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Contents

Monetary Policy Report (p. 6)

The signs of the global economy picking up steam that were observed at the beginning of 2005 have dissipated since then. To a considerable degree, this was attributable to a massive increase in the price of oil. Against the backdrop of favourable financing conditions and climbing asset prices, prospects for the global economy remained basically healthy. However, the renewed surge in oil prices represents a threat to economic activity.

In the second quarter of 2005, the Swiss economy was able to overcome the economic weakness experienced in the 2004–2005 winter half-year. Real GDP was up 1.1% quarter-on-quarter, also growing 1.1% with respect to the year-back quarter. Most components of demand rose faster than in the first quarter, particularly construction investments and goods exports. Inventories were substantially reduced, however, and this had a dampening effect on economic growth. Employment was marginally higher than that in the previous period, but the unemployment rate persisted at 3.8%.

At its quarterly assessment of 15 September 2005, the Swiss National Bank decided to leave the target range for the three-month Libor unchanged at 0.25–1.25%. It intends to keep the rate in the middle of the target range at around 0.75% for the time being.

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

The talks conducted by the SNB delegates for regional economic relations between June and August 2005, involving some 140 representatives of different business sectors and industries, indicated that the economic situation would remain favourable. While the improvement registered in the previous round of talks was maintained, the differences between the various industries were less pronounced, suggesting that the economic recovery has broadened.

Recipes for successful companies (p. 44)

As part of their regular special reporting activities, the SNB delegates for regional economic relations investigated the question of whether any successful formulae for business growth could be identified. It soon became evident that there are no generally applicable recipes for entrepreneurial success, although a number of characteristics shared by successful companies did emerge from the investigation. This paper summarises the most important results obtained in the survey.

Setting the right priorities – more growth a must (p. 52)

Since the mid-1970s, economic growth in Switzerland has been significantly lower than that of other industrialised nations. In terms of per capita GDP among OECD countries, Switzerland lost its leading position during this time, falling back into the middle of the field. However, economic growth is essential for the sustainability of our social security institutions. Demographic shifts will cause the ratio of pensioners to economically active persons to double in the next 30 years, with the result that tomorrow's economically active generation will be faced with a heavy burden – one that could be considerably lightened by higher growth rates. The soft growth in Switzerland is primarily attributable to the lack of competition in the domestic market. There are numerous known ways to boost growth which have proven successful in many other countries. So far, however, Switzerland unfortunately has neither grasped the importance of implementing these measures, nor does it have the political will to do so. Stronger economic growth can only be achieved by opening our domestic market to competition, helping to maintain the attractiveness of Switzerland as a business centre and strengthening our human capital. The necessary reforms will call for short-term sacrifices from all walks of life, such as the relinquishment of protection and privileges. However, the long-term gains in wealth for the country at large will more than compensate for these short-term difficulties.

The oil price and monetary policy – a new paradigm (p. 62)

The massive rise in the price of oil has made it one of the most closely monitored components in the Consumer Price Index (CPI), the most prominent inflation indicator. This paper identifies various factors that explain oil price increases and their volatility. It also considers oil price forecasts and the ways in which the oil price influences inflation. The monetary policy conclusion is that as long as long-term inflation expectations remain well-anchored, it is likely that central banks no longer need to react as strongly to rising oil prices as they did in the past. The principal reasons for this are that the pass-through to inflation has become faster but less pronounced, an automatic stabilisation mechanism is at work, the economy is not overheated, monetary policy has a long-term focus and the neutral interest rate has probably lowered.

Monetary Policy Report

This report is based primarily on the data and information available as at mid-September 2005. Sections 1–3 were drawn up for the September 2005 quarterly assessment of the Swiss National Bank's Governing Board.

Contents

About this report

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

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

Sections 1–3 of the present report were drawn up for the Governing Board's assessment of September 2005. The Survey and Section 4 (inflation forecast) take due account of the Governing Board's monetary policy decision of 15 September 2005.

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

Survey

The signs of the global economy picking up steam that were observed at the beginning of 2005 dissipated in the subsequent months. To a considerable degree, this was attributable to a massive increase in the price of oil. Against the backdrop of favourable financing conditions and increasing asset prices, prospects for the global economy remained basically healthy. However, the renewed surge in oil prices represents a threat to economic activity.

In the second quarter of 2005, the Swiss economy overcame the economic weakness experienced in the 2004–2005 winter half-year. Real gross domestic product (GDP) rose by 1.1% with respect to the previous period, but also year-on-year. Consequently, the growth rate equalled the revised figure for the first quarter, which is now considerably higher than originally indicated. Most components of demand rose faster, with the exception of inventories. These were reduced substantially, and thus had a dampening effect on economic growth. The brighter economic outlook was also felt in the manufacturing sector, which recorded steady improvements. Industrial production, which surged ahead in the second quarter, confirmed this assessment. In the labour market, however, there was no sign of a turnaround. Employment increased only insignificantly, the unemployment rate remained at 3.8% and the leading employment indicators remained at a low level.

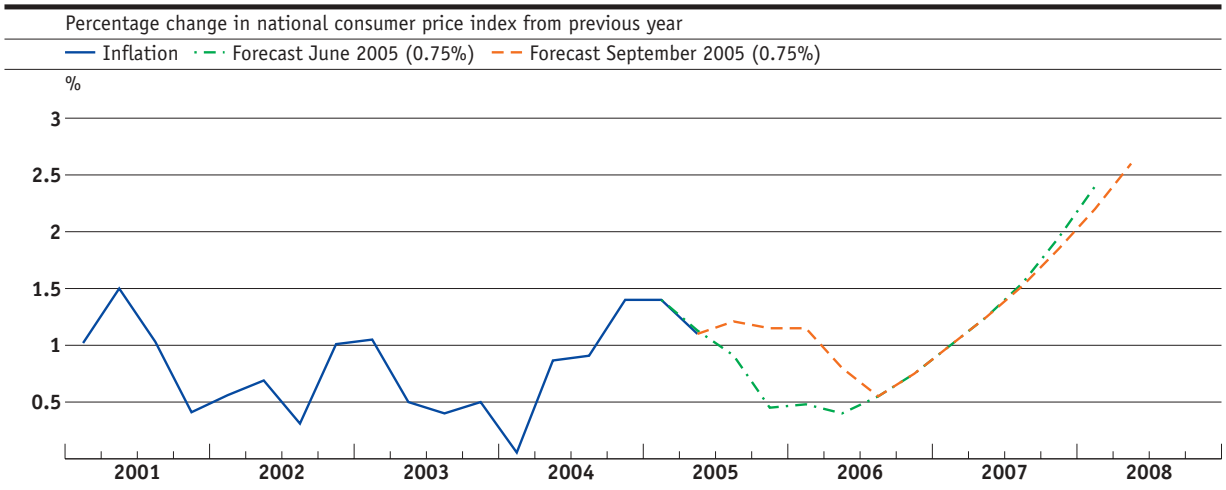
The SNB expects the economy to continue its recovery in the second half of the year. With the exception of the risks posed by persistently high oil prices, economic developments in the important export markets – particularly in Europe – are a positive sign. Yet domestic demand is likely to expand further as well. The SNB expects that GDP growth will average around 1% for 2005.

As forecast by the SNB in June 2005, annual inflation (as measured by the national consumer price index) hovered around 1% between May and August. The major inflationary impetus came from oil products included in the consumer price index, which accounted for an average two-thirds of all consumer inflation. Core inflation rates declined sharply again, however.

At the quarterly assessment of 15 September, the National Bank decided to leave the target range for the three-month Libor rate unchanged at 0.25–1.25% and to keep the rate in the middle of the target range at around 0.75% for the time being. The reasons for this decision were two-fold. Firstly, inflation is likely to remain low until the middle of 2006 even assuming that the price of oil remains at a high level. This affords the National Bank leeway for its monetary policy, which it can use without jeopardising price stability. Secondly, as a result of the high level of real oil prices, the development of economic activity is fraught with considerable uncertainty. Consequently, the National Bank is not taking any action for the time being.

In its inflation forecast of September 2005, which is based on the assumption that the three-month Libor will remain steady at 0.75% over the next three years, the SNB predicts that the inflation will be 1.2% in 2005 and 0.8% in 2006. The muted economic outlook does not suggest any inflationary pressures in the medium term. A faster rise in inflation is not forecast until the end of 2006, and can be explained by the expected full utilisation of resources. There is still ample liquidity in the economy. If the present expansionary monetary policy were to continue unchanged, the current forecast shows price stability being jeopardised from the end of 2007. If the economy becomes more buoyant, a three-month rate of 0.75% is therefore not sustainable.

Inflation forecast of June 2005 with Libor at 0.75% and of September 2005 with Libor at 0.75%



Inflation forecast of September 2005 with Libor at 0.75%	2005	2006	2007
Average annual inflation in percent	1.2	0.8	1.4

1 Development of the global economy

The signs of the global economy picking up steam observed at the beginning of 2005 dissipated in the subsequent months. To a considerable degree, this was attributable to a massive increase in the price of oil. After having fallen below USD 40 in the last two months of 2004, the price of a barrel of Brent crude stood at USD 68 at the end of August.

So far, the effect of the sharp rise in oil prices on economic growth in the industrial countries has remained moderate. An important reason for this is that oil consumption per unit of GDP has fallen considerably due to the development of more energy-efficient technologies and the expansion of the services sector. Moreover, the favourable inflation prospects allowed central banks to maintain their expansive monetary policy or to tighten it in small steps only.

Against the backdrop of favourable financing conditions and rising asset prices, prospects for the global economy remain basically healthy. However, the renewed surge in oil prices represents a threat to economic activity. Moreover, high prices in the real estate markets in the US, the United Kingdom and some countries in the euro area are giving cause for concern. A rapid drop in real estate prices would probably have a critical impact on private consumption in those countries. On the other hand, with the business climate presenting a brighter picture in the past few months, economic developments in the euro area could prove to be a positive surprise.

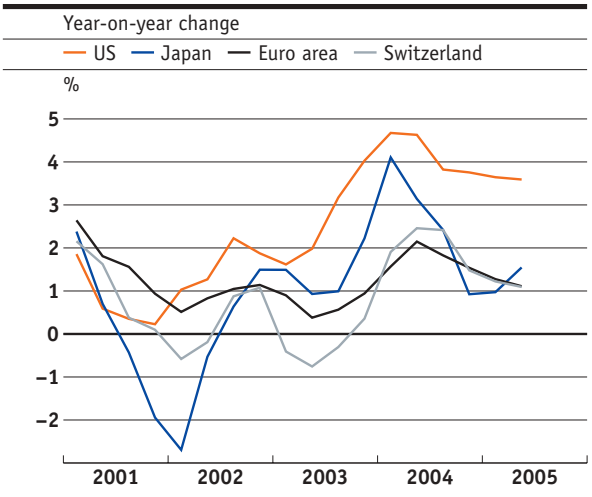
US economy continues to be upbeat

In the US, real GDP growth in the second quarter was around 3.3%, which roughly corresponds to the growth potential. Growth was also underpinned by robust domestic growth and expanding exports. The pronounced reduction in inventories, however, had a negative impact.

At the beginning of the third quarter, industrial output picked up at an accelerated pace, and increasing car sales pointed to continued pick-up in consumer demand. The outlook for the subsequent months became more uncertain, however. In addition to the rise in oil prices, the most important contributory factor was the devastating destruction caused by Hurricane Katrina in Louisiana, Mississippi and Alabama at the end of August.

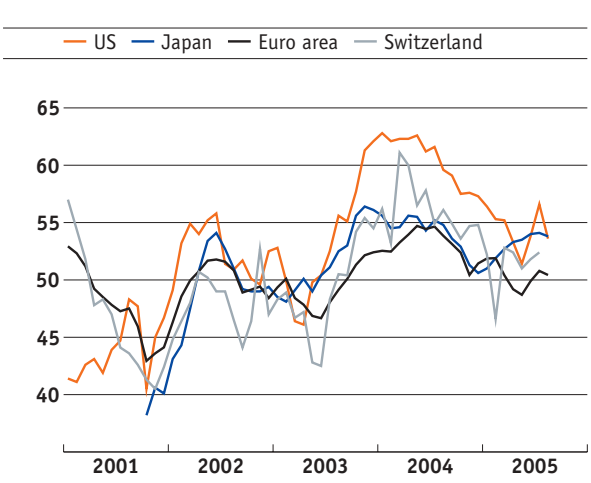
Yet important factors support the economy. High profits and attractive financing conditions are pushing up corporate investment, while continuous improvement in the labour market and the associated increase in income are bolstering private consumption. Moreover, since companies have been expanding their capacities only moderately thus far, there is considerable potential for recovering lost ground in the area of investment and jobs.

Graph 1.1
Real GDP



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

Graph 1.2
Purchasing managers' indices (manufacturing)



Source: Thomson Datastream

Silver lining on the European economic horizon

Economic development in the EU remained muted in the first half of the year. While at 1.5%, average growth of real GDP was higher than in the second half of 2004 (0.9%), this was solely attributable to a pick-up in exports. Domestic demand only grew at a moderate pace.

A number of indicators suggest that the economic development in the EU is gaining momentum gradually. June and July saw a marked improvement in the business climate, after having deteriorated steadily in the previous months. The main stimuli are likely to emanate from vigorous foreign demand, which is additionally buoyed by the lower valuation of the euro. Even though this is also likely to boost investment activity, private consumption is not expected to provide much of a stimulus, given the lacklustre consumer sentiment.

Robust growth in Asia

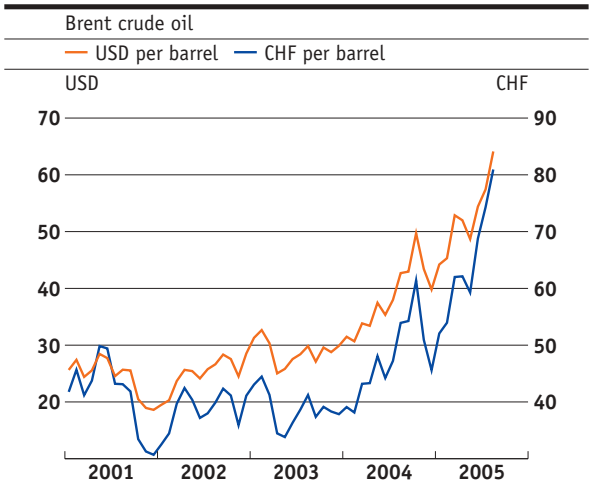
Asia continues to be an important pillar of the global economy. In Japan, growth of real GDP averaged 3.8% and remained broad-based. The improved situation on the labour market and the favourable economic outlook on the major Japanese export markets suggest that production will continue to increase.

Real GDP in China experienced healthy growth again, exceeding the year-earlier level by 9.5%. Exports and investment in particular expanded strongly. Given the fact that production capacities are growing rapidly, the investment boom is likely to wane gradually and economic growth to shift increasingly to private consumption. In the industrialised countries of the Far East (Korea, Hong Kong, Singapore and Taiwan), the sluggish growth that has been observable since mid-2004 seems to have been overcome. The upturn in demand for IT products from the US and Europe in particular are providing a stimulus to growth.

Inflation up due to oil prices but core inflation low

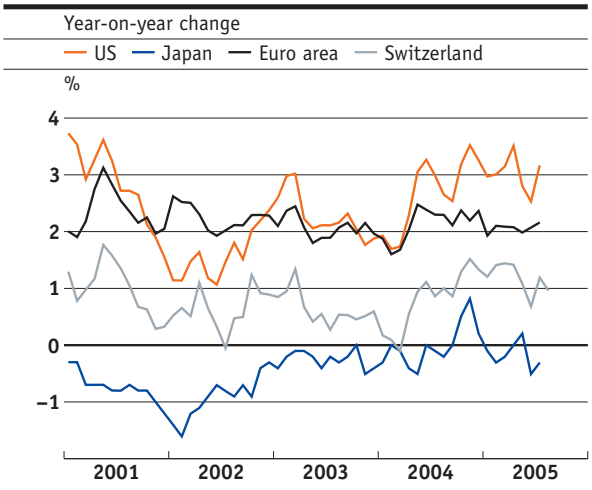
The rate of inflation measured by consumer prices rose slightly in most industrialised countries. The rise can primarily be attributed to higher fuel and heating oil prices. In the US, the inflation rate was 3.5% in July compared with 2.8% in May. In the euro area, it increased from 2.0% to 2.2% in the same period. However, the core inflation rates which – among other factors – do not take into account the

Graph 1.3
Oil prices



Sources: Reuters, SNB

Graph 1.4
Consumer prices



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

prices of oil products have been declining slightly since the beginning of the year. In July, core inflation in the US stood at 2.1% and at 1.3% in the euro area. In view of the high oil prices, another slight rise in overall inflation must be expected in the months ahead.

Differing monetary policies

In most countries, monetary policy continued to produce a stimulus to the economy. However, the interest rate differential between countries expanded, reflecting the fact that individual economies are at different stages of the business cycle. The Federal Reserve continued its policy of small upward interest rate steps and lifted the targeted call money rate by another quarter of a percentage point to 3.5% in both June and August. The European Central Bank (ECB) and the Japanese central bank left their monetary policies unchanged, while the Swedish Riksbank and the Bank of England lowered their key rates in June and August by 0.5 and 0.25 percentage points respectively.

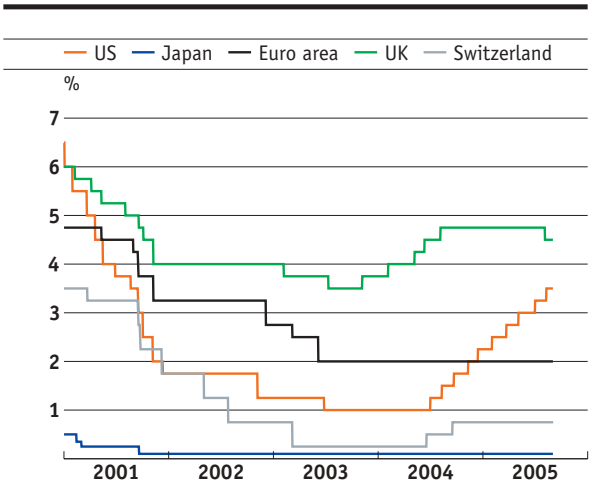
At the beginning of July, the Chinese central bank revaluated the yuan by 2% vis-à-vis the US dollar. At the same time, it removed its currency peg to the dollar, switching to a basket of currencies.

Forecast for the US and Japan more optimistic – prospects for the euro area a little more muted

In the period from May to August, the consensus forecasts for real GDP growth in 2005 were revised slightly upward for the US and Japan and slightly downward for the euro area. For 2006, the consensus forecast was slightly lowered for Japan and the euro area as compared with May, while remaining unchanged for the US.

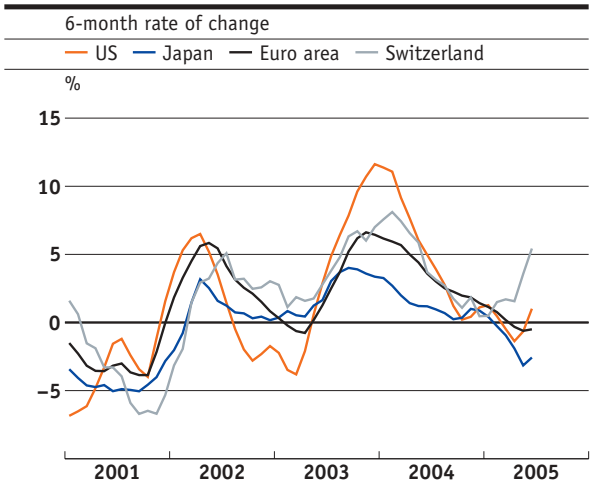
For the September 2005 inflation forecast, the SNB made a slight upward revision to its assumption for the GDP development in the US and a slight downward revision for the EU15 (cf. Table 4.1). The assumptions are largely in line with the consensus forecasts. In the case of the US, they are somewhat more upbeat than the consensus for 2006 and the IMF forecast of 3.3% published in September.

Graph 1.5
Official interest rates



Sources: Thomson Datastream

Graph 1.6
OECD composite leading indicators



Source: OECD

Consensus forecasts

Table 1.1

	Economic growth[1]				Inflation[2]			
	May		August		May		August	
	2005	2006	2005	2006	2005	2006	2005	2006
United States	3.4	3.3	3.6	3.3	2.8	2.5	3.0	2.5
Japan	1.0	1.7	1.6	1.5	−0.1	−0.2	−0.2	0.2
Euro area	1.5	1.9	1.3	1.7	1.8	1.7	2.0	1.7
Germany	0.8	1.4	0.9	1.3	1.4	1.3	1.7	1.5
France	1.9	2.1	1.6	2.0	1.7	1.6	1.7	1.6
Italy	0.9	1.6	−0.2	1.2	2.0	1.9	2.0	1.9
United Kingdom	2.5	2.3	2.0	2.2	1.8	1.9	1.9	1.9
Switzerland	1.3	1.8	1.1	1.6	1.1	1.1	1.2	1.0

1 Real GDP, year-on-year change in percent
2 Consumer prices, year-on-year change in percent
Source: Consensus Forecasts: May, August 2005 Survey. Consensus forecasts are monthly surveys conducted among over 240 leading companies and economic research institutes in more than 20 countries, covering predictions for the expected development of GDP, prices, interest rates and other economic indicators. The results are published by Consensus Economics Inc., London.

2 Development of the Swiss economy

2.1 Aggregate demand and output

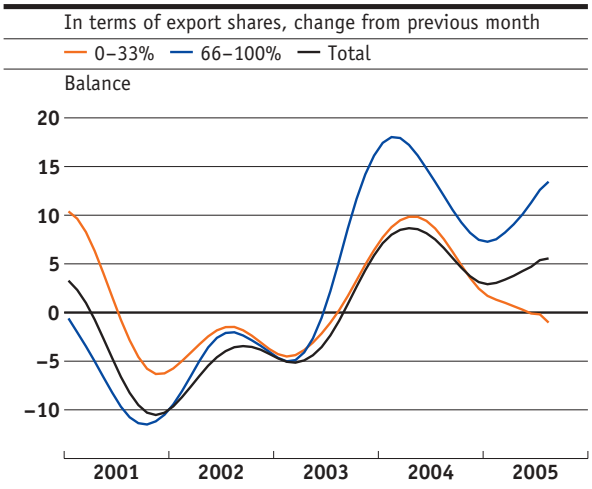
Vigorous increase in demand

In the second quarter of 2005, the Swiss economy overcame the economic weakness experienced in the 2004–2005 winter half-year. According to estimates by the State Secretariat for Economic Affairs (seco), real GDP rose by 1.1% with respect to the previous period, but also year-on-year. Consequently, the growth rate equalled the revised figure for the first quarter, which is now considerably higher than originally indicated. Most components of demand rose faster than in the first quarter, with the exception of inventories. These were reduced substantially, and thus had a dampening effect on economic growth.

Particularly noteworthy was the surge in domestic demand (excluding inventories), which recorded a growth rate of 4.8% – double that of the first quarter. Construction investment made a significant contribution, recovering from two quarters of sluggish performance attributable in part to weather conditions. Equipment investment remained restrained, but private consumption also made a substantial contribution to growth, while the strong recovery in goods exports had an even greater impact. The marked rise in aggregate demand (excluding inventories) was reflected in a renewed increase in imports, but since these rose less steeply than exports, the contribution of foreign trade to growth was positive overall.

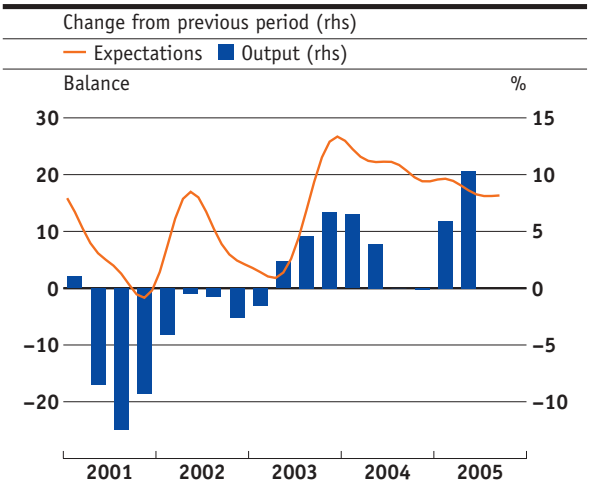
At the end of August, the Swiss Federal Statistical Office (SFSO) published its provisional national accounts for the year 2004. These showed a 2.1% real GDP growth rate for 2004, which was 0.4 percentage points higher than the figure obtained on the basis of seco's quarterly estimates. Subsequently, seco adjusted its quarterly estimates, with most of the changes affecting the GDP figures for 2003.

