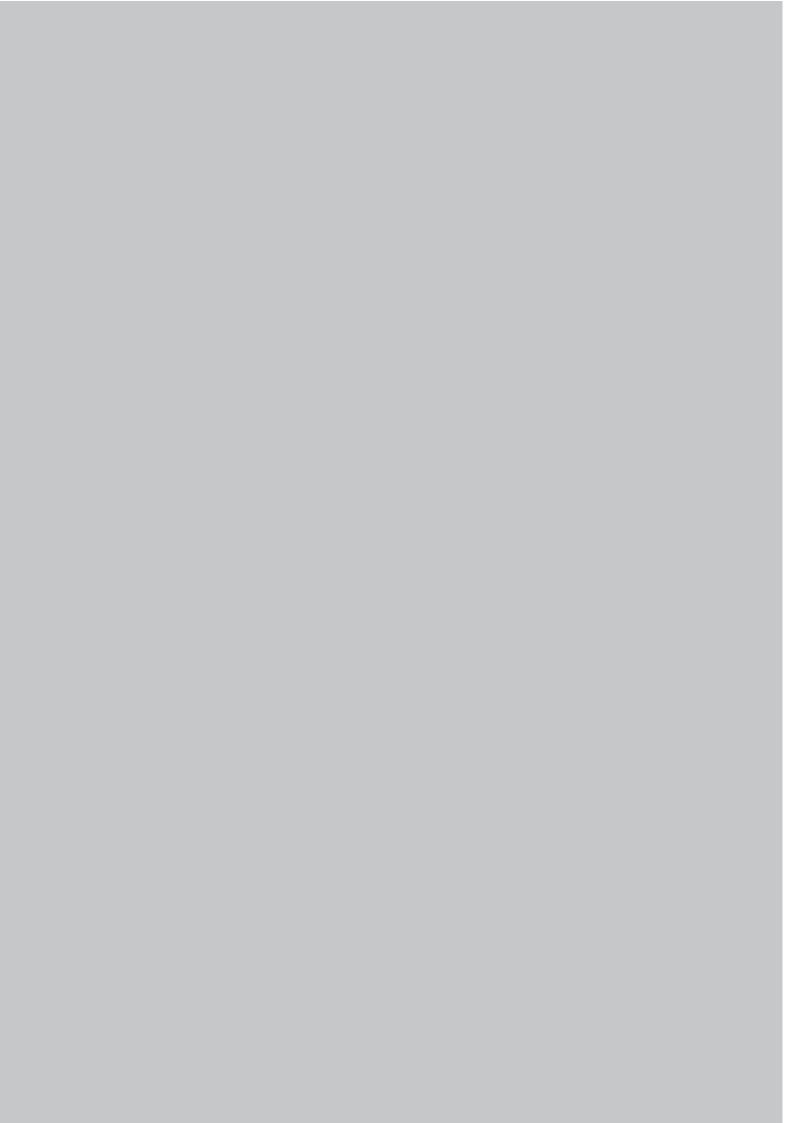
SCHWEIZERISCHE NATIONALBANK BANQUE NATIONALE SUISSE BANCA NAZIONALE SVIZZERA BANCA NAZIUNALA SVIZRA SWISS NATIONAL BANK



## Swiss National Bank Quarterly Bulletin

June

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#### Monetary policy report (p. 6)

The global economy was in good shape in the first few months of 2007. While economic growth remained robust in most countries, the US economy continued to lose momentum. However, due to the self-sustained economic recovery in Europe and Asia, economic prospects remained favourable. The policies of major central banks reflected the goal of keeping inflation within the target ranges. The US Federal Reserve adhered to its slightly restrictive monetary policy, while the European Central Bank continued to tighten its monetary reins.

In Switzerland, too, the economic upswing remained broad-based. Having exhibited moderate growth in the second half of 2006, real GDP surged in the first quarter, buoyed in particular by private consumption and exports. The healthy economic situation was also reflected in the labour market. Employment increased further and the unemployment rate fell.

At its quarterly assessment in June, the SNB decided to lift the target range for the three-month Libor by 0.25 percentage points to 2.00–3.00% and to keep the rate in the middle of the target range for the time being. By raising the target range by an additional 25 basis points, the National Bank is ensuring that inflation prospects will remain favourable.

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

The talks held by the SNB delegates for regional economic relations with around 160 representatives from various economic sectors and industries yielded a positive picture of the economy in the period from March to May. Many of the companies reported that their expectations were exceeded in the first few months of the year. There was no indication of a slowdown in business activity; in fact, repeated mention was made of an acceleration. The major concerns cited were once again the massive price hikes and problems with the procurement of commodities and primary products, as well as rising capacity shortages.

#### General Meeting of Shareholders (p. 44)

At the 99th General Meeting of Shareholders on 27 April, the President of the Bank Council of the Swiss National Bank, Hansueli Raggenbass, focused his address on the National Bank's relationship with its shareholders. Formed as a shareholding bank and based on its own federal act with a simple profit distribution rule, favouring the cantons and the Confederation, the establishment of the SNB was a compromise acceptable to the majority. Hansueli Raggenbass commenced by outlining the main features of the SNB as a joint-stock company and then examined the way in which the ownership structure has evolved over the years. He concluded with an overview of the most important issues that have occupied the minds of the National Bank's shareholders over the past 100 years. These include shareholders rights, which are fairly restricted as compared to those of companies organised under private law, the debates with the pioneers of the Free Economy movement, and the heated discussions concerning the extraordinary profit distribution to the Confederation as well as the gold sales.

The Chairman of the Governing Board, Jean-Pierre Roth, used his address to look back over the year gone by - 2006 - with its robust economic growth, rising employment and declining unemployment. The export performance of recent years is particularly remarkable and is due in no small part to the export industry having successfully adjusted to the new global environment. In these favourable economic conditions, the SNB maintained its course of interest rate normalisation in 2006 so as to ensure price stability in the medium term. Although the National Bank is currently operating in an advantageous environment, this has not always been the case. In the second part of his address, Jean-Pierre Roth recalled a number of difficult situations with which the SNB had to contend in its 100-year history. These include World War I, the crisis in the 1930s and the depreciation of the Swiss franc, World War II, and finally, the transition to flexible exchange rates, the most important event in the SNB's 100 years of monetary policy.

#### Swiss National Bank Working Papers (p. 56)

Abstracts of four papers: Jürg M. Blum, "Why 'Basel II' may need a leverage ratio restriction", SNB Working Paper 2007-4; Samuel Reynard, "Maintaining low inflation: money, interest rates, and policy stance", SNB Working Paper 2007-5; Rina Rosenblatt-Wisch, "Loss aversion in aggregate macroeconomic time series", SNB Working Paper 2007-6; Martin Brown, Maria Rueda Maurer, Tamara Pak and Nurlanbek Tynaev, "Banking sector reform and interest rates in transition economies: banklevel evidence from Kyrgyzstan", SNB Working Paper 2007-7.

### Monetary policy report

Report to the attention of the Governing Board of the Swiss National Bank for its quarterly assessment of June 2007

This report is based primarily on the data and information available as at mid-June 2007.

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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 June 2007. The key developments and section 4 (inflation forecast) take due account of the Governing Board's monetary policy decision of mid-June 2007.

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

#### Key developments

The global economy was in good shape in the first few months of 2007. While economic growth remained robust in most countries, the US economy continued to lose momentum. However, due to the self-sustained economic recovery in Europe and Asia, economic prospects remained favourable. Yet, given the extensive utilisation of production capacity worldwide, the risk of inflation increased. The policies of major central banks reflected the goal of keeping inflation within the target ranges. Despite the slowdown in economic growth, the US Federal Reserve adhered to its slightly restrictive monetary policy, while the European Central Bank continued to tighten its monetary reins.

The SNB adjusted its global economic scenario, on which its inflation forecast is based. Due to the latest increase in oil prices, it expects worldwide inflation rates to increase. It also revised its GDP forecast for the US slightly downwards and that for Europe slightly upwards. The SNB expects the economy to expand vigorously in both regions in the medium term.

Switzerland's broad-based economic upswing continued in the first six months of 2007. Having exhibited moderate growth in the second half of 2006, real GDP surged in the first quarter, buoyed in particular by private consumption and exports. Employment increased and the unemployment rate fell. The talks held by the SNB delegates for regional economic relations with representatives from various industries yielded a positive picture of the economy in the period from March to May 2007. The major concerns cited were the massive price hikes and problems with the procurement of commodities and primary products, as well as rising capacity shortages.

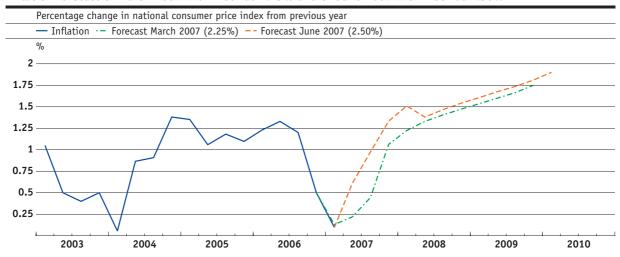
The SNB revised its GDP forecast upwards and now expects real GDP growth for 2007 to amount to roughly 2.5%. Forecast GDP growth thus remains above the estimated growth potential. This is reflected in the high level of capacity utilisation and a decline in unemployment. In the forecast, the most important contribution to demand is made by private consumption, which is expected to benefit from the favourable income and employment situation. Construction investment should consolidate at a high level, while equipment investment is set to pick up. Owing to the positive global economy, exports are expected to remain an

important driver of economic activity, although export growth is likely to be lower than the previous year.

At its quarterly assessment in June, the SNB decided to lift the target range for the three-month Libor by 0.25 percentage points to 2.00–3.00% and to keep the rate in the middle of the target range for the time being.

According to the June inflation forecast, which is based on the assumption that the three-month Libor remains steady at 2.50% over the next three years, the inflation outlook has deteriorated since the March assessment. Reasons for this include the rise in the oil price, the stronger-than-expected economic performance and the continued weakening of the Swiss franc, which foiled the targeted tightening of monetary conditions.

By raising the target range by an additional 25 basis points, the National Bank is ensuring that inflation prospects will remain favourable. However, any assessment of the inflation outlook is subject to greater uncertainty. On the one hand, structural changes in the economy still have a dampening effect on prices. On the other hand, given the high level of capacity utilisation and current developments in the exchange rate, the danger is growing more acute that, as time goes on, more and more of the higher production costs will be passed through to prices. Should economic momentum remain unchanged and movements in the Swiss franc result in a further relaxation of monetary conditions, further increases in the interest rate are likely in the months ahead.



Inflation forecast of June 2007 with Libor at 2.50%	2007	2008	2009
Average annual inflation in percent	0.8	1.5	1.7

### Developments in the global economy

The global economy was in good shape in the first few months of 2007. While economic growth remained robust in most countries, the US economy continued to lose momentum. However, due to the self-sustained economic recovery in Europe and Asia, economic prospects remained favourable.

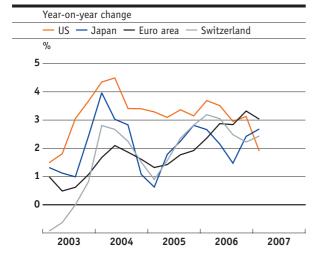
Confidence in the European and Asian economies is reflected in the consensus forecasts for GDP growth in the euro area and Japan, which went up between February and May (cf. table 1.1). However, risks for the global economy do exist. Given the extensive utilisation of production capacity worldwide, the risk of inflation is increasing. This is particularly true if oil prices continue to rise. Real estate and financial markets, which are overheated in some countries, as well as continued current account imbalances represent an additional risk and might cause abrupt price adjustments.

#### Weak economic growth in the US

In the first quarter, real GDP in the US registered a mere 0.6% increase on the previous period, thus continuing its moderate growth of the last three quarters. A major dampening factor was the continued consolidation process in the real estate market, which was accompanied by a steep decline in residential investment. In addition, inventories and exports declined. Private consumption, by contrast, continued its vigorous growth.

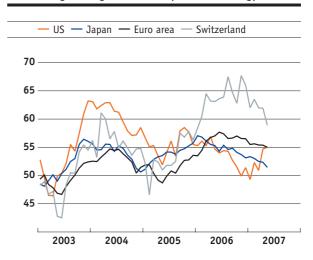
The chances of a gradual economic recovery in the US, however, remain positive. In April, there were growing signs of a recovery in manufacturing. Given the robust global economy, prospects for a revival of exports look favourable as well. In addition, rising employment figures continue to underpin private consumption. However, there is a risk that the stabilisation process in the housing market may take some time, with the number of building permits having decreased considerably of late. Private consumption is also depressed by elevated fuel prices. Furthermore, costs for raw materials and salaries have risen, which slows growth in profits and tends to discourage investment activity. Given these developments, the GDP consensus forecast for 2007 fell from 2.8% to 2.1% between February and May.

Graph 1.1 Real GDP



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

Graph 1.2
Purchasing managers' indices (manufacturing)



Source: Thomson Datastream

### Favourable economic developments in the euro area

At 2.4%, the euro area also experienced a slower rise in real GDP growth in the first quarter, as compared with 3.5% in the previous period. Investment was the main driving force. Private consumption, by contrast, declined compared with the previous period, owing to the slowing effects of the VAT increase in Germany.

However, this slowdown contrasts with a range of favourable factors which are likely to boost the European economy. Such factors include the continued improvement in consumer sentiment, which is benefiting from the declining unemployment rate. This development, together with rising household income, is likely to buoy up private consumption in the coming guarters. Given the high level of capacity utilisation and the positive corporate earnings situation, investment activity is expected to remain strong. Economic activity is being restrained, however, by a stronger euro, higher oil prices and the tightening of monetary policy by the European Central Bank. In some countries, a growing number of indications suggested that construction activity might have reached its peak. Nevertheless, consensus forecasts for GDP growth in 2007 rose from 2.1% in February to 2.5% in May.

