

September 2006

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SCHWEIZERISCHE NATIONALBANK  
BANQUE NATIONALE SUISSE  
BANCA NAZIONALE SVIZZERA  
BANCA NAZIUNALA SVIZRA  
SWISS NATIONAL BANK



# Quarterly Bulletin

# Swiss National Bank Quarterly Bulletin

September 3/2006 Volume 24



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## Overview

### Monetary policy report (p. 6)

The rapid expansion in the global economy continued in the second and third quarters of 2006. Whereas the US economy, which had been on the upswing for a long time, slackened in the second quarter, growth in the EU strengthened. The economic upturn continued in Japan, too, as it did in most other Asian countries, particularly in China. These developments occurred against the background of strong fluctuations in the price of oil. A number of indicators suggest that growth rates in the industrial countries have now reached their peaks. All the same, the economic outlook is still favourable. This was, for example, reflected in the rise in share prices, which began in July, and in the consensus forecasts for real GDP growth, which remained upbeat.

In the second quarter, the powerful economic recovery continued in Switzerland, too. Real GDP was up 3.0% on the previous period, thus exceeding the corresponding year-back level by 3.2%. Apart from government spending, all components of demand were higher than in the previous quarter, with equipment investment and foreign trade making the biggest contribution to growth. In foreign trade, exports rose moderately while imports dropped slightly. The situation on the labour market continued to improve. However, the volume of work rose less rapidly than in the first quarter, and the decline in unemployment was a little slower between April and August. The SNB expects GDP to grow by just under 3% for 2006. It projects a continuation of the economic upswing in 2007, with GDP growth likely to fall back slightly towards the figure for potential growth. This development reflects the SNB's interest rate hikes so far as well as the expected levelling off in the economic activity of Switzerland's most important trading partners.

On 14 September, the SNB lifted the target range for the three-month Libor by 0.25 percentage points to 1.25–2.25%. It intends to hold the rate in the middle of the target range for the time being. By raising the target range, the SNB has brought its monetary policy course into line with economic activity, thereby ensuring that the inflation outlook remains favourable.

### The economic situation from the vantage point of the delegates for regional economic relations (p. 40)

In talks with the SNB delegates for regional economic relations held between June and August, around 150 representatives from various industries expressed great optimism with regard to the current economic situation and the outlook. The companies surveyed could not detect any sign of a slowdown in the second half of 2006, and were expecting sales to remain healthy in 2007. The main concerns were the continued steep rise in commodity prices, and the danger of a weakening dollar.

### Swiss National Bank Working Papers (p. 44)

Abstracts of three papers: Urs W. Birchler and Matteo Facchinetti, *Can bank supervisors rely on market data? A critical assessment from a Swiss perspective*, SNB Working Paper 2006-8; Petra Gerlach-Kristen, *A two-pillar Phillips curve for Switzerland*, SNB Working Paper 2006-9; Kevin J. Fox and Mathias Zurlinden, *On understanding sources of growth and output gaps for Switzerland*, SNB Working Paper 2006-10.

# Monetary policy report

Report to the attention of the Governing Board of the Swiss National Bank for its quarterly assessment of September 2006

This report is based primarily on the data and information available as at mid-September 2006.

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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 developments.

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 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 2006. The key developments and section 4 (inflation forecast) take due account of the Governing Board's monetary policy decision of 14 September 2006.

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

## Key developments

The rapid expansion in the global economy continued in the second and third quarters of 2006. Whereas the US economy, which had been on the upswing for a long time, slackened in the second quarter, growth in the EU strengthened. The economic upturn continued in Japan, too, as it did in most other Asian countries, particularly in China. A number of indicators suggest that growth rates in the industrial countries have now reached their peaks. All the same, the economic outlook is still favourable. This was, for example, reflected in the rise in share prices, which began in July, and in the consensus forecasts for real GDP growth, which remained upbeat.

In the run-up to each inflation forecast, the SNB prepares a global economic scenario which it views as the most likely development over the next few years. Despite the expected slowdown in growth, the SNB's assessment remained optimistic. While it revised its assumption of GDP development in the US slightly downwards to 3.4% in 2006, it left the growth assumption for the EU countries (EU15) at 2.3%. The assumptions for 2007 and 2008 remained largely unchanged, corresponding to a GDP increase of around 3% in the US and 2% in the EU. This is almost in line with the corresponding growth potential.

In Switzerland, the powerful economic recovery continued in the second quarter. Real GDP was up 3.0% on the previous period, thus exceeding the corresponding year-back level by 3.2%. Growth remained broad-based, with the manufacturing sector and the construction industry making particularly strong contributions to the upswing. Among demand components, equipment investment, in particular, helped to shore up economic growth. The healthy economic situation was also reflected in the labour market. However, the volume of work rose less rapidly than in the first quarter, and the decline in unemployment was a little slower between April and August.

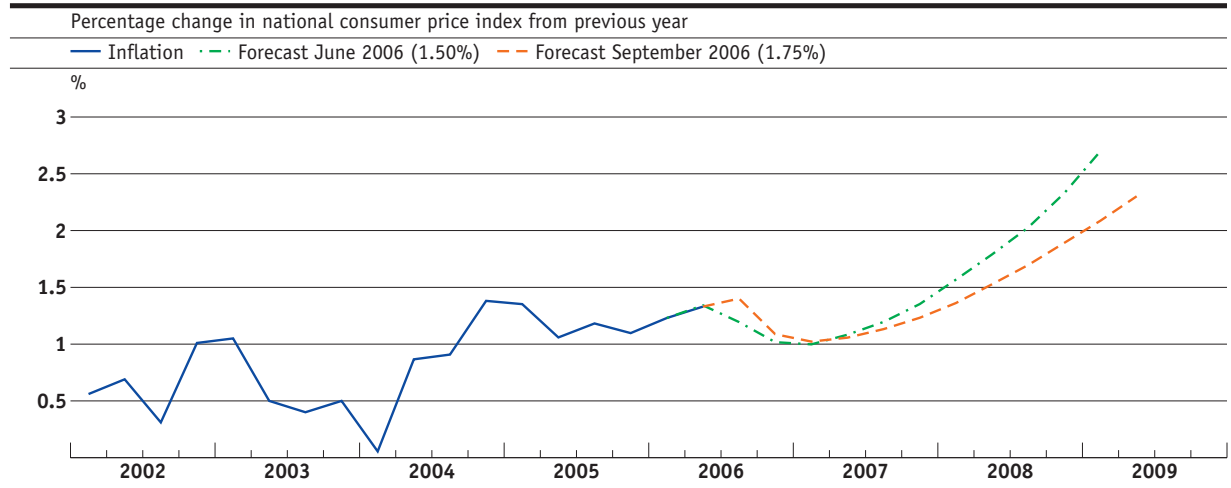
The SNB projects GDP growth of just under 3% for 2006. This forecast is based on the assumption that economic growth in the second half of 2006 will be somewhat lower than in the first half of the year. The impetus generated by foreign trade and construction, in particular, is likely to weaken. The SNB projects a continuation of the economic upswing in 2007, with GDP growth – at 1.8% – falling back slightly towards the figure for potential growth. This development reflects the SNB's gradual interest rate adjustments so far as well as the expected slight levelling off in the economic activity of Switzerland's most important trading partners in 2007. A certain slowdown in economic growth is considered necessary, since aggregate economic capacities are now running at almost full capacity.

At its quarterly assessment in September, the SNB decided to lift the target range for the three-month Libor by 0.25 percentage points to 1.25–2.25% and to keep the rate in the middle of the target range for the time being. By raising the interest rate, the SNB has further adjusted its monetary policy to economic activity, thereby ensuring that the inflation outlook remains favourable.

According to the September inflation forecast, which is based on the assumption that the three-month Libor remains steady at 1.75% over the next three years, inflation will remain moderate. Owing to the healthy and broad-based growth in the economy, companies' capacity utilisation improved further. However, as economic growth is likely to slow down in the coming quarters, there is hardly any danger of the economy overheating, thereby pushing up prices. With the monetary aggregates remaining almost steady ( $M_3$ ) or even declining ( $M_1$  and  $M_2$ ), long-term inflation prospects have improved from this perspective, too.

By raising interest rates in September, the SNB maintained to its monetary policy course of normalisation. If the economy performs as expected, it will further pursue the gradual adjustment of its monetary policy.

Inflation forecast of June 2006 with Libor at 1.50% and of September 2006 with Libor at 1.75%



**Inflation forecast of September 2006 with Libor at 1.75%**

	2006	2007	2008
Average annual inflation in percent	1.3	1.1	1.6

# 1 Developments in the global economy

The rapid expansion in the global economy continued in the second and third quarters of 2006. Whereas the US economy, which had been on the upswing for a long time, slackened in the second quarter, growth in the EU strengthened. The economic upturn continued in Japan, too, as it did in most other Asian countries, particularly in China. These developments occurred against the background of strong fluctuations in the price of oil. After the oil price had reached a new peak of USD 78 per barrel in early August, it fell back to around USD 62 by mid-September.

A number of indicators suggest that growth rates in the industrial countries have now reached their peaks. All the same, the economic outlook is still favourable. This was, for example, reflected in the rise in share prices, which began in July, and in the consensus forecasts for real GDP growth (cf. table 1.1), which remained upbeat. In its half-year report published in September, the International Monetary Fund (IMF) expects the world economy to experience strong growth of nearly 5% in 2007, almost in line with the expectations for 2006. The IMF considers the main risks to be a rise

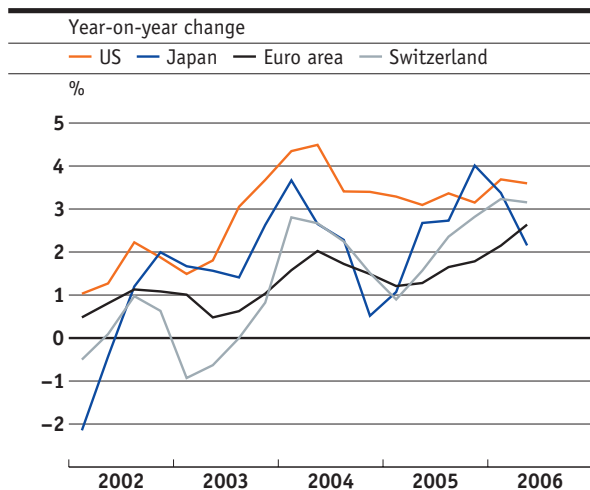
in inflation rates due to the worldwide increase in capacity utilisation, the possibility of another surge in oil prices and the threat of a radical correction to the US real estate market.

## Economic slowdown in the US

The US economy has lost some momentum after three very dynamic years. Real GDP increased by 2.9% in the second quarter, compared with 5.6% in the previous period. Private consumption expanded at a slower rate, while spending on investment declined. Exports, by contrast, continued to drive growth. The decrease in residential construction, which is sensitive to movements in interest rates, was in line with expectations, but the contraction in equipment investment came as a surprise.

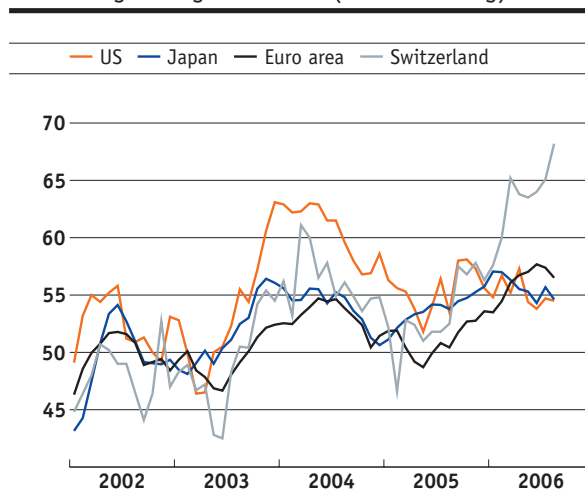
The economic slowdown is primarily the result of the Fed's tighter monetary policy aimed at preventing a rise in inflation expectations. The consensus forecast puts US economic growth for 2007 close to its potential rate of increase of around 3%, as against an estimated 3.4% in 2006. Income trends, which were robust through to the end of the period, and low unemployment underpinned the economy. Moreover, the capital stock was low in relation to GDP, which points to a pent-up demand for equipment investment.

Graph 1.1  
Real GDP



Sources: State Secretariat for Economic Affairs (seco), Thomson Datastream, SNB

Graph 1.2  
Purchasing managers' indices (manufacturing)



Source: Thomson Datastream

### Brisk revival in Europe

Economic recovery in Europe has clearly picked up steam over the past few months. Real GDP in the euro area increased by 3.6% in the second quarter compared with the previous period, marking the fastest growth rate recorded since the beginning of 2000. Healthy domestic demand shored up the upswing, whereas foreign trade added less momentum than before. Growth rates above 3% were recorded in France, the Netherlands, Austria, Germany and Spain, in particular. Yet this strong expansion was in part due to special factors, particularly the soccer world cup and pent-up demand in the construction sector.

The economic outlook for the euro area remained bright. Employment, which has been improving in the past few months, is likely to further stimulate private consumption. However, the slightly tighter monetary policy pursued by the European Central Bank (ECB), the plans of various countries to tighten fiscal policy and weaker demand from the US can be expected to put a damper on economic activity. The consensus forecast published in August predicts GDP growth to decelerate from 2.3% in 2006 to 1.8% in 2007.

### Upswing in Asia continues

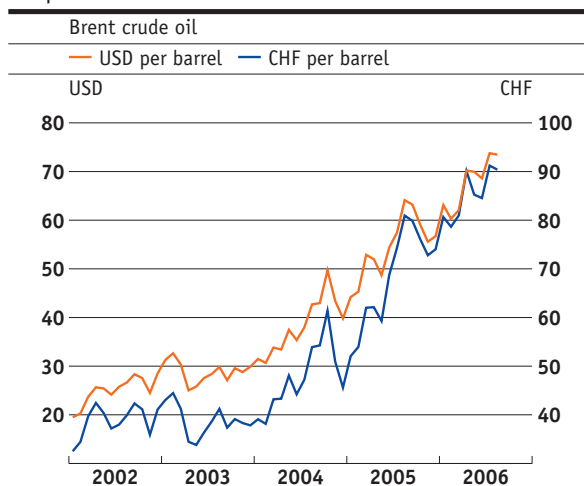
Japan saw real GDP grow by a weak 0.8% in the second quarter. This was largely the result of an unexpected slump in residential construction, which was not offset by the expansion in private consumption and corporate investment. Thanks to the improvement in the labour market and the continuing upswing in the rest of Asia, however, economic prospects remained favourable. In August, the consensus forecasts for 2006 and 2007 put real GDP at 2.9% and 2.2% respectively.

The Chinese economy still did not show any signs of a slowdown. In the second quarter, it expanded by over 11% year-on-year, exceeding even the high growth rates recorded in the past few years. Whereas investment activity and exports continued to boom, private consumption accelerated on the back of the dynamic income trend.