Graph 2.1
New orders in manufacturing



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

Graph 2.2
Manufacturing output



Sources: SFSO, KOF/FIT

Real GDP and components Table 2.1

Year-on-year growth rates, annualised

	2001	2002	2003	2004	2003		2004				2005	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Private consumption	2.0	−0.0	0.8	1.4	1.7	1.8	2.8	−0.2	0.4	0.4	3.2	1.8
Government consumption	4.2	1.7	2.2	1.4	3.4	2.1	2.7	−0.2	−2.6	1.0	2.8	2.6
Investment in fixed assets	−3.1	0.3	−1.3	3.3	12.0	9.2	2.7	2.7	3.4	−4.5	−0.6	15.4
Construction	−3.4	2.2	1.8	4.1	9.2	9.6	18.0	−12.8	5.5	−5.5	−0.1	31.0
Equipment	−2.9	−1.1	−3.8	2.7	14.3	8.9	−8.9	18.4	1.7	−3.6	−0.9	3.3
Domestic final demand	**1.0**	**0.3**	**0.5**	**1.8**	**4.1**	**3.5**	**2.8**	**0.5**	**0.7**	**−0.7**	**2.3**	**4.8**
Domestic demand	**2.3**	**−0.5**	**0.4**	**1.0**	**1.9**	**3.3**	**−3.6**	**6.1**	**3.5**	**−5.3**	**5.8**	**−2.8**
Total exports	0.2	−0.7	−0.5	8.9	12.7	13.2	17.9	−2.1	3.8	7.2	−8.8	25.5
Goods	1.4	1.1	−0.1	7.8	9.6	11.7	18.7	−5.3	6.0	4.4	−6.6	35.0
Excluding valuables[1]	3.7	0.4	0.7	7.6	10.5	13.8	13.8	−3.2	8.6	0.3	−5.0	38.5
Services	−2.8	−5.7	−1.6	12.0	22.1	17.5	15.6	6.7	−1.6	14.6	−14.2	3.0
Aggregate demand	**1.7**	**−0.5**	**0.1**	**3.5**	**5.2**	**6.4**	**3.1**	**3.3**	**3.6**	**−1.3**	**0.7**	**5.9**
Total imports	3.2	−2.6	1.3	7.4	12.7	14.7	6.5	6.7	7.0	−3.9	0.0	19.2
Goods	1.8	−3.0	2.1	6.4	13.2	17.3	−1.8	9.3	10.4	−5.9	−3.1	23.9
Excluding valuables[1]	1.6	−2.2	2.7	6.6	22.9	13.1	6.2	0.7	14.2	−6.1	−0.4	14.3
Services	11.2	−0.7	−2.7	12.0	10.0	2.3	56.4	−4.0	−7.7	6.1	15.1	0.1
GDP	**1.0**	**0.3**	**−0.3**	**2.1**	**2.6**	**3.3**	**1.9**	**2.0**	**2.3**	**−0.2**	**1.0**	**1.1**

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

Source: seco

Upturn in the manufacturing sector

The emergence from the period of lacklustre growth was also felt in the manufacturing sector, which recorded steady improvements in the second quarter. The various surveys showed a considerable upturn in orders received, and the order books filled up. As a result, inventories were reduced and production increased. Data on manufacturing output published by the SFSO in September further substantiated this picture. In the second quarter, manufacturing output was 10% up on the first quarter figure, and exceeded the year-earlier level by 4.7%.

Bright outlook

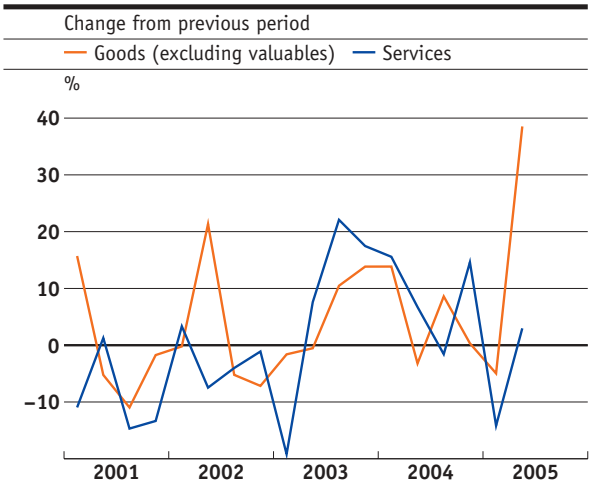
Survey results for July show that the recovery in the manufacturing sector continued into the beginning of the third quarter. However, a further acceleration in growth appears unlikely at present, since the surveyed companies were rather more restrained in their assessment of the short-term outlook than they had been in the previous months.

The talks which the SNB delegates for regional economic relations held with about 140 representatives of different business sectors and industries between June and August indicated that the economic situation would remain favourable. While the improvement registered in the previous round of talks was maintained, the differences between the different industries were less pronounced. Consequently, the economic recovery appears to have broadened (cf. "The economic situation from the vantage point of the delegates for regional economic relations", Quarterly Bulletin 3/2005).

GDP forecast for 2005

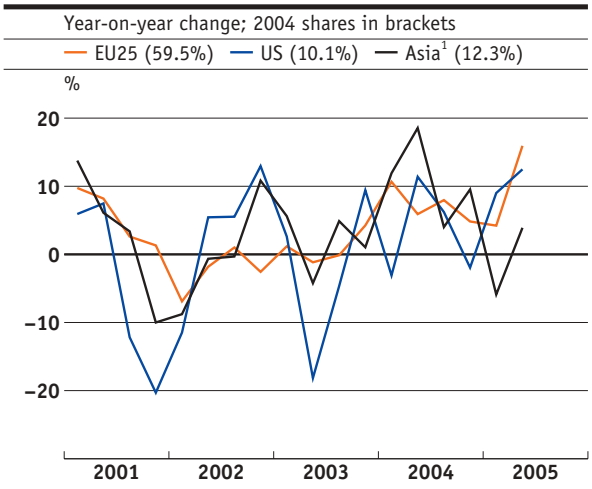
The SNB expects the economy to continue its recovery in the second half of 2005. Certainly construction investments and exports cannot be expected to maintain the vigorous growth recorded in the second quarter. It is also possible that the extensive damage caused by adverse weather conditions in central Switzerland and the canton of Berne will have a negative impact on aggregate growth for a while. However, economic developments in the most important export markets – particularly in Europe – are a good sign, despite the risk to economic activity posed by the considerable increase in the price of oil. The SNB expects that GDP growth will average around 1% for 2005 as a whole.

Graph 2.3
Exports



Source: seco

Graph 2.4
Exports by trading partners



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

Strong export growth

In the second quarter, real exports rose strongly following a decline in the previous quarter. Goods exports were up almost 40%, while year-on-year the growth rate leapt from 0% to 9.4%. Exports of services – which account for slightly over a quarter of total exports – also recovered. Income from tourism grew particularly strongly, as did income from transportation and bank commissions.

A breakdown of goods exports figures shows that exports of consumer goods (watches, chemicals and pharmaceuticals) and capital goods (industrial machinery and precision instruments) recorded particularly strong increases, while the growth in demand for Swiss semi-finished goods was more moderate. Following the enormous increase in the second quarter, exports lost some momentum in July. Although exports of semi-finished goods grew a little more strongly, exports of capital and consumer goods in particular slowed.

The nominal level of exports – used when grouping exports by region – was up by more or less the same amount for the US, Europe and Asia. The growth in exports to Germany, France and Italy, which account for some 40% of total Swiss exports when taken together, was slightly below the average figure for the EU as a whole. However, this was compensated by strong growth in exports to the United Kingdom, the Benelux states and the new members of the EU. Exports to the OPEC states and Russia also continued to expand strongly; as oil producers, these countries benefit from rising energy prices.

Imports increase

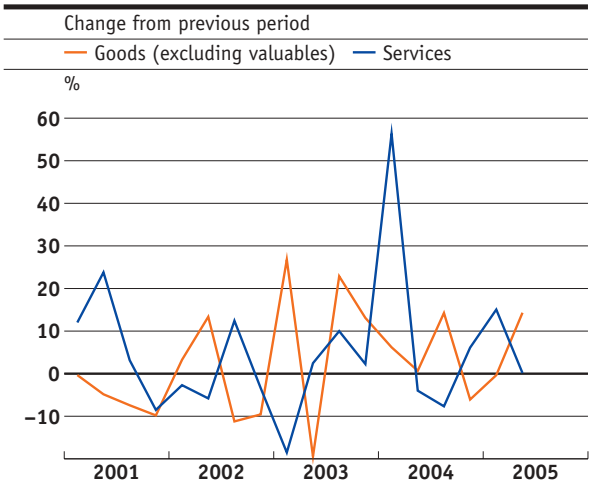
Like exports, real imports recorded considerable growth in the second quarter following a weak performance in the previous two quarters. This increase was entirely due to a marked expansion in goods imports, while imports of services stagnated.

The growth in imports of raw materials and semi-finished goods, as also of capital goods, was particularly robust. Intermediate goods for the export industry made up a large percentage of this growth, which suggests continued strength in exports. By contrast, the level of consumer goods imports remained unchanged quarter-on-quarter, while imports of energy sources diminished due to the substantial rise in prices. In July, imports also lost momentum. The upward trend was maintained for raw materials and semi-manufactured goods, but the pace of expansion slowed considerably for capital goods. By then, consumer goods imports were also dwindling, while energy sources experienced an even sharper decline.

Modest short-term prospects for private consumption but improvement in 2006

In the second quarter, private consumption continued to grow, following a steep increase in the revised data for the first quarter. The figure was 1.8% above the previous quarter, thereby exceeding the previous year's level by 1.5%. Goods consumption provided the strongest impetus. In real terms, retail turnover advanced strongly in the second quarter due to good business results in June, and exceeded the

Graph 2.5
Imports



Source: seco

previous year's level by 1.8%. However, not all areas benefited from the rise in demand. This applied to consumer durables in particular. Although the upward trend strengthened for household furnishings, car imports continued to drop.

The situation in domestic tourism is difficult to assess at present due to the fact that the accommodation statistics recently reintroduced by the SFSO do not yet permit reliable comparisons with previous quarters or years. According to the KOF/FIT second-quarter survey of the hospitality industry, the growth in the number of overnight stays by visitors from Switzerland was a little stronger than in the previous quarter. Talks conducted by SNB delegates for regional economic relations with representatives of the industry also suggested brisker activity in the tourism sector.

The results of the seco consumer survey in July were less favourable than in the previous survey in April. The consumer sentiment index dropped to –15 points (–9 points in April). Household expectations with regard to the general economic situation deteriorated, although their assessment of their personal financial situation was only marginally more pessimistic than in April. However, households continued to express grave concerns about job security.

In view of this development, another dip in the growth of private consumption may be expected in the second half of the year, but next year households are likely to benefit from a greater degree of financial leeway. The SNB anticipates that the real income of wage and salary earners will rise by 1.3% in 2006 due to somewhat more favourable employment prospects. This would exceed the 0.5% anticipated for this year. The moderate upswing in private sector spending is therefore likely to continue next year.

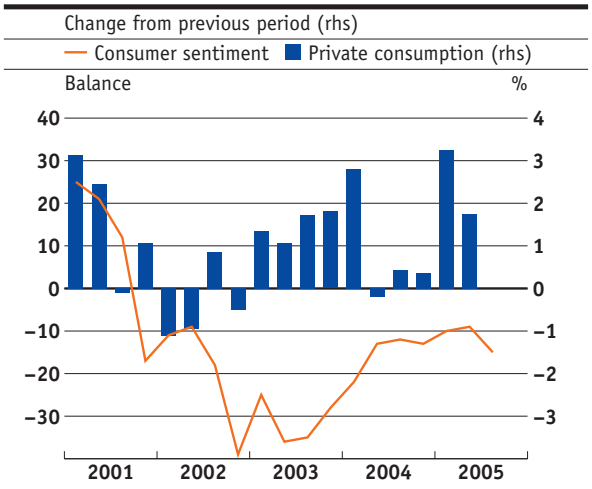
Investment in construction grows strongly

Following a pronounced period of weakness in the 2004–2005 winter half-year, construction investment recovered in the second quarter, exceeding the year-back figure by 7.0%. Growth was experienced in all areas of construction, but most especially in residential construction, where the number of apartments under construction rose almost 10% year-on-year. According to figures published by the Swiss contractors' association, investments in other areas of building construction as well as in the civil engineering sector also increased.

In view of the solid backlog of work, residential investments are likely to continue expanding into 2006. Subsequently, they will probably slow. On the one hand, this is because the pent-up demand accumulated during the period of declining residential construction activity between 1995 and 2002 is likely to have been satisfied. This development is reflected in the gradual climb in the number of vacant properties.[1] On the other hand, rising construction costs will probably reduce the demand for additional residential space, which explains why residential building permits declined in the first half of 2005. This is a gap that other areas of construction are unlikely to fill. Commercial construction, which benefited temporarily from an expansion in sales-floor area, continues to

1 Source: Wüest & Partner

Graph 2.6
Private consumption



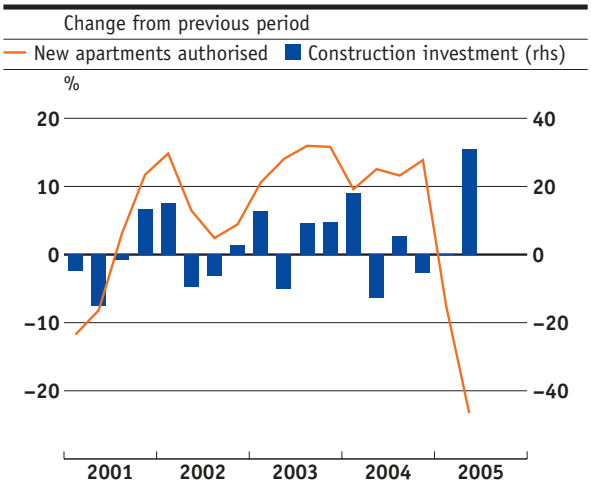
Source: seco

suffer from a high level of vacancies in office and commercial premises as well as the low level of corporate investment activity. The continued pressure on the public sector to economise means that inputs from civil engineering and public sector building construction projects are likely to remain relatively minor.

Moderate revival in equipment investment

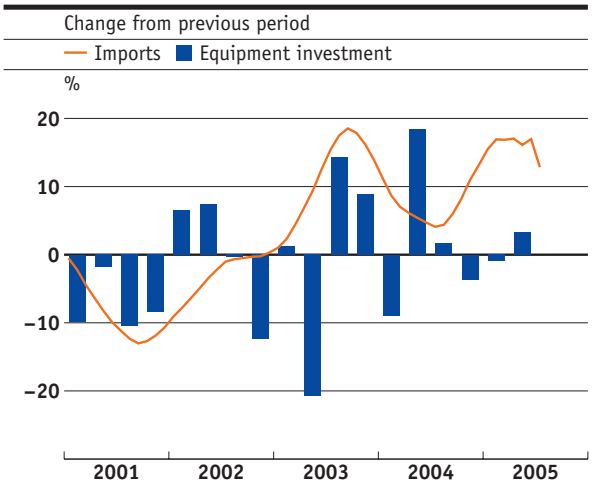
In the second quarter, investment in equipment rose slightly for the first time since the third quarter of 2004, although year-on-year it remained unchanged. Investment activities are likely to remain muted in the quarters to come. Company production capacity remains adequate. According to the second-quarter KOF survey, the number of companies reporting insufficient capacity have dropped, and are now at a low level.

Graph 2.7
Construction



Sources: SFSO, seco

Graph 2.8
Equipment



Sources: FCA, seco

2.2 Capacity utilisation

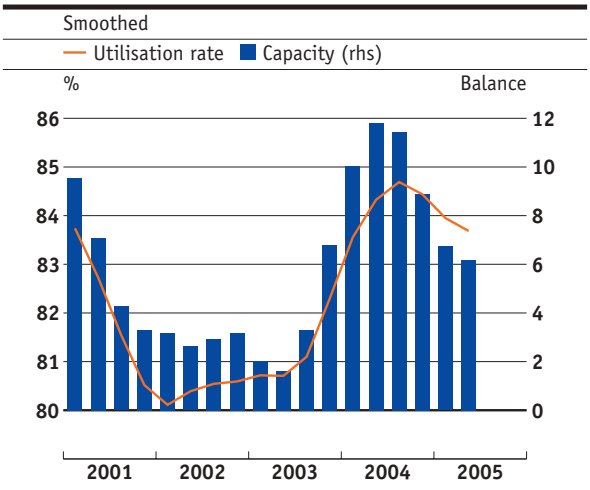
Slight decline in industrial capacity utilisation

According to the KOF/FIT survey conducted in July 2005, the utilisation of technical capacity in manufacturing again declined quarter-on-quarter. However, because industrial output was gathering pace, the drop was only minor and, at 83.9%, capacity utilisation was only just below its long-term average.

Aggregate output gap unchanged

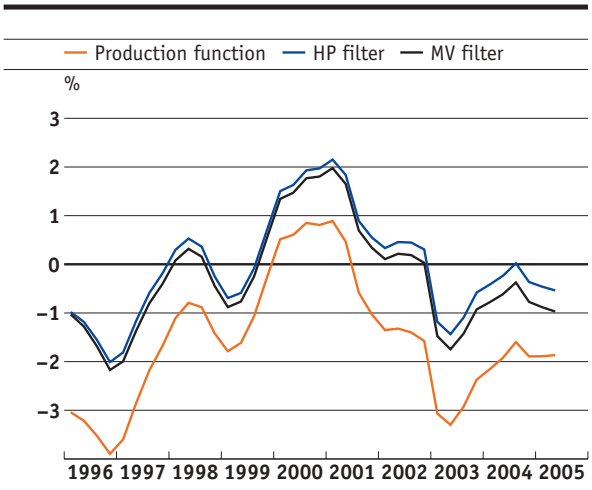
While the utilisation of technical capacity is close to normal by historical standards, the labour market is experiencing a sustained period of under-utilisation. This is reflected in the output gap, which is defined as the difference between real GDP and (estimated) production potential. Three estimates of this output gap can be seen in graph 2.10, each calculated according to a different method (production function, Hodrick-Prescott filter (HP) and multivariate filter (MV)). Since movements in real GDP in the second quarter were more or less in line with production potential, the output gap remained largely unchanged as compared to the previous quarter.

Graph 2.9
Technical capacity in manufacturing



Source: KOF/FIT

Graph 2.10
Output gap



Source: SNB

2.3 Labour market

Slight increase in employment

The economic recovery in the second quarter was also reflected in the employment situation. The number of employed persons rose by 0.4% quarter-on-quarter, and by 0.2% year-on-year. This followed a steady decline since mid-2004. Broken down by full-time or part-time employment, the former continued to drop while the upward trend for the latter also persisted. For the first time since the beginning of 2001, however, the total hours worked did not decline versus the previous quarter.

Employment in the construction industry rose particularly strongly in the second quarter (0.9%), as did employment in manufacturing (1.1%). However, the services sector registered only a modest increase in the number of jobs (0.3%); this was limited to public administration and to educational and healthcare services. By contrast, jobs were again shed in important parts of the private services sector. These included, in particular, banking and the retail trade. In both of these industries, employment fell by almost 3% year-on-year.

Unemployment rate unchanged

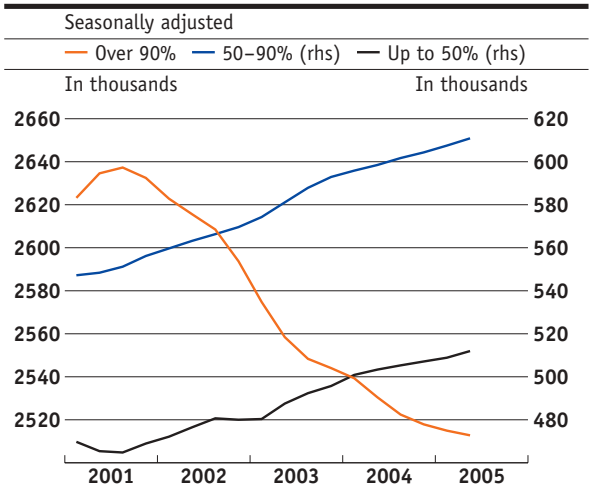
The unemployment rate fell from 3.8% to 3.6% between April and August, bringing the number of people registered as unemployed down to 142,400. Adjusted for seasonal factors, the rate of unemployment was unchanged (3.8%). Similarly, although the number of job seekers declined in the period from April to August, reaching 210,100 or 5.3%, the seasonally-adjusted figure remained at 5.5%.

Broken down by region, the seasonally-adjusted unemployment rate was unchanged in German-speaking Switzerland, at 3.3%. In French-speaking Switzerland it slipped to 5.1%, while in the Italian-speaking canton of Ticino it edged up to 4.9%.

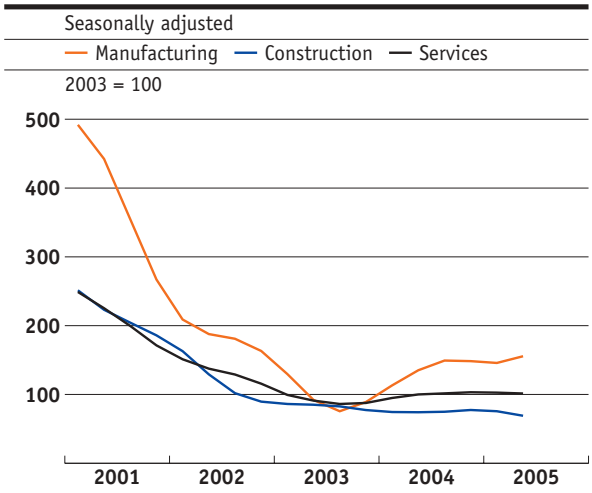
No lasting improvement yet in sight

Although the employment situation appeared slightly brighter in the second quarter, no immediate change is in sight. This is evident from the employment indicators, with neither the vacancies index published by the SFSO nor the Manpower Index (which records space devoted to job advertisements in newspapers) giving any hint of improvement, and both persisting at a very low level to date. In view of the annual increase in labour productivity, which amounts to almost 1.5%, GDP growth would have to substantially exceed 1.5% for employment to rise noticeably and unemployment to decline.

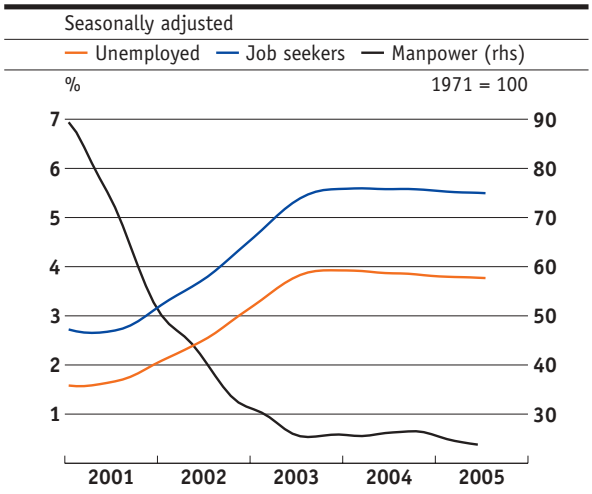
Graph 2.11
Full-time and part-time employment



Graph 2.12
Vacancy index



Graph 2.13
Unemployment rates and vacancies



Graphs 2.11 and 2.12:
Source: SFSO

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

2.4 Goods prices

Lower price rises for producer and import goods

The knock-on inflationary pressure exerted by producer and import prices on consumer prices weakened further between April and July. Petroleum products were an exception, with prices climbing more steeply than in the previous year. Advances in the prices of producer goods in July were 0.2 percentage points down on the figures for April, at 0.6% year-on-year. Import price increases were also lower, declining from 2.2% to 2.0%.

Broken down by type of good, the fall in prices continued for agricultural produce although at a slightly slower pace (−0.6% in July). In the case of intermediate goods, the rate of price increases was halved, at 0.6%, due not least to a further slowdown in metal price increases. While the prices of consumer and capital goods were almost unchanged, those for energy sources – which include gas and electricity as well as petroleum products – continued to climb steeply (up 17.1%).

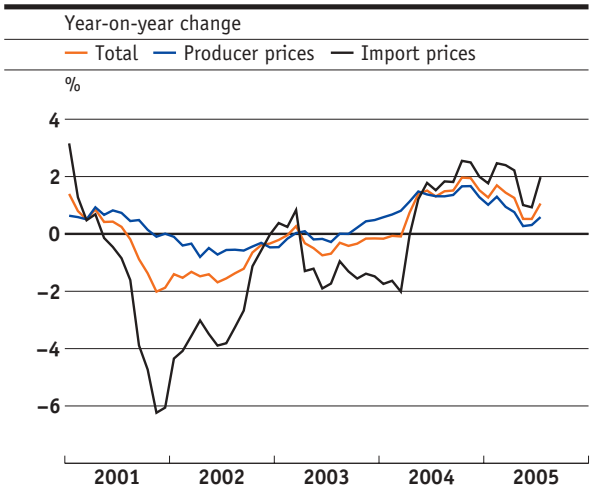
Inflation at consumer level steady overall

As forecast by the SNB in June 2005, annual inflation (as measured by the national consumer price index, CPI) hovered around 1% between May and August. The August figure was 1.0%, which was fractionally below the figure for May (1.1%). The major inflationary impetus came from oil products included in the consumer price index (fuel and heating oil), which on average accounted for two-thirds of all consumer inflation between May and August. If these components are excluded, the annual inflation figure dropped from 0.6% in May to 0.2% in August. Almost 40% of the goods in the commodities basket continued to show a declining price trend.