#### ... and in Asia

At a rate of 2.4%, real GDP growth in Japan was only half as high in the first quarter as in the previous period. While investment activity eased after a significant rise in 2006, private consumption and exports contributed considerably to growth. The Japanese economy is likely to continue on its robust growth path in the next few quarters, strengthened by the thriving economy in East Asia, the fall in the value of the yen and the renewed rise in salaries. Consensus forecasts for GDP growth in 2007 rose to 2.2% in May, compared with 1.9% in February.

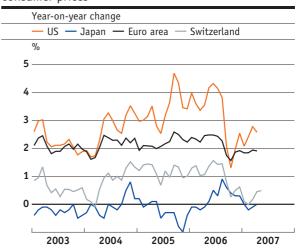
In China, economic growth rates remained brisk. In the first quarter, real GDP was 11.1% above the corresponding year-earlier level, thus rising by more than 10% for the fifth quarter in succession. After having lost some momentum in the second half of 2006, corporate investment strengthened again, benefiting from an ample supply of liquidity. Exports also expanded vigorously, despite the fact that the exchange rate of the Chinese currency is rising slightly. May's GDP consensus forecast for 2007 was at 10%.

Graph 1.3 Oil prices

Brent crude oil	
<ul> <li>USD per barrel</li> <li>CHF per barrel</li> </ul>	
USD	CHF
80 —	100
70	<u> </u>
60	80
50	<del> 70</del>
40	<del></del> 60
30	50
20	40
2003 2004 2005 2006 20	07

Sources: Reuters, SNB

Graph 1.4 Consumer prices



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

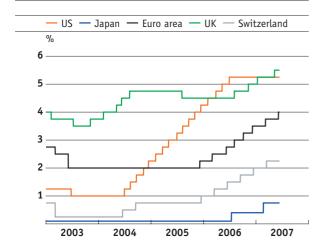
## Core inflation falls in the US - rises in Europe

Annual inflation measured by consumer prices varied from one large industrialised country to another. In the US, annual inflation climbed by 0.5 percentage points to 2.6% between January and April, reflecting rising prices for fuel and food products. By contrast, core inflation, which excludes oil and food prices, fell by 0.3 percentage points to 2.4%. In the euro area, total annual inflation increased by 0.1 percentage points to 1.9% between January and April. In the same period, core inflation (which factors out food products, alcohol, tobacco and energy) rose slightly more than total annual inflation and also amounted to 1.9% in April. This rise was particularly attributable to price rises for services caused by the increased German VAT. In Japan, consumer prices remained at their year-earlier levels between January and April, while core inflation (excluding energy and food prices) was in the negative zone (-0.2%).

#### Vigilant central banks

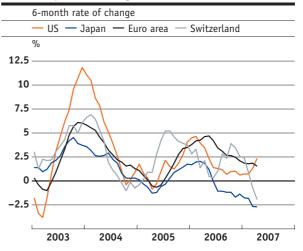
The policies of major central banks reflected the goal of keeping inflation within the target ranges. Despite the slowdown in economic growth, the US Federal Reserve adhered to its slightly restrictive monetary policy and left the call money rate at 5.25%. By contrast, the European Central Bank continued to tighten its monetary policy and raised its main refinancing rate by 0.25 percentage points to 4.0% at the beginning of June. The reason given for its decision was the continued inflationary risk arising from the development of both the monetary situation and the real economy. The Chinese central bank also tightened the monetary reins using different instruments. For instance, it gradually raised its minimum reserve rate between February and June by 1.5 percentage points to 11.5%. The Bank of Japan kept the call money rate at 0.5%, after having raised it by 0.25 percentage points in February.

Graph 1.5 Official interest rates



Sources: Thomson Datastream, SNB

Graph 1.6
OECD composite leading indicators



Source: OECD

Consensus forecasts Table 1.1

		Econoi	nic growth¹			Inflation <sup>2</sup>			
		February		May	I	February		May	
	2007	2008	2007	2008	2007	2008	2007	2008	
		'	'	'	'	'	'	'	
United States	2.7	3.0	2.1	2.8	1.7	2.3	2.4	2.3	
Japan	1.9	2.3	2.2	2.2	0.2	0.6	0.1	0.5	
Euro area	2.1	2.1	2.5	2.2	2.0	1.9	1.9	1.9	
Germany	1.7	2.0	2.4	2.3	1.9	1.5	1.8	1.5	
France	1.9	1.9	2.1	2.1	1.5	1.7	1.4	1.6	
Italy	1.3	1.5	1.8	1.6	1.9	2.0	1.8	1.9	
United Kingdom	2.6	2.4	2.7	2.3	2.3	2.0	2.3	1.9	
Switzerland	2.0	1.9	2.2	2.0	0.6	1.0	0.5	1.1	

<sup>1</sup> Real GDP, year-on-year change in percent

Source: Consensus Forecasts, February 2007, May 2007. 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.

<sup>2</sup> Consumer prices, year-on-year change in percent

### 2 Developments in the Swiss economy

#### 2.1 Aggregate demand and output

#### Strong GDP growth

Economic growth in Switzerland firmed in the first quarter of 2007. According to estimates by the State Secretariat for Economic Affairs (SECO), real GDP rose by 3.2% from the previous period, thus exceeding the corresponding year-earlier level by 2.4%. While private consumption continued its strong ascent, construction and equipment investment declined slightly. Growth in exports also began to ease. However, since imports grew only marginally following the sharp increase in the fourth quarter, foreign trade made a considerable contribution to growth overall.

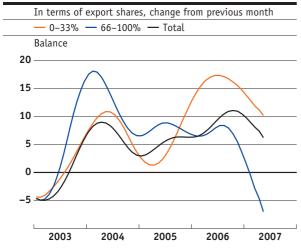
When broken down by economic activity, banks, transportation and communications, and trade provided the main impetus for growth. The hospitality industry, insurance companies and manufacturing, by contrast, made a slightly negative contribution to growth.

Industrial activity still strong

Despite the slightly lower added value, as reported by the quarterly estimates, the manufacturing sector is still in very good shape. Although the rate of growth eased somewhat, both orders and output increased in the first quarter. Orders in hand remained at their very high level. According to the Swiss Federal Statistical Office (SFSO), manufacturing output increased by 7.9% in the first three months of the year, exceeding the year earlier level by 8.4%.

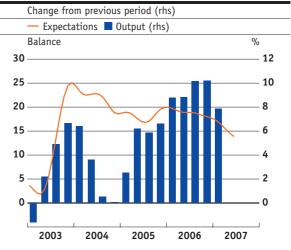
Survey results show that the level of new orders fell yet further in the second quarter and the companies surveyed were slightly more restrained in their assessment of the short-term outlook than at the beginning of the year. This affected the export industry in particular, most especially the chemical and pharmaceutical industries.

Graph 2.1 New orders in manufacturing



Source: Institute for Business Cycle Research at ETH Zurich (KOF/ETH)

Graph 2.2 Manufacturing output



Sources: SFSO, KOF/ETH

Growth rates on previous period, annualised

	2003	2004	2005	2006	2005			2006				2007
					Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Private consumption	0.8	1.5	1.3	1.9	1.2	2.7	2.7	0.6	2.3	2.2	2.7	2.8
Government consumption	2.6	-0.8	-1.6	-0.5	-0.7	-2.6	0.1	2.4	-5.3	3.3	-1.1	0.8
Investment in fixed assets	-1.4	4.5	3.2	3.7	15.3	-5.6	0.4	3.9	10.1	5.1	1.6	-2.6
Construction	1.8	3.9	3.5	0.1	27.2	-11.5	-4.1	-1.7	7.2	2.7	-2.4	-4.1
Equipment	-3.9	4.9	2.9	6.9	6.0	-0.3	4.4	9.0	12.5	7.1	4.9	-1.2
Domestic final demand	0.5	1.9	1.4	2.1	4.0	0.0	1.8	1.5	3.1	3.0	2.0	1.3
Domestic demand	0.4	1.5	1.1	2.1	-0.4	2.2	5.6	1.1	3.2	-6.8	13.3	-5.3
Total exports	-0.4	8.4	6.4	10.1	26.5	7.6	9.9	13.3	0.7	12.4	13.8	6.7
Goods	-0.1	7.8	5.8	11.8	34.5	-1.4	10.3	21.6	-0.0	16.1	15.9	10.7
Excluding valuables <sup>1</sup>	0.7	7.6	6.3	11.2	40.2	-3.5	9.6	16.7	7.5	9.4	16.4	7.5
Services	-1.4	10.0	8.0	5.4	7.8	35.0	8.8	-6.1	2.8	2.4	7.9	-4.0
Aggregate demand	0.1	3.7	2.9	4.8	8.0	4.0	7.1	5.1	2.3	-0.4	13.4	-1.1
Total imports	1.0	7.4	5.3	9.8	19.9	4.4	18.1	11.5	1.3	-5.2	44.1	-9.8
Goods	2.2	6.4	5.5	10.6	23.2	3.9	18.5	13.6	0.2	-6.3	51.3	-11.7
Excluding valuables <sup>1</sup>	2.8	6.6	5.1	8.9	20.8	5.6	15.1	13.8	-0.3	-9.3	39.7	0.7
Services	-4.8	12.1	4.4	6.3	5.9	6.3	15.9	1.1	6.7	0.5	12.0	0.9
GDP	-0.2	2.3	1.9	2.7	3.6	3.9	2.9	2.4	2.8	1.8	2.0	3.2

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

#### GDP growth revised upwards for 2007

The talks held by the SNB delegates for regional economic relations with around 160 representatives from various industries in the period from March to May 2007 revealed that economic recovery was still going strong. Many of the companies reported that their expectations were exceeded in the first few months of the year. There was no indication of a slowdown in business activity; in fact, repeated mention was made of an acceleration. The major concerns cited remained the massive price hikes and problems with the procurement of commodities and primary products, as well as rising capacity shortages (cf. "The economic situation from the vantage point of the delegates for regional economic relations", June 2007).

The SNB revised its GDP forecast slightly upwards and now expects real GDP growth for 2007 to amount to roughly 2.5%. Forecast GDP growth thus remains above the estimated growth potential. This is reflected in the sustained high level of capacity utilisation and a decline in unemployment. In the forecast, the most important contribution to demand is made by private consumption, which is expected to benefit from the favourable income and employment situation. Construction investment should consolidate at a high level, while equipment investment is set to pick up. Owing to

the positive global economy, exports are expected to remain an important driver of economic activity, although export growth is likely to be lower than the previous year.

#### Slowdown in export and import growth

The slight slowdown in export growth which had been forecast for 2007 became evident in the first quarter of the year. Real exports (excluding valuables) edged up slowly compared with the previous period and grew by 8.0% year-on-year as compared with 9.4% in the fourth quarter of 2006. Exports of services declined slightly on the previous quarter, particularly income from merchanting, which was significantly lower than in the fourth quarter.

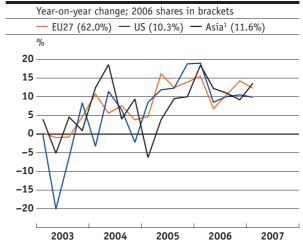
Goods exports expanded by more than 7% – only half as much as in the previous period – with momentum shifting from consumer to investment goods. Where consumer goods are concerned, exports of chemical and pharmaceutical products, in particular, declined. Investment goods, meanwhile, saw exports of machinery and precision instruments pick up considerably. Even though the Swiss franc weakened further against the euro, deliveries of goods in the EU slowed. Exports to the US were also down, while exports to Asia grew strongly. Growth in exports continued to decline in April and, based on various surveys which report

Graph 2.3 Exports

Change from previous period
— Goods (excluding valuables) — Services
%
50 ————
40
30
20
10
0
-10
2003 2004 2005 2006 2007

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) that incoming orders have been increasing at a slower pace over the past few months, it is expected to be moderate in the coming months.

Having surged ahead in the fourth quarter of 2006, real imports (excluding valuables) exhibited only weak growth in the first quarter. The year-on-year growth figure was 5.9%, compared with 8.9% in the fourth quarter. The substantial slow-down in growth affected both imports of goods and services. In the service sector, this was largely attributable to the fall in expenditure for financial services (bank commissions). Where goods are concerned, imports of energy sources dropped, while imports of investment goods stagnated and imports of consumer goods grew more slowly.

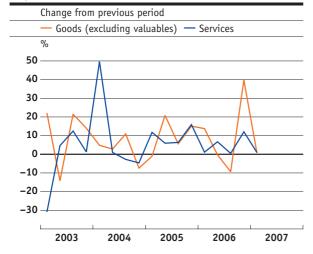
#### Consumer spending growing vigorously

Private consumption was the main engine of growth in the first quarter; increasing by 2.8% on the previous quarter, it exceeded the year-earlier level by 2.5%. Consumption of goods exhibited particularly favourable growth. Owing to strong demand for consumer durables, such as furniture, consumer electronics and clothing, retail sales were up on the

previous quarter by roughly 6% in real terms. New car registrations have also increased significantly of late (March). By contrast, domestic tourism – an indicator of consumption of services – developed at a more moderate pace. In a year-on-year comparison, the number of overnight stays by Swiss guests was lower in the first quarter; a fact that may be partly attributable to the poor snow conditions. According to the KOF/ETH survey in the hospitality industry, hotels are still optimistic for the coming summer season.

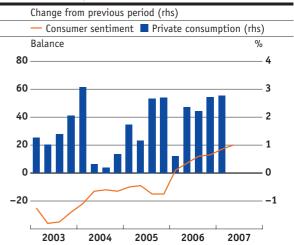
The outlook for private consumption is bright. Real income of employees is expected to increase by 2.9%, which is higher than the year-back figure. This rise can be more or less ascribed in equal parts to the increase in both employment and real wages (including bonus payments). The consumer sentiment index, too, rose even further in April, and almost reached the record level attained in spring 2001. The households surveyed were once again more confident about both their own financial situation and job security than they had been in the previous survey.