### Inflationary pressures unabated

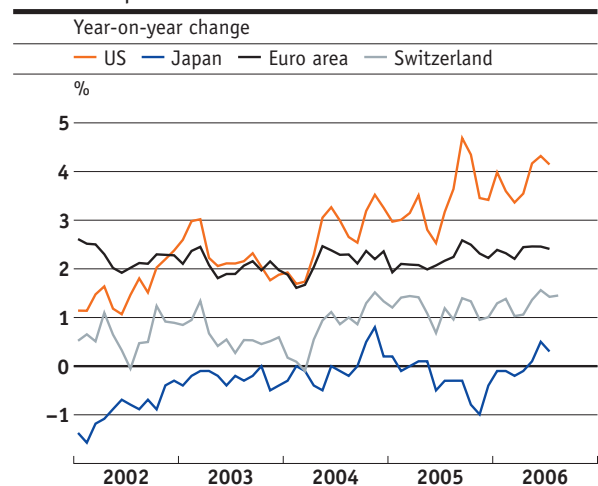
In the industrial countries, the focus was still on price developments, given the surge in the price of oil and the increasing utilisation of production capacity. Annual consumer price inflation in the US rose by 0.8 percentage points to 4.2% between

Graph 1.3  
Oil prices



Sources: Reuters, SNB

Graph 1.4  
Consumer prices



Sources: Swiss Federal Statistical Office (SFSO), Thomson Datastream

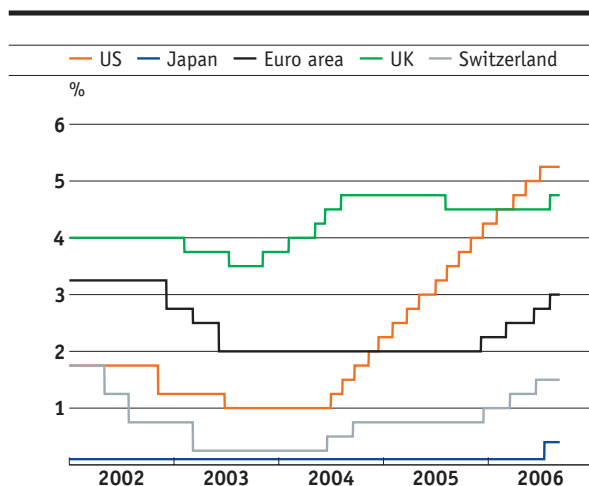
March and July. Core inflation, which excludes energy and food prices, also rose substantially, by 0.6 percentage points to 2.7%. Annual inflation in the euro area eased slightly to 2.3% in August, but it was still above the ceiling of the ECB's definition of price stability. Core inflation remained in the region of 1.4%. In Japan, annual inflation was again close to zero (0.3%) in July following a revision of the commodities basket. The original method of calculation had shown much more clearly that deflation had been overcome.

### Further tightening of monetary policy

The large industrial countries have pursued differing monetary policies over recent months. This reflects the fact that these countries are currently at different stages of the economic cycle. The US Federal Reserve held the federal funds rate steady at 5.25% at the beginning of August, after 17 consecutive hikes of 0.25 percentage points each time. It indicated that it had made its decision with a view to the cooling economy and the contained inflation expectations. By contrast, the ECB lifted the main refinancing rate by another quarter percentage point to 3% in early August,

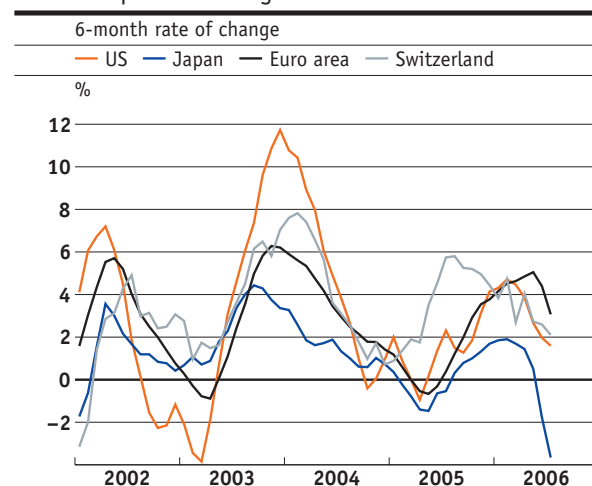
stating that the medium-term inflationary risks necessitated a less expansionary monetary policy stance. Given the favourable economic situation, the Bank of Japan raised the call money rate from nearly 0% to 0.25% in mid-July, thus ending the zero-rate policy it had pursued since 2001.

Graph 1.5  
Official interest rates



Sources: Thomson Datastream, SNB

Graph 1.6  
OECD composite leading indicators



Source: OECD

## Consensus forecasts

Table 1.1

	Economic growth <sup>1</sup>				Inflation <sup>2</sup>			
	May		August		May		August	
	2006	2007	2006	2007	2006	2007	2006	2007
United States	3.4	2.9	3.4	2.7	3.2	2.4	3.6	2.8
Japan	3.0	2.3	2.9	2.2	0.4	0.6	0.6	0.7
Euro area	2.1	1.8	2.3	1.8	2.1	2.1	2.3	2.2
Germany	1.8	1.1	1.9	1.1	1.7	2.3	1.8	2.4
France	2.0	2.0	2.1	1.9	1.7	1.5	1.8	1.7
Italy	1.2	1.2	1.4	1.2	2.1	1.9	2.2	1.9
United Kingdom	2.3	2.5	2.5	2.4	2.0	2.0	2.2	2.1
Switzerland	2.3	1.7	2.8	1.9	1.1	1.1	1.3	1.2

1 Real GDP, year-on-year change in percent

2 Consumer prices, year-on-year change in percent

Source: Consensus Forecasts, May 2006, August 2006. Consensus forecasts are monthly surveys conducted among over 240 companies and economic research institutes in more than 20 countries, covering predictions for the expected development of GDP, prices and other economic data. The results are published by Consensus Economics Inc., London.

## 2 Developments in the Swiss economy

### 2.1 Aggregate demand and output

#### GDP growth remains strong

In Switzerland, the powerful economic recovery continued in the second quarter. Real GDP was up 3.0% on the previous period, thus exceeding the corresponding year-back level by 3.2%. Apart from government spending, all components of demand were higher than in the previous quarter, with equipment investment and foreign trade making the biggest contribution to growth. In foreign trade, exports rose moderately while imports dropped slightly. The healthy economic situation was also reflected in the labour market. However, the volume of work rose less rapidly than in the first quarter, and the decline in unemployment was a little slower between April and August.

#### Manufacturing and construction as major driving forces

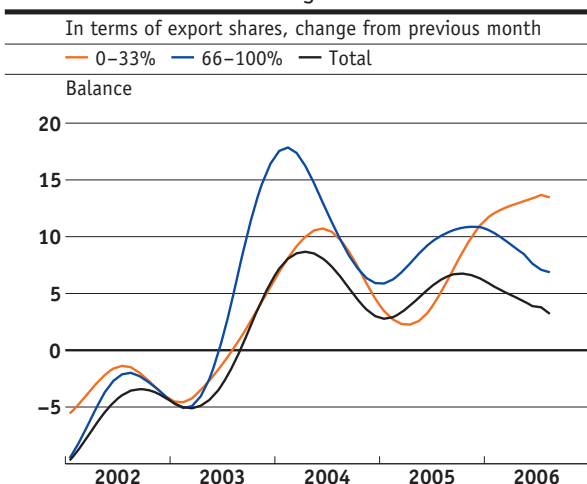
Economic growth also showed itself to be broad-based when broken down by industry. The manufacturing sector and the construction industry made particularly strong contributions to growth. By contrast, added value generated by the financial sector, which had risen strongly in the first quarter, was lower in the second quarter.

The strength of economic activity in manufacturing was also reflected in the production figures published by the Swiss Federal Statistical Office (SFSO). In the second quarter, manufacturing output was up by 7% on the first quarter figure, exceeding the corresponding year-back level by 4.4%. By historical standards, the various indicators of business activity in manufacturing are at a high level. Incoming and outstanding orders were increasing right through to the end of the period. Together with strong corporate demand for commodities and primary products, this suggests that output will remain at a high level over the next few months. However, a slight downturn in the expectations of domestic manufacturing indicated a slowing pace of expansion for the manufacturing sector in the medium term.

#### Benign economic outlook

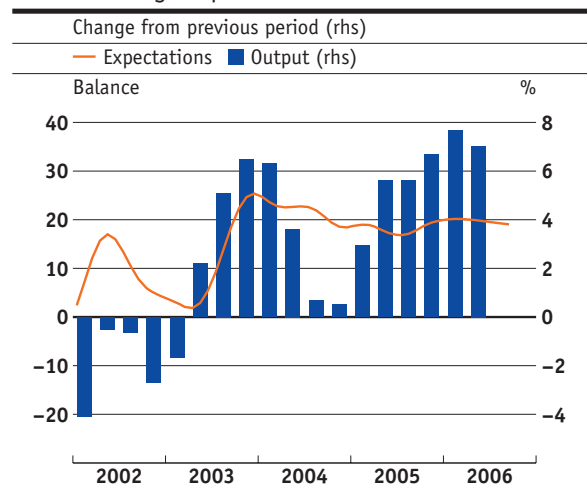
The SNB projects GDP growth of just under 3% for 2006. This forecast is based on the assumption that economic growth in the second half of 2006 will be lower than in the first half of the year. The impetus generated by construction and foreign trade, in particular, is likely to weaken. However, employment is expected to increase further, while unemployment drops slightly below 3% by the beginning of 2007. The SNB projects a continuation of the economic upswing in 2007, with GDP growth – at 1.8% – falling back slightly towards the figure for potential growth. This development takes account of a number of factors, including the

Graph 2.1  
New orders in manufacturing



Source: Institute for Business Cycle Research at the Swiss Federal Institute of Technology (KOF/FIT)

Graph 2.2  
Manufacturing output



Sources: SFSO, KOF/ETH



**Real GDP and components**  
Year-on-year growth rates, annualised

Table 2.1

	2002	2003	2004	2005	2004		2005				2006	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Private consumption	-0.0	0.8	1.5	1.3	0.2	0.6	2.3	0.6	2.8	2.5	1.2	1.6
Government consumption	1.7	2.6	-0.8	-1.6	-2.7	-0.9	-1.8	-0.6	-2.7	-0.6	-3.7	-4.4
Investment in fixed assets	0.3	-1.4	4.5	3.2	5.3	-8.0	6.9	15.3	-5.2	0.7	3.5	15.4
Construction	2.2	1.8	3.9	3.5	0.7	-8.6	9.9	27.7	-10.9	-4.0	-2.8	7.7
Equipment	-1.2	-3.9	4.9	2.9	9.2	-7.6	4.6	5.5	0.1	4.9	9.3	22.3
<b>Domestic final demand</b>	<b>0.2</b>	<b>0.5</b>	<b>1.9</b>	<b>1.4</b>	<b>1.0</b>	<b>-1.6</b>	<b>2.8</b>	<b>3.6</b>	<b>0.2</b>	<b>1.7</b>	<b>1.1</b>	<b>3.9</b>
<b>Domestic demand</b>	<b>-0.5</b>	<b>0.4</b>	<b>1.5</b>	<b>1.1</b>	<b>1.3</b>	<b>-1.1</b>	<b>1.5</b>	<b>-0.6</b>	<b>1.7</b>	<b>6.1</b>	<b>2.2</b>	<b>2.9</b>
Total exports	-0.7	-0.4	8.4	6.4	5.4	-1.6	0.2	26.1	7.6	11.0	10.4	-0.0
Goods	1.1	-0.1	7.8	5.8	11.7	-4.8	-1.8	33.1	-0.7	11.3	20.5	-1.6
Excluding valuables <sup>1</sup>	0.4	0.7	7.6	6.3	9.2	0.9	-5.2	37.8	-3.4	11.2	17.0	4.9
Services	-5.7	-1.4	10.0	8.0	-9.4	7.6	5.7	9.2	32.5	10.1	-12.8	4.4
<b>Aggregate demand</b>	<b>-0.5</b>	<b>0.1</b>	<b>3.7</b>	<b>2.9</b>	<b>2.6</b>	<b>-1.2</b>	<b>1.1</b>	<b>7.7</b>	<b>3.7</b>	<b>7.7</b>	<b>5.0</b>	<b>1.9</b>
Importe total	-2.6	1.0	7.4	5.3	8.1	-6.1	0.5	19.1	3.8	20.9	9.2	-0.5
Goods	-3.0	2.2	6.4	5.5	10.9	-6.9	-1.7	22.2	3.8	21.2	12.4	-2.2
Excluding valuables <sup>1</sup>	-2.2	2.8	6.6	5.1	10.7	-7.5	-0.3	19.9	5.6	15.0	15.4	-2.5
Services	-0.7	-4.8	12.1	4.4	-4.4	-2.3	11.5	5.8	3.8	19.4	-5.6	8.3
<b>GDP</b>	<b>0.3</b>	<b>-0.2</b>	<b>2.3</b>	<b>1.9</b>	<b>0.6</b>	<b>0.8</b>	<b>1.3</b>	<b>3.5</b>	<b>3.7</b>	<b>2.8</b>	<b>3.0</b>	<b>3.0</b>

<sup>1</sup> Valuables: precious metals, precious stones and gems as well as objets d'art and antiques  
Source: seco

expected levelling off in the economic activity of Switzerland's most important trading partners in 2007. A certain slowdown in economic growth is considered necessary, since aggregate economic capacities are now running at almost full capacity.

In talks with the SNB delegates for regional economic relations held between June and August, around 150 representatives from various industries expressed great optimism with regard to the current economic situation and the outlook. The companies surveyed could not detect any sign of a slowdown in the second half of 2006, and were expecting sales to remain healthy in 2007. Their main concern remained the substantial increases in commodity prices and the danger that the dollar would weaken (cf. "The economic situation from the vantage point of the delegates for regional economic relations" in this issue of the *Quarterly Bulletin*).

### Temporary slowdown in foreign trade

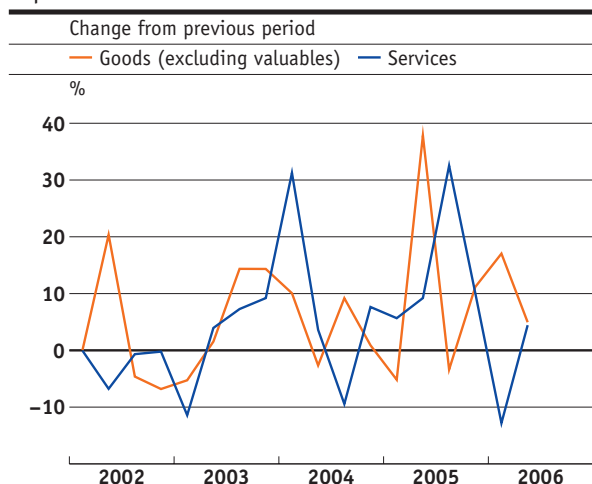
Although Swiss foreign trade was less vigorous than at the beginning of the year, the basic trend remained favourable. The growth of exports slowed, due to the fact that capital goods exports stagnated at the high level reached in the previous quarter. By contrast, consumer goods exports increased

(particularly chemical and pharmaceutical products), as did exports of semi-manufactured goods. Demand remained broad-based across regions. While deliveries to the US and the Asian region rose less steeply than in the first months of 2006, demand from Germany, France and Austria developed very favourably through to the end of the period. The only region where there was an appreciable loss of export momentum was in the new EU member countries.