Further decline in domestic inflation

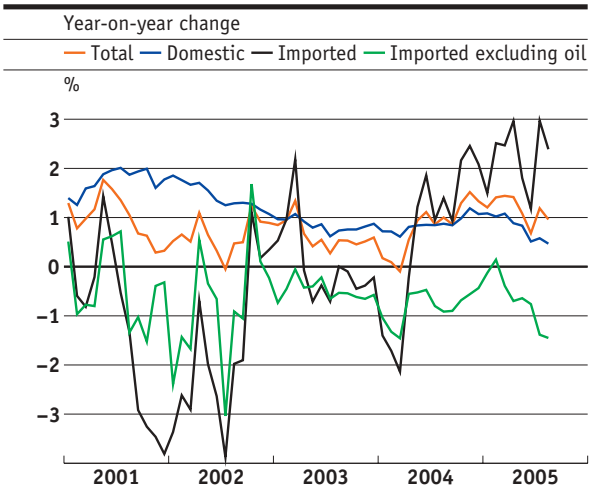
Annual inflation for domestic goods and services retreated from 0.8% to 0.5% between May and August. This was chiefly due to diminishing price pressure in private services, although a number of special factors also played a role. For example, although the quarterly rentals index was up 0.3% in August, a statistical baseline effect (update of the previous year's sample) meant that, year-on-year, the rate of rental price increases dropped by 0.5 percentage points to 1.0%. In the case of the remaining private services, where prices were up by only 0.3% (year-back figure: 1.0%), the most important contributory factors were a reduction in the rates charged for telecommunications services and a lower rate of fare increases for air travel. By contrast, public services experienced a faster rise in prices – up by 0.2 percentage points to 1.5% – due to increased hospital charges, in particular. The year-on-year decline in the prices of domestic goods remained almost unchanged (−0.5% in August). Once again, the prices of electricity and of numerous foodstuffs dropped.

Graph 2.14
Prices of total supply



Source: SFSO

Graph 2.15
CPI: Domestic and imported goods and services



Sources: SFSO, SNB

Import inflation higher due to oil

In the wake of higher oil prices, annual inflation in imported consumer goods rose from 1.8% to 2.4% between May and August. In August, the prices of oil components in the CPI exceeded their year-on-year level by 18.2%, as compared to 13.2% in May. By contrast, the prices of other imported goods continued to fall, and by August were 1.4% below the year-back level. In May the year-on-year decline had been 0.6%. The slippage in prices was particularly marked in consumer electronics and certain items of clothing.

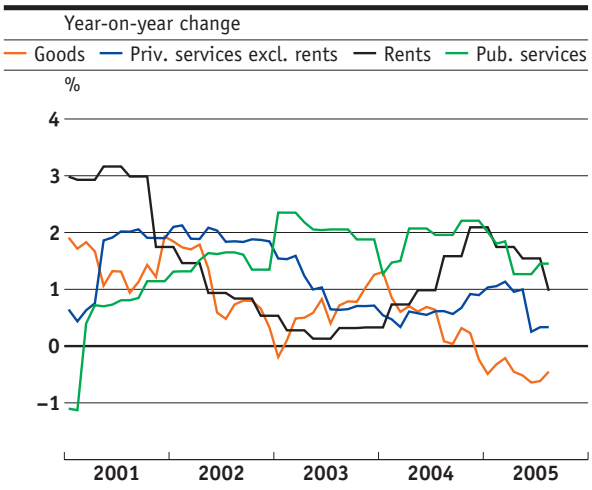
SNB core inflation retreats

Inflation, as measured by the national consumer price index (CPI), is subject to numerous short-term influences which may distort perceptions of the general, long-term price trend. The SNB therefore computes a measure for the core inflation rate which, for any given month, excludes from the consumer price index those goods with the highest and lowest annual inflation rates (15% in each case). In August, core inflation computed in this manner amounted to 0.6%, which was below the level for May (0.8%). A slightly flatter curve for the general level of prices is reflected in the movements of this core inflation variable.

Significant reduction in SFSO's core inflation rates

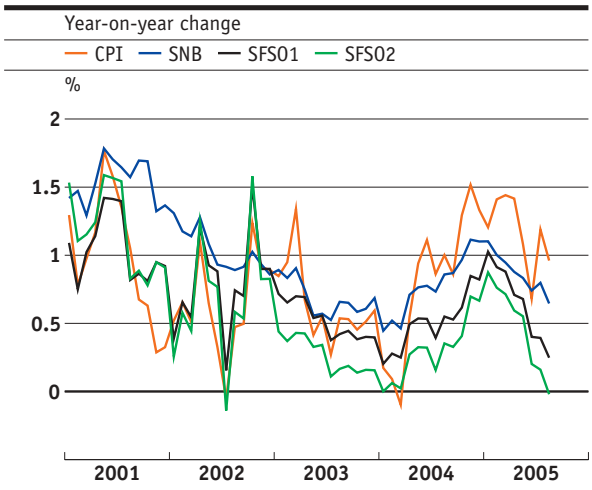
Unlike the core inflation rate calculated by the SNB, each of the two core inflation rates calculated by the SFSO excludes a fixed group of goods from the commodities basket. In the case of core inflation 1, food, beverages, tobacco, seasonal products, energy and fuels are consistently excluded in every period. Core inflation 2 additionally excludes products with administered prices. From May to August, the two SFSO core inflation rates both declined, by 0.5% for core inflation 1 and by 0.6% for core inflation 2. This took core inflation 1 to 0.2%, while core inflation 2 was 0.0%. The striking difference between the SNB core inflation rate and the rates calculated by the SFSO is largely attributable to price cuts for electronic goods, as well as for clothing and shoes. In the SNB calculation, these items are regarded as extraordinary effects which serve to dampen inflation. They are therefore excluded from the commodities basket, but are retained in the core inflation rates calculated by the SFSO.

Graph 2.16
CPI: Domestic goods and services



Sources: SFSO, SNB

Graph 2.17
Core inflation



Sources: SFSO, SNB

National consumer price index and components Table 2.2

Year-on-year change in percent

	2004	2004 Q4	2005 Q1	Q2	May	June	July	August
Overall CPI	**0.8**	**1.4**	**1.4**	**1.1**	**1.1**	**0.7**	**1.2**	**1.0**
Domestic goods and services	0.9	1.1	1.1	0.7	0.8	0.5	0.6	0.5
Goods	0.5	0.1	−0.3	−0.5	−0.5	−0.6	−0.6	−0.5
Services	1.0	1.4	1.5	1.1	1.2	0.8	0.9	0.7
Private services excluding rents	0.6	0.8	1.1	0.7	1.0	0.3	0.3	0.3
Rents	1.2	1.9	1.9	1.6	1.5	1.5	1.5	1.0
Public services	1.9	2.2	1.9	1.3	1.3	1.3	1.5	1.5
Imported goods and services	0.6	2.2	2.2	2.0	1.8	1.2	3.0	2.4
Excluding oil products	−0.8	−0.6	−0.1	−0.7	−0.6	−0.8	−1.4	−1.4
Oil products	9.3	19.2	14.0	14.7	13.2	9.7	22.9	18.2

Sources: SFSO, SNB

3 Monetary development

3.1 Interest rates

Money market rates unchanged

At its monetary policy assessment in June 2005, the National Bank decided to leave the target range for the three-month Libor rate unchanged at 0.25–1.25%. It announced that it would be aiming for the middle of the target range, i.e. 0.75%. The decision to maintain an expansionary monetary policy was based on three major considerations. First of all, the recovery in the economy has been delayed. Simultaneously, medium-term inflation prospects – as the second factor – have exhibited an improvement. The third consideration is the fact that increasing oil prices are making it more difficult to assess the economic outlook.

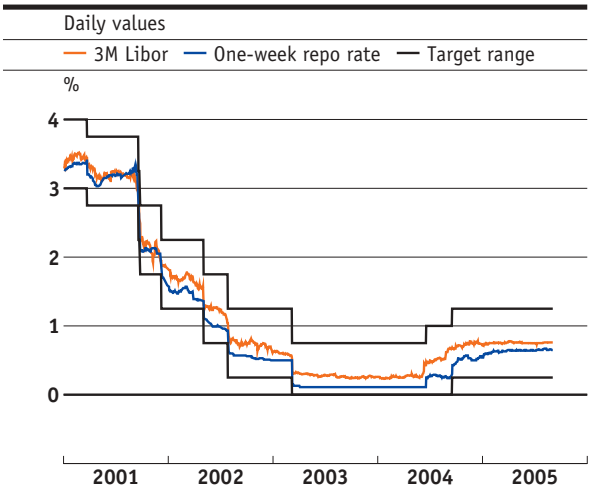
Between mid-June and mid-September, there were only minor fluctuations in the three-month Libor rate around the 0.75% target. As usual, repo rates were used to guide three-month Libor. Most repo transactions had a one-week maturity and their rates ranged from 0.64% to 0.67%.

Rise in futures rates

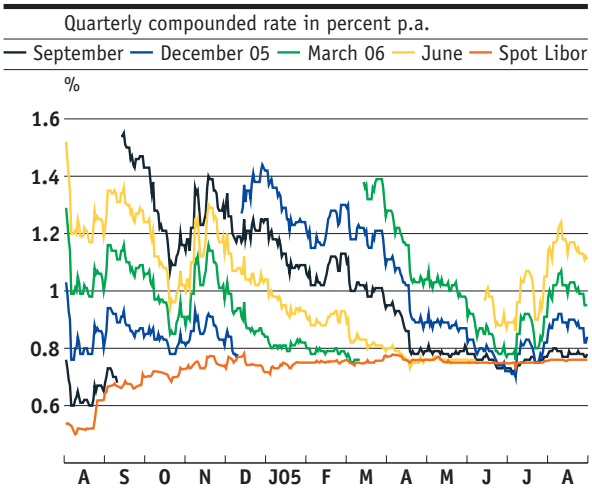
By and large, financial markets assumed that the SNB would not change the three-month Libor target range in the short term. Although futures rates increased from July to the beginning of August, part of this rise had already been offset by September. Interest rate futures with maturities shortly after the 15 September monetary policy assessment rose only marginally above 0.75%. However, interest rate futures for December 2005 contracts, as well as for March and June 2006 contracts, are higher, suggesting that in the medium term the markets anticipate higher short-term interest rates (Graph 3.2).

There is relatively little uncertainty among financial market participants with regard to interest rate movements to mid-December, as is evident from the difference between actual interest rate futures and the expected three-month rates generated by an interest rate structure model. In terms of the expectations as at 8 August, this difference amounted to only seven basis points for the period shortly after the mid-December monetary policy assessment, suggesting that the risk premium is low (Graph 3.3).

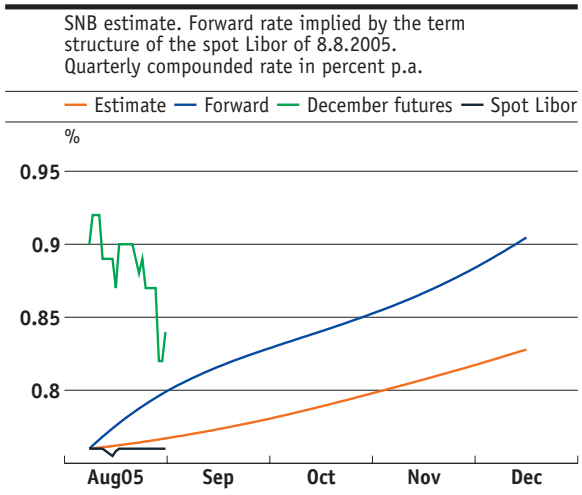
Graph 3.1
Money market rates



Graph 3.2
Three-month interest rate futures



Graph 3.3
Anticipated Swiss three-month interest rate



Graphs 3.1, 3.2, 3.3:
Source: SNB

Variation in short-term interest rate movements

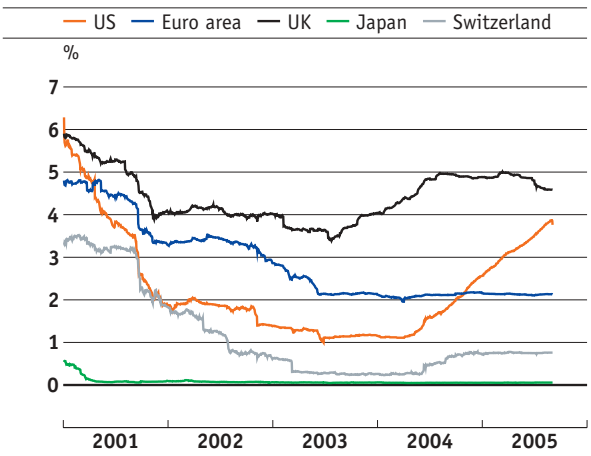
As in Switzerland, short-term interest rates in the euro area remained by and large unchanged. Consequently, there was almost no change in the interest rate differential between short-term investments in Swiss francs and those in euros, which amounted to 1.38 percentage points in mid-September. By contrast, the US Fed continued raising its key interest rates on a step-by-step basis. Taking the three-month Libor as the point of reference, the interest rate differential between short-term deposits in USD and those in CHF rose from some 2.7 percentage points in mid-June to 3.11 percentage points in mid-September.

Low long-term interest rates

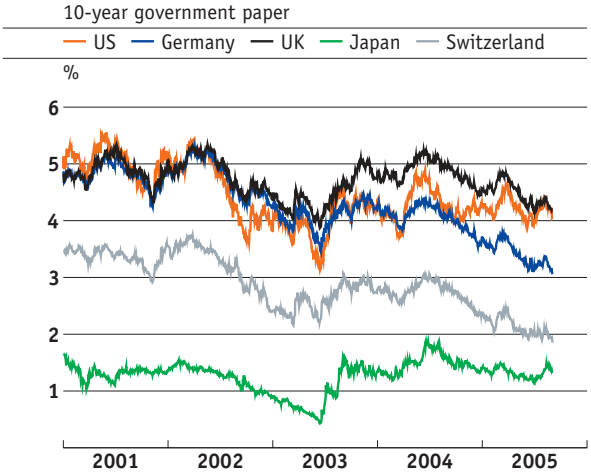
From July to mid-August, long-term yields rose (Graph 3.5). The yield on 10-year US government bonds was up by more than 30 basis points. A similar increase was observed for Germany and Japan, although in these cases the rise was more modest. In Switzerland, yields on 10-year government bonds attained their lowest level in June, at 1.9%, rising only marginally afterwards to slightly over 2%. In the second half of August, there was another downturn, and at the beginning of September, both Swiss and German yields hit another record low. As is evident from graph 3.6, the nominal interest rate curve for discount bonds has flattened out again. In particular, yields in the very long-term maturity segment have given ground.

This low level of long-term yields is probably attributable to a number of different factors. For instance, there is increasing pressure on pension funds and insurance companies to improve their asset/liability management – not least as a result of regulatory requirements. This can generally be achieved by increasing the share of long-term bonds in portfolios. The ensuing rise in demand is driving up bond prices, a development that goes hand-in-hand with a drop in yields. In addition, successful monetary policies over the last few years have stabilised inflation expectations at a low level. As a result, the differential between nominal and real interest rates is minimal and investors require only a modest inflation risk premium. Also worth mentioning are Asian purchases of government bonds denominated in dollars. These are attributable to exchange rate considerations and involve China and Japan, in particular. The resulting pressure on US bond yields is then transmitted to other countries via international

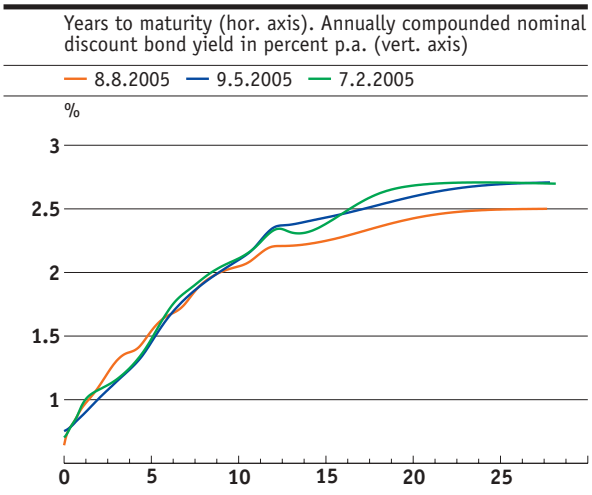
Graph 3.4
International short-term interest rates (three months)



Graph 3.5
Interest rates abroad



Graph 3.6
Term structure of Swiss Confederation bonds



Graphs 3.4 and 3.6:
Source: SNB
Graphs 3.5:
Sources: Thomson Datastream, SNB

interest rate interactions. Finally, the low capital market rates also reflect expectations with regard to future economic growth. As opposed to the climbing real interest rates experienced in periods of strong growth, weak growth tends to be associated with a drop in real rates.

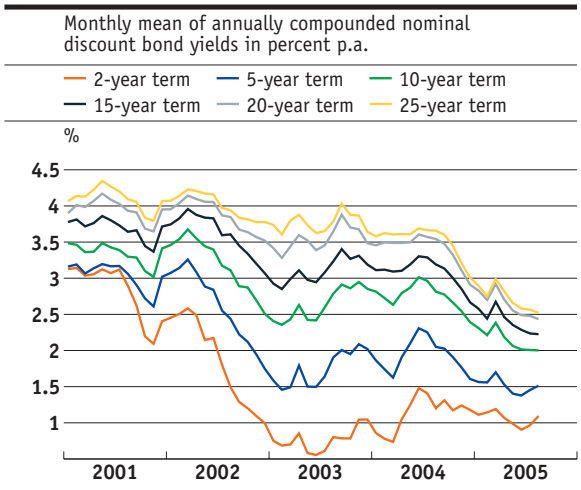
Interest rate spreads narrower

Developments in the financing conditions for bond issuers with different ratings can be illustrated by means of credit spreads. The credit spreads shown in graphs 3.8 and 3.9 represent the difference between the yield on cantonal and corporate bond issues (two different ratings) and the interest paid on corresponding government bonds (cf. Box: "Assignment of bonds to ratings classes", Monetary Policy Report 1/2004, p. 33). All yields relate to discount bonds with a five-year maturity.

The graphs show that the interest rate spread between corporate and government bonds has diminished slightly since the beginning of the year. This applies to both first-class corporate bonds (Graph 3.8) and third-class bonds (Graph 3.9). In the case of the first-class corporate bonds, the credit risk premium (measured by the interest rate spread) dropped from 50 basis points at the beginning of the year to around 40 basis points at the end of August. The credit spread for third-class corporate bonds narrowed from 80 basis points at the beginning of the year to 50 at the end of the review period.

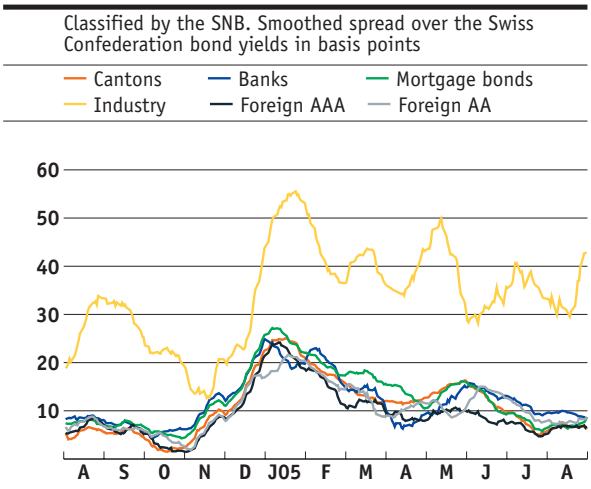
In a phase of economic recovery, the risk of a company being unable to service a loan is considerably lower than at a time of weak or declining growth rates. Consequently, the interest rate spread serves as a leading indicator for economic activity. The narrowing of interest rate spreads observed since the beginning of the year suggests an improvement in the economic outlook.

Graph 3.7
Swiss Confederation bond yields



Source: SNB

Graph 3.8
Five-year spread of Swiss first-class bonds



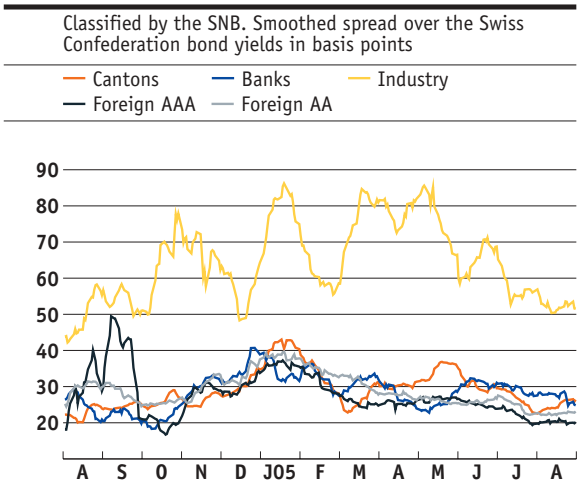
Source: SNB

Short-term real interest rates still negative

Graph 3.10 shows movements in the one-year real interest rate. This interest rate is defined as the difference between the 12-month nominal interest rate and the expected rise in consumer prices during the period in question. Inflation expectations are taken as an average of the forecasts published by a number of different institutions ("Consensus Forecast", May 2005).[2] The real interest rate obtained in this manner was negative in the second quarter of 2005, as it had been in the prior eleven quarters. In the second quarter, it dropped 10 basis points below the level for the previous period, reaching −0.3% in June. Consequently, monetary policy remains expansionary as measured by real short-term interest rates.

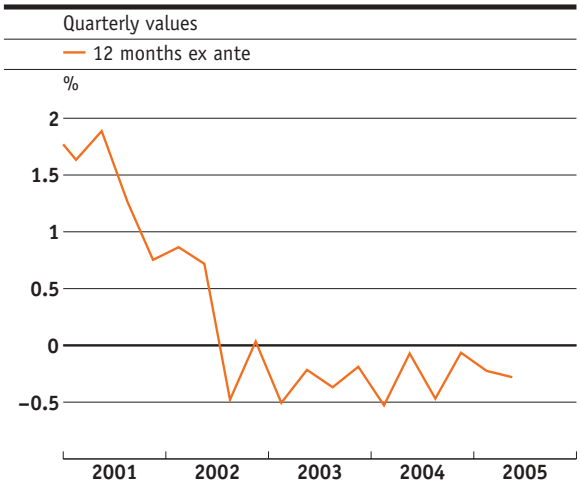
2 Cf. Table 1.1

Graph 3.9
Five-year spread of Swiss third-class bonds



Source: SNB

Graph 3.10
Estimated real interest rate



Source: SNB

3.2 Exchange rates

Dollar declining

In July, the dollar exchange rate against the major currencies remained almost unchanged. Despite comparatively strong growth in the US economy and a widening in the interest rate differential in favour of dollar investments, the dollar again lost ground in August. At the beginning of September, it was fetching CHF 1.22, almost exactly the same as at the beginning of the year. By contrast, the CHF/EUR exchange rate remained more or less stable, and was CHF 1.54 to the euro in early September (Graph 3.11).

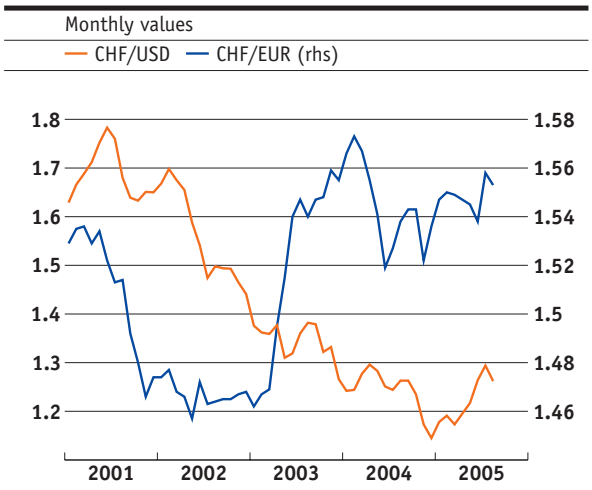
The export-weighted real external value of the Swiss franc against the most important trading partners declined markedly in July. It has been hovering below average since 1999. Since the introduction of the euro, it has fallen by almost 4% against the European single currency (Graph 3.12)

Expansionary monetary conditions

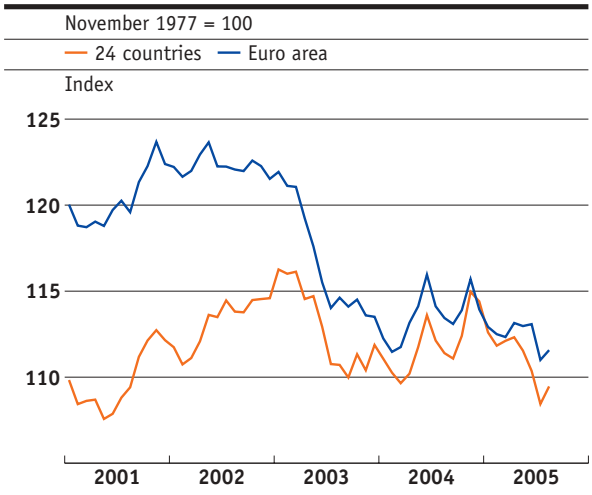
The Monetary Conditions Index (MCI) combines the three-month Libor rate and the nominal trade-weighted external value of the Swiss franc, and provides a measure of the monetary conditions facing the Swiss economy. The two curves in graph 3.13 show different weightings of the two components of the MCI, with one curve showing a 5:1 weighting and the other a 3:1 weighting. A rising curve implies a tightening in monetary conditions (cf. Box: "The Monetary Conditions Index (MCI)", Monetary Policy Report 1/2004, p. 27).