Graph 2.5 Imports



Source: SECO

Graph 2.6
Private consumption



Source: SECO

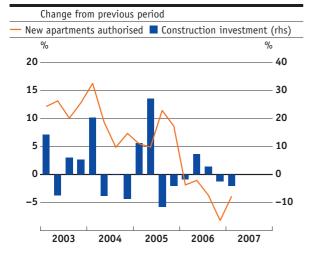
### Declining construction and equipment investment

Construction investment fell by 4.1% in the first quarter compared with the previous period, thus exceeding the year-earlier level by 0.8%. Construction of both apartments and commercial premises eased. The slight fall in the number of residential building permits and the decrease in orders in hand in commercial construction indicate a restrained trend in construction investment for the coming quarters. The higher mortgage rates and construction prices are having a dampening effect, as is the persistently high vacancy rate in office premises. With the number of newly built apartments up from its 2001 low of 28,600 to 41,700 in 2006, the anticipated levelling-off in residential construction corresponds to a consolidation at a high level.

Equipment investment also receded slightly in the first quarter compared with the previous period, exceeding the year-earlier level by only 5.7%. Investment in IT goods – where pent-up demand is considerable – expanded sharply. Spending on machinery and precision instruments, by contrast,

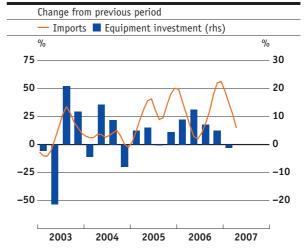
fell off. Given the high capacity utilisation and the excellent earnings situation in manufacturing, this slowdown came as a surprise. It also differs from the survey results and the talks held by the SNB delegates with companies, which indicated an increase in investment activity in industry. The SNB therefore expects that equipment investment will also pick up pace in this area over the course of the year.

Graph 2.7 Construction



Sources: SFSO, SECO

Graph 2.8 Equipment



Sources: FCA, SECO

#### 2.2 Capacity utilisation

#### Further rise in utilisation figures

The quarterly KOF/ETH survey shows that utilisation of technical capacity in the manufacturing sector rose to 88.5% in the first quarter (cf. graph 2.9). At the same time, a large majority of the companies surveyed said they were expanding capacity (cf. graph 2.9). In addition to technical capacity constraints, companies increasingly cited manpower shortages as a factor that was holding back production.

The KOF/ETH surveys in non-manufacturing industries suggest that these sectors also saw increases in capacity utilisation. In the construction industry, utilisation of machinery rose again, delivery times in the wholesale sector hit an all-time high and the hospitality sector reported rising room-occupancy rates. However, there were still no reports of capacity bottlenecks in the banking sector.

#### Still slight production overhang

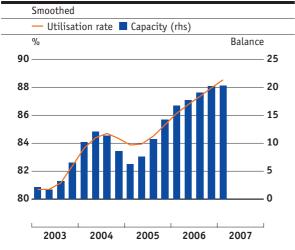
The output gap, i.e. the percentage difference between real GDP and estimated production potential, provides a comprehensive measure of capacity utilisation. This measure takes account not only of utilisation of technical capacity, but also of the tightness of the labour market. Graph 2.10 shows three estimates of the output gap based on different methods of estimating production potential: production function (PF), Hodrick-Prescott filter (HP) and multivariate filter (MV).

At 3.2%, real GDP growth in the first quarter was well above potential output estimated on the basis of the production function approach. As a result, the corresponding output gap rose to 1.1%. As in the preceding quarters, the two filter processes resulted in a smaller production overhang than the production function approach. This reflects the fact that the filter methods are more likely to interpret changes in GDP growth as long term.

The production function approach allows the production overhang to be broken down into the factors capital, labour and total factor productivity. This shows that utilisation of capital was once again above average in the first quarter. The contribution from utilisation of the factor labour was neutral, although – like in the previous quarter – the total factor productivity was slightly below its trend. However, an economic interpretation of the development of total factor productivity is difficult in the short term, since changes in this total factor as a residual value also include margins of error in the factors capital and labour, along with short-term fluctuations in productivity.

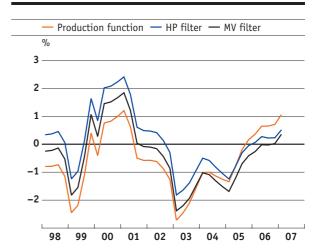
The output gap should stabilise over the coming quarters. On the one hand, SNB forecasts expect GDP growth to fall back towards potential growth. On the other hand, potential growth can be expected to rise slightly on the back of sharper increases in the size of the working population and in investment activity.

Graph 2.9 Technical capacity in manufacturing



Source: KOF/ETH

Graph 2.10 Output gap



Source: SNB

#### 2.3 Labour market

#### Robust employment growth

The healthy economic situation was also reflected in the labour market. The number of people in employment continued to increase in the first quarter, albeit to a lesser extent than in the fourth quarter of 2006. The increase came to 1.8% compared to the previous guarter and 1.6% yearon-year. All industries contributed to the rise. Employment levels in the manufacturing and construction sectors rose more sharply than during the previous quarter, with increases of 3.3% and 4.8% respectively. This contrasts with a slower rise in job numbers in the service sector (1.2%), which is still more moderate than during the 1997-2001 upswing. Banks and insurance companies expanded their headcounts the most, followed - to a lesser extent - by the retail sector.

Converted into full-time positions, the volume of work rose by 2.4% quarter-on-quarter in the first quarter, with a particularly marked rise in the number of full-time positions. By contrast, the number of persons on less than 50% working hours decreased.

#### **Unemployment recedes**

After adjustment for seasonal factors, the number of people registered as unemployed with employment offices decreased to 110,000 between January and May, while the unemployment rate edged down from 3% to 2.8%. Over the same period, the number of job seekers receded by 0.3 percentage points to 4.3%, or 170,100 in absolute numbers.

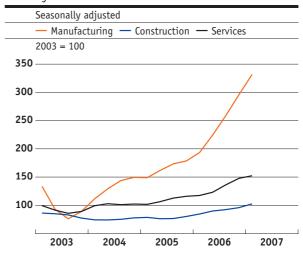
#### Favourable employment outlook

The development of job vacancies suggests that the employment trend will remain favourable. According to the index calculated by the SFSO, this particularly applies to the manufacturing and construction sectors. By contrast, the number of unfilled positions in the service sector increased more slowly owing mainly to the decline in vacancies in the financial sector.

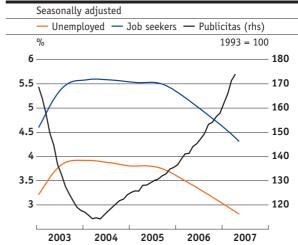
Graph 2.11
Full-time and part-time employment

Seasonally adjusted	
— ≥90% — 50-89% (rhs) — <50%	(rhs)
In thousands	In thousands
2580 —	650
2570	625
2560	600
2550	575
2540	550
2530	525
2520	500
2003 2004 2005 200	6 2007

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

#### Sharp rise in the number of foreign workers

Since the entry into force of the agreement on free movement of persons with the EU in June 2002, particular attention has been paid to the trend of foreign workers. Information on this is provided by the workforce statistics which the SFSO publishes at the same time as its employment statistics. Graph 2.14 shows that foreign workers have made a major contribution to employment growth during the current economic upswing. However, this trend is not unusual on a long-term comparison. Both during the 1984–1990 upturn and in 2000/2001, the increase in numbers of foreign workers exceeded the increase in Swiss workers.

One difference compared with the 1980s concerns the origin of the foreign nationals in employment. At that time, the number of persons in employment from outside the EU15/EFTA area increased considerably, while in recent years, the number of persons in employment from within these areas rose at an above-average rate. This development reflects Switzerland's foreign policy, which has been EU-oriented since the beginning of

1 Unlike the employment statistics, which provide information on the jobs trend and are discussed in the first section of chapter 2, the workforce statistics relate to persons in employment. Another difference between the workforce statistics and the employment statistics is that the former also cover the agricultural sector, private domestic staff and employees working less than six hours per week. Commentaries on the current trend of the labour market are normally based on employment statistics as these allow an analysis by sectors.

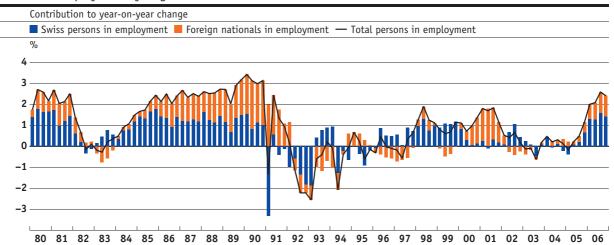
the 1990s, and which came to a conclusion with the agreement on the free movement of persons with the EU, agreed in 1999 and entered into force on 1 June 2002 (cf. "Foreign workforce in transition").

#### Removal of quotas as of 1 June 2007

The agreement on free movement of persons entered a new phase on 1 June 2007. Having remained in place for a five-year transition period, the remaining quotas for permits granted to firsttime applicants (employed and self-employed persons) from the EU15/EFTA area as well as Cyprus and Malta were abolished and the regulations regarding cross-border commuters were relaxed yet further. As of this date, citizens of these countries and their families qualify for a residence permit provided they are either in possession of a Swiss job contract or are able to sustain themselves in a selfemployed or economically inactive capacity. The quotas for the eight countries that joined the EU in 2005 will be abolished as of 30 April 2011.2 Thereafter, quotas will only apply to first-time applicants coming to work in Switzerland from third countries.

2 Separate interim regulations still have to be negotiated for Bulgaria and Romania, which acceded to the EU in 2007.





Sources: SFSO, SNB

#### Foreign workforce in transition

Foreign workers have long since played an important role in the Swiss labour market. In 2006, they accounted for 26% of the economically active population. Even in 1981, the figure already stood at 21%. The numerous adjustments to immigration policy over the years reflect the efforts of both the Federal Council and Parliament to control the foreign workforce in line with regional and economic policy objectives and to take increasing account of concerns relating to integration policy.

There are currently two laws governing the residence of foreign workers: EU/EFTA nationals come under the agreement on free movement, including the additional protocol for the ten new EU member states and the revised EFTA Convention. All other foreign nationals are covered by the federal law on the residence and permanent establishment of foreign nationals (ANAG/LSEE) and the accompanying ordinance limiting numbers of foreign nationals (BVO/OLE).<sup>3</sup>

From the early 1960s up until the entry into force of the agreement on free movement with the EU, the main instruments for controlling foreign workers' access to the Swiss labour market were Federal Council decrees and - from 1986 onward maximum quotas for first-time annual residents and seasonal migrants, which were laid down in the ordinance limiting numbers of foreign nationals. At the same time, quota allocations to the cantons took particular account of economically weak regions. The main beneficiaries were sectors such as construction and tourism, which employed seasonal workers. Over the years, the restrictions on mobility in terms of types of jobs and geographic regions have been greatly relaxed, and it has become easier to adjust the workers' permit status and allow them to have their families join them. One consequence of this has been a decline in the proportion of seasonal migrants since the 1980s and a matching increase in numbers of workers on annual contracts or with permanent residence.

In 1991, the federal authorities switched to applying criteria based on workers' origins and introduced the so-called 'Three-Circle Model' via an amendment to the ordinance limiting numbers of foreign nationals. The first circle – with the most generous approval policy – comprised the EU/EFTA area; the second circle was made up of the other industrialised countries (USA, Canada, Australia, etc.); and all other countries, including

The introduction of full freedom of movement for nationals of the old EU countries (plus Iceland, Malta, Norway and Cyprus) marks the beginning of a new era in the Swiss labour market policy. For the first time since the early 1960s, there are no longer any quantitative restrictions on immigration - at least from EU15/EFTA countries - and all foreign workers enjoy full professional mobility. This opening of the market can be expected to lead to greater flexibility across the whole range of job skills. In other words, additional demand for labour will lead to an increase in employment with less pressure on salaries. On the other hand, as workers from the EU are placed on an equal footing with their Swiss colleagues in terms of unemployment insurance and social benefits, they are also more likely to remain in Switzerland on losing their jobs due to an economic downturn.

The experience gained to date suggests that the agreement on free movement is making it easier for companies to recruit qualified staff, and that this has contributed significantly to the broad-based economic upturn over the past few years. However, future development of the non-Swiss workforce depends on a large number of factors. These include the relative trend of the economy and salaries in Switzerland versus that in migrants' countries of origin elsewhere in Europe, plus the question of whether EU nationals will settle in Switzerland permanently or only temporarily.

many of those from which seasonal migrants traditionally came, were assigned to the third circle. In 1998, this three-circle model was replaced by a dual-category policy which only accorded privileged status to citizens of EU and EFTA countries. Since then, nationals of third countries have only been granted residence permits after fulfilling stringent conditions. The most important economic impact of this change of direction was a rise in the educational standards of foreign workers moving to Switzerland. In particular, the proportion of migrant workers with no professional qualifications arriving over the preceding five-year period fell from 60% in 1990 to 37% in 2000.

<sup>3</sup> At the beginning of 2008, the federal law of 1931 on the residence and permanent establishment of foreign nationals will be superseded by the new federal law on foreign nationals (AuG/LEtr.).

<sup>4</sup> Cf. George Sheldon (2007), "Migration, Integration und Wachstum: Die Performance und wirtschaftliche Auswirkung der Ausländer in der Schweiz", Report to the Federal Commission for Foreigners, April 2007.

#### 2.4 Goods prices

## Increasing pressure on producer and import prices

The price pressure exerted by producer and import prices on the downstream consumer level grew between January and April. Annual inflation on domestically produced goods rose from 1.7% to 2.1%, while that of imported goods climbed from 3.2% to 3.4%. Broken down by types of goods, price pressure increased in the case of investment and consumer goods. Energy prices, meanwhile, remained slightly below the year-earlier level, despite an increase in March and April. Prices of agricultural products also exhibited a slight decline during the course of the year.

#### Growing consumer price inflation

Having dropped in February to 0.0%, annual inflation measured according to the national consumer price index (CPI) rallied once again by May to 0.5%. On the whole, consumer price inflation developed in line with the SNB's inflation forecast for mid-March 2007 as published in its last *Quarterly Bulletin* (1/2007). This was due in part to the unexpected price hikes on the petroleum products included in the CPI and to the slower decline in prices of other goods.