Following a decline in the first quarter, exports of services again rose slightly in the second quarter as compared to the previous period. The tourist industry was mainly responsible for this result. By contrast, bank income from financial services declined.

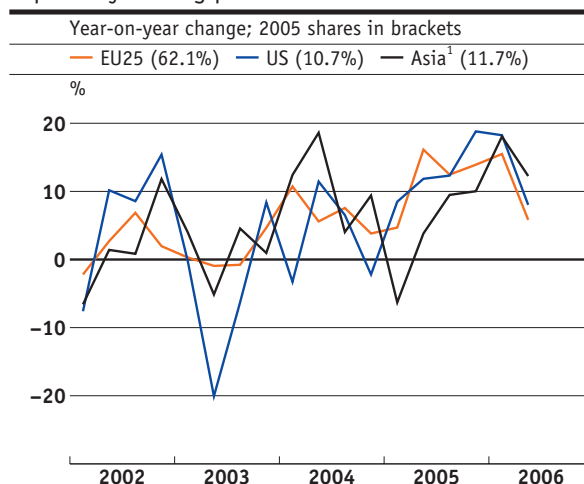
In the second quarter, goods imports fell back slightly. However, they were already starting to pick up again towards the end of the quarter, due especially to higher purchases of commodities and semi-manufactured goods. This trend continued in July, reinforced by increasing imports of consumer goods. Once again, imports of services rose quarter-on-quarter, with all three important areas (tourism, transport and fees for licences and patents) contributing to growth.

Graph 2.3  
Exports



Source: seco

Graph 2.4  
Exports by trading partners



1 Asia: Japan, China, South Korea, Hong Kong, Singapore, Taiwan, Malaysia, Thailand, Philippines, Indonesia  
Source: Federal Customs Administration (FCA)

### Private consumption robust

Private consumption continued to improve. It grew at an annualised rate of 1.6% with respect to the previous quarter, thereby exceeding the previous year's level by 2.0%. Increases were recorded in the consumption of both goods and services. Retail turnover was up 1.4% over the previous quarter in real terms, following a stagnation in the first quarter. The picture for durables, however, was mixed. While demand for new cars has remained strong, other groups of products, such as home furnishings, have been trending downwards for some months now. In the area of services, domestic tourism did particularly well.

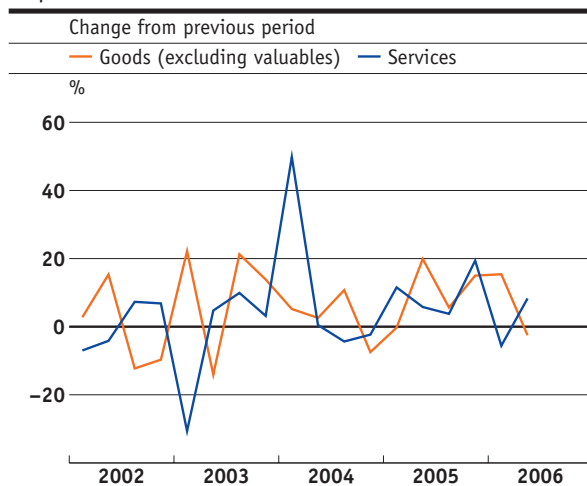
In July, the consumer sentiment index attained its highest level since mid-2001. The households surveyed were much more confident about both the economy and job security than they had been in the April survey. At the same time, private consumption is also being supported by an increase in income. The SNB expects the real income of employees to rise by 2% in 2006, which is once again significantly more than the long-term average of 1.3%. This forecast is based on the assumption of another slight expansion in employment and a moderate increase in real wages.

### Rise in construction investment

In the second quarter, construction investment continued its upward trend, following a decline in the 2005-2006 winter half-year, which was partly due to weather conditions. However, the level of construction investment was slightly below the year-back figure (-2.7%), due to the particularly strong growth experienced in the second quarter of 2005.

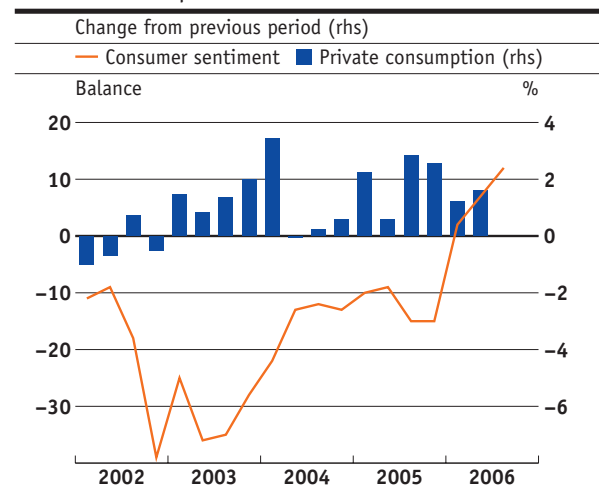
The growth in construction investment is likely to slow in the second half of the year, due especially to developments in residential construction. In this sector, demand (as measured by the number of residential building permits) fell back in the first half of the year, and the number of apartments under construction stagnated in the second quarter for the first time in four years. However, a decline is not to be expected in view of the projected rise in incomes and the fact that the interest climate remains favourable. It is much more likely that the volume of residential investment will stagnate at a high level over the next few quarters. Weakening growth in residential construction will probably be partially compensated by higher demand in commercial and public-sector construction.

Graph 2.5  
Imports



Source: seco

Graph 2.6  
Private consumption

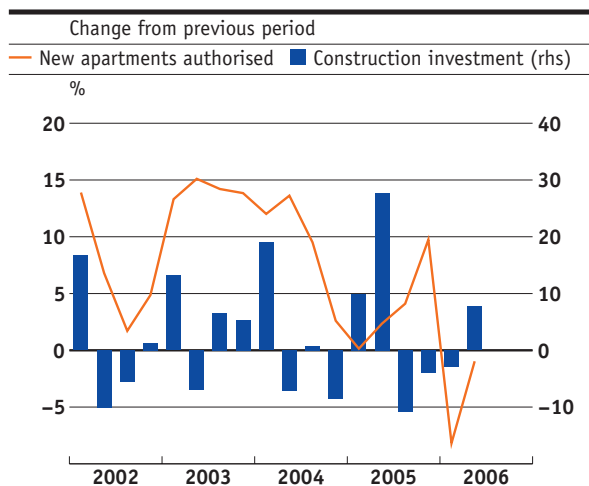


Source: seco

### Growth in equipment investment

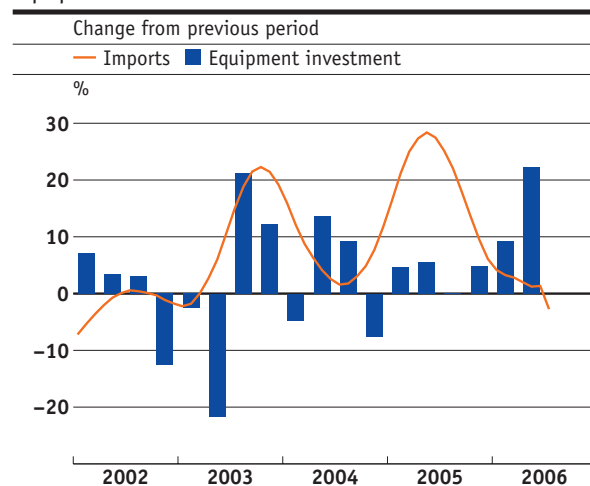
In the first half of 2006, equipment investment rose strongly, supported by continued economic growth. In the second quarter, this figure was more than 20% higher than in the previous quarter, thereby exceeding the year-back quarter by 8.9%. As a result, technical production capacity increased substantially. However, according to the quarterly survey conducted by the Swiss Institute for Business Cycle Research at the Swiss Federal Institute of Technology (KOF/FIT), capacity utilisation in manufacturing remained high. Together with the continued rise in incoming orders, this suggests that investment will remain strong in the coming quarters.

Graph 2.7  
Construction



Sources: SFSO, seco

Graph 2.8  
Equipment



Sources: FCA, seco

## 2.2 Capacity utilisation

### Capacity utilisation increases marginally

The utilisation of technical capacity in manufacturing amounted to almost 86%, according to the KOF/FIT survey. This again placed capacity utilisation well above the long-term average. However, for the first time in a year, it rose only marginally over the previous period. This reflects the high level of investment, which is manufacturing's response to the strong demand and the emerging bottlenecks in production.

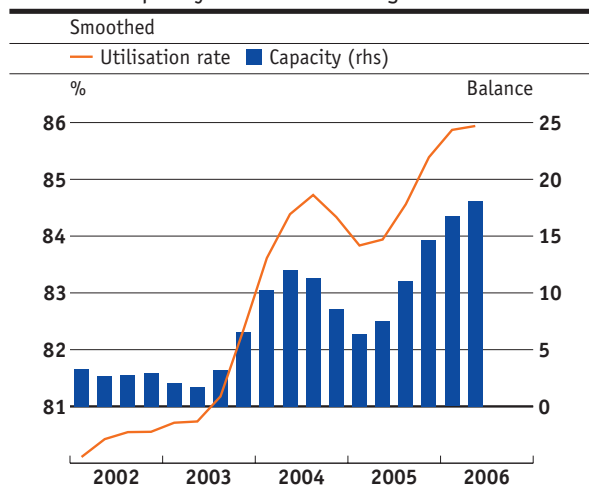
### Positive output gap

The output gap in the economy as a whole is a more general measure of capacity utilisation. It is measured as the difference, in percentage terms,

between real GDP and estimated production potential in the Swiss economy. Graph 2.10 shows three estimates of the output gap based on different methods of estimating production potential (production function (PF), Hodrick-Prescott filter (HP), multivariate filter (MV)).

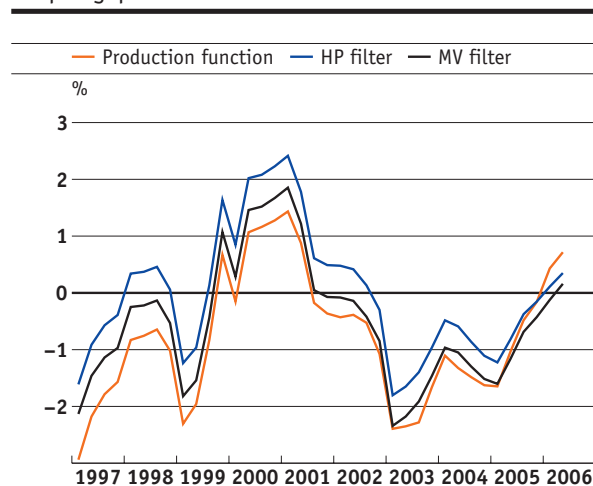
In the second quarter, real GDP grew at 3%, which was again higher than output potential. As a result, the positive output gap rose slightly. It is unlikely to expand much more in the next few quarters. This is because, on the one hand, growth in real GDP will probably fall back towards the potential growth figure. On the other hand, we may expect output potential to increase more strongly, as indicated by the faster rise in the stock of capital resulting from higher investment as well as the growing supply of manpower due to immigration.

Graph 2.9  
Technical capacity in manufacturing



Source: KOF/FIT

Graph 2.10  
Output gap



Source: SNB

## 2.3 Labour market

### Modest growth in employment

Following the substantial increase in the first quarter, the number of employed persons stagnated in the second quarter (quarter-on-quarter). Consequently, the figure was only 0.4% higher than the year-back figure. By contrast, the volume of work expressed in terms of full-time equivalents continued to rise, both quarter-on-quarter (0.5%) and year-on-year (0.6%), even if the growth rate was a less powerful than at the beginning of the year. Another favourable development was a further decline in the number of part-time employees working less than 50% of the time, while the number of part-time employees working between 50% and 89% of a working week rose, as did the number of full-time employees, although to a lesser extent.

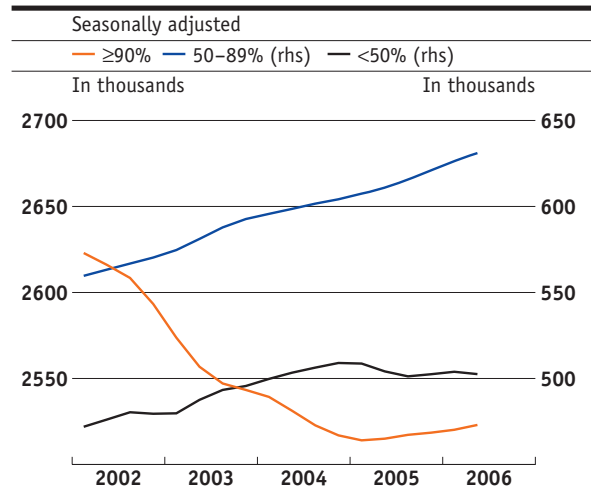
The explanation for the stagnation in the number of employed persons lies mostly in structural factors. The substantial drop in employment in the services sector (-1.6%) had a major impact and was attributable to staff cutbacks in the areas of education and general administration. In addition, there were also job reductions in the retail trade (-3.8%), a trend that has been observed over the past few years. By contrast, the number of staff employed in the financial sector rose by 3.7%, once again reaching the level of the previous year. Employment in manufacturing also improved, recording the strongest increase for five years, at 2.7%. The construction industry also saw its payroll increase, by 0.6%, although the advance was less pronounced than in the previous quarter.

### Fall in unemployment and better employment prospects

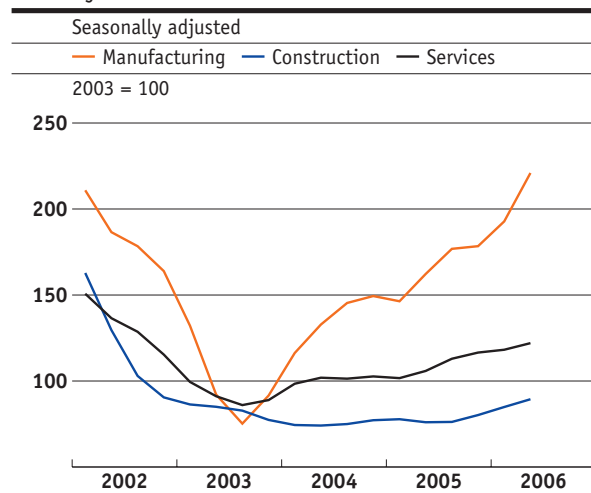
The seasonally adjusted unemployment rate fell from 3.4% in April to 3.1% in July, and persisted at this level in August. Accordingly, 129,200 unemployed persons were registered with employment offices in August. In this period, the proportion of job seekers declined by 0.2 percentage points to 4.9%, which corresponded to 194,200 persons.