Looking at the MCI curve, it is evident that monetary conditions in Switzerland were relatively expansionary to the end of July. Since short-term interest rates were almost unchanged, this situation reflected the fall in the value of the Swiss franc. The trend turned in August and by the end of the month the MCI was almost back at the zero mark, implying that monetary conditions have not changed since the last monetary policy assessment.

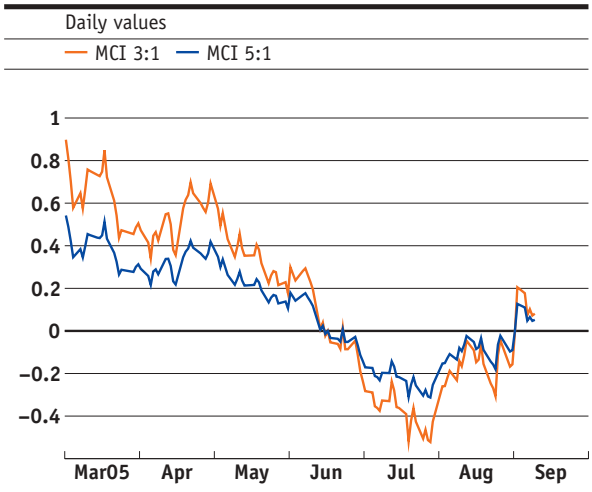
Graph 3.11
Exchange rates



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



Graph 3.13
MCI nominal



Graphs 3.11, 3.12, 3.13:
Source: SNB

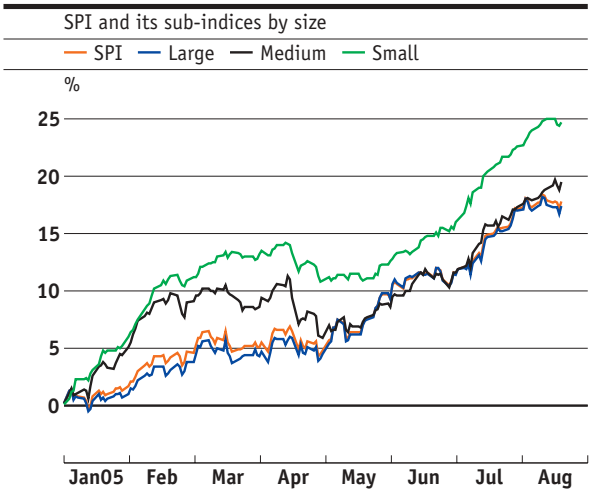
3.3 Share and real estate prices

Stock markets rally

Share prices continued climbing in Europe and Japan during the period under review, whereas US share prices stagnated. The Swiss stock market witnessed one of the strongest increases in Europe, with the Swiss Performance Index (SPI) advancing 17% since the beginning of the year. All sectors, and companies of all different sizes, participated in this improvement. The manufacturing and high-tech sectors recorded the strongest growth, and in general terms it was the share prices of smaller companies that advanced most convincingly.

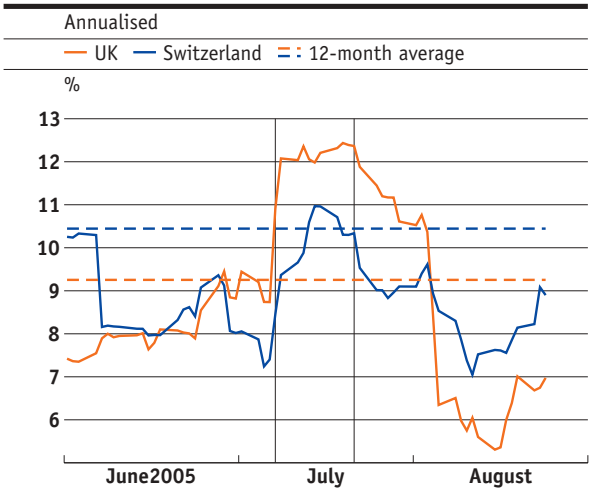
Like most major foreign indices, the SPI attained its highest level since 2002. The London bomb attacks last July had practically no impact on this upward trend. This can be seen by examining index fluctuations, which were minimal by historical standards. Following the first bomb attack, the volatility of British shares rose slightly above the trend of the past twelve months, but as graph 3.15 shows, this increased volatility only persisted for three weeks. By contrast, oil price movements are likely to have cut short the share market rally.

Graph 3.14
Performance of Swiss equities



Source: Swiss Exchange (SWX)

Graph 3.15
Stock price volatility



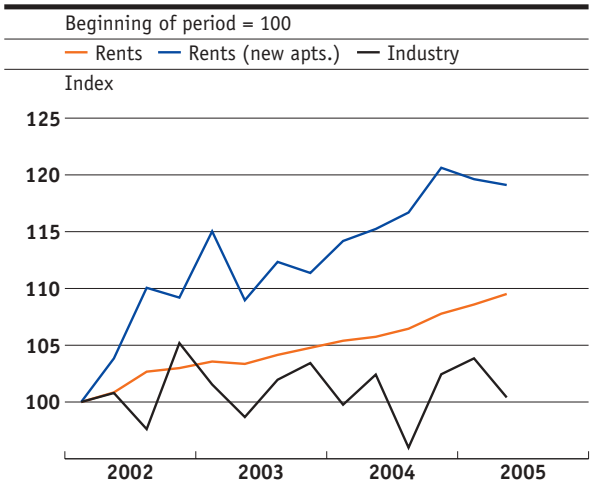
Source: Thomson Datastream
The vertical lines show the dates of both bomb attacks (7 and 21 July).

More stable real estate prices

Real estate price movements exhibited opposing trends in the second quarter. While this period saw an end to the price rises for owner-occupied apartments and single-family houses observed since the beginning of 2000, rents for apartments continued to increase overall (Graph 3.16). Simultaneously, however, rents for new apartments declined for the second time in succession, after having risen constantly since the last quarter in 2003. Assuming that figures relating to new apartments embody the most up-to-date information about the real estate market, this may suggest the beginning of a new trend. However, no new trend is discernable in the case of rents for industrial space, which have held steady since 1996. Meanwhile, office rents also remain unchanged at the level reached in early 2003.

Apart from rents for industrial and office space, Swiss real estate prices have climbed over the past few years, following a substantial decline during the nineties. The rise is probably largely attributable to expansionary monetary policies and the low level of mortgage rates. With respect to further developments in the real estate market, it should be borne in mind that an increase in interest rates could provoke an adjustment in valuations.

Graph 3.16
Rents



Source: Wüest & Partner

3.4 Monetary aggregates

Strong growth in time deposits

In August, M_1 (currency in circulation, sight deposits and transaction accounts) and M_2 (M_1 plus savings deposits) were only slightly above the level of a year ago (0.2%). However, in the same period M_3 (M_2 plus time deposits) recorded vigorous growth (5.6%). This was the result of a massive increase in time deposits (43.4%).

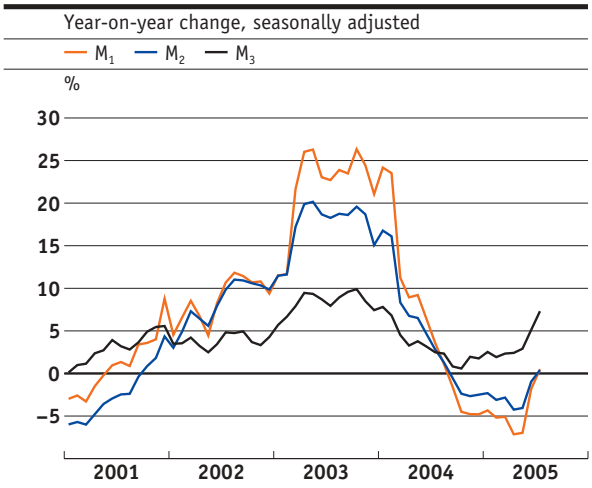
An equilibrium money stock can be calculated on the basis of the transaction volume in the economy and the opportunity costs of holding money. This serves as a benchmark for an appropriate supply of money to the economy (cf. Box: "Money supply growth and inflation", Monetary Policy Report 1/2005, p. 33). If the current money supply exceeds this equilibrium money supply, the economy has excessive liquidity. A money overhang by this definition (ECM concept) entails a risk of higher inflation rates in the subsequent four to six quarters. Graph 3.18 shows the percentage deviations of M_3 money supply from its equilibrium value. In order to take account of the uncertainties linked to the model, two different model variants were estimated. Since the money overhang (ECM) calculated on the basis of these estimates is minimal to non-existent, virtually no price risk can be said to exist during the next one year to eighteen months.

Monetary aggregates[1] Table 3.1

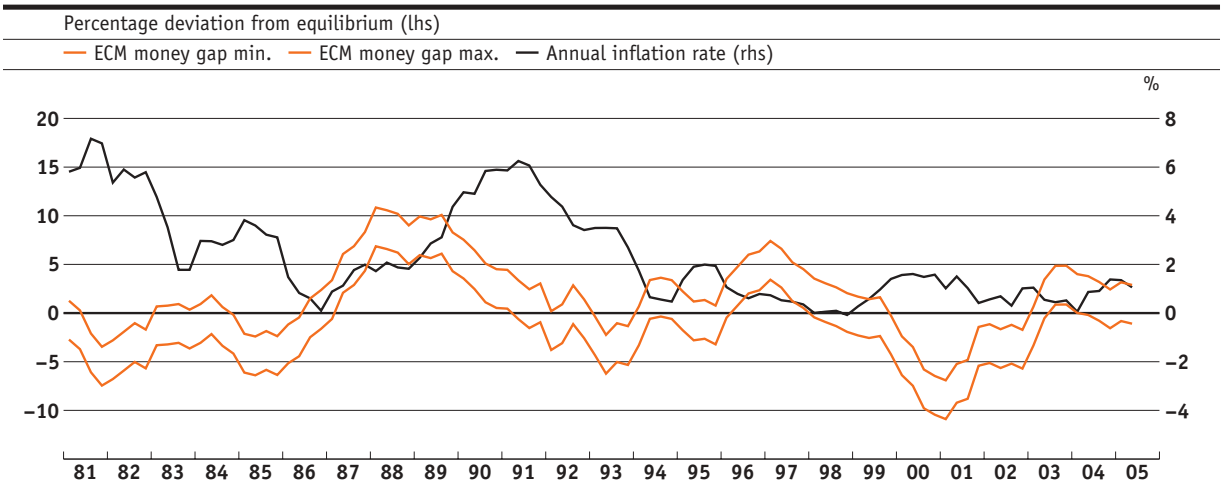
	2003	2004	2004			2005				
			Q2	Q3	Q4	Q1	Q2	June	July	August
Monetary base[2]	**40.4**	**41.7**	**41.7**	**41.1**	**41.8**	**42.1**	**41.6**	**41.4**	**41.2**	**41.3**
Change[3]	*5.3*	*3.2*	*4.5*	*0.2*	*0.7*	*–0.5*	*–0.2*	*–0.6*	*–1.9*	*2.1*
M_1[2]	**273.5**	**288.5**	**295.5**	**281.9**	**279.1**	**283.0**	**279.8**	**285.6**	**283.8**	**283.8**
Change[3]	*21.9*	*5.5*	*8.2*	*1.0*	*–4.8*	*–4.9*	*–5.3*	*–1.8*	*–0.1*	*0.2*
M_2[2]	**475.1**	**495.6**	**503.5**	**488.3**	**485.4**	**491.2**	**488.0**	**493.1**	**490.8**	**491.4**
Change[3]	*17.4*	*4.3*	*6.0*	*1.2*	*–2.6*	*–2.8*	*–3.1*	*–0.9*	*0.1*	*0.2*
M_3[2]	**544.9**	**562.5**	**563.6**	**557.9**	**564.8**	**576.6**	**583.2**	**590.3**	**594.4**	**591.1**
Change[3]	*8.3*	*3.2*	*3.4*	*1.9*	*1.4*	*2.3*	*3.5*	*5.1*	*6.9*	*5.6*

1 1995 definition
2 Level in CHF billions
3 Year-on-year change in percent
Source: SNB

Graph 3.17
Monetary aggregates



Graph 3.18
Money gap and annual inflation rate



Graphs 3.17 and 3.18
Source: SNB

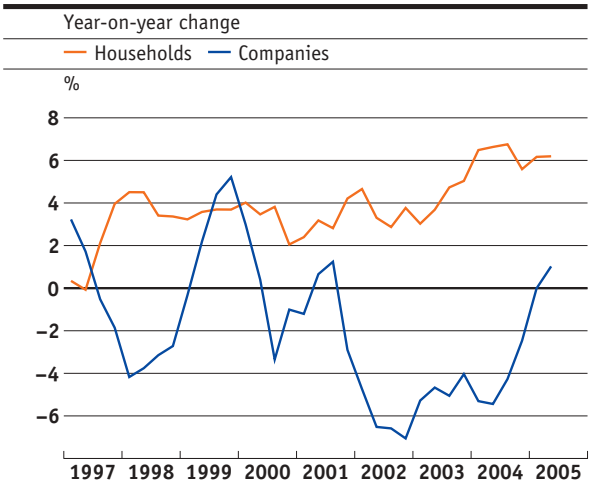
3.5 Loans

Higher growth in lending

In the second quarter, bank loans increased by 3.8% year-on-year. In July, they were 4.4% above their level a year before. Loans to households grew 6.2% in the second quarter, while corporate loans were above their year-earlier level for the first time since mid-2001. The increase in mortgage claims observable since the end of 2002 – most of them against households – continued in the second quarter, with a rise of 5.1%.

Other loans, which have receded continuously since mid-2001, appear to be gradually stabilising. The continued decline in this category of lending is attributable to movements in the unsecured portion of other loans. The secured portion of other loans, by contrast, has trended upwards since 2003. In the second quarter of 2005, other credits again dropped slightly year-on-year, although the growth in secured loans meant that the overall figure for July was 1.0% above the year-back figure.

Graph 3.19
Bank loans



Source: SNB

Bank loans[1]
Year-on-year change in percent

Table 3.2

	2003	2004	2004 Q2	2004 Q3	2004 Q4	2005 Q1	2005 Q2	2005 May	2005 June	2005 July
Total	**2.1**	**3.6**	**3.4**	**4.0**	**3.6**	**3.6**	**3.8**	**3.9**	**3.9**	**4.4**
Mortgage claims	5.6	5.4	5.4	5.4	5.2	5.1	5.1	5.1	5.1	5.2
Other loans	−8.7	−3.1	−3.8	−1.2	−2.6	−1.9	−1.2	−1.2	−0.8	1.0
of which secured	−10.7	3.2	3.5	7.2	4.0	3.5	−0.1	0.3	−2.6	4.0
of which unsecured	−7.4	−7.1	−8.4	−6.6	−6.8	−5.7	−1.9	−2.3	0.4	−1.2

1 Bank balances, reporting entity "parent company", all currencies, Switzerland; annual and quarterly values expressed as averages of month-end values
Source: SNB

4 Inflation forecast of the SNB

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

4.1 Assumptions for global economic development

The inflation forecast of the SNB is embedded in a global economic scenario which the SNB views as the most likely development over the next three years. Table 4.1 shows the major external assumptions as compared with those used at the June forecast.

Acceleration in global economic activity despite higher oil prices

The assumptions on the global economy have changed somewhat from those used in the June assessment. The most important change relates to the price of oil. In the June forecast, it was assumed that the price would drop back slowly from USD 51 per barrel in the second quarter of 2005 to USD 40 per barrel towards the end of the forecast horizon. The new assumption is that it will persist at USD 58 per barrel throughout the forecast period. The higher oil prices have the effect of slightly holding back economic recovery in Europe. Consequently, the assumed growth rates to 2006 are a little lower than in the June forecast. For the US, however, it is assumed that the strength of demand more than compensates the dampening effect of higher oil prices – so much so that GDP growth actually turns out to be slightly stronger than in the June forecast. A USD/EUR exchange rate of 1.21 is assumed, compared with 1.30 in June.

Assumptions for inflation forecasts Table 4.1

	2005	2006	2007
Inflation forecast of September 2005			
GDP US[1]	3.6	3.6	3.4
GDP EU15[1]	1.4	2.0	2.4
Exchange rate USD/EUR[2]	1.25	1.21	1.21
Oil price in USD/barrel[2]	53.3	58.0	58.0
Inflation forecast of June 2005			
GDP US[1]	3.4	3.6	3.4
GDP EU15[1]	1.5	2.1	2.4
Exchange rate USD/EUR[2]	1.30	1.30	1.30
Oil price in USD/barrel[2]	49.0	45.4	42.8

1 Change in percent
2 Level

Box: Inflation forecasting as part of the monetary policy concept

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

It has specified the way in which it exercises this mandate in a three-part monetary policy concept. First, the SNB regards prices as stable when the national consumer price index (CPI) rises by less than 2% per annum. This allows it to take account of the fact that the CPI slightly overstates actual inflation. At the same time, it allows inflation to fluctuate somewhat with the economic cycle. Second, the SNB summarises its assessment of the situation and of the need for monetary policy action in a quarterly inflation forecast. This forecast, which is based on the assumption of a constant short-term interest rate, shows the CPI development expected by the SNB over the next three years. Third, the SNB sets its operational goal in the form of a target range for the three-month Swiss franc Libor rate. The target range provides the SNB with a certain amount of leeway, enabling it to react to unexpected developments in the money and foreign exchange markets without having to change its basic monetary policy course.

4.2 Inflation forecast Q3 2005 to Q2 2008

The inflation forecast is derived from the analysis of different indicators, from model estimates and from the assessment of any special factors. Graph 4.1 shows the September 2005 inflation forecast alongside those made in June and March. The new forecast, which extends from the third quarter of 2005 to the second quarter of 2008, is based on a steady three-month Libor of 0.75%, i.e. the mid-point in the 0.25–1.25% target range which the SNB confirmed for the three-month rate on 15 September 2005.

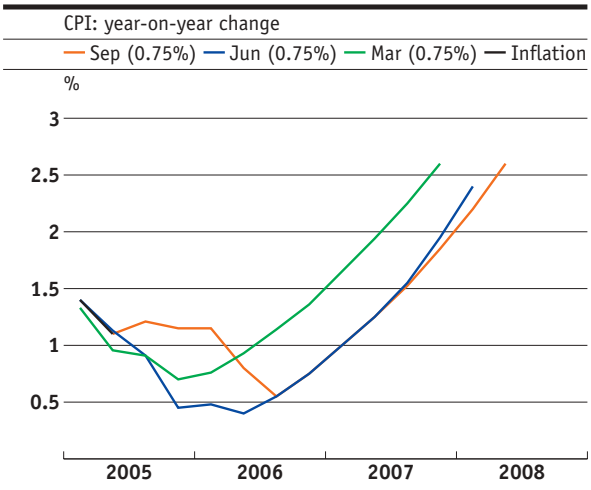
The new inflation forecast is above the June forecast for the period to mid-2006. The substantial increases in oil prices (fuel and heating oil) are responsible for the higher level of inflation expected in the short term. By contrast, advances in the prices of other goods and services prices will again be only minimal. One reason for this situation is the persistence of a negative output gap. In addition, intense competition in the retail trade is imposing sustained price pressure on goods and in particular on basic necessities. Assuming an unchanged three-month Libor of 0.75%, the forecast shows inflation remaining stable at 1.2% from the third quarter of 2005 to the first quarter of 2006. For the current year, an average annual inflation rate of 1.2% is expected.

In the medium term, i.e. for a period of one to two years, the development of inflation hinges on the economic outlook. The SNB still expects real GDP growth for the current year to be around 1%. No second-round effects of the higher oil price are anticipated because of the moderate level of economic activity and the slow recovery in the labour market. Assuming that oil prices stabilise, expected inflation will begin to subside in the first half of 2006 due to the statistical effect of a high baseline in the preceding period. Not until the end of 2006 will the expected level of utilisation of economic resources cause inflation to increase. Should three-month Libor remain steady at 0.75%, the SNB anticipates that annual inflation will amount to 0.8% in 2006, as compared to the forecast of 0.5% in June.

Given an unchanged three-month Libor of 0.75% and the associated high level of liquidity, inflationary pressure would intensify in the longer term. By the end of the forecasting horizon, inflation would reach 2.6%. Thus, from a monetary point of view, the threat to price stability in the longer term remains unchanged.

The SNB intends to maintain the three-month Libor in the vicinity of 0.75%. If the interest rate were to persist at this level over the next three years, the September inflation forecast shows price stability being jeopardised from the end of 2007. If economic recovery is substantiated, the SNB will adjust the expansionary monetary policy it has been pursuing for some considerable time.

Graph 4.1
SNB inflation forecasts: a comparison



Source: 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 September 2005

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

Abstract

The economic picture which emerged from the discussions held by the Swiss National Bank's delegates for regional economic relations with around 140 representatives of various economic sectors and industries is still a positive one. The improvement in the economy registered in the previous round of discussions continued, with differences between sectors tending to decrease. Overall, therefore, the economic recovery appears to have broadened.

The exporters and construction companies surveyed were particularly satisfied. Within the service sector, retailers still faced a difficult business environment, while the tourist sector described the situation as satisfactory. Banks, the transportation industry and other company-related services reported that business was picking up. However, prices were still under a great deal of pressure in all sectors and higher costs could only be passed on to customers in a small number of cases.

On the investment front, boosting productivity remained the top priority, which often meant further rationalisation of production; investment in expansion remained the exception. This applies both to industry and – to an even greater extent – to important service sector industries, in particular banks and retailers. As a result, only a small number of the companies surveyed planned to recruit more staff.

1 Production

Manufacturing

Almost all of the strongly export-oriented manufacturing companies surveyed reported positive to very positive sales trends over the June–August period. In light of their high order backlogs, most took a positive assessment of the outlook between now and the end of the year. The main stimuli continued to come from Asia, the United States and Eastern Europe, whereas most respondents described sales to the big three European economies – Germany, France and Italy – as sluggish to poor.

The watchmaking industry, the chemical/pharmaceutical industry and the medical sector were still among the sectors that were particularly dynamic. The metal and machine tool industries also reported positive sales trends, whereas representatives of the wider mechanical engineering sector were more cautious in their assessments. The textile companies surveyed described the situation as difficult. Apart from the depressed levels of consumer spending, this sector also felt the impact of the lifting of Chinese import quotas in the European export market. By contrast, companies in the technical textiles segment remained upbeat, particularly in relation to the automotive industry.

Services

The retail sector continued to describe the business situation as difficult. Customers were still seen as cautious and decidedly price-conscious. This is causing concern among businesses in the medium price segment in particular, and also among smaller specialist shops, whereas discounters and the luxury segment mostly reported satisfactory to positive sales trends.

The hotel sector was generally pleased with the summer season, reporting a year-on-year increase in numbers of Swiss and foreign guests. This applied both to the typical holiday destinations and to the cities, which benefited from the revival in business and conference travel. By contrast, restaurant owners described the business situation as very difficult: guests were spending cautiously and prices were being squeezed by fierce competition.

Business was very buoyant in the transportation sector, both in the (air) travel segment, which saw a marked rise in passenger numbers, and in the freight segment. In the IT sector the improvement in conditions in evidence for some time now was confirmed. Now that a considerable backlog of demand has built up for the replacement of capital goods, companies are becoming more willing to invest. This has benefited both IT wholesalers and IT consultants. The general business consultancy companies surveyed also expressed satisfaction, with globally oriented clients exhibiting a particularly dynamic trend.

The banks likewise reported a positive trend of business – with rising cash flows and customer lendings. While the mortgage business continued to serve as an important pillar of support, the corporate lending segment remained sluggish. Many companies took advantage of their improved liquidity to reduce their borrowings from banks. The competitive pressure remained exceptionally strong. Some contested the claim that credit is still being allocated subject to strict criteria. The asset management business was described as very good. This was attributed not least to the positive performance of the stock market, although fierce competition and cost pressures were also mentioned again.

Construction

Building construction companies described the order situation and capacity utilisation as good to excellent. This applied in particular to the greater Basel area as well as the Lake Geneva and Central Switzerland regions. However, it was also increasingly true of more remote areas. As previously, the main source of support was the strongly expanding residential construction sector, which also benefited the renovation/fitting-out sector. In many cases, the order backlog is sufficient to guarantee full employment until 2006. There was no longer much talk of an impending slowdown. Individual companies surveyed reported some revival in the commercial construction sector, while in most regions the civil engineering sector was still described as slack or even continuing to decline.

