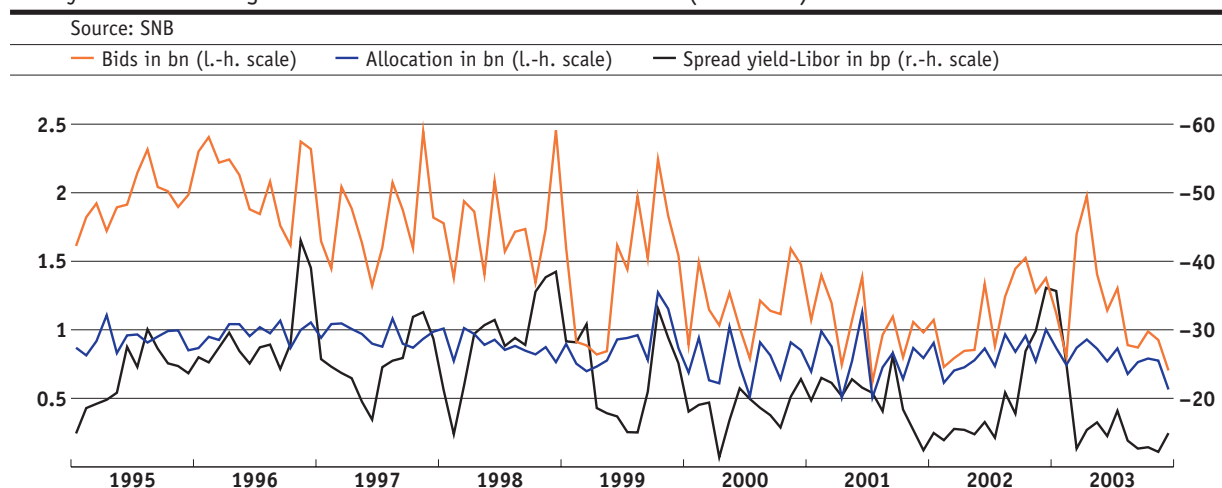
1.5 Money market debt register claims of the Swiss Confederation

For short-term refinancing purposes, the Swiss Confederation participates in the money market by issuing money market debt register claims (MMDRCs). MMDRCs are outstanding accounts which are negotiable on a discount basis and are recorded in a register. The smallest negotiable denomination is CHF 50,000.

MMDRCs are issued at weekly auctions via the electronic trading platform Eurex Repo. As a rule, MMDRCs have a term of 3 months (or occasionally 6 or even 12 months). The outstanding amount of MMDRCs at end-2003 was CHF 10.7 billion. This amount has fluctuated between CHF 10.2 billion and CHF 17.1 billion since 1995. Graph 8 shows how interest in MMDRCs has waned sharply in terms of the development of bids. Auction bids of three-month MMDRCs with a December 2003 settlement date averaged only CHF 0.7 billion. The lack of interest can be explained partly by the interest rate paid on MMDRCs, which is usually below the corresponding Libor owing to the prime credit rating of the Swiss Confederation. The allocation of the Confederation has also trended lower during the period under review.

The USD money market is characterised by extensive trading in Treasury bills, commercial paper, medium-term notes, banker's acceptances and certificates of deposit.¹⁶ There is no comparable market in Swiss francs. The reason for this was, for quite some time, the stamp duty which was levied on securities transactions. In 1998, however, the duty on money market paper was abolished under the revised Act on Stamp Duty. Nevertheless, trading in money market paper in Switzerland has not experienced a revival since then. Even before 1998, MMDRCs were not subject to stamp duty as they were not issued in the form of securities.

Graph 8
Money market debt register claims of the Swiss Confederation (3 months)



16 Cf. Fabozzi, Mann, Choudhry (2002, p. 1).

1.6 Derivative money market instruments

The derivative financial instruments used by money market traders include tom-next index swaps, forward rate agreements, interest rate futures as well as options on forward rate agreements and on interest rate futures. An interest rate serves as the underlying for derivative money market instruments.