As graphs 2.12 and 2.13 show, both the SFSO vacancies index and the number of vacant positions reported by Publicitas were up. Right through to the end of the period, the demand for manpower in the services sector increased less strongly than in manufacturing. One reason for this is the fact that rationalisation measures are continuing in the tertiary sector. All in all, the number of vacancies can be expected to increase further in the second half of the year, while the rate of unemployment declines.

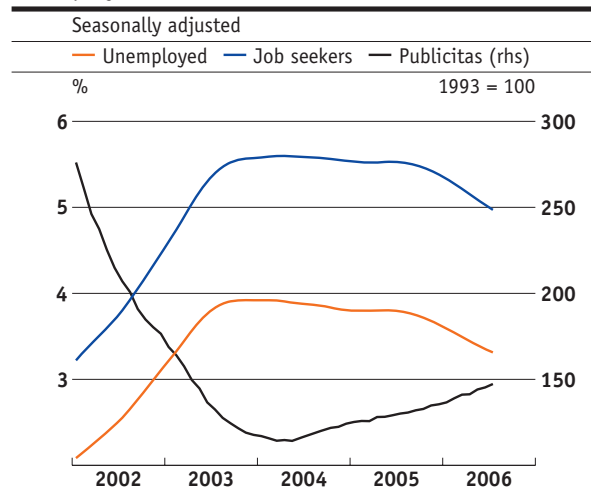
Graph 2.11  
Full-time and part-time employment



Graph 2.12  
Vacancy index



Graph 2.13  
Unemployment rates and vacancies



Graphs 2.11 and 2.12:  
Source: SFSO

Graph 2.13:  
Unemployed and job seekers registered with the regional employment offices in percent of the labour force according to the 2000 census (labour force: 3,946,988 persons).  
Sources: Publicitas, seco

## 2.4 Goods prices

### Further increase in producer and import prices

Inflationary pressure exerted on consumer prices by producer and import prices stabilised in July following a substantial increase between April and June. The annual rate of increase in the prices of goods produced in Switzerland rose by 0.7 percentage points to 2.6% between April and July, while the comparable rate for imported goods was up by 1.5 percentage points to 3.5%. Annual inflation in intermediate goods rose even faster, from 3.2% to 5.8%, with continued price rises for metals and metal products having a particularly strong impact.

### Consumer price inflation stable

In June, annual inflation as measured by the national consumer price index (CPI) rose by 0.2 percentage points to 1.6%. However, it then fell back again, arriving at 1.5% in August. All in all, it rose a little faster than the SNB had expected. The share of annual inflation attributable to oil products (heating oil and fuel) declined from just over 60% to an average 50%. Excluding oil components, consumer price inflation rose from 0.5% to 0.9% between May and August.

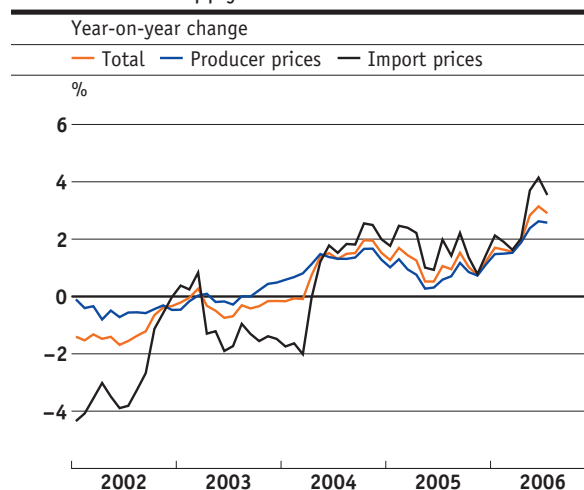
### Continued rise in domestic inflation

The annual rate of increase in the prices of domestic goods and services was 1.0% in August, up 0.4 percentage points from May. All major categories of goods in this CPI component contributed to this development. For instance, the quarterly rentals index rose by 0.4% in August, pushing the annual rate of rent increases up by 0.1 percentage points to 2.3%. This is the highest increase since October 2001. The rate of increase in the prices of the other private services included in the CPI rose from -0.1% to 0.9%. This was due largely to price increases in catering and for scheduled flights, but also to a slower decline in the prices of telecommunications services. Prices for public services rose faster, at 1.3% (1.0%), due to higher hospital charges and fees, while the drop in the prices of domestic goods continued in August (-0.2%), although at a slower rate.

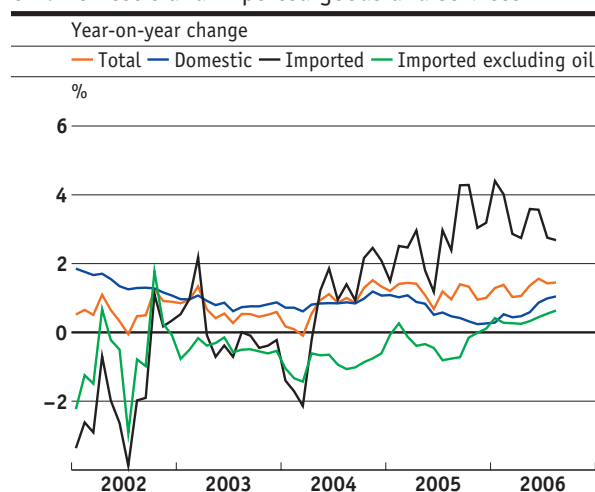
### Import inflation receding due to oil prices

Unlike domestic inflation, import inflation weakened. It stood at 2.7% in August, compared with 3.6% in May. The prices of oil products includ-

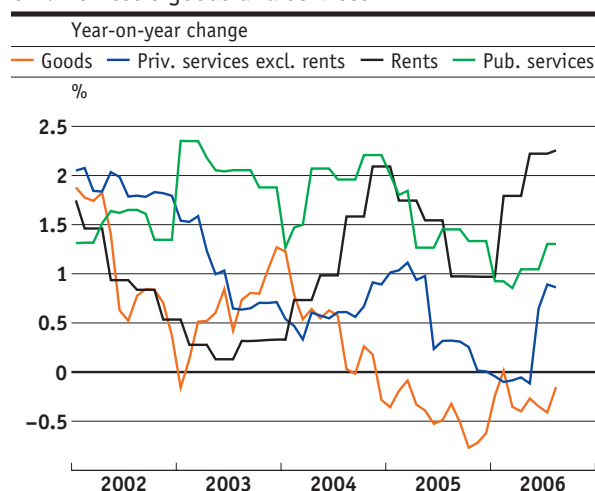
Graph 2.14  
Prices of total supply



Graph 2.15  
CPI: Domestic and imported goods and services



Graph 2.16  
CPI: Domestic goods and services



Graph 2.14:  
Source: SFSO

Graphs 2.15 and 2.16:  
Sources: SFSO, SNB

ed in the CPI (heating oil and fuel) rose at a considerably slower pace than they had in the previous year. This had a marked effect, with the annual rate of price increases in this area tumbling from 20.0% in May to 12.8% in August. By contrast, price increases for other imported goods rose from 0.3% to 0.6%. This was attributable to higher prices for vegetables, clothing, shoes and new cars, as well as to a slower decline in the prices of many electronic goods. Price reductions for numerous imported drugs resulting from an agreement between the Confederation and the pharmaceutical industry helped to dampen inflation, as did the introduction of differentiated excesses (deductibles) for branded pharmaceuticals and generic drugs.

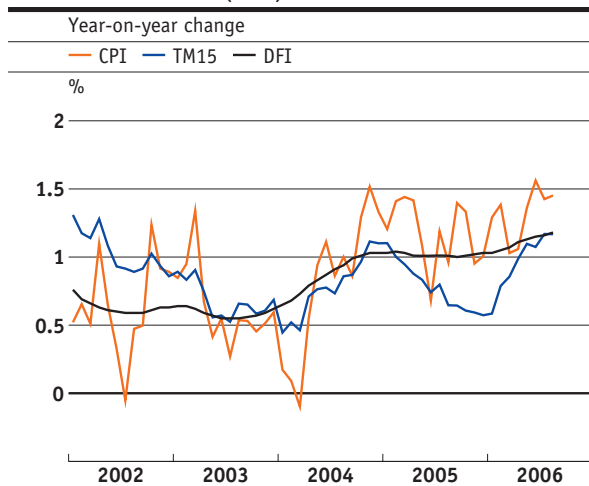
**Indicators of core inflation slightly higher**

Inflation, as measured by the CPI, undergoes numerous short-term fluctuations which may distort perceptions of the general inflation trend. For this reason, statistical methods are employed to calculate core inflation rates, which capture the permanent component of price movements. For the assessment of the inflation trend, the SNB computes two measures of core inflation. The trimmed means method (TM15) excludes from the CPI, for any given month, those 15% of goods with the highest and those 15% with the lowest price variation. In addition to prices, dynamic factor inflation (DFI), which the SNB has published regularly since May, takes into account numerous statistics pertaining to the real economy, financial market indicators and mon-

etary variables in order to determine the long-term price trend. In addition, the SNB also takes account of the two SFSO core inflation rates, which both exclude the same goods from the commodities basket in each period. In the case of core inflation 1 (SFSO1), these are food, beverages, tobacco, seasonal products, energy and fuel. Core inflation 2 (SFSO2) also factors out products with administered prices.

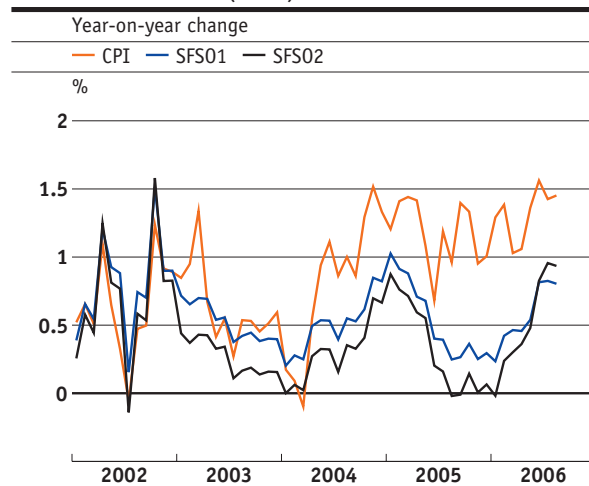
Core inflation calculated on the basis of the trimmed means method rose by 0.1 percentage points to 1.2% between May and August. This increase reflects a persistently moderate but gently rising inflationary trend. The curve for the DFI is considerably flatter than that for the trimmed means method, due to the way in which it is constructed, but it conveys a similar picture. For almost a year the DFI had been indicating a stable inflation trend of 1.0%, before rising to 1.2% in the most recent period. A slightly higher inflation trend was also evident in the two core inflation rates calculated by the SFSO. The SFSO1 rose from 0.5% to 0.8% between May and August, while the SFSO2 was up from 0.5% to 0.9%. The SFSO's core inflation rates are significantly lower than the rates calculated according to the SNB's trimmed means method; this is largely due to the falling prices of electronics products, telecommunication services and certain articles of clothing. These components are considered to be special effects serving to dampen inflation and are excluded when calculating the trimmed mean. However they are retained in the SFSO core rates.

Graph 2.17  
Core inflation rates (SNB)



Sources: SFSO, SNB

Graph 2.18  
Core inflation rates (SFSO)



Source: SFSO



**National consumer price index and components**  
Year-on-year change in percent

Table 2.2

	2005	2005	2006		2006			
		Q4	Q1	Q2	May	June	July	August
<b>Overall CPI</b>	<b>1.2</b>	<b>1.1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.6</b>	<b>1.4</b>	<b>1.5</b>
Domestic goods and services	0.6	0.3	0.4	0.6	0.6	0.9	1.0	1.0
Goods	-0.4	-0.7	-0.2	-0.3	-0.3	-0.3	-0.4	-0.2
Services	1.0	0.6	0.6	0.9	0.8	1.2	1.4	1.4
Private services excluding rents	0.5	0.1	-0.1	0.2	-0.1	0.6	0.9	0.9
Rents	1.4	1.0	1.5	2.1	2.2	2.2	2.2	2.3
Public services	1.5	1.3	0.9	1.0	1.0	1.0	1.3	1.3
Imported goods and services	2.7	3.5	3.8	3.3	3.6	3.6	2.8	2.7
Excluding oil products	-0.3	-0.0	0.3	0.3	0.3	0.4	0.5	0.6
Oil products	18.5	21.0	21.4	18.1	20.0	19.3	13.6	12.8

Sources: SFSO, SNB

### 3 Monetary developments

#### 3.1 Interest rates

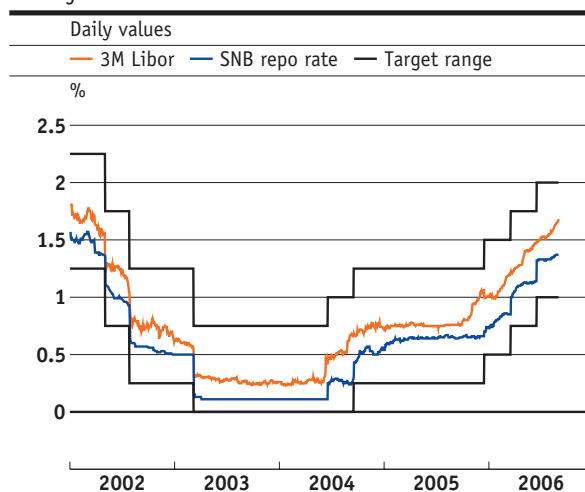
At its monetary policy assessment in June 2006, the National Bank decided to increase the target range for the three-month Libor by 0.25 percentage points to 1.0–2.0% with immediate effect. It announced that it intended to hold the rate in the middle of the target range for the time being. With this adjustment, the SNB brought its monetary policy further into line with economic trends. At the same time, it indicated that it would continue gradually to increase short-term interest rates as long as the economic upswing persists, as is expected.

##### Renewed tightening of monetary policy expected

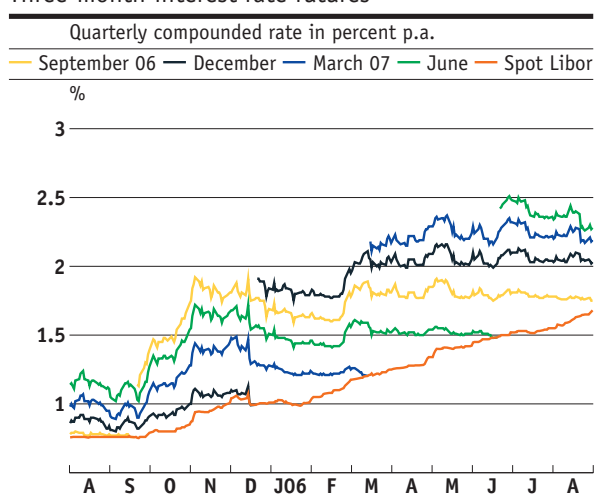
The three-month Libor rose continuously from mid-June to mid-September 2006, climbing from 1.48% after the last interest rate decision to 1.71% in mid-September. This indicates that the markets were expecting a further increase in the target corridor for the three-month Libor. The increase was consistent with momentum in the economy, and was thus tolerated by the SNB.