2 Labour market

There was still little if any sign of an improvement in the labour market. Apart from strongly expanding industries, such as medical products and biotechnology, most companies were able to maintain their output with their existing staff. Rationalisation measures and decisions to relocate abroad, which often involve job losses, were still on the agenda. This applied to both the manufacturing and service sectors, and especially to banks and retailers. When new staff are recruited, they are often hired on a temporary basis. When questioned about the freedom of movement arrangements with the EU, many companies stress the simplification on the administrative front. They saw no changes in the recruitment of staff. Owing to the lack of certain skills in the Swiss labour market, some companies are still having to look abroad for labour.

3 Prices, margins and earnings situation

Particularly strong pressure on selling prices and margins was reported across all sectors, except in the case of a few highly specialised niche manufacturers. Higher costs, such as those resulting from the rise in oil prices, could not be passed on and were absorbed at the expense of margins. This particularly affected transport-intensive sectors, companies that manufacture petroleum-based products and those companies that purchase petroleum-based precursors. Most companies were also unable to raise prices to offset exchange rate losses resulting from the depreciation of the dollar. Despite the positive business situation, the construction sector also reported fierce competition and persistently heavy pressure on prices.

The euro exchange rate gave no grounds for concern. However, many companies surveyed still described the trend of the dollar as a major risk factor.

Recipes for successful companies

Thomas Kübler, Delegate for Regional Economic Relations, Basel

1 Background

The Swiss economy is suffering from weak growth. For some years, its GDP has been growing at a rate well behind that of some other countries. Even if the extent of the growth deficit and the choice of suitable indicators for measuring the growth differential are disputed, few would argue with the statement that Switzerland is lagging behind.

Not all sectors and industries are equally affected by the slow growth. Generally speaking, the industries geared to the domestic market are seen as the main reasons for the relative low level of economic growth in the economy as a whole. Owing to isolation from (international) competition, their prices are regarded as comparatively too high and growth in the industry low. By contrast, export-oriented companies, which have always had to face up to global competition, specialised early on and are thus deemed to be decidedly more competitive. The difference in labour productivity between domestic and export-oriented companies is often cited as an indicator of this.

The growth differentials between the various sectors of the Swiss economy are indeed striking, especially in an international sector comparison. However, the different growth rates cannot be explained only in terms of the export ratio. Moreover, individual companies in the same sector perform differently, as no industry is a homogeneous whole.

2 Question and relevance

Different sectors in an economy or different companies in a sector may therefore have greatly varying growth rates. What distinguishes successful from unsuccessful companies? Are there success factors that are universally valid? Can economic policy provide impetus for successful business activity?

A microeconomic approach to this macroeconomic question is certainly appropriate. For instance, the OECD has recently made more resources available for research into the direct entrepreneurial environment. The focus is on the optimal allocation of resources in relatively narrowly defined sectors (market entries and exits of new or mature companies) and on the (productivity) development of existing companies.

3 Survey

In order to answer the basic question as to whether there are recipes for success for corporate growth, the Swiss National Bank's delegates for regional economic relations conducted a series of interviews with entrepreneurs as part of their regular special reporting in spring 2004. The most important findings, supplemented with further feedback from company visits, are briefly summarised here.

3.1 Company selection and statistics

The companies were chosen from all regions in Switzerland. Sales growth, profitability and increase in the number of jobs were taken as success criteria. As no representative database on successful companies – based on objective criteria – was available, the delegates for regional economic relations were responsible for selecting successful companies from the regions concerned.

43 company visits were evaluated for the survey. The companies are in sectors that account for around 45% of the entire added value of the Swiss economy. If only those industries are included whose companies have a commercial purpose (i.e. excl. public administrations, associations, etc.), the coverage rate is considerably higher. The companies visited have above-average productivity levels and growth rates that are higher than the industry average.

The companies were also characterized by the properties summarised in table 2 below: They are all small or medium-sized enterprises (SMEs) and most are family-run limited companies, over half of which are managed by the owner.

Companies visited Table 1

NOGA sector[1]	No. of visits	Change in nominal sales as a % p.a. over at least the last 5 years[2]	Nominal sales per employee in 2002 in CHF 1000[2]
Food/confectionery	7	4–6% (> 10%; > 20%)	230 / 1000
Textiles and clothing	2	6–14%	330
Chemicals/pharmaceuticals	5	15–20%	400–600
Plastics/packaging	2	10–15%	250
Metal	4	7–9%	250–350
Mechanical engineering and automotive	5	8–10% (30%)	150–450
Electrotechnology/medical technology	7	10–15% / 25%	200–360
Retail trade	3	< 10% (15%)	250–350
Hotels and catering	2	n.a.	n.a.
Transport	2	10%	160
Corporate services	2	30%	150–250
Other	2	n.a.	320–500

1 General Classification of Economic Activities, Swiss Federal Statistical Office, own industry allocation of companies surveyed
2 Scope of answers, extreme values in parentheses
Source: Own surveys

3.2 List of questions

The main focus of the discussions with the companies was on the following topics:

Market development
- In what market environment does the company operate?

Product innovation
- What is innovation?
- What triggers innovation? Is it a structured process?
- What role does product innovation play in success?
- What role do innovation clusters play (proximity to universities/universities of applied sciences, competitors, customers or upstream service providers)?

Process innovation
- What importance is attached to optimising and restructuring company processes?
- Do process innovations cut costs, have an impact on locational decisions or even generate new business models?

Marketing
- How is marketing organised, what role does it play in business management?

Qualitative aspects
- How important are soft factors such as corporate culture, managers' leadership skills or the staff's professional qualifications in general?

4 Findings

The survey showed that there are no real recipes for company success and certainly none that are valid across the board. The following characteristics of successful entrepreneurship nonetheless emerge:

- **Market analysis:** Successful companies know their operating environment and the factors that drive their markets. They keep a keen eye on their competitors and their strategies, and thus their competitive environment, as well as on the legal and any political framework.
- **Flexibility:** It is virtually impossible to find a strategy that, once developed, can be successfully implemented. The discussions convey the impression that successful companies are those that manage to adapt rapidly to changes in their environment or within the company itself. Strategies that fit together logically and meticulously ex post, and are also perceived as strategies, are seldom planned that way ex ante.
- **Differentiation:** In the long term, companies only succeed if they manage to set themselves apart from their competitors. Successful companies are better than their competitors, either because they offer the same quality at a lower price or because they provide better quality (products).

Further characteristics of the companies surveyed Table 2

Workforce	No. of companies	Public limited company	Family-run limited company or privately held limited company[1]	Managed by owner	2002 sales in CHF millions[2]
< 100	7	0	7	3	5–85
101–250	9	3	6	5	30–250 (2500)
251–500	8	2	6	2	70–250
> 500	19	10	9	6	100–double-digit billion figures

1 Incl. one cooperative and two limited companies owned by foundations
2 Scope of answers, extreme values in parentheses
Source: Own surveys

- **Product innovation:** Product innovation is the lifeblood of successful companies. Whether a change or improvement is an innovation will be decided by the market. Customers are only prepared to pay for something if it increases the benefit to them. Successful companies will therefore involve the customer early on in the innovation process.
- **Process innovation:** Successful companies optimise their processes either to cut costs or to improve processes. Successful companies facing cost-related competition base their success on process innovations. Company processes are fragmented and reorganized. The added-value chain can be extended or shortened, and vertical integration (upstream and downstream company processes) and horizontal integration (similar or related processes) can change.
- **Ability to cooperate:** Particular importance is attached to a company's ability to cooperate, regardless of the closeness of this cooperation or its legal form. Cooperation with universities/universities of applied sciences as well as with competitors, suppliers or customers with the aim of improving technology transfer, managing procurement or sales markets or developing new corporate processes with suppliers or customers are of paramount importance.
- **Customers' standpoint:** Successful companies always look at their position from the customer's standpoint. What are the customer's needs? To what extent are they prepared to pay?

4.1 Market growth

The choice of a suitable strategy depends greatly on the market environment. In growing markets, a company must grow just as quickly as the market if it wants to be successful. This calls, first and foremost, for a functioning innovation policy. New products must be developed in growth periods in particular. In the survey this was seen primarily in the rapidly growing medical technology and pharmaceutical industries. Companies can only achieve lasting success if they innovate continuously. Secondly, the company must be in a position to quickly expand its production capacity. Critical factors during the growth phase are financing for the innovation policy and for expanding production capacity, the development of a corporate culture geared to growth and maintaining a fast pace of innovation.

Other strategies are called for when markets are stagnant or contracting. Either the company will succeed in segmenting the market and finding a growth niche, or it must attempt to gain market share at the expense of its competitors. In this case the cost side is of crucial importance. Low costs make it possible to take up a strong position in a price-based competitive environment, to gain market share, to expand production and thus to achieve economies of scale.

In the consumer goods industry, it was found that pricing strategy does not have a great chance of success owing to international competition. Here, the companies surveyed rely on market segmentation and brand strategies. This strategy has proved advantageous to the retail trade too for many years. Examples are the organic foods or natural foods segments. However, typical representatives of the niche strategy also include capital goods companies. Successful companies often occupy a niche that is growing faster than the market. The core competency of these entrepreneurs is their ability to innovate, especially their products. Thanks to new materials or process innovations, they achieve solutions that set new standards of application, security or miniaturisation.

4.2 Product innovation

Virtually all of the companies visited named the ability to innovate as a key success factor. It is the only way to set oneself apart from competitors in the long term and to win out over lower-cost locations. Whether or not a change is a genuine innovation depends on how it is seen by the customer. Only if a change increases customer benefit, as reflected in his willingness to pay, can it be considered an innovation. "The marketability of changes determines how innovative they are."

Successful companies are able to use the customer's standpoint as a trigger and driver of innovation and to operate a "systematic innovation policy" within the company at the same time. When taking the customer's standpoint into account, the survey showed that mixed project teams, for instance, comprising providers and clients, can be very successful. These types of cooperation, however, require considerable trust between the partners. Typically, they are found in industrial companies, especially in technologically advanced areas such as the capital goods or customer synthesis/specialty chemicals industries. In the consumer goods industry or retail trade com-

panies try to identify customer preferences via market monitoring or surveys. Direct contact at the personal level plays less of a role here.

Close cooperation between companies and universities of applied sciences/universities has proved useful where innovation policy is "more systematic and institutionalized". Small and medium-sized enterprises, in particular, depend on this geographical and specialism-related proximity and cooperation. It is no coincidence that SMEs attempt to influence the range of subjects offered at regional universities of applied sciences or to set up universities of applied sciences in their related fields. Technological cooperation can also come about between different companies. Examples were seen of former competitors who have been entirely able to find either temporary or permanent forms of cooperation that benefit both sides. Ultimately, this may lead to two or more companies joining forces or individual upstream or downstream processes being integrated and the depth of added value changed.

4.3 Process innovation

The survey showed that process innovation can serve several purposes at successful companies:

- Process innovation should achieve more efficient processes and help to cut costs. Just as product innovation is crucial for all companies, exploiting cost-cutting potential through process innovations is a must. Companies in consumer-related industries, such as the retail trade or food production, attach particular importance to this factor.
- Process innovation should help or allow companies to fragment and rearrange their processes. This leads to the "make or buy" question and may result in the outsourcing of individual processes as well as the integration of new ones. The added-value chain is therefore changed. This can ultimately lead to the global optimisation of the activities that companies carry out at various sites. This purpose was stated by companies in the textile and clothing industry, the mechanical engineering and automotive sectors and by electrotechnology and chemical/pharmaceutical companies, i.e. companies which operate globally or which are reviewing their business model, as well as former production facilities, which are now concentrating on engineering/design/sales/corporate centre functions and buying products instead of manufacturing them.
- Process innovation allows service companies to enter into new activities. This trend is visible with services, in particular; the borders between process and product innovation are fluid and barely distinguishable in this segment. Examples are modern logistics groups that have developed from transport companies, or manufacturers of products in the healthcare segment, whose added value is generated not primarily via the product's hardware but through training in fields of application.

4.4 Marketing

The survey showed that marketing plays a very important role. Here, efforts go beyond distribution channels, sales drives and the identification of the customer's willingness to pay. Marketing is quite simply a means of observing markets, identifying market trends or, as seen, guiding innovation policy. Marketing can thus be a tool for positioning the company and market segmentation. It can also be an expression of its corporate culture. The survey conveyed the impression that successful companies deliberately look at things from the customer's standpoint. The company's management leads by example and the approach is usually institutionalised in the form of organisational or leadership measures.

4.5 People make the difference

Despite the various facets of a company's success as revealed in the survey, it was seen that people ultimately play the key role. The conduct of a company's workforce, management and, in particular, owners is a key determinant of its success. Why a company is successful or unsuccessful is often impossible to determine objectively. Accordingly, all of the companies surveyed attach considerable importance to staff development. This is demonstrated by the fact that ongoing training is very important to entrepreneurs. Family-run companies in particular, or companies with a "patron", to borrow the French term, repeatedly emphasised the importance of loyalty not only towards their customers but also with regard to their employees. It is often difficult for SMEs to institutionalise the much-cited know-how transfer

from universities or universities of applied sciences within their companies. They have to rely on maintaining the innovative capacity of their business from within. It is therefore especially important for employees to remain with the company for many years and to undergo ongoing training, and such companies support these principles.

The ownership structure of a company is an important factor. Family-run companies or private limited companies often emphasise that they are not subject to the same pressure as public companies to maximise profits and returns. These companies feel that their investment ratio is higher and – since their payback horizon is longer – that it is easier for them to develop better and sustainable new business segments. In general, business activity is geared less to satisfying the demands of the financial community than to safeguarding the company's long-term existence. The trend appears to be for successful public companies to focus on return and growth, while family-run companies or privately owned limited companies concentrate on sustainable development.

One of the disadvantages of family-run companies is seen as (overly) tight financial constraints, especially in growth periods. IPOs (initial public offerings) or going public are thus often unavoidable as a way of broadening the equity base in growth periods. However, successful public companies frequently address the – at least latent – conflict of interests between the need to finance growth and dilution of (original) owner interests. This is particularly important as companies often point out that financing growth through borrowing is becoming increasingly difficult. The banks' conservative valuations of company assets and a focus on the earning power of investments weigh on creditworthiness precisely in periods of growth and innovation. Companies with a constant cash flow are more positive about the commercial banks' lending policy, however.

Family-run companies or limited companies that are privately owned or owned by a small group of shareholders certainly see the danger that less pressure could also lead to lower risk awareness. Long payback horizons can lead to poor investments; a lack of pressure from the capital market can delay vital changes in corporate policy.

5 Macroeconomic conclusions

Growth is an important precondition for successful business activity. It is not enough to count on earnings power or profitability, the survey found. Hence, the following challenges arise for the company and the state:

- As an alternative to financing company growth with bank loans, some companies are proposing tax incentives to create risk capital.
- A growth policy at company level calls for an expansion of technical and human resources. The critical factor is the availability of a suitably qualified workforce. Training in selected scientific areas or increasing the appeal of the Swiss job market to international specialists are key tasks for government.

A company's ability to innovate is the tool that will allow it to achieve a lasting differentiation and growth strategy.

- SMEs depend on a close proximity to universities and universities of applied sciences. However, geographical proximity is only useful if it enables a lively exchange of knowledge and technology transfer. The interfaces between theory and practice must be increased, and exchange at the personal level as well as of know-how must be improved.
- Process innovation aimed at cutting costs increase labour productivity. As these are sectors which – as mentioned in section 4.3 – belong to the less dynamic domestic market, negative employment effects should be expected in the short term.
- At global companies, process innovation can lead to the optimisation of company locations. They tend to result in production cuts in Switzerland, especially if it is comparatively labour-intensive. At the same time, however, this trend results in the creation of new jobs that usually require higher qualifications and productivity.
- The fragmentation of working processes and the decentralised location of these activities around the globe is accentuating structural change. Locational appeal is based on comparative advantage. In the case of Switzerland, this advantage lies not in labour-intensive, manual activities but in specialised, high-quality processes and functions in the fields of research, company management and associated corporate services.

Setting the right priorities – more growth a must

Speech by Jean-Pierre Roth
Chairman of the Governing Board of the Swiss National Bank

Given at the Swiss Economic Forum, Thun, on 27 May 2005
Slightly shortened and updated

When the Swiss National Bank discusses economic developments it generally focuses on business cycle movements, in other words, current or expected changes in economic momentum. Here, however, I do not intend to talk about short-term business activity. My topic today is Switzerland's long-term growth path.

Monetary policy is not related to long-term economic growth in the same way as it is related to business cycles. Monetary policy and business cycles interact continuously, with monetary policy influencing business cycles and vice versa. Consequently, business cycles are a major determining factor in monetary policy.

Monetary policy and long-term economic growth, by contrast, have little bearing on one another. The only contribution monetary policy can make towards ensuring the best possible growth potential is to provide a stable monetary environment. In this respect, I believe the National Bank has fulfilled its mandate. Switzerland has one of the lowest rates of inflation in the world, the lowest interest rates in Europe, and a well-functioning banking system. In addition, our currency commands a high level of confidence.

There is no contribution that monetary policy can make to long-term economic growth, other than providing monetary stability, and this is therefore all we can say about growth potential from the point of view of monetary policy. In principle, the National Bank has neither the mandate, nor the competence, nor the means to concern itself with any additional issues relating to long-term economic growth. And despite all of this, I would like to express my view on economic growth today.

Why?

Because I am concerned.

I am concerned about the low level of economic growth we have been experiencing for a long time – the Swiss "growth slump".

I am concerned, first of all, as a Swiss resident and citizen who cares about the economic well-being of his country. Second, I am concerned because, as an economist, my training, work and professional experience have confronted me perhaps more directly with the long-term consequences of our growth slump than is the case for other citizens of this country.

1 Our growth deficit

Making wealth and growth comparisons with other countries is not always a straightforward exercise because of the different measurement approaches that can be adopted. Is it best to compare the gross domestic product of different countries? Or is the gross national product better? Do we need to calculate a per capita figure? Or is it better to divide our standard measurements by the size of the working force? Or the number of hours worked? What exchange rate should be adopted for converting the figures into a uniform currency? Furthermore, the figure for economic growth is based on accounting procedures – in this case, the national accounts. Yet a certain freedom of decision-making is inherent in all accounting systems and no system is totally comparable to any other system, despite all the efforts to standardise them. Also, if we look more closely at the gross national product and the gross domestic product, we see that a number of important elements constituting the quality of life are either omitted or inadequately covered. These include environmental pollution, the economic infrastructure, the quality of goods in the market, commuting distances, and so on.

However, despite all their inadequacies, quantifiable and more or less standardised measurements like, for instance, gross domestic product, are the only option we have for making comparisons between economic developments in different countries. That is why I, too, will be using them here.

Graph 1 shows movements in real gross domestic product in a few selected countries since 1950, calculated on a per capita basis.[1] The figures are adjusted for inflation, in other words, they represent real figures. In addition, they have been adjusted for the difference in price levels, which means that the figures for economic performance have been converted into purchasing power parities. Consequently, graph 1 gives a direct impression of the average volume of goods and services produced per head of the population in different countries. Apart from Switzerland, the figures show developments in Germany, the United Kingdom and the US, as well as the OECD average.[2]

1 Source: Groningen Growth and Development Centre and The Conference Board, 2005

2 OECD average calculated on the basis of OECD member country GDPs for 2004, weighted by GDP, excluding Eastern European countries.

The overall picture presented by the figures shows a worrying development. In 1950, Switzerland had the highest level of per capita added value in the OECD, ahead of Luxembourg and the US, and about 40% above the OECD average. Until the mid-1970s, this figure was advancing even faster in Switzerland than in the other OECD countries, reaching a level more than 50% above the OECD average in 1974. However, the marked recession in the mid-1970s saw an end to the period of above-average growth, and since then Switzerland has progressed considerably more slowly than other countries. In 1993, it was overtaken by the US. In the following years, further OECD countries overtook Switzerland. In the past few years, all these countries have recorded a high level of GDP growth, while the Swiss economy has practically stagnated since 2000.

Convergence is often cited as an explanation for our weak growth. According to this theory, poorer countries tend to catch up with richer countries and therefore need to grow faster. However, while it is possible that convergence might account for slow development in the late 1970s and the 1980s, it cannot be used to explain the weak growth Switzerland has experienced since the 1990s. On the contrary, rich OECD countries (such as the US, Luxembourg, Norway and Ireland) have grown even faster than poorer OECD countries in this period.

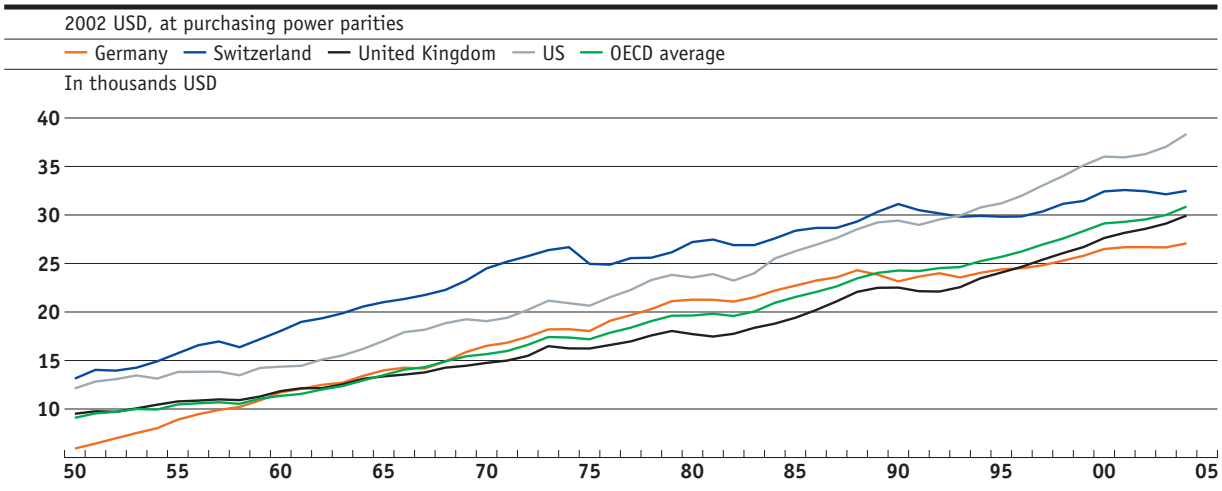
The decline in Switzerland's relative competitiveness began in the mid-1970s. This development was hardly evident in the 1970s and 1980s, and was not diagnosed until the 1990s. However, publications on this subject were regarded as provocative until well into the 1990s, and met with a considerable amount of criticism and bewilderment. In the late 1990s, the Swiss financial centre derived considerable benefits from the stock market boom, so that growth problems once again took a back seat for a number of years. The recession that took hold at the beginning of the new millennium was initially put down to the downturn in the stock market, the fear of terrorism and the poor state of the world economy. But as each year of the new millennium rolls by we experience more disappointments in the economic sphere. And each year, the signs of a structural growth problem become more numerous. It is becoming increasingly clear that the problem cannot be explained away with errors in measurement or special statistical effects, and that this is not a cyclical problem restricted to the 1990s alone – a problem for which the National Bank is often given the blame. On the contrary, this growth slump is structural; it began some thirty years ago and has become increasingly acute since then.

Why did it take so long before the general public became aware of this problem? There are several reasons for this:

The term "delayed perception" is a good way of summing up the first of these factors. What I mean by this is that long-term changes are extremely hard to pick up. A relative worsening in one's own position is often very gradual, and can only be recognised from a greater distance.

The second reason is related to a kind of "wealth-related illusion". Since our per capita incomes are still fairly high we still feel relatively

Graph 1
Real GDP per capita



Source: Groningen Growth and Development Centre and The Conference Board, 2005

wealthy. However this sense of wealth is attributable largely to our assets, that is, to the income we saved in the past. In the good times, Switzerland put aside a comfortable nest-egg, which it is still drawing on, and which ensures that the country is still in relatively good shape. What we fail to see, however, is the stagnation in our current income.

Thirdly, when comparing ourselves with other countries, we tend to focus on our very high salary levels. What we often forget is that our price level is also very high. If we take this into account, the situation appears far less advantageous for Switzerland, as was evident in graph 1.

Finally, one important reason why our per capita income is still remarkably high is because we work above-average hours in Switzerland – about 10% more than the average for the OECD as a whole. Despite the fact that our working hours are longer, the level of our income is only average. In other words, if we worked the same hours as people in other OECD countries, our current income would already be below average.

Thanks to globalisation, it is becoming increasingly clear – and painfully so – that Switzerland is lagging behind. While new media are giving rise to greater transparency, the factors of production are becoming ever more mobile as borders are opened up. As a result, we are experiencing greater and faster-moving competition between business locations than was the case twenty or thirty years ago. In the future, these global developments will become even more pronounced, while change becomes even faster. Without far-reaching reforms, our growth deficit is likely to get even larger.