Tom-next index swaps

A tom-next (“tomorrow-next”) index swap (TOIS) is an interest rate derivative with a very liquid market, in which not only domestic banks but also internationally operating banks abroad participate.¹⁷ The TOIS supplements the shorter maturities not covered by interest rate swaps.¹⁸ Compared with the corresponding instruments in other currencies, the TOIS is a relatively recent instrument on the CHF money market.¹⁹

The TOIS is an OTC transaction.²⁰ The party buying the TOIS pays a fixed interest amount upon maturity and receives a floating interest amount for the agreed term. Only the difference between the floating and the fixed interest payment is transferred to the party with a net claim on the other. The floating interest payment is pegged to a tom-next index, also known as the TOIS fixing. The tom-next index is computed daily based on an average of offer quotes for unsecured tom-next funds of 30 banks. The three highest and the three lowest rate quotations are not used to calculate the arithmetic mean. Unlike the interest rate swap, the floating interest payment is calculated based on the accrued interest reinvested daily at the tom-next index rate. The bid and offer rates on which the fixed interest payment is based are set by the market makers for different maturities. A TOIS can also be concluded on a forward basis.

As the notional amounts are not exchanged, the credit risk merely relates to the net claim or net liability. Maturities range from one week to two years. The instrument is of particular interest to cash managers who wish to hedge against interest rate movements at the front end of the interest rate curve. Repo transactions and deposits as well as interest rate mismatches between the assets and the liabilities side can be hedged by means of a TOIS. A TOIS may, for example, be purchased to hedge a day-to-day money loan that is refinanced daily, from the borrower’s viewpoint, against rising day-to-day money rates for the corresponding TOIS maturity. TOIS are also used to build up speculative positions.

17 Cf. Trauth (2002).

18 An interest rate swap is a capital market instrument. The floating rates are usually based on the Libor.

19 On the markets abroad, overnight index swaps (OIS) have supplemented the shorter matu-

rities not covered by interest rate swaps. The corresponding instrument on the EUR money market is based on the EONIA (Euro ON index average). This interest rate is an ON index weighted according to the unsecured transactions on the interbank market. Around

TOIS trading was started in 1998. Measured by the book volume, the TOIS is the most liquid interest rate derivative on the CHF money market. The outstanding book volume in the trading books of 16 market makers averaged CHF 490.6 billion in 2001.²¹ Trading takes place by telephone or on trading platforms such as Reuters Dealing. Both banks and brokers regularly set bid and offer rates for TOIS. The spread between the bid and offer rates is about 3 to 4 bp.

Forward rate agreements

A forward rate agreement (FRA) is an OTC transaction whose terms and conditions are negotiated by the counterparties.²² The term of the contract begins on the settlement date, i. e. on a specific date in the future agreed upon between the counterparties upon conclusion. In a “3 v 6 FRA”, for example, the three-month contract term starts in three months. On the settlement date, a purchaser of FRA receives the present value of the differential between the reference rate and the FRA rate – based on the notional – agreed on the day of conclusion. The reference rate (typically Libor) is determined on the fixing date, which is generally two business days before the settlement date. The differential is present-valued because payment is made at the beginning of the life of the contract. The trading terms for the FRA market are fixed by the British Bankers’ Association (BBA).

By purchasing (selling) a FRA, a future loan (future investment) can be hedged against rising (falling) interest rates. Buying a FRA (entering into a FRA long position) also permits speculation on a rise in interest rates (provided that a money market trader believes that the reference rate on the fixing date will exceed the forward interest rate applicable today). Future loans and investments can also be hedged by options on the purchase or sale of an FRA.

The CHF market for FRAs is a liquid market. According to BIS surveys, however, the outstanding book volume dropped from CHF 483.8 billion in 1998 to CHF 261.1 billion in 2001 (end-of-June figures). The corresponding market value decreased from CHF 758 million to CHF 521 million during the same period.²³ FRA rates are set by banks and brokers. Like TOISs, FRAs are also traded by telephone or via trading systems such as Reuters Dealing. Bid-ask spreads are in the range of 2 to 4 bp.

50 banks participate in the fixing of the EONIA, which is calculated by the European Central Bank (ECB).

20 OTC stands for over-the-counter. An OTC transaction has the following features: non-standardised maturity date, not

traded on the stock exchange, no central counterparty.

21 Cf. Trauth (2002, p. 36).

22 Cf. Fabozzi, Mann, Choudhry (2002, pp. 221–228).

23 Cf. Bank for International Settlements (1999 and 2002).

Interest rate futures

Interest rate futures are also forward transactions, but a standardised version of an FRA. These instruments can be used for hedging or speculation purposes: interest rate futures are sold (purchased) in order to hedge against rising (falling) interest rates. Futures on CHF interest rates and the corresponding options are traded on the anonymous market of the London Liffe (London International Financial Futures and Options Exchange), which belongs to the Euronext group. Futures trading takes place on the electronic platform called Liffe Connect.²⁴ The standardisation increases the market's liquidity and price transparency. In its role as central counterparty, the London Clearing House (LCH) guarantees all trades concluded. Settlement is also made through LCH. Trade orders are entered into a central order book, and trades are concluded via automatic matching. The positions of the counterparties are revalued daily (mark-to-market principle). Position gains are credited – and position losses debited – to the margin account on a daily basis (variation margin). An initial margin to be paid by a clearing member offers the LCH protection against losses sustained by the default of such member. If the balance on the account drops below the maintenance margin (the minimum security that has to be maintained at all times), the difference must be paid in. Central netting helps to reduce margin calls. As a rule, interest rate futures fall due every quarter, i.e. in March, June, September and December.