Expectations of an imminent increase in the target interest rate range were also apparent on the futures market (cf. graph 3.2). From mid-June until the end of August 2006, the rate for futures contracts with a mid-September 2006 maturity fluctuated between 1.75% and 1.83%, corresponding to an anticipated interest rate hike of about 25 basis points. Rates for futures contracts maturing in December 2006 and March and June 2007 were even higher, indicating that market participants were expecting further upward moves on interest rates at the end of 2006 and in the course of 2007.

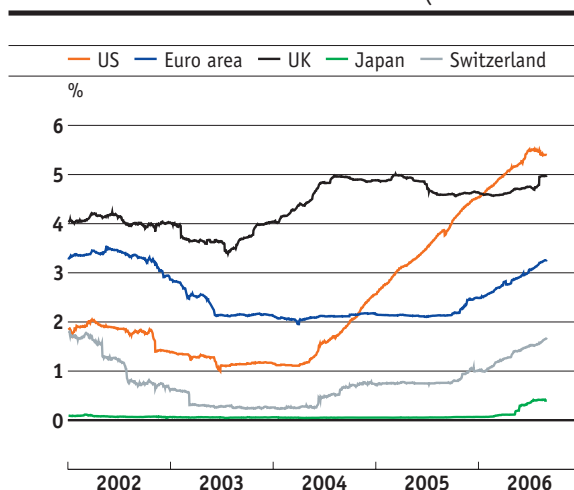
Graph 3.1  
Money market rates



Graph 3.2  
Three-month interest rate futures



Graph 3.3  
International short-term interest rates (three months)



Graphs 3.1, 3.2 and 3.3:  
Source: SNB

### Contrasting movements in short-term interest rates

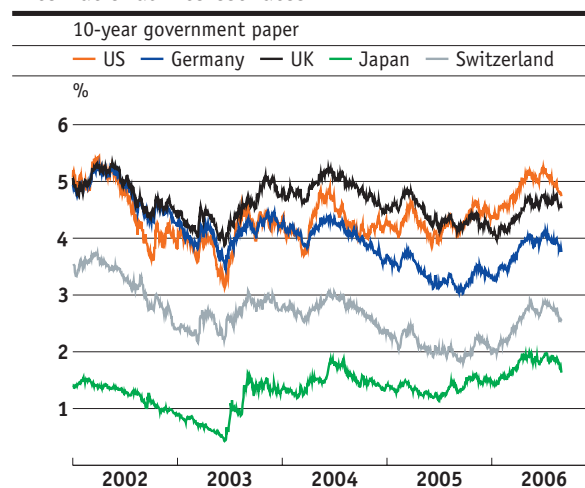
While the three-month Libor in Switzerland edged up within an unchanged target range between mid-June and mid-September, short-term interest rates in the euro area rose rather more sharply, as the European Central Bank (ECB) tightened the reins once again. The three-month Libor for investments in euros climbed from 2.97% in mid-June to 3.32% in mid-September. The interest rate differential between short-term Swiss franc investments and investments in euros thus widened from 1.49 percentage points in mid-June to 1.61 percentage points in mid-September. The situation was reversed with respect to the virtually static short-term US interest rates, as against the slightly higher short-term Swiss franc investments. The Federal Reserve had left rates unchanged at 5.25% in early August 2006, after having increased its Federal Funds Rate in 17 consecutive steps of 25 basis points each. As a result, the interest rate spread between Swiss franc and US dollar investments was reduced from 3.92 percentage points in mid-June to 3.68 percentage points in mid-September.

### Lower long-term interest rates

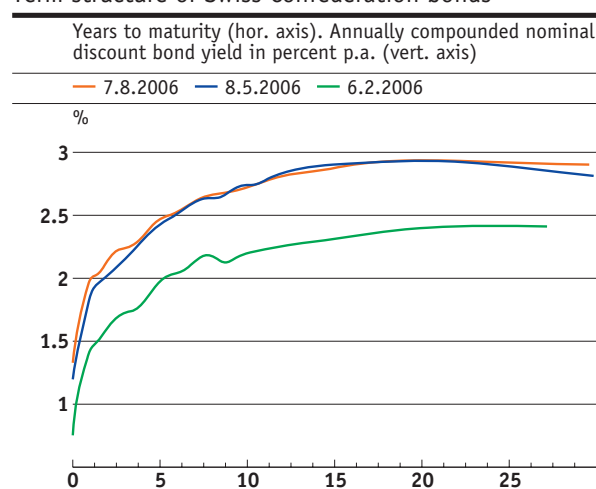
The upward trend in long-term interest rates came to an end in the first half of 2006 (cf. graph 3.4). Compared with June, yields on ten-year Confederation bonds fell by 18 basis points, to 2.47% as at mid-September. They had risen by 27 basis points in each of the first two quarters. Flatter long-term yields in Switzerland do not, however, point to a weaker economic climate. In fact, the main reason for the decline would seem to be general trends on the international bond markets. For example, yields on 10-year US government bonds stood at 4.78% in mid-September, i.e. 32 basis points lower than in mid-June. German government bonds, meanwhile, lost around 13 basis points during the same period to settle at 3.89% in mid-September.

Graph 3.6 depicts the yields on nominal discount bonds with differing maturities issued by the Swiss Confederation. It shows that yields at the short end advanced slightly while those at the long end fell. This is also reflected in the flatter yield curve (cf. graph 3.5).

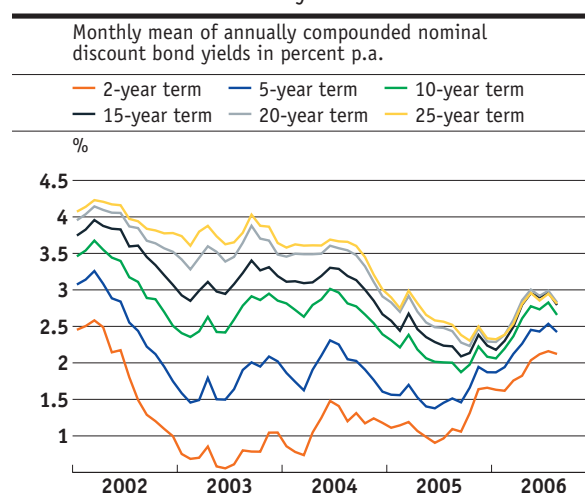
Graph 3.4  
International interest rates



Graph 3.5  
Term structure of Swiss Confederation bonds



Graph 3.6  
Swiss Confederation bond yields



Graph 3.4:  
Sources: Thomson Datastream, SNB

Graphs 3.5 and 3.6:  
Source: SNB

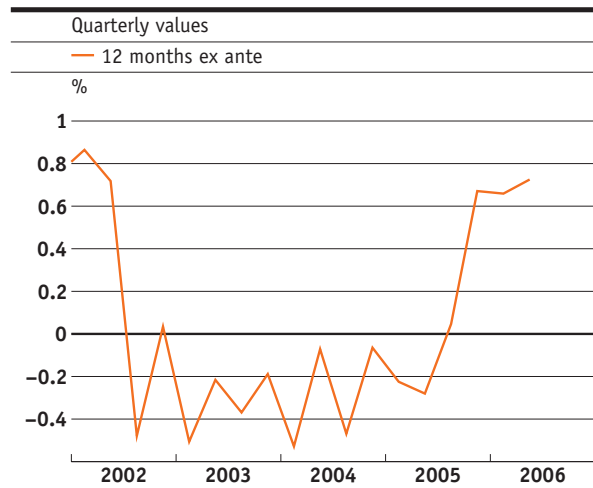
### Short-term real interest rates still positive

Graph 3.7 shows movements in the one-year real interest rate. This interest rate is defined as the difference between the 12-month nominal interest rate and the expected rise in consumer prices during the period in question. Inflation expectations are taken as an average of the forecasts published by a number of different institutions (cf. "Consensus Forecast": May 2006).<sup>1</sup> In the second quarter of 2006, the real interest rate obtained in this manner was positive for the third successive period, although at 0.75% it was only slightly above the value for the first quarter of 2006. The rise in nominal interest rates was largely offset by higher expectations for short-term inflation. The one-year real interest rate remains well below its historical average of 1.6%.

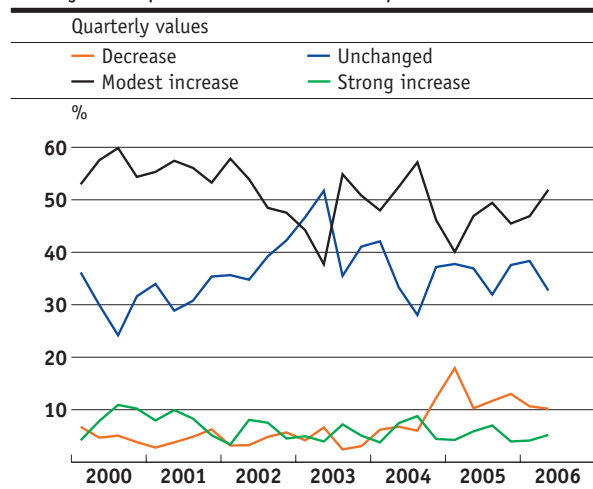
Data on consumer sentiment published by the State Secretariat for Economic Affairs (seco) in July also reflects a modest increase in anticipated short-term inflation. Compared with the April survey, the proportion of consumers who expect prices to rise over the next 12 months increased slightly once again (cf. graph 3.8)

1 Cf. table 1.1

Graph 3.7  
Estimated real interest rate



Graph 3.8  
Survey on expected movements in prices



Graph 3.7:  
Source: SNB

Graph 3.8:  
Sources: seco, SNB

## 3.2 Exchange rates

### Swiss franc weaker

The euro has appreciated slightly against the US dollar since the monetary policy assessment of June 2006. This trend may be attributable in part to the improvement in economic prospects in the euro area and a further key rate hike by the ECB, and partly also to weaker economic numbers from the US and an anticipated pause in the US Federal Reserve's cycle of interest rate increases. The Swiss franc fell by around 1.7% against the US dollar and by approximately 2.2% against the euro during the period under review. In mid-September, the dollar was trading at CHF/USD 1.252, compared with CHF/USD 1.231 at the June assessment. The Swiss franc stood at 1.588 against the euro in mid-September, compared with 1.554 in mid-June. The foreign exchange markets were very volatile in May and June 2006 owing to high oil prices and the crisis in Iran. Carry trade transactions and their unwinding may also have added to short-term swings (cf. box on page 29). Despite this uncertainty and its traditional "safe haven" status, the Swiss franc failed to advance.

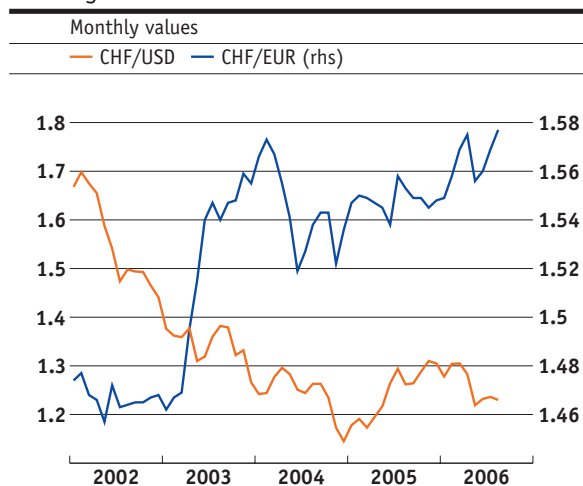
The export-weighted real external value of the Swiss franc, which takes inflation differences between currencies into account, has fallen over the last three months against both Switzerland's 24 most important trading partners and, to an even greater extent, the euro area (cf. graph 3.10).

### More expansionary monetary conditions

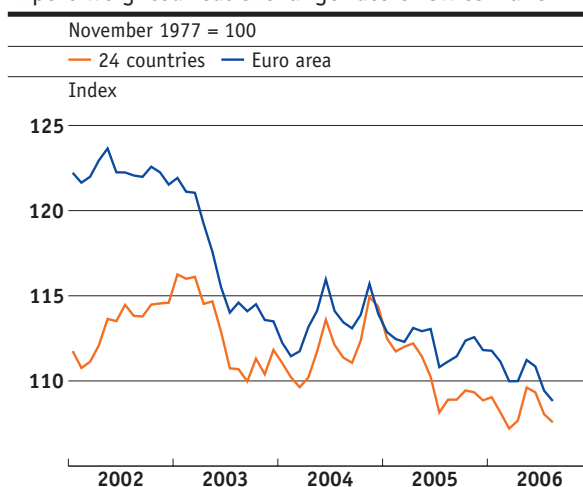
The Monetary Conditions Index (MCI) combines the three-month Libor and the nominal trade-weighted external value of the Swiss franc. It provides a measure of monetary conditions facing the Swiss economy. In order to take the uncertainty regarding the significance of interest rates and exchange rates into account, two weighting methods are used for both variables in the MCI (5:1 and 3:1). The MCI is reset to zero at the time of each monetary policy assessment. An increase to positive values (decline to negative values) thus signifies a tightening (loosening) of monetary conditions (cf. "Box: The Monetary Conditions Index (MCI)", *Monetary Policy Report 1/2004*, p. 27).

Looking at the MCI curve, it is clear that monetary conditions in Switzerland at the end of August were more expansionary than at the last monetary policy assessment, reflecting a fall in the value of the Swiss franc (cf. graph 3.11). The MCI stood at -9 basis points (at a 5:1 weighting) or -28 basis points (at a 3:1 weighting).

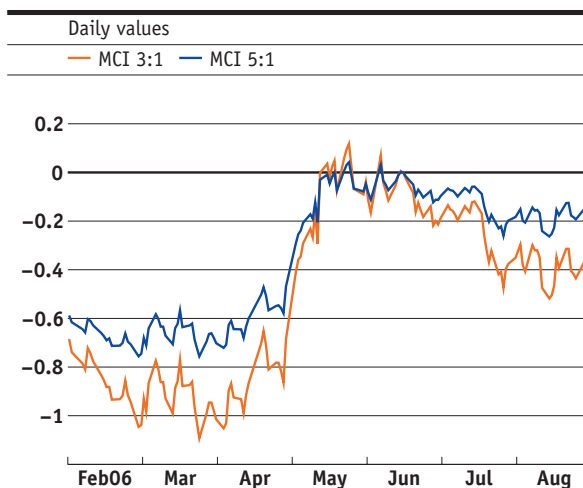
Graph 3.9  
Exchange rates



Graph 3.10  
Export-weighted real exchange rate of Swiss franc



Graph 3.11  
MCI nominal



Graphs 3.9, 3.10 and 3.11:  
Source: SNB

## Box: Carry Trades

Volatility on the foreign exchange markets was high in May and June 2006. The financial press attributed these major swings to carry trades and their unwinding, among other things. The selling pressure on the franc was also linked to carry trades.

A necessary condition for carry trades to be conducted on the market is their profitability. This section shows that, while carry trades in connection with the Swiss franc may be profitable, they can also be risky.