2 Why do we need growth?

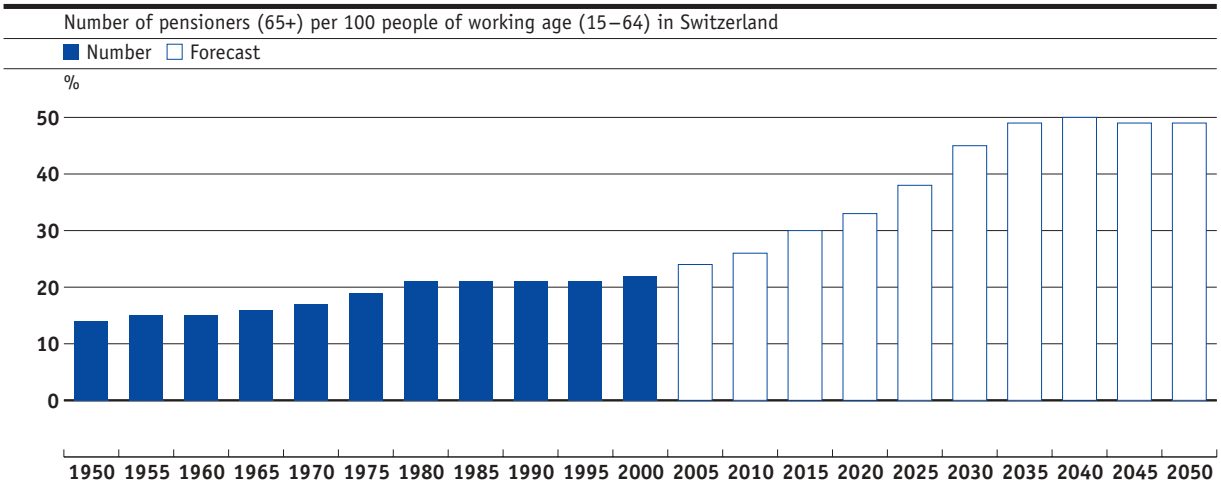
Following these thoughts on economic growth, I would like to take this opportunity to address criticism of economic growth as such. You may yourself have wondered whether we really need growth at all. Couldn't we manage without it?

People who advocate zero growth usually advance two arguments in support of their position. The first goes something like this, "We are well off, we don't want more and we don't need more". While this argument may hold true for certain individuals at certain times, it is not tenable for society as a whole or in the longer term. There are several reasons why we need growth.

First of all, we need it to safeguard our system of social security. As you can see in graph 2, one person over the age of 65 is currently being supported by about four people of working age (15–64). According to UN projections, by the year 2040 two working people will have to bear the costs of one person over 65, in other words, the proportion will have halved in 35 years.

In specific terms, the problem is that almost all the goods and services that our pensioners will want to consume in the year 2040 will have to be provided by the working population at that time. We cannot store nursing services, doctor's visits, drugs or meals now for consumption in 35 years' time. All of these services will have to be provided at the time of consumption. Without growth, this means that the working population in 35 years' time will have to hand over double the volume of goods and services to

Graph 2
Elderly-dependency ratio



Source: UN, 2004, Medium Variant

pensioners – unless old people are willing to accept half the current level of goods and services.

Economic growth increases the size of the pot from which people can be supplied in future, thereby helping to alleviate the competition for resources that would otherwise ensue. The problem of providing for old age is not primarily a pension problem, but rather a production problem. Consequently, more savings are only part of the answer. The only way we can ensure sustained provision for old age is by raising our production potential. In other words, a higher level of economic growth must be a priority for all those who want to safeguard the future of our social security system.

In addition to securing pensions, growth is also fundamentally desirable because it serves to improve our quality of life. Growth brings with it new technologies, innovation, advances in medicine, more income and – not least – more leisure time to benefit from all these advances. Or, expressed a little differently, I know of few people who would voluntarily waive an increase in salary. And yet this is exactly what growth represents – a salary increase that allows us to enjoy a higher standard of living. Clearly, the goal of zero growth is a utopian dream, and will never enjoy the support of the majority of the population.

A second concern among those who criticise growth is the issue of environmental protection. It is correct that economic growth can lead to greater consumption of resources. However, it is wrong to assume that increased consumption of resources automatically results in a higher level of pollution. In the language of economics, a clean environment is a luxury good. In other words, the demand for a clean environment rises faster than the level of income. That is to say, our basic requirements for food, accommodation and health must first be satisfied, before we are prepared to release resources for environmental protection. Growth always goes hand in hand with technological progress, and this has a positive impact on environmental protection. Just think of the catalytic converter in cars, or modern filter systems. Nowadays, these technologies are regarded as standard in rich countries. The higher the level of growth and wealth, the more we are willing and able to do something for our environment. That is why growth also benefits the environment.

3 Can we grow faster?

Is it possible for us to grow faster? Yes, it is.

I would like to substantiate this claim with the aid of graph 3, which shows developments in the productivity of labour – defined as added value per full-time position – between 1997 and 2000 in various Swiss industries. Both the level and the growth of productivity vary considerably from one industry to another.

In exporting industries like banking and the chemical industry, the rate at which productivity is growing is higher than in the domestic sector (e.g. retail business and agriculture), and the level of this productivity is also higher. Moreover, we note a higher rate of growth in industries where Switzerland has a competitive advantage (such as the chemical industry and banking) than in industries where there is unlikely to be any competitive edge (e.g. textiles, clothing, shoes).

What is the reason for these differences?

To a certain extent they can be attributed to differing levels of capital deployment. However, some of the differences in productivity levels and growth rates can be explained by another factor – the degree of competition. Industries like the chemical industry and banking face international competition, while retailing and agriculture are largely insulated from this. Only innovative and efficient producers are able to survive in a competitive environment. Competition forces participants to improve and increase their performance constantly, making use of the most modern technology. In competitive industries, this pressure generates a higher level of growth and greater productivity than in protected industries. The ultimate beneficiaries are consumers, who receive better, cheaper and more innovative products.

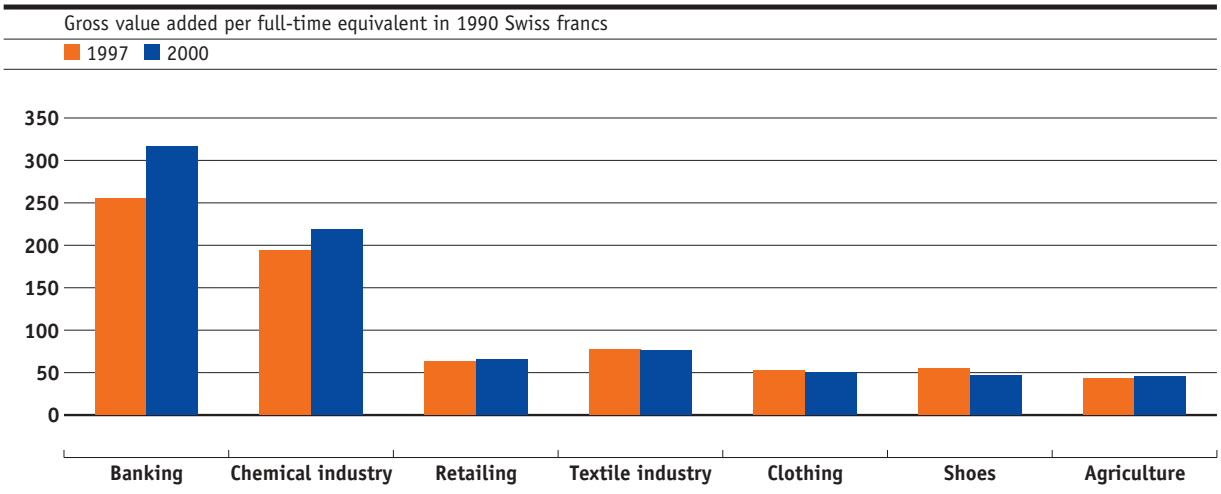
Unfortunately, there is a significant downside to competition – it is uncomfortable, it compels people to seek new ideas, to make an effort, to work hard and to cope with constant change. Nobody – apart from athletes – voluntarily exposes themselves to competition. Consequently, producers usually have reservations about competition. Switzerland is a producer's paradise in this respect. According to OECD statistics, our domestic market is one of the most regulated and protected in the world. Unfortunately, by eliminating competition, Switzerland has also placed obstacles in the way of innovation, efficiency and – consequently – growth.

Competition is not popular in Switzerland; indeed, people even tend to look down on it. Competition is often portrayed in a negative light. The role that language plays in this situation should not be underestimated. Producers tend to combine the word "competition" with adjectives like "ruinous", "cruel", "damaging" and "anti-social", demanding protection from "foreign dumping" and "unfair trading practices". Barriers to market entry and regulations are seen as ways of "protecting the general public" and described euphemistically as "a happy medium" or a "sensible Swiss compromise". Such attitudes serve to foster illusions and mask the medium-term consequences. Unfortunately, in public debate, this view of things is often accepted without criticism or even reinforced by the media. People fail to notice that this approach actually sways public opinion in favour of producers, against the interests of consumers. Those who promote competition are quickly branded as anti-social. People who take a stand in favour of free trade are regarded as taking advantage of the weaker elements in society. And opponents of easy compromise solutions are termed radicals.

Competition may be uncomfortable, but it is neither ruinous, cruel, damaging nor – least of all – anti-social. Sadly, the "sensible Swiss compromise" is often neither Swiss nor a real compromise, but rather the worst possible solution. Rather than the "general public", it is usually the domestic producer who is being protected and the "happy medium" is often a hollow one.

Competition is necessary for the development of our economy. It was competition that brought about our current wealth, and only competition can safeguard it in the future. If we eliminate competition we will jeopardise our wealth and inhibit progress. The Austrian economist, Joseph Schumpeter, described capitalism as "an evolutionary process" which was "naturally subject to change". Without markets, change or evolution, and without "creative destruction" there can be no progress and no growth. But unfortunately terms like "market", "change" and "evolution" are often portrayed in negative terms in discussions about the Swiss domestic market, and even run the risk of being shunned as foreign importations. If we want to return to a growth path this situation will have to change.

Graph 3
Labour productivity in different industries



Source: Swiss Federal Statistical Office, 2000

4 Recipes for more growth

Following this more general plea for more market and competition, I will now become a little more specific. How can we achieve more growth? Where might this additional growth come from?

Growth theory generally distinguishes between three different sources of growth, these being labour, capital and technical progress. We can increase growth by deploying more labour or capital, or by implementing technical advances for greater efficiency in the use of labour and capital.

A detailed discussion of the individual measures needed to promote growth would be excessive at this juncture. However, most economists and specialists agree about what needs to be done to increase the potential for growth in Switzerland. Our growth slump is mainly attributable to the low rate of technical progress in the domestic sector of the economy. Although we work hard and use lots of capital, our levels of innovation and efficiency are too low. This is because of the high level of protection and regulation that stands in the way of competition. In the past thirty years, Switzerland has made little progress in liberalising its domestic market. It has been overtaken, in this respect, by almost all the other countries in the OECD.[3] The high price level in Switzerland is just one consequence of this rigidity, since high prices are merely the downside of inefficient use of labour and capital.

At the same time, there is also a positive side to our lagging domestic sector, and that is its enormous growth potential, just waiting to be released. Last year, the OECD[4] estimated that by dismantling the obstacles to competition in the domestic sector, Switzerland could increase its GDP by 8%. This would equate to 0.8% of higher growth for ten years. Just imagine what this would mean for our unemployment figures, salaries and government finances.

The second factor determining the rate of economic growth is capital. Switzerland still holds a leading position worldwide when it comes to capital accumulation. We invest relatively large sums. However, competition between different locations hoping to attract investment has become much tougher, and Switzerland's position has deteriorated. It is essential that we improve the conditions for investment. Healthy government finances, a moderate tax burden, a straightforward tax system, efficient bureaucratic systems, modern infrastructure, good transportation links and well-qualified workers are all important in securing an attractive environment for capital investment. Unfortunately, Switzerland has lost a lot of ground with respect to government expenditure in recent years. As a percentage of GDP, average government expenditure in the countries of the EU has declined slightly over the past 15 years. In Switzerland, however, it has risen substantially, from 31.5% in 1990 to 39.3% last year.[5] This is the biggest increase for any OECD country, and is not the kind of development that will strengthen Switzerland as an investment location.

The third factor determining the rate of economic growth is labour. People in Switzerland work relatively hard and long. Working even more is not a desirable option. If we do not want to work more, we need to work more efficiently. That means improving the quality, i.e. the human capital of current employees as well as, more importantly, future employees. Now, human capital is determined by two factors, these being education and immigration policies.

I would like to begin with a few words on education. The Pisa studies have shown that things are not all they should be in our primary and secondary schooling systems. Bearing in mind that Switzerland has one of the most expensive education systems, this result is particularly worrying. The performance of our universities is rather better in international terms, but the rate of participation is very low. Our federal approach to education has a negative impact on the efficiency of the entire sector. Clearly, there

3 Cf., for instance, OECD 2001.
4 OECD 2004

5 Government expenditure including mandatory social security as a percentage of GDP.
Sources: Swiss Federal Finance Administration and OECD, 2004

is plenty of room for improvement in the field of education.

Both immigration and emigration have a strong impact on human capital, particularly in the long term. Switzerland's overall immigration balance is not favourable. In past decades, immigrants to Switzerland were mainly low-qualified workers, while we can assume that most of the emigrants were extremely well-qualified, business-minded people. All in all, a negative balance, with a negative impact on human capital and thus also on Switzerland's growth potential.

Swiss thinking on immigration policies has modified to some extent, but not enough. We need to be active in encouraging the immigration of highly-qualified workers, irrespective of nationality. It is regrettable, for instance, that many foreign students return home after completing university studies in Switzerland. We should be doing all we can to make sure that these students remain here. And this should not be too hard. Switzerland offers a very high standard of living and is therefore an attractive destination for highly-qualified immigrants.

When talking about labour and growth, we inevitably come to the controversial issue of the retirement age. For the future, we will need a flexible age of retirement that encourages longer employment, removing administrative and tax obstacles that hinder such decisions. Each individual must be free to choose their own retirement age, taking into account the market-related implications for the size of their pensions.

5 Conclusion

Switzerland has a growth problem. In terms of our economic performance, we have slipped from a position of leadership to the middle of the pack. Over the coming decades, growth will be essential in order to absorb the impact of demographic change.

The recipes for securing more growth are well-known and are described in a great many books and documents. Economists and specialists widely agree about what needs to be done. The successful reform programmes adopted by other countries differ little from one another. Almost all of them amount to the same thing – using market mechanisms instead of regulatory systems to achieve a specific goal. We need more market, more competition, more freedom and thus also more individual responsibility.

Switzerland is no exception. Numerous other countries have encountered similar situations in the past decades, and have achieved remarkable successes with their reforms. Some examples are the United Kingdom, New Zealand, Finland and Sweden.

However, implementing reforms is always difficult. People still lack understanding of the need for them. In addition, there is still insufficient economic pressure and, as a result, the broad-based political determination needed to engage in a process of fundamental reform is lacking. The consensus approach to politics that is characteristic of the Swiss system, as well as its federal structures, make changes even more difficult. Although people talk a lot about reforms, few have yet been implemented.

What we need is a concerted movement within our society, a joint vision of how we can regenerate Switzerland. Many of us will have to dispense with privileges. In the short term, reforms will mean sacrifices for many. In the longer term, however, they will be more than compensated by the ensuing higher economic growth and consolidation of our social security schemes.

Difficult tasks lie ahead. Sometimes they may even seem insurmountable. But we should not be deterred. Sooner or later we will have to implement reforms. The sooner we do so, the less painful they will be. Each year that passes without action robs us, against our will, of wealth, innovation and progress.

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The oil price and monetary policy – a new paradigm

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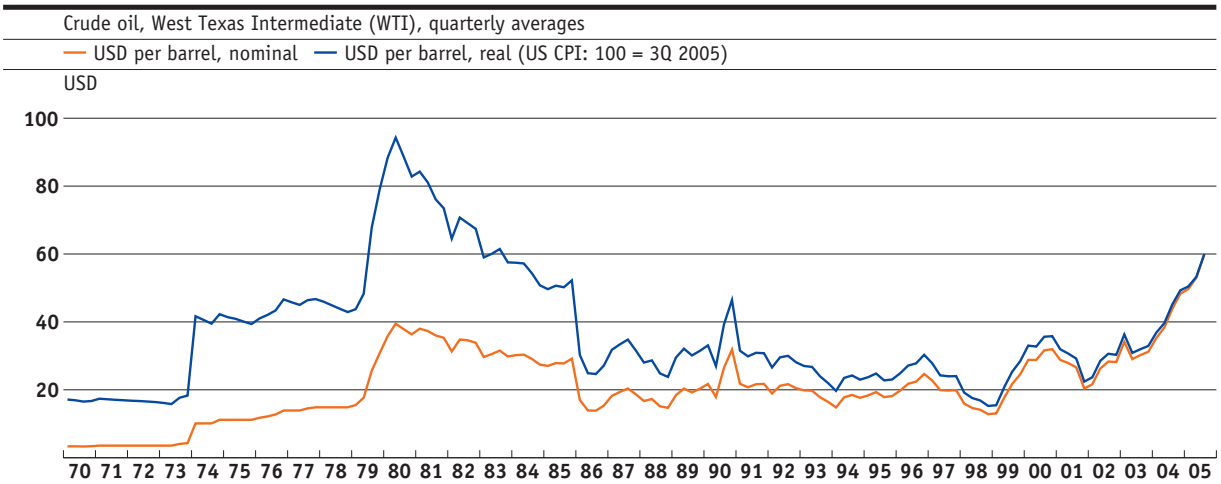
1 Introduction

The oil price hit a low of around USD 10 at the end of 1999. Since then it has moved upwards in a series of steps. In recent years it has been one of the most closely monitored components of the Consumer Price Index (CPI), which is a leading inflation indicator. When it topped the USD 50 mark in October 2004 and in March 2005 and, even more clearly, when it passed USD 60 in mid-2005, it brought back painful memories of the severe economic consequences of the 1970s oil crisis. However, in real terms – after adjusting for inflation – the oil price is still lower now than it was then. In today's dollars, the oil price was over USD 90 in 1980 (Graph 1).

Another striking factor is that between the mid 1980s and the turn of the millennium the oil price fluctuated around an average of about USD 20. Since then, the average price level and volatility have greatly increased.

Although a few years do not provide sufficient evidence to validate a trend, they do raise questions about the background to the oil price hike and its implications for monetary policy. This paper looks at the fundamental factors which suggest that oil prices are likely to remain both high and volatile. It also discusses the implications for monetary policy. Since maintaining price stability is the principal objective of monetary policy, this paper focuses primarily on the impact of oil prices on inflation; the effects on growth are considered insofar as they affect inflation. Section 2 outlines some of the reasons why oil prices are expected to remain high and volatile. Section 3 looks at forecasting oil prices while Section 4 outlines the possible implications of higher oil prices for economic growth and inflation. Finally, Section 5 examines the monetary policy implications of sustained high oil prices. The final section presents our conclusions.

Graph 1
Oil prices



Source: Bloomberg

2 Reasons for an era of high and volatile oil prices

The price of oil is essentially determined by four factors: general demand and supply factors (2.1), geopolitical factors (2.2), geological factors (2.3) and financial market factors (2.4). For a variety of reasons, it seems likely that in the foreseeable future[1] oil prices will remain both high and volatile.[2]

2.1 Demand and supply

Factor 1: Reversed causality: demand-driven oil prices

In the 1980s, the link between oil prices and economic cycles was still dominated by the unilateral impact of oil prices on the economy. However, today the increasing importance of demand for oil has reversed this situation: demand for oil and thus the price of oil are increasingly dependent on the global economy. To some extent, a rise in oil prices is a normal by-product of a global economic upswing. Recently, this has been strengthened by the extremely high growth momentum in China, which is now the world's second largest oil importer and oil consumer after the USA. It should be stressed that this is not a temporary phenomenon. On the contrary, the integration of China and India into the global economy most likely represents a rare structural shift whose economic implications are comparable to the integration of the USA in the global economy in the nineteenth century.

Demand has become a far more important factor in the past ten years

The graph of world GDP versus the oil price shows a gradual shift in the mid-1990s. Prior to the mid-1990s, the correlation was negative, and, since, it has been positive (Graph 2).[3]

According to the International Energy Agency (IEA, 2005), global demand for oil rose by 2.6 million barrels a day in 2004. That was a rise of 3% compared with the previous year and the sharpest hike for nearly 25 years. The IEA forecasts that in 2005 demand will rise further by 1.4 million barrels per day (about 1.7%) to around 84 million barrels per day. In view of the limits on production capacity, demand has thus become one of the key oil price drivers. Almost half of the rise in demand is attributable to emerging markets in Asia, with China alone accounting for nearly one third of the increase (Table 1).

1 The factors outlined in this section are essentially long-term in nature even though their impact may vary over time. For instance, Factor 3 (investment) will become more important than Factor 2 (low oil stocks) over time.

2 Statistically, the structural break in the volatility of oil prices has not been significant so far. This section outlines various reasons why its significance could rise once more observations are available.

3 The correlation was −0.4 before 1995 and has been +0.3 since. This linear representation is merely a rough approximation. Non-linear methods are normally used for accurate quantification (cf. Hooker, 1999; Hamilton, 2003). Moreover, the structural shift did not take place in a single year; it was a gradual process of transition.

With China and India, two very large economies have emerged as oil importers. Moreover, their potential indicates that in both countries economic momentum is merely in its infancy. Economies tend to be particularly dependent on oil in the initial development phase.

This trend has been cushioned to some extent by the reduced oil intensity of production processes in the industrialised countries. Nevertheless, North America accounted for a fifth of the rise in global demand for oil in 2004 (Table 1), making it the main demand driver along with the Asian countries (Graph 3). The higher relevance of demand does not only explain the hike in the oil price, it also shows why it has become more volatile. Cyclical fluctuations are by nature more volatile than fluctuations in structural, supply-side factors.

Graph 2
Oil prices and world GDP

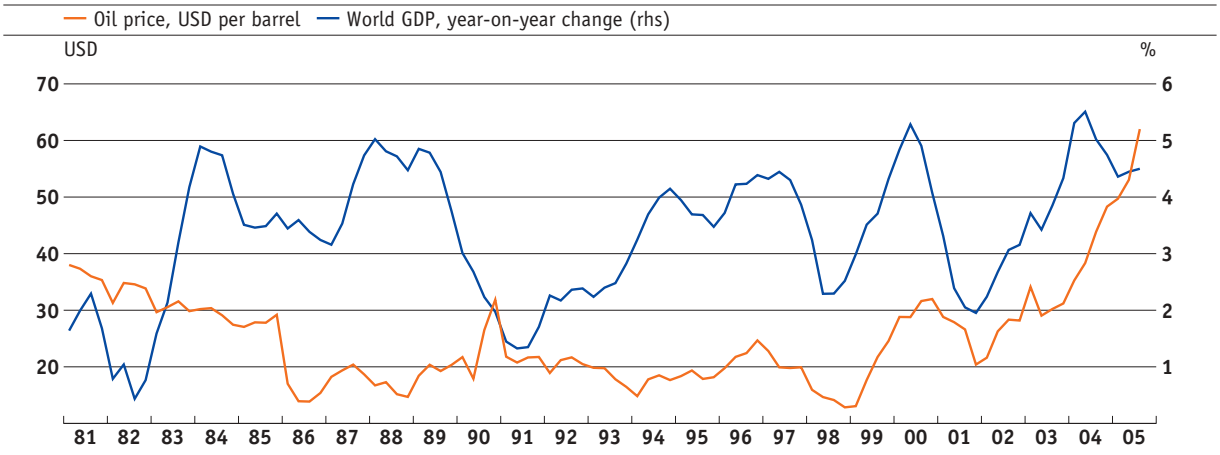
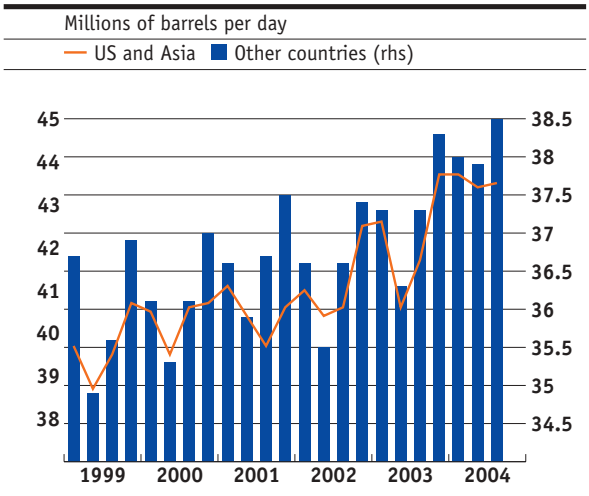


Table 1
Global oil demand by region

(million barrels per day)

	Demand	Annual Change			Annual Change (%)		
	2004	2003	2004	2005	2003	2004	2005
North America	25.19	0.47	0.61	0.36	2.0	2.5	1.4
Europe	16.44	0.20	0.24	0.11	1.2	1.5	0.7
OECD Pacific	8.63	0.14	-0.15	0.00	1.6	-1.7	0.0
China	6.38	0.55	0.86	0.50	11.0	15.6	7.9
Other Asia	8.57	0.22	0.47	0.24	2.8	5.7	2.8
Subtotal Asia	23.57	0.91	1.18	0.75	4.2	5.3	3.2
FSU	3.71	0.12	0.13	0.05	3.5	3.7	1.4
Middle East	5.88	0.20	0.32	0.29	3.7	5.7	4.9
Africa	2.81	0.04	0.07	0.09	1.7	2.4	3.3
Latin America	4.90	-0.10	0.17	0.12	-2.0	3.7	2.4
World	82.50	1.84	2.72	1.77	2.4	3.4	2.1

Graph 3
Global oil demand



Graph 2:
During the 1990s the correlation between oil prices and GDP growth switched from negative to positive.
Sources: Bloomberg, Oxford Economic Forecast (OEF)

Table 1:
Source: International Energy Agency (IEA), 2005

Graph 3:
Source: International Energy Agency (IEA), 2004

Gradual price rise

The way in which the oil price has risen is further evidence of the increasing significance of demand-side pressure. Prices rise in response to either a shortage of supply[4] or an increase in demand. However, while a reduction in supply, as occurred in the 1970s, affects prices immediately, an increase in demand, as has been the case since 2000, only gradually lifts prices.