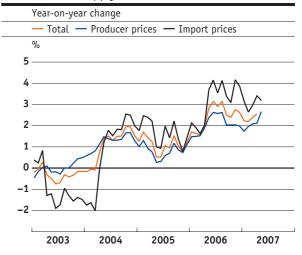
#### Slightly higher domestic inflation

Prices of domestic consumer goods rose by 0.1 percentage points to 1.0% between February and May. Inflationary effects stemmed from both goods and services. The quarterly rentals index showed a 0.7% increase between February and May, pushing the annualised rate of rent inflation up by 0.2 percentage points to 2.5%. At 0.6%, May's inflation rate for other private services was the same as the previous three months, while public services recorded an increase from 1.4% to 1.5%. Although prices of goods remained below the year-earlier level, the decline in prices slowed by May to -0.3% (February: -0.6%).

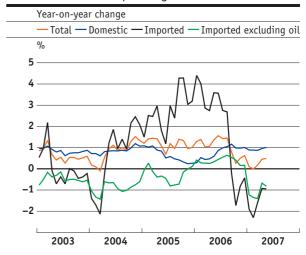
## Price-dampening effects of foreign consumer goods eases

The drop in prices of commodities of foreign origin also slowed year-on-year. Their prices were on average 0.9% below the year-back level in May, compared with -2.3% in February. This can be primarily attributed to fuel and heating oil prices, which were still 1.7% below their year-earlier level

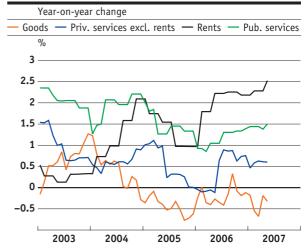
Graph 2.15
Prices of total supply



Graph 2.16
CPI: Domestic and imported goods and services



Graph 2.17 CPI: Domestic goods and services



Graph 2.15: Source: SFS0

Graphs 2.16 and 2.17: Sources: SFSO, SNB in May, as opposed to -6.9% in February. The marginal price cuts for clothing, shoes, consumer electronics and drugs also contributed to this decline.

#### Moderate rise in inflation trend

Inflation, as measured by the CPI, undergoes numerous short-term fluctuations which may distort perceptions of the general inflation trend. For this reason, core inflation rates are calculated with the aim of capturing the underlying inflation trend. The SNB computes two measures of core inflation, as shown in graph 2.17. The trimmed means method (TM15) excludes from the consumer price index, for any given month, those 15% of goods prices with the highest and those 15% with the lowest annual rate of change. Dynamic factor inflation (DFI) takes account not only of prices but of data on the real economy, financial market indicators and monetary variables. The two core inflation rates calculated by the SFSO always exclude the same goods from the commodities basket in each period (cf. graph 2.18). In the case of core inflation 1 (SFS01), these are food, beverages, tobacco, seasonal products, energy and fuel. Core inflation 2 (SFS02) also factors out products with administered prices.

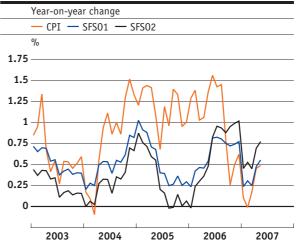
Core inflation calculated on the basis of the trimmed means method rose by 0.2 percentage points to 1.0% between February and May. Dynamic factor inflation confirmed the slight upward – albeit still moderate – general inflation trend and continued the uptrend set in early 2004, reaching almost 1.3% in May. The two core inflation rates calculated by the SFSO rose in May by 0.3 percentage points each to 0.6% and 0.8% respectively. The discrepancy between the SFSO's core inflation rates and the core inflation rate calculated on the basis of the trimmed means method is explained by the fact that the latter factors out the decline in the prices of clothing and shoes, consumer electronics and telecommunication.

Graph 2.18 Core inflation rates (SNB)

Year-on-year change
— CPI — TM15 — DFI
%
1.75 —
1.5
1.25
1
0.75
0.5
0.25
0
· ·
2003 2004 2005 2006 2007

Sources: SFSO, SNB

Graph 2.19 Core inflation rates (SFSO)



Source: SFSO

Year-on-year change in percent

	2006	2006		2007	2007	2007				
		Q3	Q4	Q1	February	March	April	May		
Overall CPI	1.1	1.2	0.5	0.1	-0.0	0.2	0.5	0.5		
Domestic goods and services	0.8	1.1	1.0	0.9	0.9	0.9	1.0	1.0		
Goods	-0.2	-0.1	-0.1	-0.5	-0.6	-0.7	-0.2	-0.3		
Services	1.1	1.4	1.3	1.3	1.3	1.3	1.3	1.4		
Private services excluding rents	0.4	0.9	0.7	0.6	0.6	0.6	0.6	0.6		
Rents	2.0	2.2	2.2	2.2	2.3	2.3	2.3	2.5		
Public services	1.2	1.3	1.4	1.4	1.4	1.4	1.4	1.5		
Imported goods and services	1.9	1.7	-1.0	-1.9	-2.3	-1.6	-0.9	-0.9		
Excluding oil products	0.4	0.6	0.2	-1.3	-1.4	-1.4	-0.7	-0.8		
Oil products	9.3	7.7	-6.3	-4.9	-6.9	-2.6	-2.3	-1.7		

Sources: SFSO, SNB

#### Monetary developments

### 3.1 Interest rates and inflation expectations

At its monetary policy assessment in March 2007, the SNB decided to increase the target range for the three-month Libor by 0.25 percentage points to 1.75-2.75%, a change which took immediate effect. It drew attention to the fact that it would probably have to continue its policy of interest rate normalisation in order to quarantee medium-term price stability.

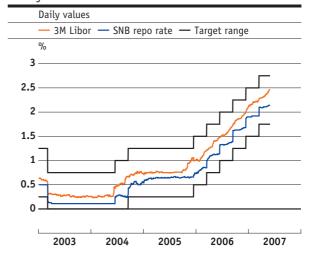
#### Rising interest rates on domestic money and capital markets

Movements in the three-month Libor between mid-March and mid-June 2007 showed that markets were expecting a further increase in the SNB's target range. The three-month Libor rose continuously, climbing from 2.28% after the March interest rate decision to 2.48% in mid-June (cf. graph 3.1). Developments in the futures markets also pointed to a further tightening in monetary policy. For instance, the June 2007 futures contract was already being traded a rate of 2.47% immediately after the interest rate decision of mid-March, and by the end of May the rate was slightly higher, at 2.55%. This corresponded to a 25 basis point rise in interest rates in the period following the March assessment (cf. graph 3.2). Rates for futures contracts maturing in September and December, as well as in March 2008, rose in the period following the March assessment and stood at 2.83%, 3.04% and 3.14% respectively at the end of May. Evidently, market participants were then expecting at least two 25 basis point increases in the target range by the end of 2007.

Long-term interest rates were also up since the March assessment. The yield on ten-year Swiss Confederation bonds rose some 28 basis points from an average 2.63% in March to an average 2.91% in May.

Graph 3.3 shows the term structure of Swiss Confederation bonds. From early February to early May, interest rates with maturities over 15 years, in particular, rose by almost 20 basis points, resulting in a slightly steeper interest rate curve. Graph 3.4 depicts the yields on nominal discount bonds with differing maturities issued by the Swiss Confedera-

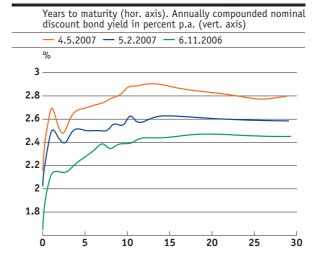
Graph 3.1 Money market rates



Graph 3.2 Three-month interest rate futures

Quarterly compounded rate in percent p.a.
—June 07 — September — December — March 08 — Spot Libor
%
3.5
3
مركبكي والمتكام
2.5
2
Mulmung
1.5
M J J A S O N D J07 F M A M

Graph 3.3 Term structure of Swiss Confederation bonds



Graphs 3.1, 3.2 and 3.3: Source: SNB

SNB

tion. Since the beginning of this year, the maturity structure of nominal interest rates has also been somewhat steeper.

By contrast, the rates of interest for existing and new mortgage agreements and on savings deposits remained almost unchanged in the period following the March assessment. In mid-June, the rate of interest for existing mortgage agreements amounted to 3.05%, while that for new agreements was slightly higher. The interest paid on savings deposits was 0.56%. Consequently, the 249 basis point difference between the interest rates for existing mortgages and those on savings deposits has remained almost unchanged since the beginning of the year. This figure is an indicator of banks' opportunities for refinancing and remains just below the ten-year average of 273 basis points.

## Mixed picture for short-term interest rates outside Switzerland

Following the quarterly assessment in March, the three-month Libor for investments in euros rose by 24 basis points to 4.14% in mid-June. Consequently, the interest rate spread between short-term investments in EUR and those in CHF remained almost unchanged. As opposed to the increasing interest rates on short-term investments in Switzerland, interest rates on similar investments in the US stagnated, due to the fact that monetary policy at the Fed was unchanged. As a result, the interest rate spread between three-month CHF and USD investments contracted again from 3.07 percentage points in mid-March to 2.88 percentage points in mid-June.

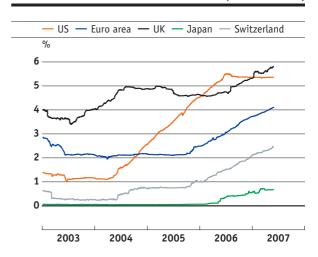
## Higher long-term interest rates outside Switzerland

As compared to long-term interest rates in Switzerland, the increase in the yield on ten-year German government bonds increased at a faster pace, while long-term US interest rates rose less strongly. In May, the German bonds yielded an average of 4.29% compared with 3.93% in March (cf. graph 3.6). The yield on a ten-year US government bond stood at an average 4.74% in May, as against 4.56% in March. A suitable method of depicting the interest rate trend is to calculate a moving average, which smooths out short-term fluctuations. A moving three-month average of yields is chosen here, where the final figure for a given month corresponds to the average of the actual figure for the month in question and those for the two previous months. A moving average is calculated for the

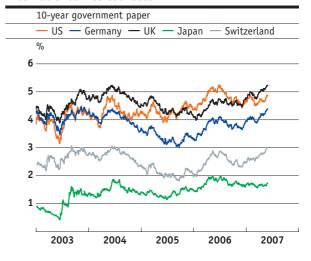
Graph 3.4 Swiss Confederation bond yields

Monthly mean of annually compounded nominal discount bond yields in percent p.a.								
<ul><li>2-year term</li><li>15-year term</li></ul>	<ul><li>5-year term</li><li>20-year term</li></ul>	— 10-year term — 25-year term						
% 4.5 4 3.5 3 2.5 2 1.5								
2003 20	04 2005	2006 2007						

Graph 3.5
International short-term interest rates (three months)



Graph 3.6 International interest rates



Graphs 3.4 and 3.5: Source: SNB

Graph 3.6

Sources: Thomson Datastream, SNB

interest rate spread between long-term CHF and EUR bonds in February and that in May, and shows that a decline was recorded in the period in question. The same procedure is followed for long-term CHF and USD bonds in February and in May, and also shows a decline in the interest rate spread.

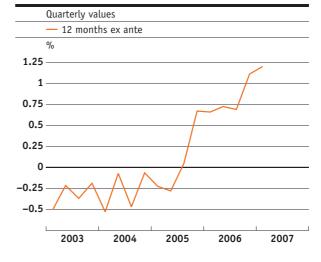
#### Rise in real short-term interest rates

Graph 3.7 shows movements in the one-year real interest rate. This interest rate is defined as the difference between the twelve-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 (Consensus Forecast, May 2007).<sup>5</sup> In the first quarter of 2007, the real interest rate obtained in this manner was 1.2%, which was only slightly higher than in the previous quarter (1.1%), due to the fact that rising nominal interest rates were largely counterbalanced by higher inflation expectations. The one-year real interest rate remains well below its historical average of 1.6%.

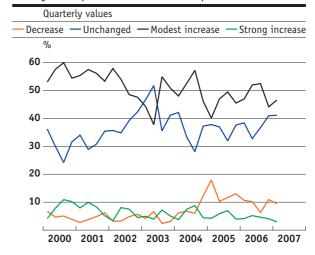
The data on consumer sentiment published by SECO in May also suggest that inflation expectations have increased slightly. As compared to the previous quarter, there has been an increase in the ratio of consumers expecting prices to rise moderately to those expecting prices to fall over the next twelve months (cf. graph 3.8).

5 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

#### Strong euro

From the March quarterly assessment to mid-June, the euro increased by about 1% in value against the US dollar, and in April exceeded the alltime high recorded at the end of 2004. The euro was bolstered by a stronger economy in the euro area, as compared with that of the US, and there were fewer signs of inflationary pressure. The euro was also at its highest level against the Swiss franc since the introduction of the new currency. Despite the healthy Swiss economy and similar interest rate developments in the two currency areas, the euro gained about 2.5% in value between mid-March and mid-June. In mid-June, the exchange rate of the Swiss franc against the euro amounted to 1.65, as compared to 1.61 in mid-March, while the rate of the Swiss franc against the US dollar was 1.24 in mid-June, in other words, about 2 centimes higher than in mid-March.

Graph 3.10 shows the real export-weighted external value of the Swiss franc, which takes into account the differing inflation rates for the different currencies. Since the beginning of 2007, the Swiss franc has also weakened against the euro in real terms, while remaining more or less stable with respect to Switzerland's 24 most important trading partners.

#### More expansionary monetary conditions

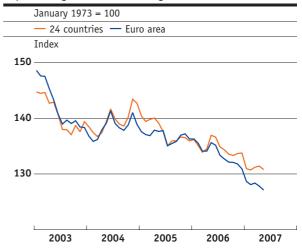
The Monetary Conditions Index (MCI) combines the three-month Libor and the trade-weighted nominal external value of the Swiss franc. It provides a measure of the monetary conditions with which businesses in Switzerland have to contend. The MCI is reset to zero immediately after each monetary policy assessment. An increase to positive values (decline to negative values) thus signifies a tightening (loosening) of monetary conditions (cf. "Box: The Monetary Conditions Index (MCI)", Quarterly Bulletin 1/2004, p. 27).

If changes in the three-month Libor and the trade-weighted nominal external value of the Swiss franc are weighted 3:1, we note that the index moved into positive values immediately after the March assessment, but only for a few days. Subsequently it fell back into the negative range due to the weaker Swiss franc, standing at -55 basis points at the end of May, which is equivalent to more expansionary monetary conditions in Switzerland (cf. graph 3.11).