Carry trades are essentially a trading strategy in which the investor sells a certain currency with a relatively low short-term interest rate (e.g. the three-month Libor), i.e. enters into a short position, and invests the proceeds in a different currency yielding higher short-term interest rates (long position). In doing so, the trader is attempting to exploit differences in interest rates between the two currencies. The big risk with carry trades, however, is that the value of the investing (funding) currency will fall (rise). According to the principle of uncovered interest parity (UIP), there should be no room for this form of arbitrage, because disequilibria in the interest rate differential are resolved immediately via the exchange rate.

A brief example will help to illustrate the mechanism more clearly: A Swiss investor would earn more by investing in the US than he would with a comparable Swiss investment, as long as the US interest advantage is not cancelled out by a depreciation of the US dollar against the Swiss franc. If a majority of investors follow this line of reasoning, there may be a considerable capital export from Switzerland to the US. Two main consequences will ensue: first, there will be falling (rising) interest rates in the US (Switzerland); second, there will be an appreciation (depreciation) in the US dollar (Swiss franc). According to the UIP principle, equilibrium will be restored immediately, as the expected return on an investment in a foreign currency (valued in domestic currency terms) should match that of a comparable investment in domestic currency at all times. Thus, shrinking interest rate differentials should result in a depreciation (appreciation) in the US dollar (Swiss franc).

In the following section we present a three-stage investigation of the profitability of carry trades. First, a regression analysis is conducted to find out whether or not UIP holds in the short to medium term. If it does hold, carry trades cannot be considered an attractive strategy because the benefits of interest rates differentials would be neu-

tralised immediately via the exchange rate mechanism. If it does not hold, a second step will involve a non-parametric analysis to find out whether carry trades are still profitable once the risk has been taken into account. Finally, we will look into whether the Swiss franc has tended to be a funding or an investing currency over the last two decades, and consider whether carry trading with the Swiss franc might be an attractive strategy in the present climate.

The analysis of UIP is based on a simple LS regression (with Newey-West standard errors):

$$r_{t+1} = \alpha + \beta(\text{Spread}_t) + \epsilon_{t+1},$$

where  $r_{t+1}$  is the exchange rate return (denominated in Swiss francs to foreign currency) from  $t$  to  $t+1$  and  $\text{Spread}$  is the interest rate differential (three-month Libor in Swiss francs minus three-month Libor in foreign currency) in  $t$ . Data and financial instruments over a suitable sample period (January 1986 – May 2006) are available for the following countries: Australia, Canada, Denmark, euro area (Germany until the introduction of the euro), the UK, Japan, Norway, Sweden and the US. The regression was run using two different timeframes: monthly and semi-annual.

UIP would lead us to expect a significant positive<sup>2</sup> beta. The basic idea is that the country with higher (lower) interest rates should undergo a currency depreciation (appreciation). Our findings clearly dismiss the UIP principle on the basis of both monthly and semi-annual data (cf. table 3.1). In doing so, they correspond to those found in the relevant literature.<sup>3</sup> This departure from UIP leaves open the possibility that carry trading may be a viable strategy even over relatively long investment horizons. Low R-squares also suggest a weak link between interest rate and exchange rate movements.

The natural question now is whether carry trades are profitable, given the risks that they entail. We analyse simple trading strategies at monthly intervals, taking the Swiss investor's viewpoint.

2 If the interest-bearing bonds had the same term as exchange rate returns, the beta would be 1. However, the spread here is defined via the three-month Libor, so only a positive beta can be stated.

3 Cf. e.g. Froot, Kenneth A. and Thaler, Richard H. 1990. Anomalies: Foreign Exchange. *Journal of Economic Perspectives* 4(3): 179–192.

Transaction costs are not taken into consideration. If the foreign country currently provides higher interest rates on the three-month Libor market, the investor will borrow funds on the Swiss three-month Libor market and invest in the corresponding foreign market (and vice versa, when Swiss interest rates are higher). At the end of the investment horizon, he receives a certain amount (principal plus interest), which he converts into Swiss francs and uses to repay his debt.

With this trading strategy, carry trades generate a positive performance overall. Graph 3.12 shows the (annualised) yield distribution of carry trades as a whole for the currencies in this study for the full duration of the sample period. It indicates that carry trading was a profitable strategy (cf., in particular, mean and skewness), but that it was not without risk (cf. standard deviation and kurtosis). Table 3.2 reports average yields and performance indicators (cf., in particular, the relatively high Sharpe ratios) for each individual currency against the Swiss franc.

Finally we look into whether the Swiss franc has tended to be a funding or an investing currency. To do this, we compare historical interest rate differentials and pair currency volatilities. Table 3.3 shows

these figures over different sample periods. It transpires that some interest rate differentials were relatively high from April 2006 to May 2006, especially where Anglo-Saxon countries are concerned (particularly Australia, the US and the UK). In this light, the Swiss franc would appear to be an attractive funding currency. However, the returns on these currency pairs also display comparatively high volatility, even though it has recently been lower than the long-term average.

### Concluding remarks

Historical data were used to analyse the profitability of carry trading with the Swiss franc. Factors such as transaction costs, liquidity and general friction, which can have a negative impact on the marketability and profitability of carry trade strategies, were not taken into consideration. Excluding these factors, this study shows that the Swiss franc has been an attractive funding currency over a fairly long investment horizon. Carry trades are nonetheless exposed to high exchange rate risks. The National Bank has emphasised on many occasions that these risks continue to exist, despite the low volatility of the Swiss franc at present.

### Regression analysis

Table 3.1

Currency	Alpha	Probability	Beta	Probability	R <sup>2</sup>
AUD	-0.026	0.064	-0.007	0.128	0.029
CAD	-0.026	0.156	-0.012	0.041	0.050
DKK	0.004	0.451	0.002	0.075	0.015
EUR	-0.007	0.198	-0.003	0.443	0.010
GBP	-0.033	0.102	-0.007	0.116	0.042
JPY	0.017	0.223	-0.012	0.346	0.029
NOK	-0.012	0.292	-0.001	0.495	0.012
SEK	-0.045	0.021	-0.012	0.041	0.091
USD	-0.020	0.265	-0.007	0.272	0.040

Sources: Thomson Datastream. SNB

**Statistics and performance indicators  
for individual currency pairs**

Table 3.2

Returns from 3M Libor business with portfolio adjustment every six months in CHF

	CHF AUD	CHF CAD	CHF DKK	CHF EUR	CHF JPY	CHF NOK	CHF SEK	CHF GBP	CHF USD	All returns
Mean	0.090	0.070	0.040	0.020	0.050	0.070	0.020	0.080	0.060	0.055
Standard deviation	0.200	0.210	0.080	0.060	0.170	0.130	0.130	0.160	0.200	0.152
Sharpe ratio <sup>1</sup>	0.420	0.330	0.470	0.400	0.300	0.540	0.180	0.470	0.290	–
Skewness	0.825	0.108	0.227	0.369	-0.523	0.973	-0.122	0.547	0.359	0.794
Kurtosis	4.065	3.227	3.909	3.347	3.743	4.667	3.183	4.322	2.624	4.812

<sup>1</sup> The Sharpe ratio is defined as annualised returns divided by the annualised standard deviation on returns  
Sources: Thomson Datastream, SNB

**Statistics for individual currency pairs**

Table 3.3

Interest rate differentials (Foreign 3M Libor – Swiss 3M Libor), in percentage points

	AUD	CAD	DKK	EUR	JPY	NOK	SEK	GBP	USD
Mean 1986–May 2006	4.264	1.936	2.389	1.204	-1.263	5.545	2.657	4.033	1.641
Mean 1990–1999	2.706	1.876	2.565	1.372	-1.609	3.753	3.283	3.606	1.125
Mean 2000–May 2006	3.884	2.029	1.848	1.605	-1.309	4.880	1.520	3.276	1.784
Mean April 2006–May 2006	4.358	2.781	1.632	1.508	-1.182	1.532	0.719	3.343	3.787

Standard deviation of currency returns

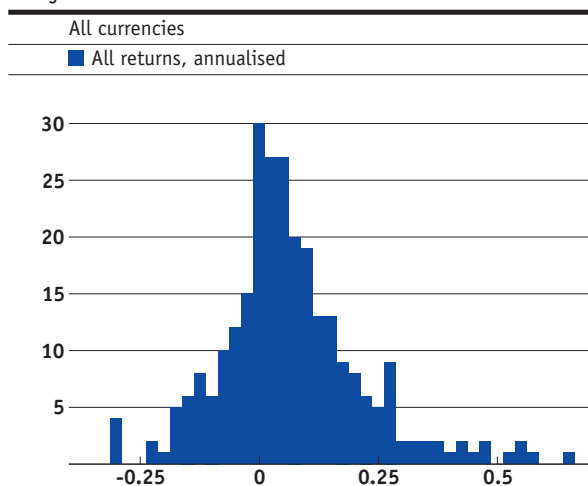
Standard deviations of monthly exchange rate changes, annualised, in %

	CHF AUD	CHF CAD	CHF DKK	CHF EUR	CHF JPY	CHF NOK	CHF SEK	CHF GBP	CHF USD
Standard deviation 1986–May 2006	12.7	12.3	4.1	3.6	10.6	6.6	7.3	8.5	11.7
Standard deviation 1990–1999	14.4	13.0	4.6	3.9	11.8	6.8	8.6	9.0	11.6
Standard deviation 2000–May 2006	10.1	9.7	3.0	3.0	10.4	5.5	5.4	7.0	10.1
Standard deviation April 2006–May 2006	9.3	7.2	3.7	6.7	8.4	6.6	4.6	7.9	10.1

Sources: Thomson Datastream, SNB

Graph 3.12

Carry trade returns



Sources: Thomson Datastream, SNB



### 3.3 Equity, commodity and real estate prices

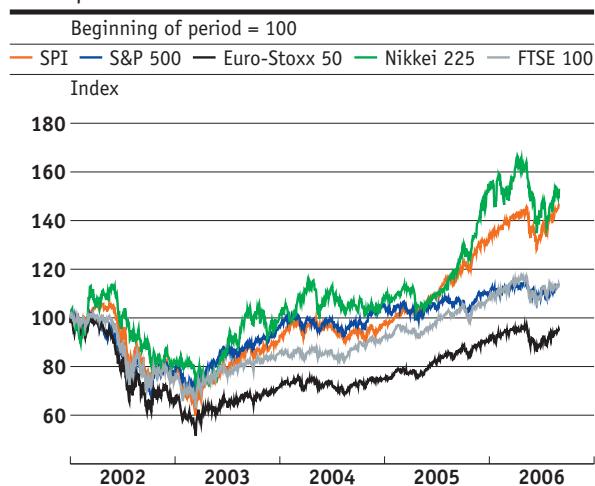
Price trends on the equity, commodity and real estate markets can provide signals regarding expectations for future inflation. Price swings may also produce asset effects which must be recognised at an early stage.

#### Recovery on the equity markets

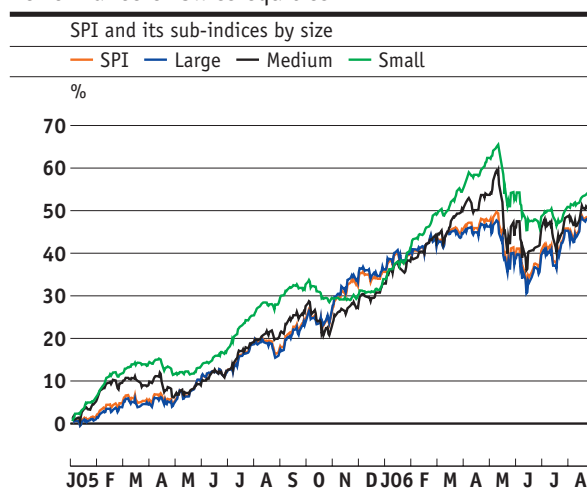
The majority of equity markets made gains after a correction in May and June 2006. The US S&P 500 rose by 4.8% between mid-June and mid-September 2006 and the European Euro-Stoxx 50 advanced by 8.6%. After losing around 7% between mid-May and mid-June, the Swiss Performance Index (SPI) staged a stronger-than-average recovery (11.4%) during the period under review to reach an all-time high. It was boosted by the robust economic climate and positive corporate earnings. The uptrend covered all sectors and companies of different sizes (cf. graphs 3.14 and 3.15), with valuations in the construction and technology sectors rising most sharply. The latter was still reporting a negative performance in both the first and second quarters of 2006. In general, large cap equities made the strongest gains, although it was they that had also fallen further than the market overall between mid-May and mid-June. In mid-September, they were trading 11.8% higher than in mid-June, while small and mid-caps were up by 7.5% and 9.8% respectively.

Graph 3.16 shows the volatility of equity returns, which is a sign of uncertainty. Having increased sharply in May and June 2006, this volatility has dipped again and is now lower than at the last monetary policy assessment. However, it remains higher than at the beginning of the year.

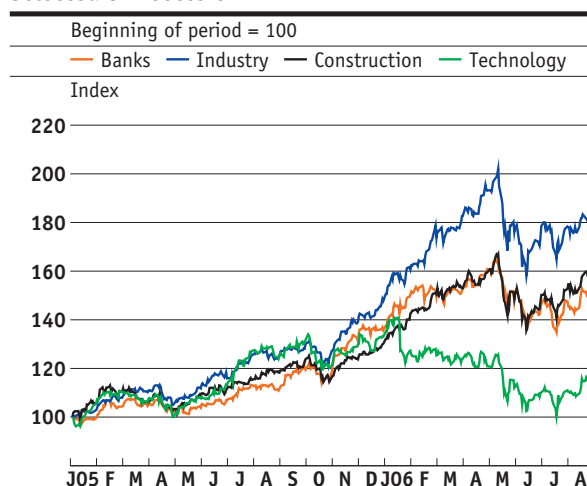
Graph 3.13  
Stock prices



Graph 3.14  
Performance of Swiss equities



Graph 3.15  
Selected SPI sectors



Graph 3.13:  
Sources: Thomson Datastream, Bloomberg

Graph 3.14:  
Source: SWX Swiss Exchange

Graph 3.15:  
Sources: Thomson Datastream

### Stable real estate market

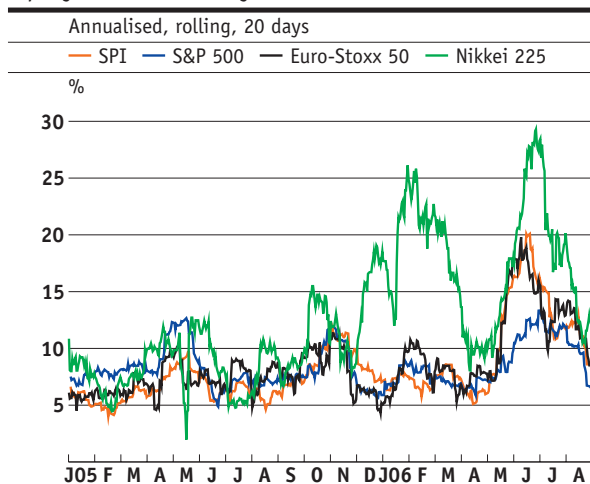
Developments on the real estate market indicate that the moderate price pressure in this sector remains unchanged. In the second quarter of 2006, prices for single-family homes and owner-occupied apartments rose by 0.5% year-on-year in real terms, i.e. as compared to the CPI. Residential rents increased by 1.8% in the same period, against 2.3% during the previous quarter. However, it should be noted that this figure relates mainly to old apartments. Rents for new apartments were up by a moderate 0.8% after falling for two consecutive quarters. Meanwhile, rents for commercial buildings declined (-0.5%) for the third quarter in a row. Prices for single-family homes and owner-occupied apartments, as well as rents for new apartments, in particular, are growing at a much slower pace than they did from the beginning of 2002 until mid-2003.