The outstanding book volume has risen steadily since 2001 to reach CHF 277.5 billion at the end of January 2004.

2 Participants in the CHF money market

2.1 SNB

The SNB supplies the banks with liquidity via repo transactions virtually on a daily basis. As a rule, repos are auctioned in the morning or are concluded in the course of the day on a bilateral basis. The liquidity is credited to non-interest-bearing sight deposits which the banks keep with the SNB. The demand for sight deposits (at the end of the day) is primarily determined by the minimum reserve requirements stipulated in the National Bank Act. According to these provisions, the banks must cover certain short-term liabilities with coins, banknotes and sight deposits held with the SNB. Since liquidity is provided only via repo transactions with maturities between overnight and three weeks, the banks have continuous demand for liquidity. Moreover, the demand partly stems from payment transactions and from the need for precautionary balance. Since 1999, the SNB has offered repo liquidity by means of the intraday facility (intraday repos). This facility covers most of the demand for sight deposits resulting from payment transactions. The liquidity provided by the SNB is then traded on the interbank market.

Interest rates on the money market are influenced by the price and volume of the liquidity injected by the SNB. In addition, they are determined by the demand for and the distribution of liquidity, the maturities, interest rate expectations, the collateral furnished and the credit rating of the market participants. The interest rate on the CHF money market that is relevant for monetary policy is the three-month Libor, for which the SNB sets a target range. The SNB indirectly steers the Libor by fixing the repo rates and the size of the sight deposits.²⁵ Since monetary stimuli are transmitted via the money market, the SNB endeavours to offset any unwanted imbalances in the money market. Its aim is to maintain a liquid and smoothly functioning repo market.

Since 2000, the SNB has steered the Libor solely through repo transactions; previously, foreign exchange swaps (mainly USD against CHF) were the most significant monetary policy instrument.

24 Cf. www.liffe.com.

25 Cf. Veyrassat (2001) for a more detailed description of how the SNB steers the three-month Libor.

2.2 Commercial banks

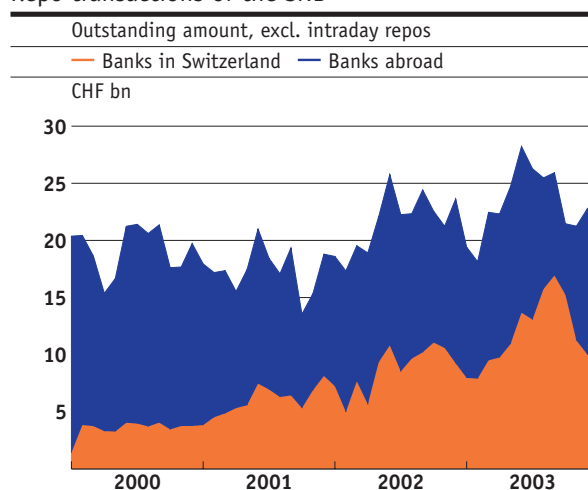
The commercial banks in Switzerland and abroad are the most important group of participants in the money market. Most of the turnover for the off-setting of payment flows on the interbank market is in the short maturity segment, notably in overnight and tom-next transactions. The big Swiss banks, the leading cantonal banks and a large number of European banks are the dominant participants on the CHF day-to-day money market. Only banks that have a certain minimum credit rating and whose name is well known on the market are accepted as counterparties on the unsecured money market. Money market participants with a low rating, lesser known banks and institutions that do not enjoy the confidence of other market participants can usually access the repo market only. The interest rate that banks have to pay for unsecured loans corresponds in most cases to the Libor. Refinancing through repos, by contrast, is at rates below the Libor.