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

## 3.3 Equity, commodity and real estate prices

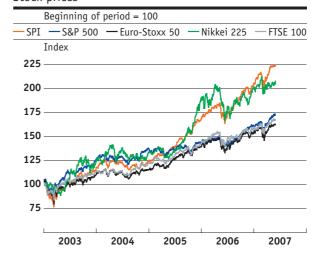
Under certain circumstances, movements in stock, commodity or real estate markets may reveal inflation expectations. Furthermore, price fluctuations on these markets trigger wealth effects which, in their turn, may have repercussions on corporate and household savings and investments. Since the March 2007 assessment, share prices and real estate are likely to have had a positive impact on wealth. This could lead to higher consumption and increased price pressure. In addition, the rise in commodity prices, including those for oil, give rise to a slight upward revision in inflation expectations and continuing strong growth expectations.

#### Record levels in stock markets

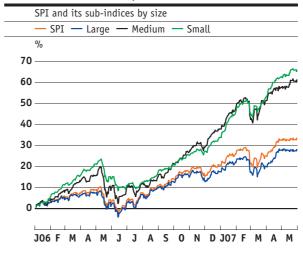
After the stock market corrections at the end of February, which were associated with a brief period of uncertainty and strong fluctuations, the major markets picked up again, subsequently reaching record levels. For the first time in its history, the Dow Jones Industrial Average passed the 13,000 mark at the end of April. The S&P 500 in the US, the Euro-Stoxx 50 in Europe and the Swiss Performance Index (SPI) rose by about 8% between mid-March and mid-June. In Switzerland, small and medium-sized companies were the main beneficiaries of the rising stock prices. Construction and manufacturing shares, in particular, recorded above-average gains, while technology was at the lower end of the spectrum, with an increase of around 1%.

The good economic climate in general, the favourable profit reports and dividend payments by companies, the high level of merger and takeover activity around the world and the healthy state of international stock markets had a beneficial impact on the Swiss market. At the same time, volatility – which can be seen as a measure of uncertainty – was low. By comparison with the end of February/beginning of March, this measure declined substantially (cf. graph 3.15). The price-earnings ratio showed a similar picture. It did not suggest any overheating of the markets. In May, its level was similar to that reached in early 1990, but clearly below those recorded at the end of 2000.

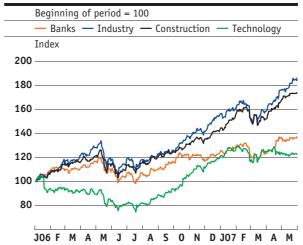
Graph 3.12 Stock prices



Graph 3.13 Performance of Swiss equities



Graph 3.14
Selected SPI sectors



Graph 3.12:

Sources: Thomson Datastream, Bloomberg

Graph 3.13:

Source: SWX Swiss Exchange

Graph 3.14:

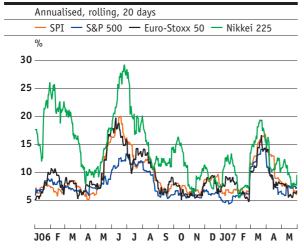
Source: Thomson Datastream

### Moderate price trend in the real estate market

Prices in the housing market rose slightly more steeply in the first quarter of 2007 than they had in the previous quarter. Year-on-year, apartment rents, which make up the biggest segment of the Swiss housing market and also the largest component of the CPI (20%), were again up by 2.7% in real terms, i.e. in relation to the CPI. However, this figure applies largely to the existing housing stock. Rents for new apartments rose a little more steeply than in the previous quarter, at 1.2%. However, the growth rate is still substantially lower than those experienced in 2002 and 2003. Consideration can also be given to developments in the single-family home and owner-occupied apartment segments, although they account for a smaller share of the overall market. Prices for single-family homes also increased at a slightly faster pace in the first quarter, reaching a level that was 2.3% above the year-back quarter, while the movement in owner-occupied apartments was similar, taking this sector to a level 2.1% over the year-back quarter. Supply on the housing market has so far kept up with demand, which has strengthened in line with economic conditions. We expect the moderate price trend to continue over the guarters to come. However, the situation differs from one region to another, and the pressure on prices is particularly strong in the Geneva area.

Trends in commercial rents remained mixed. Rents for commercial property were up by 6.6% in real terms, as compared to the fourth quarter of 2006 (3.3%), while rents for office space dropped for the fourth time in succession (-1.5%).

Graph 3.15 Equity return volatility

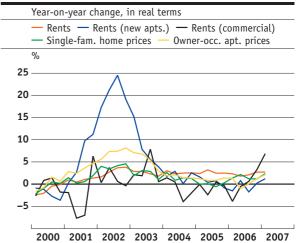


Sources: Thomson Datastream, SNB

#### Commodity prices rising

Since mid-March, most commodity prices have risen in parallel with international stock markets. The Goldman Sachs Commodity Index climbed about 9% from mid-March to mid-June. This was partly due to rising energy prices. While in January the barrel price of crude was USD 51, it had advanced to USD 62 by the March assessment and in mid-June stood at USD 69 a barrel, although this was still below the level reached in August 2006. The price of gold also rose slightly between mid-March and mid-June. Movements in commodity prices are a reflection of the healthy global economy and slightly higher inflation expectations.

Graph 3.16
Real estate prices and rents



Source: Wüest & Partner

#### 3.4 Monetary aggregates

### M1 and M2 money aggregates still declining

The tightening of monetary policy is also reflected in the monetary aggregates. As shown in graph 3.17, the M1 money aggregate (note and coin circulation, sight deposits and transaction accounts) and the M2 monetary aggregate (M1 plus savings deposits) have both declined since the beginning of 2006. In May 2007, M1 was 4.0% below the year-back level, while M2 was 5.8% lower than a year previously. By contrast, the M3 money aggregate (M2 plus time deposits) expanded slightly over the same time period, growing at a rate of 2.3% over the year-back period in May. Time deposits continued to grow strongly, while savings and sight deposits again declined.

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 (see "Box: Money supply growth and inflation", *Quarterly Bulletin* 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 3.18 shows the percentage deviations of the M3 monetary aggregate 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. Since the beginning of 2004, this range has been situated on either side of the zero line. Consequently, this indicator suggests that there will be no pressure on prices attributable to monetary factors over the next few quarters.

Graph 3.17 Monetary aggregates

Monthly values, seasonally adjusted
— M1 — M2 — M3
In CHF billions
700 —
600
500
500
400 —
300
2003 2004 2005 2006 2007

Source: SNB

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

Table 3.1

	2005	2006	2006			2007	2007			
			Q1	Q2	Q3	Q4	Q1	March	April	May
Monetary base <sup>2</sup>	41.9	43.1	43.3	43.3	42.3	43.6	44.6	44.5	43.8	44.2
Change³	0.4	3.0	3.0	4.2	2.6	2.2	3.1	2.9	2.6	0.7
M1 <sup>2</sup>	284.2	282.2	286.4	281.6	280.1	280.6	275.7	269.5	272.0	270.1
Change <sup>3</sup>	-1.5	-0.7	1.3	1.1	-1.5	-3.6	-3.7	-4.7	-4.3	-4.0
M2 <sup>2</sup>	491.6	481.4	491.7	483.1	476.9	473.7	465.7	456.7	458.1	454.9
Change <sup>3</sup>	-0.8	-2.1	0.1	-0.7	-2.9	-4.8	-5.3	-6.2	-6.0	-5.8
M3 <sup>2</sup>	585.9	600.6	595.4	597.7	600.7	608.5	613.3	609.6	613.4	611.4
Change³	4.2	2.5	3.3	2.9	1.7	2.1	3.0	2.3	2.0	2.3

<sup>1 1995</sup> definition

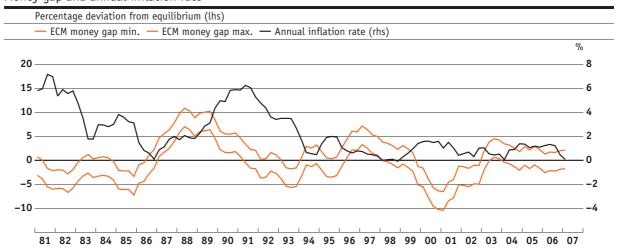
Source: SNB

<sup>2</sup> Level in CHF billions

<sup>3</sup> Year-on-year change in percent

Graph 3.18

Money gap and annual inflation rate



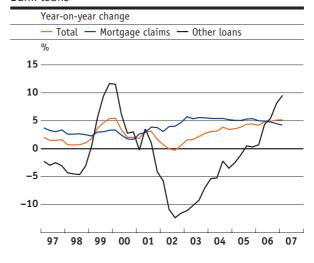
Source: SNB

### Once again, stronger growth in lending

As in the previous quarter, loans increased at an annual growth rate of slightly above 5% in the first quarter of 2007. Not since the beginning of 2000 have growth rates of these dimensions been observed. Table 3.2 shows that, in the recent period, loans to companies, in particular, have increased strongly. By contrast, loans to households, which had been growing rapidly until mid-2006, have slowed somewhat.

Different trends may also be observed if loans are broken down by type of use (cf. graph 3.19). Mortgages, which account for around 80% of all loans, again increased less strongly than in the previous quarter. This is mainly attributable to the slower growth in household mortgages (4.9%), while the increase in mortgages granted to companies remained very slight (0.8%). Increasing interest rates are likely to have had a dampening effect. Other loans, which had declined until mid-2005, rose by 9.6% in the first guarter, an even stronger growth rate than that recorded in the previous quarter. This took them back to the level of 2002, in terms of volume. Secured loans recorded a particularly steep rate of increase, while unsecured loans continued to tread a firm growth path. Clearly, with the Swiss economy in extremely good health, banks remained more prepared to grant both secured and unsecured loans.

Graph 3.19 Bank loans



Source: SNB

**Bank loans** Year-on-year change in percent Table 3.2

	2005	2006	2006				2007	2007		
			Q1	Q2	Q3	Q4	Q1	February	March	April
Total	4.1	4.8	4.2	4.8	4.9	5.1	5.2	5.2	5.3	5.1
Households	6.5	6.1	6.0	6.6	5.8	5.9	5.1	5.1	5.0	5.4
Companies	0.9	1.6	0.2	1.0	2.4	3.4	3.9	4.1	4.0	3.0
Mortgage claims	5.2	4.8	5.0	4.9	4.8	4.5	4.2	4.1	4.4	4.5
of which households	6.9	5.5	5.7	5.7	5.4	5.3	4.9	4.7	5.1	5.1
of which companies	3.1	1.2	1.8	1.5	1.3	0.7	0.8	0.7	0.9	1.3
Other loans	-0.7	4.6	0.7	4.4	5.4	8.1	9.6	10.6	9.1	8.1
of which secured	2.6	2.5	3.5	4.4	0.6	1.5	7.1	9.6	3.7	5.1
of which unsecured	-3.1	6.3	-1.4	4.3	9.3	13.4	11.5	11.5	13.5	10.2

Source: SNB

### 4 SNB inflation forecast

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 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 March forecast.

## Global economy remains buoyant despite higher oil prices

The current global scenario displays a few slight changes as compared to the March forecast. Higher worldwide consumer inflation rates may be expected, due to the latest increase in oil prices. The revision is relatively modest for Europe because the stronger euro counterbalances the oil-pricerelated cost push. Moreover, the inflationary impact of the VAT increase in Germany was weaker than had been anticipated. In the US, where higher oil prices are driving inflation more strongly, there was a simultaneous and surprisingly strong dip in GDP growth in the first quarter. Consequently, the forecast for the US has been adjusted downwards somewhat, in particular for 2007. By contrast, the European economy is developing more strongly than anticipated, and therefore the assumptions on GDP growth for the current year have been lifted. In both economic regions, growth is still expected to be robust in the medium term, trending towards the potential growth rate of approximately 3% (US) and 2% (EU) by the end of the forecasting period. The current forecast again lifts the USD/EUR exchange rate to a constant estimated level of 1.35.

### Assumptions for inflation forecasts

Table 4.1

	2007	2008	2009
Inflation forecast of June 2007			
GDP US <sup>1</sup>	2.2	3.0	2.9
GDP EU15 <sup>1</sup>	2.6	2.2	2.0
Exchange rate USD/EUR <sup>2</sup>	1.34	1.35	1.35
Oil price in USD/barrel <sup>2</sup>	65.2	68.0	68.0
Inflation forecast of March 2007			
GDP US <sup>1</sup>	2.8	3.1	3.0
GDP EU15 <sup>1</sup>	2.3	2.2	2.1
Exchange rate USD/EUR <sup>2</sup>	1.30	1.30	1.30
Oil price in USD/barrel <sup>2</sup>	55.0	55.0	55.0

- 1 Change in percent
- 2 Level

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

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

The SNB has 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 threemonth 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 Q2 2007 to Q1 2010

The quarterly inflation forecast is derived from the analysis of different indicators, model estimates and the assessment of any special factors. It maps the future development of prices on the assumption that the three-month Libor will remain constant over the forecasting period. Graph 4.1 depicts the inflation forecast of March 2007 alongside those of December and September 2006. The new forecast, which covers the period from the second quarter of 2007 to the first quarter of 2010, is based on a steady three-month Libor of 2.50%. This rate corresponds to the mid-point in the 2.00-3.00% target range for the three-month Libor, which the SNB lifted by 0.25 percentage points on 14 March. The March and December forecasts were based on a three-month Libor of 2.25% and 2.00% respectively.

Switzerland's economy is in excellent shape. Indeed, the economy is developing somewhat better than expected back in March. The healthy economy in neighbouring countries as well as exchange rate developments have been contributing factors. Together with a renewed rise in oil prices, this

leads to a slight deterioration in inflation prospects in the next few months – even after the interest rate increase in mid-June. This interest rate increase stabilises inflation at a slightly higher level than in March from mid-2008. However, forecast inflation subsequently rises again, approaching the 2% level towards the end of the forecast horizon. Assuming that the three-month Libor remains unchanged at 2.50%, the SNB expects an average annual inflation rate of 0.8% in 2007, 1.5% in 2008, and 1.7% in 2009.