### Fluctuating commodity prices

According to the Goldman Sachs Commodity Index, commodity prices increased by around 6% between mid-June and the beginning of August 2006. A counter-movement then set in, sending the overall index back down to a level even lower than its mid-June 2006 level. By contrast, precious metals prices reported favourable growth rates of over 5% during the period under review.

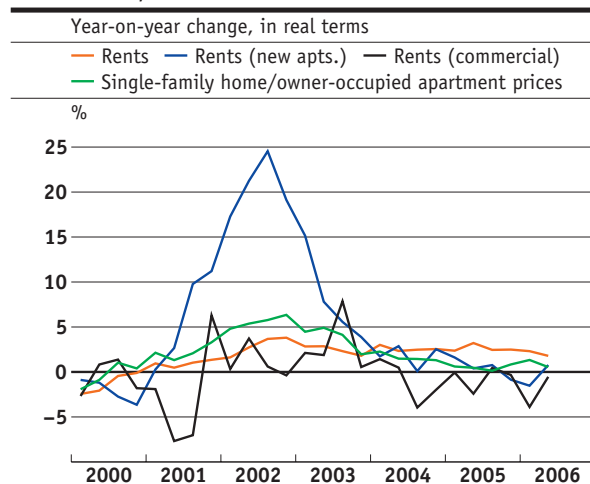
All in all, commodities prices were subject to considerable fluctuations, just like the equity and foreign exchange markets. This points to uncertainty on the part of market participants. The crisis in the Middle East may well have fuelled price rises and increased volatility.

Graph 3.16  
Equity return volatility



Sources: Thomson Datastream, SNB

Graph 3.17  
Real estate prices and rents



Source: Wüest & Partner

## 3.4 Monetary aggregates

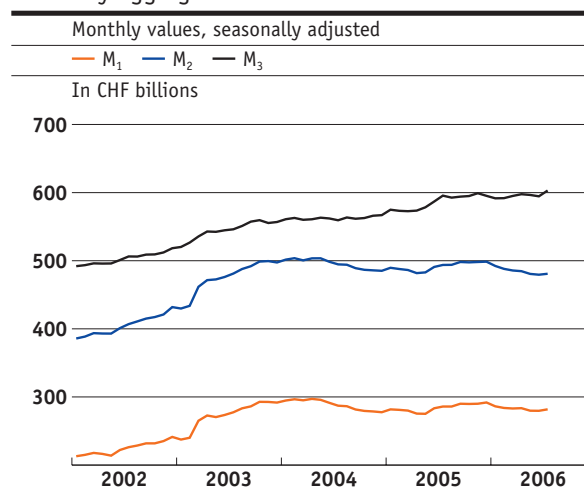
### Money supply steady

In August the money stocks  $M_1$  (note and coin circulation, sight deposits and transaction accounts) and  $M_2$  ( $M_1$  plus savings deposits) were lower by 1.3% and 2.8% respectively compared with their year-back levels. As graph 3.18 shows, the  $M_1$  and  $M_2$  monetary aggregates were down by CHF 9 billion and CHF 19 billion respectively, compared with the beginning of 2006. The money stock  $M_3$  ( $M_2$  plus time deposits) remained almost constant, however. This is due to two opposing trends. While time deposits were higher (25.6%), savings deposits and, to a lesser degree, sight deposits, declined. This points to portfolio restructuring in a climate of rising interest rates.

A way of assessing potential inflationary threats owing to an excessive supply of liquidity to the economy is to calculate a money overhang. There are various ways of doing this. Here, the ECM approach is used (cf. "Box: Money supply growth and inflation", Monetary Policy Report 1/2005, p. 33). An equilibrium money supply is calculated on the basis of the transaction volume in the economy and the opportunity costs of holding money. This serves as a benchmark for an appropriate supply of money to the economy. If the actual money supply exceeds this level, there is too much liquidity available and thus a danger of increased inflation in the next four to six quarters. Graph 3.19 shows the percentage deviations of the  $M_3$  money stock

from the calculated equilibrium value. In order to take account of statistical uncertainty, the money overhang is presented as a range that spans one standard deviation. Combined with a rise in real activity, the slower momentum of money supply growth will help to close the money overhang. The zero line continues to be located between the upper money overhang and the lower money overhang. This suggests that there will be no monetary pressure on prices in the next few quarters.

Graph 3.18  
Monetary aggregates



Source: SNB

### Monetary aggregates<sup>1</sup>

Table 3.4

	2004	2005	2005			2006		2006		
			Q2	Q3	Q4	Q1	Q2	June	July	August
<b>Monetary base<sup>2</sup></b>	<b>41.7</b>	<b>41.9</b>	<b>41.6</b>	<b>41.2</b>	<b>42.7</b>	<b>43.3</b>	<b>43.3</b>	<b>43.4</b>	<b>42.3</b>	<b>42.3</b>
<i>Change<sup>3</sup></i>	3.2	0.4	-0.2	0.3	2.0	3.0	4.2	4.8	2.7	2.6
<b>M<sub>1</sub><sup>2</sup></b>	<b>288.5</b>	<b>284.2</b>	<b>278.7</b>	<b>284.3</b>	<b>290.9</b>	<b>286.4</b>	<b>281.6</b>	<b>279.2</b>	<b>279.3</b>	<b>279.4</b>
<i>Change<sup>3</sup></i>	5.5	-1.5	-5.7	0.8	4.3	1.3	1.1	-1.3	-1.4	-1.3
<b>M<sub>2</sub><sup>2</sup></b>	<b>495.6</b>	<b>491.6</b>	<b>486.7</b>	<b>491.2</b>	<b>497.5</b>	<b>491.7</b>	<b>483.1</b>	<b>478.9</b>	<b>477.4</b>	<b>476.5</b>
<i>Change<sup>3</sup></i>	4.3	-0.8	-3.3	0.6	2.5	0.1	-0.7	-2.3	-2.6	-2.8
<b>M<sub>3</sub><sup>2</sup></b>	<b>562.5</b>	<b>585.9</b>	<b>581.0</b>	<b>590.6</b>	<b>595.9</b>	<b>595.4</b>	<b>597.7</b>	<b>594.0</b>	<b>600.0</b>	<b>600.4</b>
<i>Change<sup>3</sup></i>	3.2	4.2	3.1	5.9	5.5	3.3	2.9	1.3	1.3	1.9

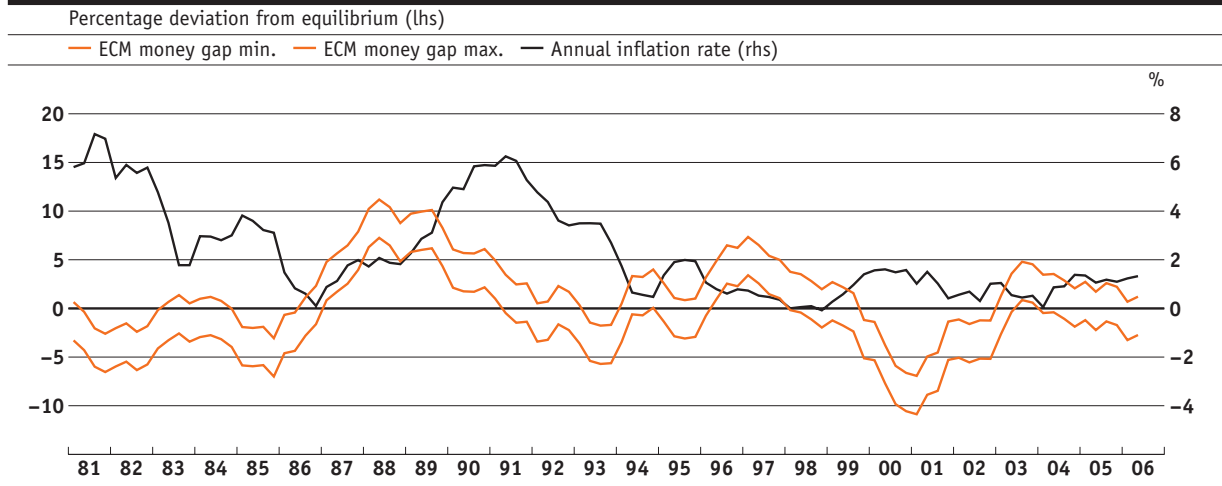
1 1995 definition

2 Level in CHF billions

3 Year-on-year change in percent

Source: SNB

Graph 3.19  
 Money gap and annual inflation rate



Source: SNB

## 3.5 Loans

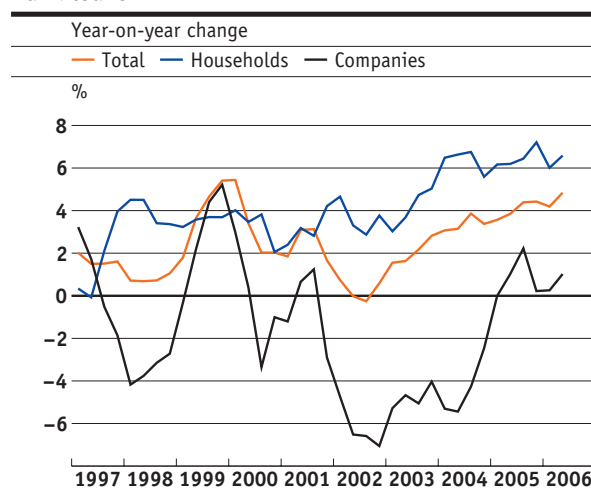
### Stronger growth in lending

Unlike the money supply aggregates, lending was up in the second quarter of 2006. Bank loans expanded by 4.8% year-on-year, compared with 4.2% in the first quarter. Graph 3.20 shows that this growth is due to higher lending to both households and companies. Loans to households increased by 6.6% in the second quarter compared with the year-back period, while lending to corporate customers edged up by 1.0%. The equivalent figures for the first quarter were 6.0% and 0.2% respectively.

Table 3.5 provides information on how the loans were used. Mortgages, which account for the great majority (80%) of all bank loans, grew by 4.9% during the second quarter, compared with 5.0% during the first three months of the year. The expansion in household borrowing remained unchanged at 5.7%, while mortgage lending to companies grew by just 1.5%, i.e. somewhat less than in the previous quarter. Other loans, which had been contracting for several years up to mid-2005, were 4.4% higher for the second quarter. This was due, in particular, to the sharp increase in unsecured loans (4.3%), which had previously fallen from the third quarter of 2001 up to the first quarter of 2006. This latest increase indicates a robust cyclical backdrop.

Graph 3.20

### Bank loans



Source: SNB

### Bank loans

Year-on-year change in percent

Table 3.5

	2004	2005	2005			2006		2006		
			Q2	Q3	Q4	Q1	Q2	May	June	July
<b>Total</b>	<b>3.4</b>	<b>4.1</b>	<b>3.8</b>	<b>4.4</b>	<b>4.4</b>	<b>4.2</b>	<b>4.8</b>	<b>4.9</b>	<b>4.8</b>	<b>5.2</b>
Households	6.4	6.5	6.2	6.4	7.2	6.0	6.6	6.9	6.2	6.3
Companies	-4.4	0.9	1.0	2.2	0.2	0.2	1.0	0.6	1.4	2.5
Mortgage claims	5.4	5.2	5.1	5.3	5.4	5.0	4.9	5.0	5.0	5.0
of which households	6.4	6.9	6.8	6.9	6.9	5.7	5.7	5.7	5.8	5.7
of which companies	-1.7	3.1	3.1	3.9	2.8	1.8	1.5	1.8	1.2	1.6
Other loans	-4.2	-0.7	-1.1	0.5	0.3	0.7	4.4	4.7	3.9	6.2
of which secured	3.0	2.6	-0.4	3.5	4.0	3.5	4.4	2.7	4.9	0.2
of which unsecured	-8.8	-3.1	-1.6	-1.8	-2.4	-1.4	4.3	6.3	3.1	10.9

Source: SNB

## 4 Inflation forecast of the SNB

Monetary policy impacts on production and prices with a considerable time lag. In Switzerland, monetary policy stimuli have their maximum effect on inflation after a period of approximately three years. For this reason, the SNB's monetary policy is guided not by current inflation, but by the inflation rate to be expected in two to three years if monetary policy were to remain unchanged. The inflation forecast is one of the three key elements of the SNB's monetary policy concept, together with its definition of price stability and the target corridor for the three-month Libor.

## 4.1 Assumptions for global economic developments

The SNB's inflation forecasts are embedded in an international economic scenario. This represents what the SNB considers to be the most likely development over the next three years. Table 4.1 contains the main exogenous assumptions and the corresponding assumptions underlying the June forecast.

### Global economy remains robust

In the second quarter of 2006, GDP growth in the US was weaker than expected. This decline is largely attributable to special effects, however. The SNB only made a slight downward adjustment to its 2006 and 2007 forecasts for the US. As expected, the economy in Europe developed favourably in the first half of the year. Assumptions on GDP growth saw a slight downward adjustment for 2007 and 2008. In both economic regions, growth is still anticipated to be robust in the medium term, trending towards the potential growth rate of approximately 3% (US) and 2% (EU) until the end of the forecasting period. The oil price assumptions were revised upwards again and foreign prices were adjusted accordingly. A constant USD/EUR exchange rate of 1.27 is now assumed (previously 1.23).

### Assumptions for inflation forecasts

Table 4.1

	2006	2007	2008
<b>Inflation forecast of September 2006</b>			
GDP US <sup>1</sup>	3.4	3.0	3.2
GDP EU15 <sup>1</sup>	2.3	2.1	2.1
Exchange rate USD/EUR <sup>2</sup>	1.25	1.27	1.27
Oil price in USD/barrel <sup>2</sup>	72.0	78.0	78.0
<b>Inflation forecast of June 2006</b>			
GDP US <sup>1</sup>	3.5	3.3	3.2
GDP EU15 <sup>1</sup>	2.3	2.2	2.2
Exchange rate USD/EUR <sup>2</sup>	1.22	1.23	1.23
Oil price in USD/barrel <sup>2</sup>	68.5	71.0	71.0

1 Change in percent

2 Level

## Box: Inflation forecasting as part of the monetary policy concept

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

The SNB has specified the way in which it exercises this mandate in a three-part monetary policy concept. First, it regards prices as stable when the national consumer price index (CPI) rises by less than 2% per annum. This allows it to take 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. 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 Q3 2006 to Q2 2009

The quarterly inflation forecast is derived from the analysis of different indicators, model estimates and the assessment of any special factors. Graph 4.1 shows the September 2006 inflation forecast alongside those made in June and March. The new forecast, which covers the period from the third quarter of 2006 to the second quarter of 2009, is based on a steady three-month Libor of 1.75%. This rate corresponds to the mid-point in the 1.25–2.25% target range for the three-month rate which the SNB lifted by 25 basis points on 14 September 2006. The June and March forecasts were based on a three-month Libor of 1.50% and 1.25% respectively.