Not only banks in Switzerland but also banks located abroad have a regular demand for CHF liquidity. Both can access the liquidity provided by the SNB. Since 1999, the SNB has also accepted euro-denominated collateral provided that certain conditions are met.²⁶ Eurex Repo participants may participate in the repo auctions, conclude intraday repos and use the liquidity-shortage financing facility.²⁷

In 2003, a total of 66 banks concluded interbank transactions via the trading platform Eurex Repo. Of these banks, 12 were located abroad; they accounted for 21% of the average outstanding amount on the interbank market for CHF repo transactions. In the same year, the percentage of foreign banks participating in the SNB's repo transactions (excluding intraday repos) was, at 51%, even significantly higher than on the interbank market. As graph 9 shows, foreign banks account for a growing proportion of the outstanding amount of SNB repo transactions (excluding intraday repos).

Banks abroad conduct refinancing in Swiss francs chiefly through foreign exchange swaps against US dollars and deposits. Banks abroad participate in the SNB's repo auctions if, for example, there are arbitrage possibilities versus the euro money market. In this case, CHF amounts are exchanged into the respective currency through foreign exchange swaps. On the one hand, higher refinancing activity through SNB repos can help to reduce the dependence of foreign-based banks on their correspondent banks in Switzerland. Furthermore, collateral eligible for SNB repo transactions can help these foreign-based banks to mitigate any severe liquidity risks. On the other hand, the credit risks of Swiss correspondent banks could be reduced if the banks abroad managed their CHF liquidity autonomously.

Graph 9
Repo transactions of the SNB



26 Cf. section 1.3.

27 The liquidity-shortage financing facility can be used either through conventional Lombard advances or special-rate repo transactions. Lombard advances

are due to be replaced entirely by special-rate repo transactions by the end of 2005. The special rate is 2 percentage points above the day-to-day money rate (cf. www.snb.ch).

2.3 Brokers, commercial bank customers and the Federal Finance Administration

Brokers mediate between the suppliers and demanders of money market liquidity, interest risk exposure and interest risk hedging without entering into a position themselves. The trend towards reducing counterparty limits for unsecured money market investments is increasingly forcing brokers to mediate transactions with derivative financial instruments. Given the increased use of electronic trading platforms, though, brokers risk being sidelined and are therefore on the lookout for new business fields such as the structuring of complex financial transactions. Brokers are also increasingly trying to acquire non-bank customers.

Commercial bank customers participate in the money market to manage their liquidity requirements. Industrial enterprises and institutional investors place excess liquidity on the market or use it for short-term refinancing. Among the money market instruments employed are foreign exchange swaps, deposits, repo transactions and derivatives. Measured by the number of transactions, the most common instruments are foreign exchange swaps, followed by deposits. For unsecured loans, commercial customers usually have to pay a premium on the Libor which is determined by their rating.

The Federal Finance Administration also participates in the money market. Unlike Postfinance, however, it does not participate independently but has commissioned the SNB to do so on its behalf. On the one hand, the SNB brokers money market loans for the Swiss Confederation to cover the short positions resulting from liquidity management, while on the other hand the Confederation places money market investments with the SNB. The SNB pays interest at market rates (for the relevant maturities) on money market investments. The sight deposits of the Swiss Confederation up to an amount of CHF 600 million bear interest at the day-to-day money rate. Furthermore, the SNB conducts the auctions of the Swiss Confederation's MMDRCs and bonds via the electronic repo trading platform.

3 Conclusion

Against the backdrop of extraordinarily low money market rates in 2003, activity on the CHF money market was subdued. Various innovations, however, have enhanced the attractiveness of the money market in the past few years. In short-term liquidity management, the popularity of secured transactions is increasing at the expense of deposit market transactions. Banks are becoming increasingly aware of the significance of collateral in hedging credit and liquidity risks. The risks entered into on the deposit market and the associated equity costs are probably not always fully offset by the applicable market prices. Nevertheless, foreign exchange swaps and deposits are still the dominant instruments used for short-term liquidity management. The prerequisites for a further expansion of the repo business are an even stronger focus on credit and liquidity risks, intensified use of systems for collateral management and cooperation between the banks' capital and money market divisions. Based on such cooperation, unused collateral can serve to procure liquidity. The activation of collateral means that refinancing on the interbank market or through the SNB is possible at any time. Eurex Repo, the electronic trading platform, the triparty services of SIS, and SIC provide the CHF money market with a modern infrastructure which makes efficient repo trading possible. Given the international significance of the Swiss franc, foreign-based banks that are already very active in derivative money market instruments are likely to become increasingly active in the repo interbank market in the future.

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Chronicle of monetary events

Increase in the target range for the three-month Libor

On 16 September 2004, the Swiss National Bank increased the target range for the three-month Libor rate with immediate effect by 0.25 percentage points to 0.25%–1.25%. It intends to keep the rate in the middle of the target range at around 0.75% for the time being.

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