Factor 2: Low stocks

Global competition increases pressure to cut production costs. Wide-ranging action has been taken in recent years to trim costs, and, as a result, global stocks have gradually been scaled back. With the increasing risk of rising oil prices, stocks have regained their attractiveness. Since 2004, oil stocks in the USA have been recovering from a 30-year low (Graph 4). This gradual increase in stocks is another factor boosting demand.

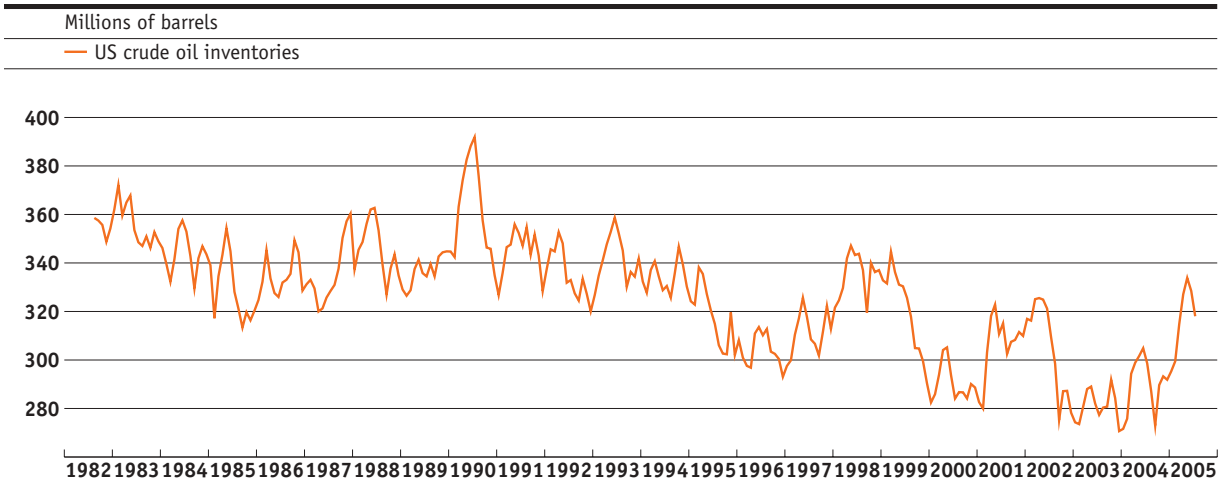
China has played a pivotal role in this issue as well, as its demand was severely underestimated in recent years. In the general low price environment of the late 1990s, an increase in oil stocks in the industrialised countries would have had relatively little impact on oil prices. However, in conjunction with an unexpected hike in oil demand from China, the same increase in oil stocks caused prices to spiral.

Factor 3: Turning point in investment cycle of oil facilities

Oil is formed from deposits of plants and micro-organisms on the ocean bed. It is generated over millions of years as a result of heat, pressure and the absence of air. The cost of extracting oil varies considerably among different regions. However, drilling costs only account for a comparatively small proportion of the overall cost of the end-product (after transportation and refining). There is some doubt whether this will hold true for the future. Investment in oil rigs has been seriously neglected in some cases, and the necessary replacement investment is likely to push up oil end-prices. According to the IEA (2005), the energy sector needs to invest around USD 16 trillion by 2030. The rise in oil prices has increased the profitability of investments in infrastructure, which should lead to downward pressure on oil prices in the longer term. However, this would require that decisions made in the oil-producing countries be depoliticised and that the increase in infrastructure investment actually lead to higher oil supply. In addition, because they lift the profitability of investment, rising oil prices also increase the value of oil reserves and thus the incentive to cap supply. Only when oil prices reach a level that makes switching to alternative energy sources a viable prospect, will oil producers have a direct economic incentive to exploit the technical capacity of their infrastructure to the full.

4 Hurricane Katrina provides renewed evidence of the high short-term vulnerability of oil supplies.

Graph 4
US crude oil inventories



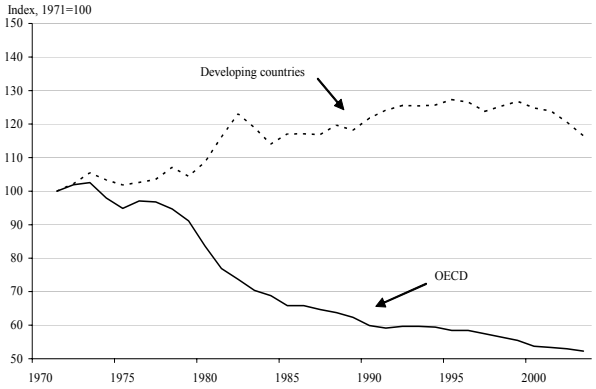
US crude oil inventories are only gradually recovering from their low point.
Source: Bloomberg

Factor 4: Differences in the efficiency of oil use

In the OECD countries, the oil intensity of the manufacturing industry and the consumer sector has halved since the oil shocks of the 1970s. Thus, in some countries it has become more and more difficult to put into effect further savings. At the same time, the emerging markets have made virtually no progress towards raising the efficiency with which they use oil (Graph 5). In particular, the amount of oil consumed by China is out of proportion to its output. This may be due in part to the type of industry, since heavy industry with genereally less energy-efficient technologies is most prevalent. Another explanation of the unusual ratio of oil imports to GDP is that domestic households use oil to run inefficient diesel generators.[5]

5 At the start of 2005, diesel accounted for about half of Chinese demand for oil (IEA, 2005). According to the OECD (2004), an increase in economic growth in China would lift the oil price in the next 25 years by about twice as much as an equivalent rise in GDP in the OECD countries.

Graph 5
Oil intensity (oil use per unit of output)



Source: Brook et al., 2004

2.2 Geopolitical factors

Factor 5: Simultaneous and unrelated events have increased geopolitical insecurity and raised concern about the domestic policy of key oil-producing countries

The oil market has always been highly political. Following the terrorist attacks on 11 September 2001 and the second Iraq war, geopolitical insecurity increased sharply, especially in the main oil-producing countries. Even if there are no further terrorist attacks, the fear triggered by the attacks to date is sufficient to exert upward pressure on oil prices and increase their volatility. Moreover, it should be remembered that since the turn of the millennium political unrest has not been confined to a specific region. Instead there have been an increasing number of simultaneous yet completely unrelated political crises. The oil market has not simply been affected by the altered situation in the Middle East. At almost exactly the same time it has been exposed to concerns about Venezuela, Nigeria and Russia. Here too, uncertainty alone is enough to boost prices.

Some political observers believe they can make out a worrying trend. Since the 1990s the world has been exposed to a political shock with international repercussions roughly every two years. The first attack on the World Trade Center in 1993 was followed in 1995 by terrorist attacks in Saudi Arabia and on the Moscow embassy. This was followed by the attacks in Kenya in 1998, on the World Trade Center in September 2001 and in Madrid and London in 2004 and 2005. This list of some of the major terrorist attacks suggests that this is a persistent problem to which there is neither a rapid nor a simple solution, thus further fuelling the general sense of insecurity. Here too, circumstances mitigate in favour of a further increase in both the level and volatility of oil prices. A market in which (volatile short-term) fears are gaining the upper hand over (long-term) fundamentals is particularly susceptible to volatility. The fact that last year's terrorist attacks in Madrid and this year's attacks in London did not have any major impact on the financial markets suggests that such fears had already been priced in.

Factor 6: Globalisation

Globalisation leads to an increased and faster transmission of shocks. Such a thing as a closed economy no longer exists. Evidently, this entails opportunities – such as the prospect that China will becoming a major driving force of economic growth in the long term – as well as risks. As economic interdependence increases, crises, whether local or global in nature, have a faster and more widespread effect than in the past.

Moreover, globalisation increases transport activities, which are the main purpose for which oil is used. The OECD (2004) expects the transport sector to be responsible for three-quarters of the increase in demand for oil in the period up to 2030.

Factor 7: Institutional change

In an environment of heightened insecurity, a strong institution such as OPEC could ease market fears. OPEC and especially the Middle East states have by far the largest oil reserves in the world.[6] The IEA predicts that the Middle East will raise its market share from 25% to around 40% in the next 30 years. In view of this, many market commentators assume that OPEC's influence will increase in the long term. Nevertheless, it is worth asking how effectively OPEC can control the price of oil in a market which is driven by demand and is also exposed to speculative interests. Some market observers feel that OPEC's hold on oil prices has declined steadily since the second half of the 1990s. For example, the reduction in oil production following the sharp drop in oil prices in late 1997 and 1999 and the staggered increase in output triggered by the record prices in summer 2004 only had a minor impact on prices. Additionally, OPEC's policy of holding production below the agreed floor could also have an unsettling effect. Thus it is argued that on the institutional side there is no immediate sign in the foreseeable future of a trend that could ease market tension.

6 According to the IEA/OECD (2004), about two-thirds of the world's known oil reserves are in OPEC countries.

As the experience of the 1970s shows, high oil prices trigger rationalization and substitution, to reduce dependence on oil.[7] Therefore persistently high oil prices could – contrary to widespread expectations – undermine OPEC's market power or reduce the speed at which it extends its influence, as happened in the 1970s.[8]

Besides, the oil price may have been kept comparatively low so far for institutional reasons. This can be demonstrated by the Hotelling rule, which states that in the long term the price of a non-renewable resource rises at least as fast as the price of a financial asset that generates a long-term return.[9] Obviously, this seems to conflict with the situation in the late 1990s when oil prices were at a record low. Contrary to the rule, at that time large quantities of oil were produced although selling prices were very low. In fact, the Hotelling rule only applies in perfect markets and thus seems unlikely to apply to those parts of the oil market where oligopolistic structures hold sway. As decisions on exploiting oil reserves become more democratic, the Hotelling rule is likely to become more relevant. Analogously to a floor option, the floor for the long-term return on oil is therefore likely to be around the same level as long-term interest rates.

7 Just as the coal era ended long before reserves were exhausted, so the oil era could end before the oil sources dry up, as the relative profitability of alternative energy sources increases.

8 The OECD (2004) estimates that a USD 5 dollar rise in the oil price compared with its reference scenario of USD 35 would reduce OPEC's market price by around 7% to just over 30% by 2030.

9 Owners of exhaustible resources maximise their profits either by extracting the resource now and investing the profits in interest-bearing instruments or by waiting until shortages raise the price of the resource. The Hotelling rule (Hotelling, 1931) shows the equilibrium at which the price increase compensates for the foregone interest.

2.3 Geological factors

Factor 8: Uncertainty about oil reserves

Estimates of known oil reserves and expected new finds vary enormously – often due to differences in the way reserves are defined. Currently, there are no standard criteria. Despite their inside knowledge, even the oil companies publish widely differing forecasts and estimates of their present reserves.[10] This reduces market transparency and therefore tends to push up prices. Moreover, such estimates are often politically coloured.

The OECD (Brook et al, 2004) puts current reserves at 1,000 billion barrels. Assuming output does not change and no further reserves are tapped, these reserves would be exhausted in about 40 years. As a result, some analysts take a pessimistic view.[11]

However, so far rising demand for oil has been covered by newly discovered reserves and the ratio of reserves to output has therefore remained constant over the past two decades.[12] Since this cannot be seen as a guarantee of future developments, the range of estimates and scenarios is expected to remain extremely wide. Regardless how sound one believes some of the estimates to be, they can have a direct impact on oil prices as soon as the market becomes exposed to speculation; the assumption that other market participants could act on the basis of certain forecasts is sufficient.

10 For example, in the 1970s BP believed that global output would peak in 1985 while Shell did not expect this to happen until 1999. Not only do forecasts differ according to analyst and timing, but even estimates of current reserves vary substantially. For instance, at the start of 2004 Shell attracted a good deal of attention by cutting its reserves estimation by 20%. Although Shell merely took this step to bring its estimation methods in line with the guidelines issued by the Securities and Exchange Commission (SEC) in the United States, it triggered great uncertainty. The ensuing discussion raised doubts about the reliability of all reserves estimations issued by the market, which subsequently led to higher prices.

11 Marvin King Hubbert is one of the best-known oil analysts who take a very critical stance on future oil market trends. In 1956 he published a famous forecast that oil output in the USA would begin to decline after 1972. Since output was rising quickly at the time, that was a bold statement which gave rise to considerable debate. However, he was quite right. From 1970 the USA shifted from a net exporter to a net importer of oil. Some analysts use Hubbart's geology and mathematics-based forecasting method nowadays to forecast when global oil production will peak. On this basis, output will peak between 2003 and 2008 ("Hubbart's peak"). This forecast underlies the basic assumption that global consumption is 2% on average and that reserves decline by 6%.

12 The largest reserves are in the Middle East, and new troves of oil have led to substantial revisions of the estimates. In 1944 reserves in this region were put at 16 billion barrels. However, estimates had risen to 116 billion barrels by 1975 and now stand at around 685 billion barrels (cf. Adelman, 1995).

2.4 The financial market

Factor 9: Oil as a financial underlying

The increased volatility in oil prices attracted new investors to the market. The resultant increase in liquidity has in turn made the market more attractive. The number of traders who are interested in oil as a financial instrument, rather than the fuel itself has risen significantly in recent years.

The price hike over the last two years was thus driven also by financial market expectations. Most observers felt that the price increase exceeded the level justified by the market situation at the time. In the first quarter of 2004, OPEC representatives put the speculation premium at USD 5 per barrel. In the third quarter of 2004, various market commentators put the premium at USD 8–10.[13] In its quarterly report, the BIS (2004) saw a high correlation (0.8) between the weekly change in the oil price and the changes in long positions held by non-commercial traders.

Given the unreliability of the available data, it is very difficult to estimate what proportion of a price rise is due to speculation. The only thing that is certain is that a tight market situation provides an incentive to speculate on higher prices.[14]

One reason why oil became an object of speculation at the start of this millennium was the greater dependence on demand (Factor 1), which increased the band within which prices fluctuated to a level that speculators found interesting. Additionally, investing in oil may have become more attractive because of the lack of alternatives. Following the end of the "new economy" boom, investors were looking for new opportunities. At the start of 1999 oil prices had dropped to a 25-year low and thus attracted little attention. Together with signs that demand for raw materials was gaining momentum, traders saw these low oil prices as an ideal basis for launching oil as a financial instrument.

13 For an overview of the literature on speculation and its impact on oil prices see Weiner (2002).

14 The significance of speculation versus the other factors should not be overestimated. For example, Weiner (2002) concludes that speculation only has a marginal impact on oil prices.

Factor 10: Expectations that the dollar will weaken

The OPEC member states control nearly 80% of the world's known oil reserves and currently serve about 40% of global demand. Since 2001 OPEC has set a target band of USD 22–28 a barrel.[15] Given the United States' record current account deficit, many market observers assume that the dollar will depreciate in the long run. Thus, in the long term, expectations that the dollar might fall could prompt OPEC to set a higher target band in dollars in order to offset the resulting deterioration in the terms of trade. Between the start of 2001 and mid-2005 the dollar dropped about a third against the euro. A corresponding adjustment to the band would probably bring the price to USD 29–37. In response to the recent oil price trends, OPEC announced that it would temporarily suspend the target band in 2005.

15 Based on a OPEC oil price basket – which was changed in mid-2005 – and usually is slightly below the price for the very light West Texas Intermediate crude oil.

3 Oil price forecasts

The previous section outlined various factors which indicate that oil prices will rise and volatility will increase. In view of the considerable uncertainty regarding all of these factors, any oil price forecast is likely to have a high standard deviation, restricting its significance. Therefore many observers confine their forecasts to qualitative statements – for example, to the general statement that the oil price will rise as strongly as demand allows. Despite the high forecast uncertainty, monetary policy makers need to make specific assumptions about future oil price trends for their GDP and inflation forecasts and have to consider its likely impact early. In this chapter some quantitative forecasting approaches are outlined briefly. Afterwards we look at the usage of oil price forecasts in macro-economic models.

3.1 Quantitative approaches to forecasting oil prices

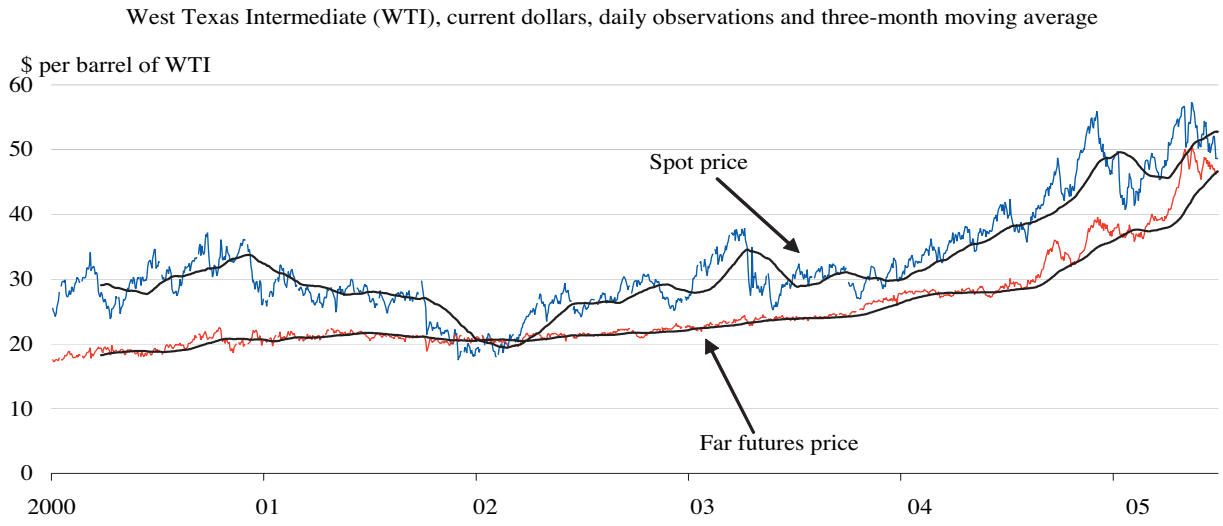
Economic forecasts are based on the principle that assumptions about the future can be derived from the past. However, in the case of oil, various empirical analyses have come to the conclusion that neither the extent of past price changes nor the duration of high-price phases provides any indication of when such phases are likely to end.

In the short term, various market indices can be taken as an indicator of how oil prices are likely to develop. Thus, forecasts may be based on performance spreads between stock market indices with different levels of exposure to energy stocks (e.g. Canadian market indices which contain a high proportion of oil securities versus German indices where energy only represents a small percentage) or the valuation of shares in oil companies. By contrast, market observers who take a longer-term view generally use a combination of two parameters: a measure of economic activity and an indicator of oil inventories.

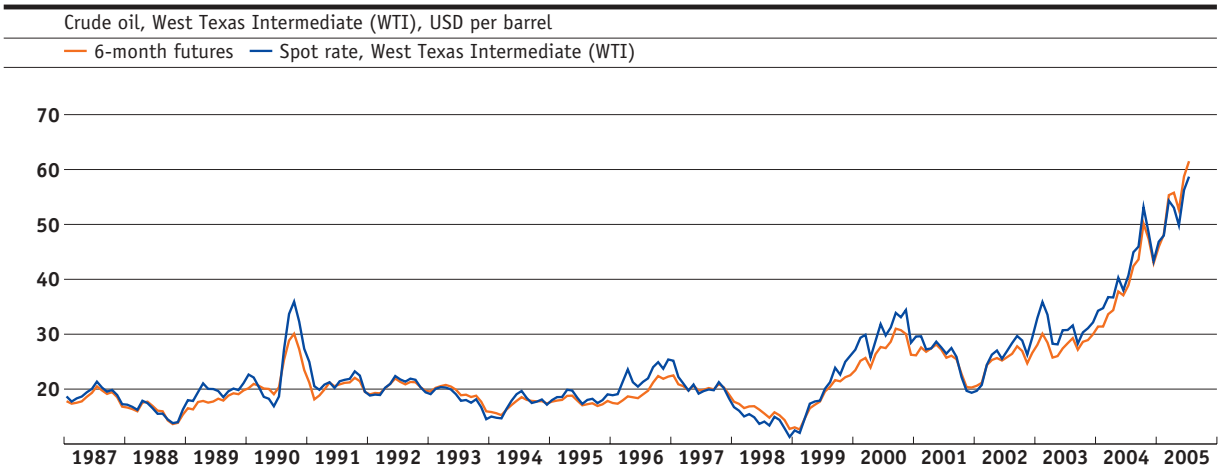
3.1.1 Forecasts based on futures contracts

Oil price forecasts are often based on exchange-traded futures contracts. After all, who could be better placed to assess future prices than investors who stake money on tomorrow's prices? Using forward rate contracts or futures to forecast tomorrow's spot price is a popular method of forecasting prices for anything from shares and exchange rates to commodities, for the latter with varying degree of success. While futures on gold tend to behave similarly to equities – meaning, futures prices are above their spot price ("contango") – this rule is increasingly being breached in the oil market. This means that the price of oil for delivery in up to a year's time is below the current market price. This market situation is known as "backwardation". Normally, arbitragers would be expected to empty their warehouses at high spot prices and fill them at lower futures prices, thus reducing the spread between spot and futures prices. That would enable them to reap substantial gains. However, between 2000 and the start of this year, backwardation was the rule on the oil market (Graphs 6 and 7). What were the reasons for this?

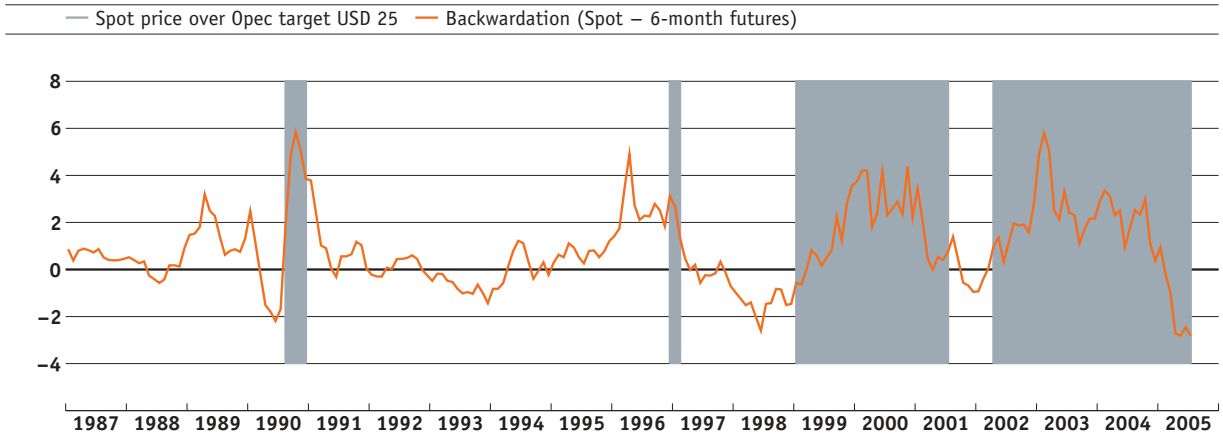
Graph 6
Spot rate and long futures



Graph 7
Spot rates and 6-month futures



Graph 8
Backwardation



Graph 6:
Source: OECD, 2005

Graph 7:
The spot rate is often above 6-month futures (backwardation, monthly).
Source: Bloomberg

Graph 8:
Backwardation on the oil market is most common when the spot price is above the OPEC target. The shaded areas show periods when the spot price was over USD 25 (OPEC corridor: USD 23–28, mean USD 25).
Source: Bloomberg

3.1.2 Reasons for backwardation

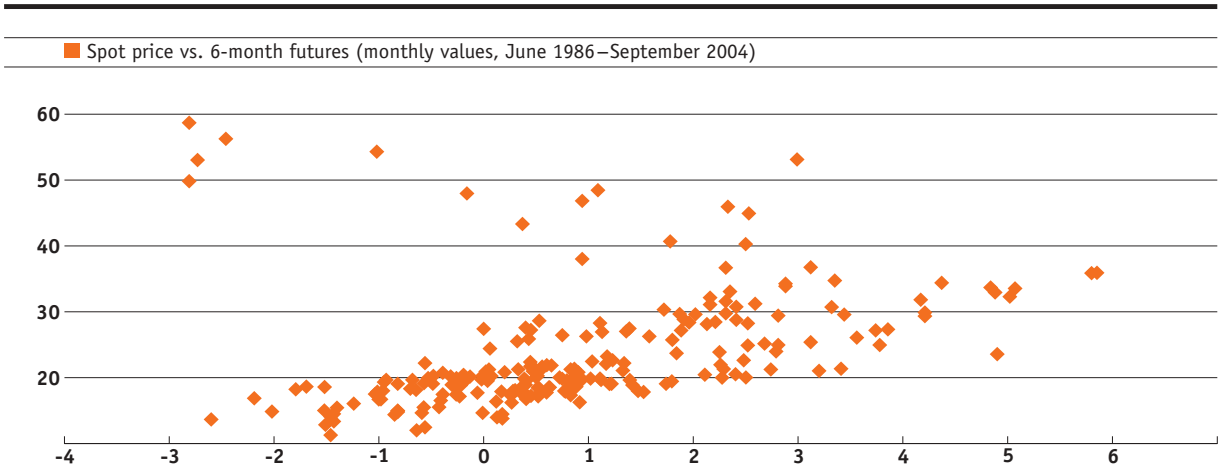
One explanation of backwardation is that market conditions hinder arbitrage. Unlike equities, for instance, arbitrage on the oil market is restricted by low market liquidity, seasonal fluctuations in supply and demand, the risk of interrupting the supply chain and maintenance costs.