Nevertheless, some major uncertainties are associated with this assessment of the inflation outlook. On the one hand, structural changes in the economy are still having a dampening effect on prices. On the other hand, given the high level of capacity utilisation and current developments in the exchange rate, the danger is growing more acute that, as time goes on, more and more of the higher production costs will be passed through to prices. Should economic momentum remain unchanged and movements in the Swiss franc result in a further relaxation of monetary conditions, further increases in the interest rate are likely in the months ahead.

Graph 4.1 SNB inflation forecasts: a comparison

CPI: year-on	-year chang	е		
—Jun (2.50	)%) — Mar	(2.25%) <del></del> [	Dec (2.00%)	— Inflation
%				
2 ———				
1.5				
2006	2007	2008	2009	2010

SNB

# 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 June 2007

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 March to May 2007 on the current and future economic situation are summarised.

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### Summary

The talks held by the SNB delegates for regional economic relations with around 160 representatives from various economic sectors and industries conveyed a picture of an economy with virtually no problems in the period from March to May 2007. The first few months of the year significantly exceeded the expectations of many of the companies surveyed. There were no signs of a slowdown in sight; indeed some respondents even reported an acceleration in business activity. Moreover, this upbeat sentiment was found in all sectors, including companies which had only recently been struggling with problems.

By and large, capacity is utilised to a very high degree and the market situation is increasingly making it possible to raise prices. Investment is taking place and additional staff are being taken on, but respondents are adopting a prudent approach as they expect the pace of growth to normalise sooner or later. Many are therefore attempting to deal with the high order volume by outsourcing some of their production, rather than permanently expanding in-house capacity. However, many of these outside suppliers are now also coming up against capacity limits. Respondents continued to cite massive price hikes and procurement problems affecting commodities and primary products as their main concern and there were more frequent references to capacity bottlenecks.

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### 1 Production

### Manufacturing

The companies surveyed in industry were very pleased with the volume of orders received since the beginning of the year. In most cases, budget targets were achieved or even exceeded. Sales were often well above year-back levels, raising the prospect of another record year. Demand remained broad-based, with no sign of a slowdown in sight. The most important impetus is currently coming from the EU, particularly from Germany, which has now seen an increase in consumer demand as well as investment demand. While demand from Asia (in particular China) and Eastern Europe remained strong, some companies said they had felt the impact of the economic slowdown in the US. Against a background of capacity bottlenecks, delays in deliveries and rising commodity and primary product prices, many spoke of overheating.

The boom in the manufacturing sector has now taken hold of all sectors and their suppliers. A particularly dynamic trend was in evidence in the energy sector, which is benefiting from a large backlog of demand for investment in power generation plants and growing demand for alternative energy sources. However, the mechanical engineering industry is also enjoying an upturn across a broad range of segments, as is the consumer goods industry. In addition to the booming watchmaking industry, sectors such as textiles and foodstuffs, which in some cases had been facing problems in the past years, are also benefiting increasingly from the economic upswing in Switzerland and abroad.

### **Services**

For some time now, retailers have also been feeling the impact of the upturn, though this took some time to kick in. The representatives of this sector expressed satisfaction with the trend of business during the first few months of the year. Consumer sentiment has improved markedly in all segments – notably in non-food areas – and turnover is up on last year despite lower prices. Retailers in Switzerland's border regions benefited from the softening of the Swiss franc against the euro, which reversed the flow of cross-border shopping in favour of domestic outlets.

Despite a serious shortage of snow, representatives of the hospitality trade were satisfied with last winter's season and were optimistic about the prospects for the summer. The fine spring weather

led to large numbers of guests in many locations and booking levels for the summer season look promising. In general, respondents reported significantly higher spending and longer stays. They also mentioned an increase in seminar and conference-related tourism, which is giving a further boost to city tourism in particular. At some destinations, hotels are now coming up against capacity limits.

A consistently positive picture also emerged from the talks with other service providers from the consumer and corporate sectors. This includes airlines, which reported significantly brisker activity than a year ago. The rest of the transport sector, consultancy service providers, the IT sector, logistics operators and travel companies were also very satisfied with the way business was developing.

The representatives of the banking sector continued to speak of a very gratifying trend. Asset investment and trading business were booming, as was mortgage business. However, in the mortgage segment, competition is reported to be persistently strong and margins are seen as low. The corporate clients segment was more subdued. Many clients have high levels of liquidity which they are using to pay off loans.

### Construction and real estate

The representatives of the construction industry reported buoyant business conditions, particularly in the housing sector. Capacity utilisation in both the construction industry proper and in related trades is tight, so in the case of private sector contracts, in particular, it is now becoming possible to push through price increases. Business is showing no sign of slowing down, although now and again some respondents mentioned saturation tendencies, particularly in relation to owner-occupied apartments. Signs of this can be seen in the growing numbers of vacant apartments in old buildings and in the postponement of projects. Like residential construction, the commercial and industrial construction segment also enjoyed a satisfactory to positive trend, whereas the situation in the civil engineering sector was mostly assessed as unsatisfactory. When questioned about the real estate market, the companies surveyed noted that there had been no let-up in the strong foreign demand for second homes in good locations and that prices were continuing to rise in this segment.

### 2 Labour market

Many companies have increased their staffing levels in recent months. Banking specialists and technical personnel are particularly in demand. However, some respondents were wary of expanding staff numbers permanently and preferred to opt for temporary personnel.

There are wide variations in assessments of the availability of staff. Some respondents thought there was a serious shortage of specialists, whereas others mentioned that although it was not easy to recruit specialists, they were still able to find people with the skills they needed. The situation has been significantly eased by the fact that staff can now be recruited in the EU, although the economic recovery has made it more difficult to find suitable staff there as well.

On the question of pay trends, many respondents reported noticing increasing pressure on salaries. However, given the positive trend of business and the favourable earnings situation, this does not appear to be a source of great concern. Various respondents also said that they were enabling employees to share in the positive business trend with bonus payments.

### 3 Prices, margins and earnings situation

Most representatives spoke of positive to very positive profitability, although the margins of industrial companies are being squeezed by the sharp rises in the price of commodities and primary products (particularly high-grade steel). Companies facing strong competition are still finding it hard to pass on higher costs to consumers. These companies, however, also see stable selling prices as a means of rewarding customer loyalty.

Across all sectors, the scope for price adjustments appears to have increased thanks to the positive economic situation. The exceptions include the retail sector, and in particular major retail chains and their suppliers, where prices remain under pressure and further price reductions are planned.

The strengthening of the euro against the Swiss franc is a welcome development for respondents from the export sector. Several took advantage of this to increase their prices in Swiss franc terms. In particular, it enabled them to offset the rise in commodity prices. Some companies that mainly export to the dollar zone expressed concern about the dollar's exchange rate.

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# Opening speech by the President of the Bank Council at the General Meeting of Shareholders of the Swiss National Bank

Hansueli Raggenbass Berne, 27 April 2007 Dear shareholders Ladies and gentlemen Dear quests

I would like to start by welcoming you to our 99th General Meeting of Shareholders – undeniably one of the highlights of our centenary year.

And yes, you did hear me correctly! This is indeed only the 99th General Meeting, and not the 100th. And it's not because our archivist made a mistake in counting. It is in fact because the Federal Council decided back in 1907, at the request of the Bank Council, not to hold the first ordinary general meeting in 1908, as one would expect, but to wait until 1909. Thus, the first business period lasted roughly one and a half years.

Be that as it may, today's General Meeting marks the 100-year anniversary of our institution. It is therefore not only an ordinary General Meeting, but also a somewhat extraordinary one. I am delighted to be able to celebrate this special day with you, the shareholders of the Swiss National Bank. My speech today is dedicated to you and will address the significance of the SNB's shareholders and how the ownership structure has evolved over the years.

### A joint-stock company

The National Bank's relationship with its shareholders has always been a particularly special one. Not least because it is rather unusual for a central bank to have shareholders in the first place. A glance at central banks around the world shows that those structured as shareholding banks are more the exception than the rule these days. Most are state-owned institutions. It is therefore even more unusual for a central bank to allow private individuals to own its shares.

I will thus start by explaining why the SNB is set up as a joint-stock company. I will then look briefly at how the ownership structure has evolved, before taking a closer look at the SNB share itself. Finally, I will take you through some of the shareholders' questions and demands that have come up at the various General Meetings over the years.

It is a well-known fact that the path towards foundation was not easy, but rather the result of a long, drawn-out political process. The battle over the creation of the National Bank lasted no less than fourteen years. Starting in 1891, when the note-issuing monopoly was constitutionally transferred to the Confederation, it raged until 1905,

when the National Council and the Council of States finally passed the National Bank Act.

Although the benefits of a centralised system of note issuance were quickly recognised, taking sufficient account of the cantons' financial interests and resolving the differences between the proponents of a state-owned bank and the advocates of a private bank proved considerably more problematic. The issue at hand concerned the legal status that the central bank should have.

In the end, and in true Swiss spirit, an acceptable compromise was reached - a shareholding bank was formed, based on its own federal act and with a simple profit distribution rule (two-thirds to the cantons, one-third to the Confederation).

The result of this compromise was that, on the one hand, the cantons and their cantonal banks as well as the former issuing banks were made shareholders of the National Bank. Two-fifths of the bank's capital stock - at that time CHF 50 million, divided into 100,000 registered shares - was to be subscribed by the cantons in relation to their population and one-fifth was reserved for the former note-issuing banks based on the effective volume of notes issued.

On the other hand, meanwhile, private individuals were to be allowed to hold shares in the SNB as a means of anchoring the company more firmly in the population. The remaining two-fifths of the shares were thus made available for public subscription, with priority being given to smaller subscriptions, as prescribed by law.

In order to make the subscription easily accessible to the public and to establish a solid base across all levels of Swiss society, the nominal value of the share was set at CHF 500. A share, for which at the time CHF 250 - or half the nominal value - had to be paid up, is now worth roughly CHF 3,000.

In June 1906, the Neue Zürcher Zeitung newspaper wrote dramatically: "Not only the capitalist, but also the small saver wants to be in on the act and it is certainly a wise and democratic decision that the law will give priority to the small subscribers. In so doing, the National Bank share is being 'democratised' and the institution will be able to gain a foothold among the population at large."

The public subscription proved highly successful: the issue was more than three times oversubscribed. Anticipating this high demand, the Neue Zürcher Zeitung had written on 5 June 1906: "Two defining factors indicate that the issue will be a resounding success. Firstly, the awareness - not

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to mention a hint of pride – that one is actively participating in the establishment of the country's central bank, and secondly, the knowledge that one is receiving an absolutely secure and good interest-bearing investment akin to a bond."

The principle of making the shares available to as broad a group as possible was taken very seriously indeed: right after the subscription, almost all of the private shareholders (around 12,000 in total) received between one and five shares. The shares of the National Bank were traded right from the outset on the stock market.

The SNB's structure as a joint-stock company was considered a key element in securing the independence of the central bank, and it has certainly stood the test of time. This was particularly an issue in the early days of the bank's existence, when central bank autonomy was not a matter of course, as it is today.

Some years ago, one of our shareholders put forward a less-than-serious proposal that SNB shareholders should actually be required to pay to attend the General Meeting, rather than simply accepting a dividend. He argued that it was, after all, a unique privilege to be able to participate in the General Meeting of the Swiss National Bank...

One point in which the said speaker was certainly not wrong was that SNB shareholders cannot be compared with shareholders in other organisations. For quite some time now, the National Bank's share capital has borne little relation to the actual volume of our institution's business. In view of the much higher balance sheet total and the high level of provisions, the share capital no longer has a risk-bearing function. Thus, the main role of our shareholders – and one that hasn't changed since the bank's inception – is to safeguard the independence of the Swiss National Bank. This is why our shareholders are accurately referred to as the custodians of central bank independence.

### The shareholders

So how has the body of shareholders evolved in the SNB's 100-year history?

In our *Annual Report*, the shareholders are divided into four categories: private shareholders, cantons, cantonal banks and other public sector institutions. A fifth category comprises unregistered shares. These are shares that have already been sold on the stock market, but have not yet been entered in the share register under a new shareholder.

One hundred years ago, the National Bank had over 12,300 shareholders. This figure gradually declined over the years, so that today, the SNB has roughly only 2,300 shareholders.

As one would expect, the cantons have been the most stable category of shareholders. Their share has always been just slightly less than 40%. The average share ownership is around 1,600 shares. For years now, the two largest shareholders in this group have been the Canton of Berne with 6.6% and the Canton of Zurich with 5.2%.

The number of cantonal and issuing banks holding SNB shares has declined from almost 40 to just 24. The average ownership per shareholder in this category has risen from over 500 in 1907 to a little over 600 today. In terms of percent, this group accounts for 15% of the share capital. The major shareholders in this category are the cantonal banks of Berne and Zurich.

Other public sector institutions – such as cities and municipalities, legates, foundations, funds and municipal-owned institutions, certain insurance companies and pension funds – have only been listed as a separate category since 1952. Since then, their numbers have fluctuated between 30 and 60. Their current proportion of the share capital is approximately 1%.

As a category, private shareholders have undergone the most dramatic change, with their figures falling from over 12,200 at issue to just 2,200 at the end of 2006. The total number of shares held by private individuals fell from around 45,000 originally to roughly 32,000 last year. Their share in the capital fell accordingly, from 45% to 32%. Meanwhile, the average number of shares per shareholder increased from 3 to around 15.

The unregistered shares have been listed in our shareholders' overview since 1987. The total number of such shares has been rising gradually since then. This is due in part to the fact that, since the entry into force of the new company law, the ownership of shares is no longer subject to restrictions (foreign shareholders can, for instance, now hold shares in the SNB). It may also be ascribed to the fact that the trading volume of our shares has been on the rise. The increase in the number of unregistered shares is the main reason for the said drop in shares held by private shareholders.

A glance at the regional distribution of shares held by private individuals shows that 77% are in the German-speaking part of the country, 21% in the Romandie and 2% in Ticino. This representation approximates the distribution of the population.