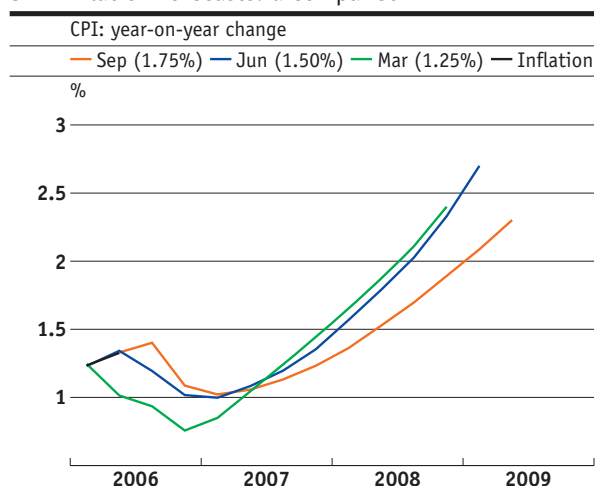
In the short term, the SNB expects inflation to be somewhat higher than it did in June. This is because the utilisation of resources is somewhat higher than had been expected three months ago. Inflation will nevertheless remain moderate and will decrease by approximately 0.4 percentage points to roughly 1% by the first quarter of 2007. The anticipated drop in inflation is attributable to the weakening impact of heating oil products included in the CPI (baseline effect). The average annual inflation for this year is forecast to amount to 1.3%.

As graph 4.1 shows, starting in the second quarter of 2007, the expected rate of inflation will fall short of that projected back in June. Since economic activity continues to be favourable, the whole-economy output gap should have closed. As economic growth is likely to slow down in the coming quarters, there is hardly any danger of the economy overheating, thereby pushing up prices.

In fact, inflation prospects have improved in the longer term. This is both due to interest rate hikes so far and the new available data. M1 and M2 have declined since November 2005, while M3 has remained at the level reached then. A less expansionary monetary policy initially dampens economic growth and thus – with a time lag – also the price level. The renewed tightening of monetary policy in September is contributing to a further improvement in inflation prospects for 2008 and 2009.

It is evident from the inflation dynamics, however, that a three-month Libor of 1.75% is still too expansionary. This is reflected in a gradual rise in inflationary pressure. If the economy performs as expected, the SNB will therefore further pursue the gradual adjustment of its monetary policy.

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 2006

The Swiss National Bank's delegates for regional economic relations are constantly in touch with a large number of enterprises 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 most important results of the talks held from June to August 2006 on the current and future economic situation are summarised.

## Summary

The talks held by the SNB delegates for regional economic relations with around 150 representatives from various economic sectors and industries yielded a positive picture of the economy for the period from June to August 2006. The companies surveyed did not detect any sign of a slow-down in the second half of 2006, and were expecting sales to remain healthy in 2007. The export industry (including tourism) was experiencing particularly good results, as were the construction industry and the banks. However, the trend in the retail trade remained muted, despite the improvements in consumer sentiment.

There was a marked increase in the willingness to invest. However, the main objective of this investment was – increasingly – either to expand capacity or to strengthen market positions through acquisition. The healthy earnings situation made it possible for planned investments to be financed internally in most cases. Many companies said that the lack of qualified staff was holding back rapid expansion in capacity. The main concerns were the broad-based rise in commodity and energy prices, and the danger of a weakening dollar.

# 1 Production

## **Manufacturing**

Right through to the end of the period reviewed, most export companies reported rapid increases in orders, a considerable backlog of orders and full utilisation of capacity. In many cases, sales so far this year had been considerably above the targeted figures, which in themselves were already optimistic. As a result, many companies appear set for a record year. There was much talk of production bottlenecks and lengthening delivery times, and some companies spoke of overloading and overheating. Demand from Asia (in particular China) and Latin America remained strong, while some companies had observed a marginal slowdown in orders from the US. A clear upswing in demand from the EU countries was noted, particularly from Germany. However, some companies expressed doubts about the sustainability of the German recovery, particularly in view of the upcoming increase in German value-added tax.

Nearly all industries and companies were benefiting from the upturn in the economy. In the few cases where business was sluggish, structural problems or difficulties specific to individual companies were involved. The various segments of the chemical industry, the plastics industry, medical technology and the metal and watchmaking industries continued to experience particularly strong growth. Providers in the field of energy technology (heating/cooling technology) and transport recorded a surge in growth. The recovery also aided the consumer goods industry, which benefited particularly from thriving worldwide consumption of luxury goods.

## **Services**

Following a rather restrained trend at the beginning of the year, representatives of tourism and the hotel and catering sector declared themselves very satisfied with the results for the summer season, even if the poor weather in August had clouded the picture a little. Turnover was considerably higher than a year previously, both in mountain locations and in the cities. The number of foreign guests had increased substantially, and they stayed longer on average, with higher expenditure per head. Apart from the improvement in the economic climate in the EU, reasons given for this positive trend were a qualitative improvement in tourism products and the favourable exchange rate for the Swiss franc against the euro. Industry representa-

tives were generally confident about prospects for the coming winter season.

On the whole, the mood amongst representatives of other service industries – including consulting, air transport, travel agencies and transportation companies – was also upbeat. By contrast, representatives of the IT industry painted a mixed picture. Following a good start to the year, the business trend had been muted on the whole. It was possible that special factors, such as the delay in the introduction of a new software product, had played a role here. Once again, the extremely competitive price situation in this industry was mentioned.

Representatives of the banking sector were again very satisfied with business trends. Despite higher interest rates, mortgage business was still lively and competition between providers remained strong. Most representatives of banks also reported a revival in business with corporate clients and rated both the mood and the business performance of their clients as very good. Commission business was scarcely affected by the substantial fall in prices on the stock exchanges in May and June. The risks contingent on a possible continued rise in interest rates were mentioned more often.

The basic mood of discussions with representatives of the retail sector was cautious. According to wholesalers, business had also improved in the retail industry over the course of the past year. However, it would be wrong to say that the mood was euphoric. Although consumers are willing to spend more, they continue to be very price conscious and give preference to lines of budget products launched by wholesalers, particularly for basic necessities. By contrast, most representatives of other parts of the retail sector were satisfied with the sales trend. This applied to providers in the high-price segment, in particular.

## **Construction**

As in manufacturing, the mood in the construction industry remained buoyant. There was even some talk of excesses. New residential building was still the main driving force, although renovation business also developed well. Only here and there was there talk of an imminent levelling-off in activity and a more cautious attitude on the part of investors. Many representatives, by contrast, mentioned a revival in office and industrial construction, as well as an increase in public sector demand – on the part of the municipalities, in particular.

## 2 Labour market

A number of representatives said their companies had increased staff numbers in the past few months, or at least intended to do so, as a result of the healthy level of demand. As in the last round of discussions, frequent mention was made of the problems in finding well-qualified specialists in the domestic labour market. This applied to technical professions, in particular, as well as to construction specialists. Although the possibility of recruiting staff from EU countries is helping the situation, a large number of companies still mentioned staff shortages as a significant constraint on production.

## 3 Prices, margins and earnings situation

Despite the good business performance and the capacity bottlenecks experienced in many places, the problem of pressure on prices came up in many discussions. This was most pronounced in the case of companies that were very exposed to foreign competition. It limited the extent to which higher commodity and energy prices could be passed on to customers. Nevertheless, a few of the companies in this area were able to pass on their higher costs. In general, the earnings situation was very good, due to healthy sales figures. However, cost controls and productivity increases were still important. Representatives from the services sector reported a tendency towards greater leeway for price-setting, and a number of providers increased their prices.

The trend in commodity and energy prices continued to be the main concern, although companies were also worried about possible weakening in the dollar. However, they expressed little concern about wage developments. With respect to pay negotiations for 2007, some representatives expected that wages would rise more strongly than in the previous year. A number of representatives commented that there was little risk that wages would increase very substantially, not least because the labour market had been opened up to the EU countries.

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## Can bank supervisors rely on market data? A critical assessment from a Swiss perspective

**Urs W. Birchler and Matteo Facchinetti**  
**Working Paper 2006-8**

Central banks and banking supervisory authorities have to contend with incomplete information about banks' true risk profiles. Market data, such as bond spreads or equity price volatility, may convey some of the missing information. In addition, systemic stability indicators can be built from a collection of market data, book data and macroeconomic indicators.

The quality of market data is determined by two factors: (i) Do investors have access to relevant information? (ii) Are markets efficient enough to aggregate investors' information into prices? The authors derive four practical criteria that can be applied when measuring the quality of market data: market completeness, price information quality, robustness to bubbles and absence of noise.

Most of these practical requirements governing the use of market data for supervisory purposes in Switzerland are fulfilled. Meaningful market data are available for a number of banks; although they constitute a minority, these banks account for a major part of the banking system. Empirical evidence (confirmed by findings from other industrial countries) suggests that market information is indeed a complement to supervisory information.

One limitation of the Swiss data is a bias in cantonal banks' bond spreads and credit ratings, due to the state guarantee for these banks. Caution is also required in interpreting data for big banks as some investors may deem these banks "too-big-to-fail".

Caveats on the supervisory use of market data also exist on theoretical grounds. In particular, once the market expects supervisors to react to prices, these prices become endogenous. This fact, which has been largely overlooked in the previous literature, may jeopardise the very potential of prices to serve as policy guides.

Despite these problems, market data are likely to play a supervisory role in the future. Their public nature may even exert some pressure on supervisors to react to market prices. Such pressure may or may not help a supervisor to time corrective interventions optimally.

## A two-pillar Phillips curve for Switzerland

**Petra Gerlach-Kristen**  
**Working Paper 2006-9**

The Phillips curve captures the determinants of inflation. Empirical versions of the Phillips curve typically include lagged inflation and a measure of economic activity, such as the output gap, which reflects whether the economy is in a recession or a boom. Monetary variables, such as the growth rate of  $M_2$  or  $M_3$ , are normally not included in empirical Phillips curves, even though theory suggests that they should impact on inflation. The apparent reason for leaving out monetary variables is that standard econometric techniques are unable to show that they indeed affect inflation within the Phillips curve framework.

The Swiss National Bank has historically emphasised the importance of money growth in the inflation process. The new monetary policy framework, which came into force in January 2000, combines econometric models of inflation with monetary and real indicators to judge inflationary pressures. This strategy resembles the two-pillar approach of the European Central Bank, which bases its analysis of inflation on a monetary and a real pillar.

This paper starts out by establishing that, indeed, in a simple Phillips curve, money growth does not appear to have any impact on Swiss inflation. One possible explanation for this finding is that monetary aggregates display high volatility that may arise from a number of factors unrelated to inflationary pressures, such as portfolio shifts. It therefore seems plausible that only longer-term trends in money growth feed through to inflation. To assess this possibility, the paper 'filters out' the money growth data to exclude short-term fluctuations. The resulting measure of trend money growth is much smoother than the original series and has, together with the output gap, a strong impact on Swiss inflation. The analysis thus confirms the view that inflation in Switzerland depends both on monetary and real factors. It also suggests that monthly fluctuations in money growth are unlikely to signal imminent movements in inflation. Rather, the long-term trend in money growth determines the average level of inflation.

## On understanding sources of growth and output gaps for Switzerland

**Kevin J. Fox and Mathias Zurlinden**  
**Working Paper 2006-10**

This study examines the macroeconomic performance of the Swiss economy over the period 1980-2001. A variety of index number techniques for decomposing nominal and real output growth and output gaps are employed. The various schemes complement each other and give a fairly comprehensive picture of economic developments during the period under review. All decompositions are exact and complete.

The basic decomposition is based on a gross-domestic-product (GDP) function. Nominal GDP growth is decomposed into contributions from changes in domestic prices, the terms of trade, total factor productivity, capital input, and labour input. Deflating nominal GDP growth by domestic prices gives growth in real net output. The contributions from changes in the terms of trade and productivity growth, in turn, are used to construct an index of the annual change in welfare. There are two main differences to conventional growth accounting. First, the starting point is nominal rather than real output, implying that the decomposition includes contributions from quantities and prices, not just quantities. Second, the country is modelled as an open economy. This is what allows it to consider terms of trade effects, which turn out to be important in the case of Switzerland. To give a complementary view of nominal and real output growth, an alternative decomposition is carried out. This approach decomposes growth in national income into the contributions from changes in labour prices, capital prices, the quantity of domestic expenditure, exports, and imports. Finally, the same methods are applied to nominal and real output gaps (instead of nominal and real output growth). This brings the cyclical patterns of the Swiss economy into focus. The starting point is the nominal output gap defined as the deviation of nominal output from its trend. This gap is decomposed into the deviations from their respective trends of the components described by the gross-domestic-product function and the national income function, respectively.

The results of the basic decomposition show that rising domestic prices accounted for about half of nominal GDP growth between 1980 and 2001, so that the other half can be attributed to the increase in real net output. The largest contribution to growth in real net output was from capital input followed by growth in productivity and improvements in the terms of trade (in that order). The contribution of growth in the quantity of labour was minor. If the sample is split into two sub-samples of roughly equal length, the results suggest that the positive contributions from changes in labour, capital, and the terms of trade all declined over time. Growth in total factor productivity, however, slightly increased. The representation in cumulative form indicates that productivity initially dragged down real growth, before providing an overall positive contribution exceeding that of the terms of trade by the end of the sample.



# Chronicle of monetary events

## Increase in the target range for the three-month Libor

On 14 September 2006, following its quarterly assessment, the Swiss National Bank increased the target range for the three-month Libor with immediate effect by 0.25 percentage points to 1.25–2.25%. The SNB intends to hold the rate in the middle of the target range for the time being.

## Rejection of the Cosa initiative

In the national vote on 24 September 2006, the people's initiative, "National Bank profits for the Old Age and Survivors' Insurance Fund (AHV/AVS)", better known as the Cosa initiative (cf. *Quarterly Bulletin* 4/2005, p. 53), was clearly rejected, with 58.3% against and 41.7% in favour. The only cantons (or half-cantons) with slight majorities in favour of the initiative were Basel-Stadt, Geneva and Ticino. The Swiss National Bank was pleased to hear of the outcome of the vote. Now it can continue pursuing its stability-oriented monetary policy under unchanged conditions.

**Published by**

Swiss National Bank  
Economic Affairs  
Börsenstrasse 15  
P. O. Box  
CH-8022 Zurich

**Design**

Weiersmüller Bosshard Grüniger WBG, Zurich

**Composition**

Neidhart + Schön AG, Zurich

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