Like other commodity markets, the oil market is often in backwardation. This is partly because the oil reserves still in the ground can be seen as free storage facilities. In other words, the situation is similar to a put option in the hands of the oil-producing countries. Furthermore oil is – unlike gold – essentially a factor of production rather than an object of speculation, despite its increasing popularity as a financial instrument. Heating and cars do not run on options. Consequently, risk aversion tends to be relatively high: people would rather fill their cars with expensive petrol today than run the risk that they could run out of fuel because they speculated that the price might drop tomorrow.

Besides restricted arbitrage, institutional factors can influence market expectations and compound backwardation on the oil market. Thus, backwardation mainly occurs in phases when spot prices are above the average of the OPEC target band. The oil market was in "contango" in 2001, when the spot price was around USD 20 and thus below the OPEC target band of USD 23-28, and tended to backwardation as soon as the spot price exceeded the target band (Graph 8).

This also follows from the observation that generally the higher the oil price, the greater the backwardation (Graph 9). It remains to be seen whether the latest price record that coincided with a "contango" situation is to be seen as a reverse of this trend on the futures markets.

Graph 9
Backwardation



Backwardation (Spot price vs. 6-month futures) rises as the spot price rises.
Source: Bloomberg

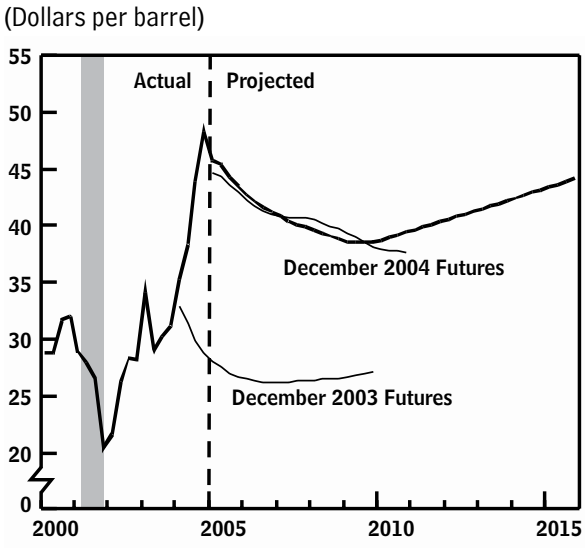
3.2 Use in macro-economic models

In macro-economic models as used by central banks and administrative authorities, futures prices are often used as an approximation of future oil prices. For example, in the budget published at the start of 2005 (CBO, 2005) the Congressional Budget Office in the US assumes, on the basis of futures prices, that oil prices will drop by 2009 (Graph 10). Similarly the Bank of England has stated (2000) that it still sees the futures market as the best indication of future oil price trends.

Therefore, in the long backwardation phase between 2000 and the start of 2005, oil price trends were systematically underestimated.[16] Futures prices are thus a controversial indicator of long-term spot prices. Haubrich, Higgins and Miller (2004) claim that while the oil futures market may be useful for hedging or speculative activities, it is not very suitable as a basis for forecasting. Although the drawbacks of using futures prices for forecasting purposes have become evident in recent years, there is currently no superior alternative available.[17] Thus, at the SNB, futures prices also serve as a basis for oil price assumptions, which – in addition to other factors – are taken into account as external variables in making the quarterly inflation forecasts. Nevertheless, they do have to be treated with a good deal of caution.

16 Remarkably, Graph 10 comes from the CBO (2005, p. 42). Nevertheless, the CBO is sticking to its forecast of dropping oil prices, in line with futures prices.
17 Chinn, LeBlanc and Coibion (2001) conclude that although futures do not provide very accurate forecasts, at least until 2000 (shortly before the prolonged backwardation phase) the corresponding forecasts were free of distortion.

Graph 10
Futures as a forecast of oil prices



Source: Congressional Budget Office (CBO)

Furthermore, information on the futures market should not simply be used as an indicator of point forecasts; it should also be used as a gauge for forecast uncertainty.[18]

4 Pass-through channels

As outlined in section 2, several factors indicate that in the medium term the oil price will remain high and probably also more volatile. Oil prices impact the economy in a variety of ways. First, economic growth is dampened by higher oil prices – in the short term through demand and in the longer term through supply-side effects. Moreover, the direct and indirect effects of higher oil prices are reflected – at least temporarily – in higher inflation.[19]

4.1 The oil price and economic growth

As outlined in the introduction, this paper focuses on implications of higher oil prices on monetary policy and thus on the pass-through effect to inflation. Since the inflationary impact is determined, in part, by the implications for economic growth, the growth effects are outlined briefly here.

The expected economic consequences of higher oil prices are mainly dependent on the duration of the shock, the assumed monetary policy response and the assumed oil intensity of an economy. Here, we look in particular at the impact of unexpectedly sharp price increases (oil shocks).

Demand and supply

In the short term, an oil price shock reduces demand. It has the same effect as a tax, leading to a direct reduction in purchasing power. In the medium term, a classic supply-side effect develops as manufacturing becomes more expensive and the profitability of production facilities declines. In the long term, the supply-side effect is amplified as investment drops, thus reducing the capital stock. If oil prices remain high for a long time, a substitution effect is triggered as investment in alternative sources of energy becomes more attractive.[20]

18 An application can be found, e.g., in Bernanke (2004).
19 A third channel for oil prices to impact on inflation is through a change in the terms of trade. This is examined in a separate sub-section because its quantitative relevance is declining.
20 Whether this makes up for, or even more than offsets, the decline in investment is a matter for debate. Similarly, there is much controversial discussion about whether the government should subsidise the search for alternative sources of energy, by levying an energy tax that increases or stabilises prices additionally over the market signal.

Extent of economic effects

The quantitative correlation between oil prices and economic growth is complex and highly controversial, and thus will be mentioned here only briefly. The economic consequences differ according to the model used and the assumed monetary policy response. Nevertheless, the conclusions tend to be similar.[21] Accordingly, a USD 10 rise in the price of oil is expected to cut GDP by just under 0.5% and raise inflation by just over 0.5%.[22] Overall, most economists consider the impact of the recent oil price hikes as noticeable but in no way comparable to the effects in the 1970s. Different results can be explained mostly by different modelling of the monetary policy response function or by frictions in the labour market. Risk management considerations frequently lead central banks to assume stronger impacts so that the estimated growth loss can be seen as an upper limit.

The IEA/OECD (2004) has simulated a permanent rise in the oil price from USD 25 to USD 35. The impact on GDP and inflation was absorbed almost entirely within a single year. This scenario, which has been shown to be very modest in the light of the subsequent hike in oil prices, reduced growth in the OECD countries by 0.4 percentage points in the first year, and increased inflation by 0.5 percentage points.[23] The SNB has also simulated various oil price scenarios, including more pessimistic ones. The results did not deviate significantly from the above findings.

Terms of trade: international distribution of losses

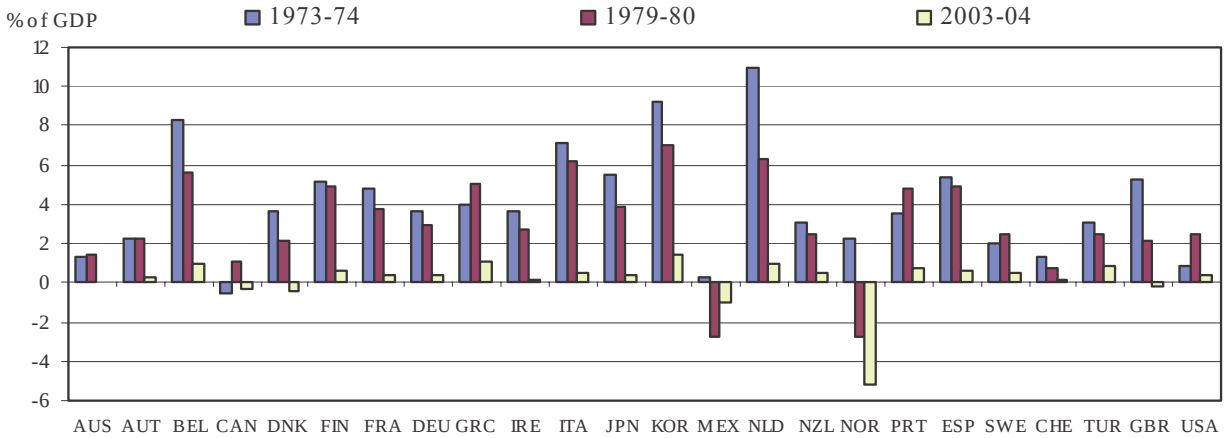
An economy's sensitivity to fluctuations in the oil price depends on the oil intensity of production and consumption as well as on its oil reserves. Although oil intensity is higher in the United States than in the EU, this is more than offset by the fact that the US has its own oil reserves. Therefore, it is mostly assumed that the US's sensitivity is slightly lower than the EU's. Switzerland's situation is comparable to the EU's. Although it is entirely dependent on imported oil, most of its added value comes from the largely energy-independent service sector.

The differences in the impact on GDP growth and inflation rates within the OECD block normally fluctuate within a narrow range of 0.1 to 0.2 percentage points. For some time, the terms-of-trade losses resulting from oil price rises have tended to be comparatively low (Graph 11).[24] The impact is likely to be greater in Asia, which is heavily dependent on oil imports. Moreover, the increased volatility of the oil price will have an above-average impact on some specific GDP components. Since globalisation is reducing companies' pricing power, higher oil prices are increasingly likely to be reflected in a reduction in margins and profitability. Greater oil price volatility will therefore tend to lead to increasingly volatile investment and, to a lesser extent, to greater fluctuations in consumer spending.

21 Cf. Brook et al (2004), OECD (2004) and IMF (2000) and the references therein.
22 A price of around USD 30 is normally assumed. Although the example given here has been confirmed by a number of international studies, it should be noted that new reduced-form estimates which take asymmetric effects into account point to a far greater drop in GDP – cf. Jimenez-Rodriguez and Sanchez (2004) and Hamilton (2003). The increased impact of reduced-form models could be due to their increased emphasis on the supply channel. As little research has been carried out on the form and stability of these non-linearities, the results are controversial.
23 A comparable analysis by the IMF (2000) came to a similar conclusion, as did an analysis by the OECD (Brook et al., 2004) assuming a USD 15 hike in the oil price.

24 Sensitivity to oil price shocks also depends on the dollar exchange rate. Most market commentators assume that the dollar will weaken (Factor 11), thus making oil imports less expensive and cushioning the impact of the higher price of oil in dollars.

Graph 11
Declining terms-of-trade losses in the OECD following an oil price rise



Source: OECD, 2004

The asymmetric effect of oil price shocks

Another interesting macroeconomic question is whether an economy returns to its initial position if oil prices rise but subsequently drop back to their initial level. In other words, does a temporary rise in the price of oil have a sustained or a temporary impact on the economy?

Empirical evidence suggests that the reduction in growth caused by higher oil prices exceeds the increase in growth generated by declining prices.[25] This asymmetric effect is mainly due to the fact that wages respond faster to rising inflation rates than to declining inflation (downward wage stickiness). Higher oil prices pass through into core inflation more than lower oil prices. This often results in a sharper monetary policy response and thus has a greater economic impact in the case of rising oil prices. This asymmetry mainly unfolds in prolonged periods of price rises/declines. By contrast, if the increase in the oil price is temporary and the second round effects are low, once the oil price has receded again there is normally a surge in growth that makes up for the previous shortfall. The impact of oil prices on inflation is of great importance for monetary policy and is outlined in detail below.

25 Cf. Hamilton (2003), for example. Hunt et al (2001) present results for the US, the euro area and Japan with the aid of the IMF's Multimod. On the basis of firm data, Davis and Haltiwanger (2001) found that the impact of a rise in oil prices on the US labour market is ten times greater than the impact of a decline in the oil price.

4.2 Pass-through of oil prices to inflation

The impact of oil prices on inflation is of central importance for a monetary policy striving to maintain price stability. There are numerous indications that this "pass-though" effect has changed in recent years.

Oil prices are passed through directly via various products...

The price of crude oil has a direct effect on inflation through petrol prices and the cost of heating. Its impact can be estimated from the weighting of oil products in the consumer price index (CPI). Because of different consumption patterns, the weighting may vary from one country to another. Because of its use in a wide variety of products (e.g. plastics), a rise in the oil price affects many components of the index.

...increasingly fast...

Oil price rises therefore affect consumers fairly quickly. Recently, there has been a tendency to adjust prices faster because it is becoming simpler and cheaper to do so (lower "menu costs"). As a consequence, fluctuations in the oil price become visible in the CPI earlier than in the past. Between 1984 and 1996 oil prices impacted the Swiss CPI slowly and the correlation was still significantly positive even two years later. In contrast, since 1997, the pass-through has been completed almost fully within six months. This does not appear to be excessively fast by international standards; according to a report published by the IMF (2000), pass-through effects become visible faster in the USA than in Europe and Japan.

...but to less extent in the CPI

Although the pass-through has become faster, its impact has declined. This is partly because more efficient use of energy has reduced the weighting of energy prices in the CPI. In Switzerland, heating oil was given a weighting of 2–3% in the 1970s and 1980s. Despite higher oil prices, this had dropped to 1.4% by 2005.[26] At the same time, globalisation has increased competition and thus reduced the magnitude of price rises. Other reasons for the declining second round effects in Switzerland, apart from increased competitive pressure, are increasing deregulation and, thanks to the low inflation rate in the 1990s, the increased credibility of the SNB.[27]

Declining pricing power and lower "menu costs" can be seen by comparing producer and consumer prices. Between 1984 and 1999 the correlation between the two was around 0.7. Between 2000 and 2004 this dropped to around 0.5. Moreover, before the year 2000 consumer prices lagged producer prices by about 6 months, whereas now they move roughly in tandem (Graph 12).[28]

26 Swiss Federal Statistical Office (BFS/SFSO, 1966-2005). While heating oil has a weighting of 1.36%, crude oil products overall account for 4.2% of the Swiss CPI.

27 The reduction in knock-on effects resulting from greater confidence in monetary policy is documented, for example, in Hooker (1999).

28 Cf. BIS (2005, p. 18ff) on the reduction in the knock-on effects of rising raw material prices on import prices and of these on inflation in the main industrialised countries in 1990-2004 compared with 1971–1989.
Evidence that the impact of the pass-through is declining is also found internationally and in more detailed analyses. For example, Hooker (1999) applied a Phillips curve approach to the US. This showed that oil prices had a major impact on both core and headline inflation rates before 1980 and that the influence has dropped off significantly since then.

Core inflation has become more important for monetary policy

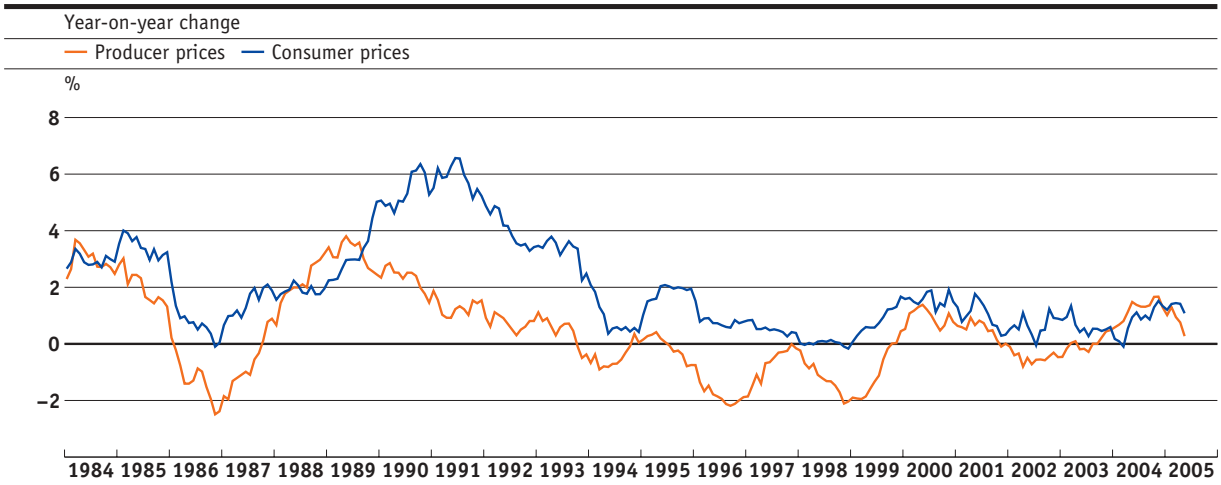
The objective of monetary policy is to maintain low inflation in the medium term. More volatile oil prices increase the frequency with which base effects distort the current CPI. That in turn increases the importance of core inflation for monetary policy. Since core inflation disregards such effects, it provides an insight into the real price pressure in the economy. Using core inflation means that the dangerous second round effects of a hike in oil prices can be distinguished from the initial impact of the price rise, which is of less relevance for monetary policy.

Oil prices affect core inflation through expectations and pay rises

Changes in oil prices affect the core inflation rate over two channels. The first is through expectations: Since many contracts (for example, rent contracts) are either implicitly or explicitly linked to the CPI, a rise in CPI rises expectations of a general rise in price pressure. In other words, consumers assume that oil prices will not be absorbed through relative price shifts, but that the relative price situation will be restored by a rise in the price of non-oil products. The second channel follows from the assumption that, in the face of rising oil prices, consumers will endeavour to make up for the reduction in their real purchasing power through pay raises. This can trigger a wage-price spiral. Empirical studies show that both mechanisms raise the core inflation rate by about the same amount.[29]

29 Cf. Hunt et al. (2001).

Graph 12
Producer and consumer price indices



Source: SNB

5 Oil prices and monetary policy in a new paradigm

The previous sections looked at the factors influencing oil prices and their impact on the economy and inflation. They also addressed the resulting implications for monetary policy. This section summarises the relationship between oil prices and monetary policy and introduces some new aspects. Our conclusion is that a range of factors point to the need to alter the monetary policy response.

An oil price shock confronts monetary policy with a fundamental trade-off. A restrictive monetary policy is needed to counter rising inflationary pressure, while efforts to offset real economic effects call for a more accommodative policy. The monetary policy response can therefore have a major influence on the extent to which higher oil prices impact inflation and the real economy. The extent of this influence has long been the subject of controversial debates. This debate has been made more difficult by the fact that the oil price is increasingly driven by demand. It is becoming more and more difficult to disentangle the monetary policy response to an oil shock from the response to a general increase in inflation. Bernanke, Gertler and Watson (1997) endeavoured to separate these effects. They found that the main output effect is caused not by higher oil prices but by the resultant tightening of monetary policy.[30] Sims (1997) and Hamilton and Herrera (2000) interpreted these findings to suggest that monetary policy can only prevent the drop in growth by allowing higher inflation. The optimal monetary policy answer to oil price shocks is likely to remain a subject of debate in the future. However, there are various reasons why a shift in the monetary policy response can be expected even though the academics have not yet reached a final conclusion. These are outlined below:

30 However, the authors stress that their findings do not necessarily indicate a sub-optimum monetary policy.

a) Faster but less pronounced pass-through effects

The monetary policy response depends to a large extent on the second-round effects. If higher oil prices only have a temporary impact on the CPI, a more restrictive monetary policy is not needed to check the risk of sustained inflationary pressure. By contrast, if the core inflation rate were to rise, this would indicate second-round effects.[31] Monetary conditions would therefore have to be tightened to prevent a permanent rise in inflation. Otherwise there are likely to be high economic costs resulting from a credibility loss for monetary policy, which could lead to higher inflation expectations.[32]

As outlined in section 4.2, the recent oil price increases seem likely to impact the CPI faster than in the past, although their impact may be less pronounced. Alongside declining dependence on oil, this is attributable to more efficient use of oil and, in particular, global competition, which has reduced companies' pricing power. Thus, there is less risk of an oil-price-driven inflationary spiral at present.

b) Stabilisation mechanisms are at work

Another aspect of the relationship between the oil price and monetary policy has changed. As mentioned, the oil market is increasingly demand-driven. While demand-driven increases make oil prices more volatile, they also act as an automatic stabilisation mechanism. A wide range of factors drive the oil price upwards. At the same time, these same increases in the price dampen overall demand, which is one of the main price drivers.[33] Although monetary policy still faces the fundamental dilemma of whether to counteract higher inflation or lower growth, it is supported by this automatic stabilisation mechanism. Nevertheless, finding the appropriate monetary policy response to an oil price shock remains challenging.

31 Alongside the various core inflation rates, consumption and investment in capital goods are regarded as indicators of knock-on effects.

32 Cf. Hunt et al. (2001).

33 Thus, economic normalisation in China, not simply as a result of high oil prices but possibly also as a result of the new currency regime, would exert downward pressure on oil prices in the same way as it pushed them upwards in the boom phase.

c) The economy is not overheated

A key factor for monetary policy, apart from the duration and extent of the oil shock, is the economic environment in which the oil price increase occurs. One reason why the oil shocks of the 1970s were so severe was that the economy was booming and close to overheating. However, the present global economic situation is dominated by restructuring and consolidation despite high overall growth rates.

d) Reduced impact of increased oil price volatility on long-term inflation expectations

As a result of the successful monetary policy efforts of key central banks in recent years, long-term inflation expectations are well anchored within the price stability range. Consequently, highly volatile oil prices are unlikely to have a negative effect on long-term inflation expectations. As long as the central banks continue to pursue a credible monetary policy, inflation expectations will be held in check. This in turn reduces the pressure on them to respond to short-term rises in oil prices.

e) A lower neutral interest rate

Sooner or later, global interest rates will return to a neutral level. However, the question rises whether they will be lower than in the past. A few years ago, a constant interest rate was considered to provide a reasonable approximation of the neutral interest rate. It is now fairly clear that this no longer holds true. As shown e.g. by Woodford (2003), the neutral interest rate can vary over time as a result of real economic shocks. One such major structural shift is, in particular, the increase in international competition – one result of globalisation – as it limits the scope for price increases. This influences the long-term interest rate compatible with price stability. Despite increasing competition, it seems unlikely that international interest rates can be held at the present level in the long term. However, unlike in the case of previous oil shocks, it is necessary to consider that the neutral interest rate could be lower than in the past and therefore that the restrictive impact of raising interest rates could be felt faster than in the past.

6 Concluding remarks

In the light of recent market trends, the oil price has become one of the most keenly followed components of the consumer price index. Numerous driving forces are responsible for the current high and volatile oil prices. Oil prices affect inflation through a variety of channels. Various arguments currently suggest that the monetary policy response to higher oil prices should be less pronounced than in the past. These include: pass-through has become faster but less pronounced, automatic stabilisation mechanisms are at work, the economy is not overheated, monetary policy is focused on long-term targets, and the neutral interest rate can be expected to be lower.

Does this new paradigm make monetary policy easier or more difficult? The challenge facing monetary policy, apart from record (nominal) oil prices, is that international interest rates are still low. The broad consensus is that monetary policy should show little or no reaction to oil shocks as long as they do not affect the core inflation rate. However, that does not necessarily mean adopting a wait-and-see approach. If monetary policy gets behind the curve, inflation expectations are likely to be adjusted. In the long term, such changes can only be reversed at considerable real expense.[34] In the new paradigm, as in the old one, monetary policy therefore needs to be conducted with great care. Swiss monetary policy has attested broad credibility. That is the result of more than ten years of price stability and the new monetary policy concept applied since the start of 2000.[35] The fact that inflation expectations are well anchored is probably the most important asset in monetary policy; given that, asset monetary policy makers need to be less frightened by a prolonged high and volatile oil price than in the past.

34 This prompted Gramlich (2004) to make the much-quoted remark that the worst possible outcome for monetary policy practitioners is a solution that cuts inflation adrift "from its moorings".
35 Cf. Gerlach-Kristen (2005).

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Chronicle of monetary events

Target range for the three-month Libor left unchanged

At its quarterly assessment of 15 September 2005, the Swiss National Bank decided to leave the target range for the three-month Libor unchanged at 0.25–1.25%. It intends to keep the rate in the middle of the target range at around 0.75% for the time being.

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