All in all, we can see that the number of SNB shareholders has declined in the past 100 years, while the level of concentration and internationalisation of share ownership has increased. On the whole, however, the shareholder structure has remained relatively stable, particularly with regard to shareholders from the public sector. That said, we do also have a number of private shareholders who have been with us for many years.

### An investment instrument

"Eat well, sleep well" is a well-known adage that, referring to the risk/return trade-off, says that the type of security investors choose depends on whether they want to eat well or sleep well.

As you know, a legally stipulated maximum dividend of 6% is paid on SNB shares. But this has not always been the case; up until 1921, a rate of 4% was paid. The share not only offers a fixed dividend, regardless of the bank's performance, but also above-average security. No normal share in other words. It is certainly not a risk paper, nor is it a growth share. And there are definitely more dynamic securities and higher-return investments out there.

So, you could say that to be an SNB share-holder is, to a certain degree, borne out of enthusiasm for our institution. As a former finance minister once said, shareholders ought simply to "enjoy owning the share, as the dividend is restricted and there is certainly no possibility of attractive capital gains in the wake of a takeover".

As an investment, the SNB share is more akin to a Confederation bond than to a real equity investment. For years now, its price has been such that its return corresponds more or less to the average yield on a Confederation bond. There was, however, one period – in the late 1990s – when the shares fluctuated strongly as a result of speculation over gold reserves. The share price has since returned to a relatively stable path. The most recent price rise can probably be attributed to the current bull market and perhaps also to it being our centenary year.

So, the adage that only investors who favour bonds can sleep well does not apply in the case of the SNB. Considering the price developments of SNB shares, you, dear shareholders, should also be able to sleep easy (but hopefully not during our General Meeting)! At any rate, I can promise you that after today's General Meeting, you will be wined and dined as all 'real' shareholders should!

### Shareholder concerns

And finally, I would like to take a brief look at the most important issues that have been on your minds – dear shareholders – over the last 100 years. While some of these topics are a reflection of the problems faced in a particular era, other concerns have come up time and again.

The disputes that arose during the founding years continued to have an effect, especially in the bank's early days and up until the 1950s. One particularly controversial issue was whether the economy should be provided with liquidity by the state or by private sources. There were frequent debates – sometimes quite heated – with the pioneers of the Free Economy movement. In more recent years and decades, however, they struck a more conciliatory tone towards the National Bank and explicitly praised the SNB's monetary policy goal of maintaining price stability.

Shareholder rights, which are fairly restricted as compared to those of companies organised under private law, have regularly given rise to lively discussions at our General Meetings – back then as well as in more recent times. Recurring themes include the amount of the dividend and the profit distribution rule. There was also the occasional motion regarding restrictions on the voting rights of private shareholders.

Some topics of macroeconomic relevance that have recently induced shareholders to express their opinion include the extraordinary profit distribution to the Confederation and the gold sales. The concern for the bank's independence voiced in this regard culminated in the aptly phrased caveat of a shareholder: "Once greed outstrips productivity in the economy, the call for the National Bank's manna is not far off."

Further topics that have been discussed in this setting include the amount and the composition of the foreign exchange reserves, the desire for a higher return on assets (by adding to the equity portfolio for instance), the Swiss franc exchange rate, the importance of combating inflation, the interest rate level, in particular that of mortgage loans and rents, or – expressed in more general terms – the concern over unhealthy excesses in the real estate market. Concerns over the preservation of Switzerland as a production base also occasionally found their way to the top of the agenda. The National Bank always took note of and discussed all of these topics in one form or another.

Every once in a while, an appeal was made for higher ethics standards in the economy, and allusions were made to the dangers of globalisation and deregulation of markets. While some feared that the emergence of electronic payment transactions might soon render money and the National Bank obsolete, others warned against negative repercussions following the launch of the euro. This brief account shows the sheer range of topics that have concerned shareholders over the years.

The fact that the General Meeting was sometimes much like a monetary version of the 'Landsgemeinde', the provincial assembly in some areas of Switzerland where voting takes place by a show of hands, did not take away from the value of this quintessentially democratic institution. Like clockwork, a number of speakers made an appearance year after year. In so doing, many of them achieved a certain celebrity status, while others even gained notoriety. Their appearances were often amusing, sometimes provoking and – more often than not – quite challenging.

We regard the general dialogue with shareholders as decidedly enriching; a point which has been repeatedly stressed by the National Bank. This dialogue is an opportunity for us to present and explain our policy to the public.

### Acknowledgements

Celebrating an anniversary is also always a time to say thank you, and this is how I would like to conclude my speech today. On the occasion of this General Meeting, my special thanks go to you, our shareholders. The National Bank enjoys a high level of trust among the Swiss people. By committing time and money and by making your voice heard, you, esteemed shareholders, further strengthen this trust. As I mentioned earlier, a number of you have been SNB shareholders for many years, some even for decades. I would like to thank you for your loyalty and your interest in the business and policies of our institution. May the National Bank remain as firmly anchored in the population over the next 100 years as it is today!

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### Speech by the Chairman of the Governing Board at the General Meeting of Shareholders of the Swiss National Bank

Jean-Pierre Roth Berne, 27 April 2007 Mr President of the Bank Council Dear shareholders Dear quests

One hundred years ago the Swiss National Bank opened its counters and conducted its first transactions. Year for year, the Chairman of the Governing Board has had the privilege of outlining the economic situation to you and setting out the SNB policy approach. It is a great pleasure for me to continue this tradition today, and all the more so in view of the fact that the year 2006 was a particularly favourable one for our economy: growth accelerated to reach a level higher than the long-term trend, while employment improved, bringing about a gradual reduction in unemployment. Meanwhile, the rise in prices remained restrained and distinctly below the level of 2% that we equate with price stability. Moreover, for the current year, the outlook for growth, employment and monetary stability remain very favourable.

### Vigorous foreign trade

The healthy state of the Swiss economy has surprised many observers accustomed to the meagre results of the 1990s and nervous in the wake of the events of the early 2000s. Yet the good results can be explained quite logically, since they arise from a combination of particularly favourable factors.

First, I would like to mention the remarkable ability of the private sector to adapt to the challenges presented by the globalisation of markets. Thanks to reorganisation efforts in the export sector, results in foreign trade have improved substantially. Over the past ten years, our exports have grown by more than 80%, or five times as fast as the gross domestic product. We now run a surplus in goods trading in addition to our traditional surplus in the area of trade in services. The success of strategies geared to quality and high-tech content are demonstrated by the vigorous growth recorded by exports in high added-value areas such as electronics, watchmaking, chemical and pharmaceutical products. Alongside this we should mention the growth in the exports of services, particularly in the areas of finance and tourism. Overall, our net balance from trading in goods and services has increased from CHF 17 billion to CHF 37 billion in ten years, in other words, from 4.6% to 8.3% of GDP. Clearly, far from threatening our expansion abroad, globalisation has led to an expansion in our markets from which our companies have been able to derive extensive benefits.

The prosperity of our foreign trade depends to a large extent on the good shape of the global economy, whose performance has been very good over the past few years. Recently, signs of weakness have been observed in the US, but a favourable international environment in 2007 can be expected in view of the unchanged vitality of the Asian economy and the recovery of growth in Europe.

In addition to the favourable impetus from the global economy, our exports also benefited from special conditions on the foreign exchange market. The introduction of the euro resulted in a stabilisation of the European monetary scene, and the Swiss franc was sheltered from the speculative disruptions that we have experienced in the past. Nowadays our currency is far less volatile that in the 1990s, and this is certainly beneficial for foreign trade. Moreover, although the dollar has lost ground over recent years, the euro has regained a level comparable to that of 1999. Since Swiss inflation was distinctly lower than that of our main trading partners, the real exchange rate index weighted by our exports to 24 countries has declined by almost 10% over the five last years. The competitive position of our exporters has improved accordingly.

Nevertheless, it would be precipitate to think that the Swiss franc was likely to continue weakening. In many respects, the current situation is paradoxical in view of the fact that currencies from countries where inflation is lowest – the Swiss franc and the Japanese yen - have lost ground to currencies from countries with a less favourable price outlook. Obviously, markets are responding in a shortterm manner, as a function of current interest differentials or of expected changes in these differentials, without fully recognising the existing economic fundamentals or fearing the possibility of sudden adjustments in exchange rates. Inevitably, this speculative attitude is risky. History has shown us that reversals on foreign exchange markets often take people by surprise, that periods of strength in the Swiss franc may alternate with periods of weakness, and that the Swiss franc has a tendency to react excessively in times of uncertainty. Therefore, caution is called for. Our exporters need to retain control of their exchange risks even at times of low volatility. After all, nobody would think of doing without fire insurance just because their house had been spared for a number of years.

### Domestic demand on the right path

Inevitably, the strong momentum of foreign trade has spilled over into investment and domestic consumption, and especially into employment.

Initially, an improvement in equipment investment and employment results from an increasing level of capacity utilisation. Thus, in manufacturing, the rate of capacity utilisation has been rising steadily since 2002 and has now reached a historical high. The corporate sector, which in 2005 was still hesitant about the soundness of the recovery, held a more favourable view last year. As a result, companies considerably stepped up their investment plans for equipment. At the same time, they created jobs – in particular full-time positions – at a faster rate. This led to a quicker drop in unemployment and the increased use of foreign labour.

Consequently, 2006 was very clearly a year of consolidation in the economic cycle, following the uncertainties of the prior periods. The current outlook represents a continuation of this situation since the order books are well filled and the CEO confidence index remains positive. Thus, the rate of unemployment is likely to continue dropping over the course of the next few months.

One sector that is dependent less on the foreign economic situation and more on the financial environment is the construction sector. Residential construction has benefited strongly from the low interest rates over the past few years. In 2006, 41,000 new dwellings came onto the market or almost double the number in the early 2000s. Demographic developments as well as increasing incomes linked to favourable financing conditions assured a healthy level of demand. Nevertheless, there were initial signs of saturation, and a gradual drop in the mortgage growth rate was evident. Everything points to a further decline in growth momentum for residential construction this year. By contrast, industrial and commercial construction is likely to continue improving.

Growth in employment and income had a favourable impact on household expenditure. Growing at a rate of some 2%, consumption became a driver of the economy, a situation which contrasted to that of past years. The continued decline in unemployment over the months to come is likely to consolidate this picture.

Overall, the Swiss economy recorded real growth of about 3% in 2006. This was the best result since 2000. While enjoying the benefits of healthy demand in both foreign and domestic mar-

kets, it was also able to take advantage of the increased flexibility of local production attributable to the fact that the labour market had been opened up to nationals of neighbouring countries – without threatening domestic employment. In the course of the past twelve months, almost 60,000 new jobs have been created – a figure unmatched since 2001 – while the number of jobless has dropped by 22,000.

Restructuring efforts on the part of the corporates, advances in productivity and the increased flexibility in the employment market have created an environment that allows more vigorous growth. Thus, the difficult path of reform and of opening up has yielded its first successes. It is advisable that we continue following this path in order to ensure a sustained and durable increase in our productive potential. This will help us to place our social security institutions on a sound financial basis again and confront the challenges posed by the aging of our population.

## Continuing the normalisation of monetary policy

Within this context of an improved economic situation, the SNB last year continued the policy of gradually normalising the interest rates that it has been pursuing since June 2004. At each of our quarterly assessments of the economic and monetary situation, we have concluded that preservation of medium-term price stability demanded that the three-month Libor be adjusted once again, and it has thus been raised by 1.25 percentage points since January 2006.

With average inflation of 1.1%, 2006 was another year of price stability; indeed it was the thirteenth year such year in succession. The current situation remains comfortable due to the fact that the inflation outlook is moderate and last year's drop in oil prices is having a favourable impact on the indices. Nevertheless, we remain cautious since the productive resources in our economy are currently more or less fully employed and the Swiss franc has depreciated on the foreign exchange market – thereby tending to make our imports more expensive. We will continue increasing interest rates to the full extent that is necessary in order to preserve price stability in the medium term.

### Risks

Based on the current momentum in the global economy, the outlook for 2007 looks good. Admittedly, there are signs of weakness in the US, but this phenomenon is likely to be temporary. In Europe, the recovery in 2006 was surprisingly strong. A slowdown is now expected, but not a marked downturn in the economy. Consequently, with respect to the economy, the assessment of risks appears relatively favourable for 2007.

Clearly, the price of oil remains a source of concern. The continued growth in the global economy as well as the experience of recent years has shown us how fast the oil market can spiral out of control, given the shortage of surplus production and refining capacity. Consequently, we cannot fully exclude the possibility that the current period of calm is only transitory.

We are currently observing an unusual situation of weak volatility on financial markets and low risk premiums on investments. These two variables can change direction very quickly. Consequently, we must remain on our guard since abrupt movements in financial variables – in stock prices as well as in exchange rates – have an immediate impact on our economy due to its considerable openness to foreign transactions and its relative specialisation in the production of financial services.

### A comfortable position, in historical terms

With the Swiss economy close to full employment, the stability of prices secured over a period of several years now and a liberal and open economy making it possible to make full use of monetary policy instruments, the Swiss National Bank currently operates in a comfortable environment. In this year – the year that marks the hundredth anniversary of the establishment of our bank – we should not lose sight of the fact that our predecessors often faced situations that were far more difficult than those we face today.

So it was that, once the problems posed by the establishment of a banknote monopoly had been solved, the youthful SNB was quickly confronted, in 1914, with the problem of financing the military expenditure caused by the First World War and, after the end of hostilities, the difficulties related to normalisation. The social disruption of 1918 and the high level of inflation at the end of the war were bitterly felt and attributed to a failure of monetary management. This setback had a lasting effect on morale at the SNB and accounts to

a considerable extent for the orthodoxy of the policies adopted in the decades that followed.

This accounts for the determination with which the SNB worked to restore the rules of the gold standard once peace had returned. The pre-war gold parity was re-established in 1924. However, after a few good years, the economic situation again deteriorated, culminating eventually in the crisis of the 1930s. The devaluation of sterling in 1931, followed by that of the dollar in 1933, were the first episodes in the eventual collapse of the gold standard. In 1936, following the devaluation of the French franc, the Swiss federal authorities were forced, in their turn, to reduce the parity of the Swiss franc.

A few years later, the challenge of administering a war economy again arose. The story of the Second World War, with its doubts, agonies and errors of judgement has been extensively analysed by historians over the past few years. Much reflection has also been carried out on the matter within the Swiss National Bank in order to better understand this difficult period in our own history.

The post-war period was characterised by a fierce determination to start afresh, to avoid the reappearance of the misleading thinking that had led to pre-war protectionism, and to reconstruct the economies that lay in ruins. A phase of intensive work began, with the aim of reorganising the international monetary order. Still isolated, both economically and politically, Switzerland participated in the efforts without becoming a member of the Bretton Woods Institutions. The gradual liberalisation of payments and trade rapidly led to a period of prosperity but also to a situation of disequilibrium in the operation of the international monetary system. Inflation and speculative movements of funds became common features during the 1960s and the monetary arena was disturbed by multiple devaluations, particularly in Europe.

Suspension of gold convertibility for the dollar, in 1971, hailed the collapse of the system of fixed exchange rates that had been put into place after the war. Faced with a massive flow of speculative funds, the SNB was forced to abandon stabilisation of the Swiss franc in 1973. The transition to sustained floating for the Swiss franc was definitely the most important change of direction in the monetary policy strategy pursued by our bank in its hundred years of existence.

Since then, the SNB has had to learn to operate with floating, and to conduct an independent

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monetary policy. This has not always been easy, since the international environment has often been extremely instable with the result that the Swiss franc has, at times, been heavily overvalued. During the 1980s, a greater degree of monetary discipline emerged and the fight against inflation became gradually more widespread. However, the world monetary order only achieved a certain level of calm towards the end of the 1990s, when the European monetary integration project took form and monetary policies were geared towards the defence of price stability.

In sketching this rapid portrait of the hundred years of our history, we see how much circumstances have differed from one period to another. It is therefore fitting that we pay tribute to all of our predecessors who – often in difficult circumstances – gave of their best in order that the Swiss National Bank might fulfil its mandate. It was their prudent management of the country's business that sheltered us from the numerous monetary crises that battered so many other European states. It was they, too, whose determination made it possible for the SNB to conduct a monetary policy resolutely geared to stability.

Our generation is deriving immense benefit from this heritage. Due to the courage and sacrifices of those who preceded us, we now reap the benefits of a prosperous economy and a healthy currency.

Our gratitude also extends to the authorities and to the Swiss people. We are appreciative of the confidence placed in us by the Federal Council and by Parliament. In guaranteeing our independence, the Federal Constitution gives us the means to act entirely in the interests of monetary stability. The political authorities can count on us using our freedom of action solely in the interests of fulfilling the mandates with which we are entrusted by the legislator.

We are also aware that, despite our efforts to communicate our decisions, the general public often finds them difficult to understand. That is why we truly value the confidence that the public places in us. It helps to sustain us when carrying out the mandate with which we are entrusted under art. 99 of the Federal Constitution, that of conducting a monetary policy that serves the interests of the country as a whole.

Finally, I would also like to thank you, the shareholders of the Swiss National Bank. As representatives of cantons, cantonal banks, collective bodies or Swiss public law institutions, or as individual shareholders, you have faithfully supported the Swiss National Bank since its foundation in 1907. You have remained at its side throughout all the ups and downs of its history and we are grateful for your support.

Your presence is the guarantee of our independence, an essential factor in the success of our efforts to preserve the monetary stability of our country.

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## Swiss National Bank Working Papers and Swiss National Bank Economic Studies: Summaries

The Swiss National Bank Working Papers and the Swiss National Bank Economic Studies are available in electronic form on the National Bank's website (www.snb.ch) under *Publications, Economic publications*.

Hard copies of both series are also available. Free subscriptions or individual issues can be ordered at: Swiss National Bank, Library, Fraumünsterstrasse 8, CH-8022 Zurich, fax +41 44 631 81 14, e-mail: library@snb.ch.

### Why 'Basel II' may need a leverage ratio restriction

### Jürg M. Blum Working Paper 2007-4

The new international capital framework for banks, also known as 'Basel II', seeks to align requlatory capital requirements more closely to the underlying risks that banks face. This improved risk sensitivity is to be achieved through a greater use of risk assessments provided by banks' own internal systems as inputs to capital calculations. Despite this improvement, there are proponents who want to impose an additional risk-independent capital requirement that is proportional to the size of banks' assets, a so-called leverage ratio restriction. Banks strongly oppose such a leverage ratio restriction, as it would arguably offset the benefits of the new capital framework. In the light of this controversy, this paper explains why a leverage ratio restriction may be necessary in order to implement an effective 'Basel II'.

Because supervisors have only limited information about bank risk, they have to rely on the banks' risk reports. But since banks know that reporting a high risk leads to a high level of required capital, they have an incentive to understate their risk. In order to induce truthful revelation of risks, it is necessary that supervisors sanction dishonest banks whenever such banks are detected. If the supervisors' ability to detect or to sanction dishonest banks is limited, however, banks still have an incentive to understate their risk. In that case, an additional leverage ratio restriction helps to induce truthful revelation of risk by reducing the banks' gains through understating their risk. First, the leverage ratio puts a ceiling on the put option value of limited liability. As banks have more of their own money invested, they bear a larger part of the downside risks themselves. Second, supervisors have more options when it comes to imposing sanctions on dishonest banks. Given limited liability, the size of the fine that can be imposed on banks is restricted by the level of their capital. Hence, setting a capital floor ensures a minimum potential level of fines for banks. Both effects reduce the expected profits of banks that understate their risk. If a sufficiently high leverage ratio is imposed, it is then in the banks' own interest to report their risk truthfully. The better the supervisors' ability to detect and punish untruthful banks, the lower the necessary leverage ratio. If the supervisors' ability is very great, a leverage ratio may even be superfluous. At the other extreme, if the supervisors have no ability to detect or punish banks, the optimal capital regulation reduces to a simple leverage ratio without any additional risk-sensitive requirements.

## Maintaining low inflation: money, interest rates, and policy stance

### Samuel Reynard Working Paper 2007-5

Using Swiss, US and euro area data, this paper discusses the usefulness of monetary aggregates in measuring the monetary policy stance, and contrasts monetary analysis to the current mainstream monetary policy analysis, which disregards monetary aggregates.

It first shows that using interest rates as a measure of the policy stance, i.e. the gap between the observed three-month interest rate and the prescribed Taylor rule interest rate, does not provide useful information regarding subsequent inflation. Short-term interest rate developments relative to a 'neutral' interest rate do not provide good guidance on future inflation rates.

In contrast, monetary developments provide qualitative and quantitative information on subsequent price and output developments. Two elements have to be taken into account, however. First, monetary aggregates must be adjusted by equilibrium interest rates to account for the fact that people increase their real money holdings when inflation and interest rates decrease, and vice versa. Second, an important stylised fact is that in the economies and periods considered, in contrast to money levels, price levels do not decrease. This asymmetric price behaviour complicates the use of money growth rates in assessing inflation risks. Therefore, analyses of money and price levels are necessary for short-term policy purposes.

It is commonly argued that the long-term relationship between money growth and inflation stems only from a money demand relationship and is of no relevance for the central banks' horizon of interest. It is also claimed that short-term movements in monetary aggregates due to money demand shocks or to monetary policy reacting to other economic

shocks blur the short-term relationship between money and inflation. It is further argued that, as a result, a successful inflation targeting strategy eliminates the link between money growth and inflation. In contrast to those claims, the present paper shows that when the relationship between money and prices is characterised in a way that accounts for equilibrium velocity changes and prices' asymmetric behaviour, significant monetary developments are in every case followed by corresponding price and output developments. Furthermore, we do not observe any significant price movements that are not preceded by corresponding monetary movements. Consequently, a successful inflation targeting strategy would result in money (adjusted by potential output) and prices growing at the same rate. In summary, monetary developments can be used to characterise inflation trends as well as fluctuations around these trends, and provide early information on these inflation developments.

Monetary regularities are then used to assess the efficiency of Phillips curves in forecasting and to shed light on recent changes in inflation behaviour. Monetary aggregates provide an earlier and more reliable signal for inflation than output gaps. Moreover, the weaker link between output gaps and inflation since the 1990s can be related to more frequent phases of restrictive monetary policies, in terms of low money levels relative to price levels, together with downward price rigidity; this has resulted in negative output gaps with a relatively constant low inflation rate. This reveals drawbacks in pursuing a low inflation target without considering monetary aggregates: given that we observe price increases when policy is expansive but do not observe price decreases when policy is restrictive, while output appears to be symmetrically affected but lags monetary developments, focusing on a low inflation target without considering monetary aggregates runs the risk of being too restrictive on average.

### Loss aversion in aggregate macroeconomic time series

### Rina Rosenblatt-Wisch Working Paper 2007-6

Growth models in general try to answer questions of long-term growth, e.g. what determines the growth rate of income per capita, how does the saving rate influence long-term growth, how is it possible that we observe a large surge in output over extended periods of time, which usually has a huge influence on the social and political development of a country. Why do countries grow at all and why do we observe cycles of booms and recession?

To assess these questions, the economy is typically modelled with households that maximise their utility and firms that maximise their profits. Under certain conditions, these two players can be summarized as a so-called social planner approach where the social planner maximises life-time utility of a representative agent. In classical models this representative agent has a utility function which is defined over e.g. absolute values in consumption and shows diminishing rates of return in consumption. This classical description of the homo economicus has been challenged empirically and experimentally by some long-standing ideas derived from the field of psychology. Kahneman and Tversky's prospect theory describes inter alia that a person does not think or choose in absolute terms but that he assesses his prospects in gains and losses relative to a reference point. Furthermore, losses hurt twice as much as a gain of the same size would give pleasure. This so-called loss aversion was validated in several experiments and is based first and foremost on individual behaviour and choice under uncertainty.

Nevertheless, it is worth questioning whether the concept of loss aversion also holds at the aggregate level. Tracing loss aversion in business cycle data could have implications for macroeconomic modelling, and, in particular for the assumptions made about the behaviour of the representative agent. In this paper, we therefore set up a growth model with a representative agent who derives utility out of differences in consumption (positive and negative growth in consumption instead of absolute values). Furthermore, our agent is loss averse, which means that losses in consumption loom larger than respective gains generate utility. We validate this model by testing, whether loss aversion can be traced in aggregate macroeconomic time series of e.g. consumption. Our data is for the US and covers the period from beginning of 1955 until the end of 2004.

Our estimation results indicate that indeed, loss aversion can be found on the aggregate level. In all the estimations, we find significant evidence that losses loom larger than gains and for certain parameter constellations we come close to Tversky and Kahneman's experimentally validated loss aversion coefficient of 2.25, which means, that a loss hurts approximately twice as much as a gain of the same size would give pleasure. These results reconcile Kahneman and Tversky's findings of loss aversion and thinking in differences and macroeconomic theory of growth.

# Banking sector reform and interest rates in transition economies: bank-level evidence from Kyrgyzstan

### Martin Brown, Maria Rueda Maurer, Tamara Pak and Nurlanbek Tynaev Working Paper 2007-7

Over the past decade, most countries in Eastern Europe and the former Soviet Union have pursued reforms aimed at increasing the size, stability and efficiency of their financial sectors. Banking supervision has been tightened with the aim of restoring confidence in the banking sector. Moreover, the financial sectors have been liberalised with the goal of inducing stronger competition and more efficient intermediation. The paper studies the impact of financial sector reforms in one transition country; Kyrgyzstan.

The paper analyses the development of Kyrgyz banks' deposit and lending rates over the period 1998–2005. By relating bank-level interest rates to domestic and foreign market rates, as well as bank-level indicators of intermediation costs, credit risk, capital costs and ownership, it disentangles the impact of banking sector reform from that of the decline in domestic interest rates due to macro-economic stabilisation.

The results suggest that increased confidence in the banking sector has contributed significantly to reducing banks' deposit and lending rates. Interestingly though, lower credit risk, intermediation costs and capital costs do not seem to have contributed to lower lending rates. The results suggest that the liberalisation of the Kyrgyz financial sector has been beneficial to depositors and borrowers. On the one hand, the presence of foreign-controlled banks seems to have boosted confidence in the banking sector and, as a consequence, has reduced deposit rates. On the other hand, the results show that foreign banks charge significantly lower lending rates than domestic banks. Finally, the findings suggest that the level of competition in the Kyrgyz banking sector is low and that, despite bank restructuring, competition has not increased. As a consequence, bank interest rates do not fully reflect the decline in market rates, which has been brought about by macroeconomic stabilisation.

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## **Chronicle of monetary events**

## Target range for three-month Libor

On 14 June 2007, 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 2–3%. The SNB intends to hold the rate in the middle of the target range for the time being.

### Revision of the National Bank Ordinance

The revised Implementing Ordinance on the National Bank Act (National Bank Ordinance, NBO) entered into force on 1 July 2007. The NBO was issued by the Governing Board in March 2004 and entered into effect together with the National Bank Act (NBA) on 1 May 2004. It includes implementation provisions on three areas of the NBA, namely on the SNB's authority to compile statistics, on the minimum reserve requirements, and on the oversight of payment and securities settlement systems. Although the NBO has demonstrated its viability on the whole, in the three years since its entry into force, certain adjustments have nevertheless become necessary with regard to all three points.

In the chapter on statistics, the appendix containing all of the statistical surveys was revised and limited to the items that are listed as mandatory in art. 5 para. 1 of the NBO. This should obviate the need for frequent partial revisions in the future. In the chapter on minimum reserves, the provision on the application of sanctions, particularly the calculation of the penalty rate, was described in more detailed terms, and a minimum charge of CHF 500 was fixed. Provisions on minimum requirements as well as their oversight and enforcement were revised in the chapter on system oversight. Operators of systemically important institutions are now no longer required to have their procedures and technical concepts audited at least once a year by an external body, but only periodically. In addition, the provision stipulating that a system operator must have the effectiveness and enforceability of its contractual foundations assessed regularly by an expert, in the case of foreign law being applicable, was relaxed. Finally, system operators are no longer required to present amendments to the contractual foundations to the SNB for approval where these changes concern systemically relevant aspects; they now only need to inform the National Bank.

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