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Monetary Policy Report (p. 6)

In the fourth quarter of 2004, the flagging momentum in Europe and Asia was only partially offset by the continued strong stimuli emanating from the US. The high oil prices in particular had a slowing effect; as too did the sharp depreciation of the dollar – for Europe. The prospects that the economy in Europe will strengthen over the coming months look good. The overall robust state of the world economy and the continued favourable monetary conditions underpin this assertion. However, the price of oil and the performance of the US currency remain serious threats.

The Swiss economy lost momentum at the end of 2004. Real GDP in the fourth quarter slipped back by an annualised 0.3% compared with the previous period, thus exceeding the corresponding year-earlier level by just 1.2%. Almost all demand components were affected by the slowdown – a factor that was also reflected in the surveys in industry and the retail sector. Employment figures stagnated, while the unemployment rate persisted at 3.8% until February.

At its monetary policy assessment of 17 March 2005, the National Bank decided to leave the target range for the three-month Libor rate at 0.25–1.25%. Its decision was based on two main reasons. Firstly, the inflation prospects had improved somewhat since the last assessment. Secondly, the SNB revised its assessment of the economy for 2005 slightly downwards and weighted certain risks more heavily than in the December 2004 assessment.

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

The talks held between December 2004 and February 2005 with around 140 companies still revealed a predominantly favourable picture. The business results for 2004, which range from good to excellent, contributed to this positive assessment. Despite a slowdown in business, the export companies in particular were generally satisfied with both the order situation and order intake. However, the soft dollar was an increasing cause for concern. On the whole, prospects for 2005 were considered optimistic. Nevertheless, growth in turnover is expected to be slower than in the previous year.

Recent developments in the hedge fund industry (p. 42)

The rapidly growing hedge fund industry has been an important source of innovation in the asset management industry. Hedge funds have rendered financial markets more liquid, more efficient and more flexible. However, market observations suggest that certain segments of the hedge fund industry may have contributed to financial markets volatility either by accentuating existing market trends, by causing sharp price reversals or by gapping price movements. The use of leverage is a central characteristic of hedge funds' activity. Overall industry leverage is extremely difficult to measure. High leverage, combined with inept asset management strategies, has been at the outset of hedge fund failures. As long as they do not undermine the stability of the financial system as a whole, such failures should be of no concern to policy makers. Prudent and disciplined risk management in the global investment banks provides the most reliable protection against an erosion of lending standards and ensuing potentially detrimental consequences of excessive leverage in the hedge fund industry.

Swiss National Bank Economic Studies (p. 58)

Abstract of the paper by Mathias Zurlinden, "Credit in the monetary transmission mechanism: an overview of some recent research using Swiss data", Swiss National Bank Economic Study no. 1, January 2005.

Monetary Policy Report

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

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About this report

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

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

Sections 1–3 of the present report were drawn up for the Governing Board's assessment of March 2005. The Survey and Section 4 (inflation forecast) take due account of the Governing Board's monetary policy decision of 17 March 2005.

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

Survey

The downturn in global economic growth that set in around mid-year persisted in the fourth quarter of 2004. It was especially pronounced in Europe and Japan. By contrast, strong stimuli continued to emanate from the US and the emerging Asian markets, in particular from China. Overall, the economic slowdown was slightly faster than the National Bank had anticipated at its last monetary policy assessment in December 2004. The high oil prices in particular had a slowing effect; as too did the sharp depreciation of the dollar – for Europe.

In the coming months, the economy in Europe is likely to strengthen once again. The overall robust state of the world economy and the continued favourable monetary conditions underpin this assertion. However, the price of oil and the performance of the US currency remain serious threats.

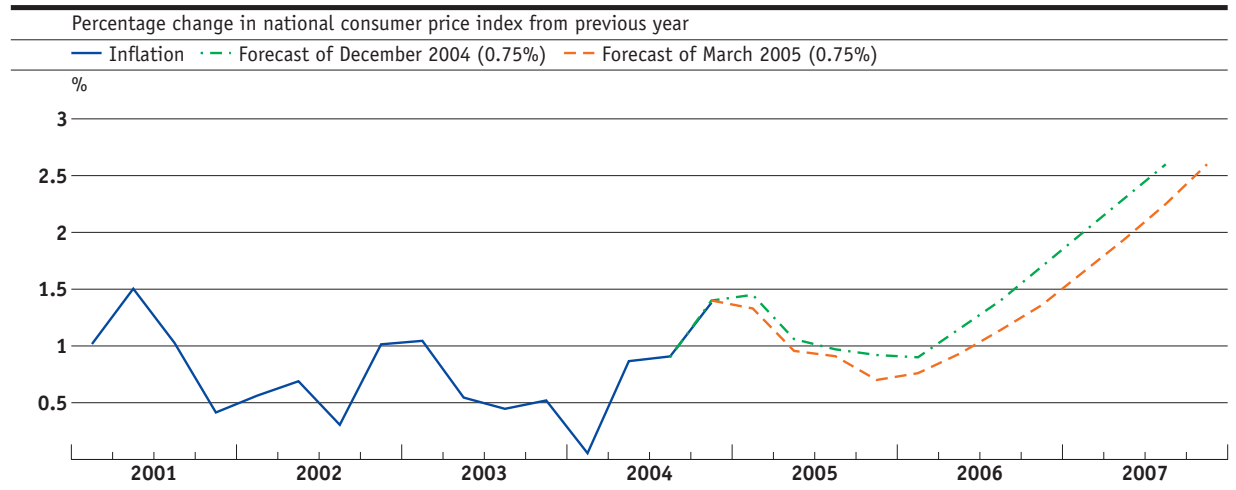
The Swiss economy, too, lost considerable momentum at the end of 2004. Fourth-quarter real GDP slackened slightly, exceeding its year-back level by just 1.2%. All demand components – particularly goods exports and investment – were affected by the slowdown. The situation in the labour market remained unsatisfactory.

The National Bank assumes that the period of economic weakness will be overcome in the quarters ahead. Switzerland is likely to benefit from the positive global economic environment as well as the favourable monetary conditions at home. Having projected economic growth for 2005 to be within the range of 1.5–2% at its monetary policy assessment in December 2004, the SNB now expects it to be around 1.5% averaged over the year. Moreover, it weights certain risks more heavily than in its last assessment. The principal risk is that the higher oil prices may curb global economic growth more acutely than had been previously assumed. Another risk is that economic recovery in Europe might fall below expectations.

The inflation prospects have improved slightly since the monetary policy assessment in December. Against this background, the National Bank decided at its quarterly assessment of 17 March 2005 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 SNB is therefore adhering to its expansionary monetary policy and is making use of its monetary policy leeway to support the recovery of the economy without jeopardising price stability.

In its inflation forecast of March 2005, which is based on the assumption that the three-month Libor remains steady at 0.75% over the following three years, the SNB predicts that the economy will grow by 1% both in 2005 and 2006. Given the delayed economic upswing, inflation is likely to remain low in the medium term, as well. As already forecast in December, inflation is expected to rise from mid-2006. The projected price increases are, however, lower than predicted in December. This notwithstanding, in 2007, forecast inflation will exceed the 2% limit that the National Bank equates with price stability. This leads to the conclusion that the SNB will have to tighten its monetary policy in the next three years so as to guarantee price stability in the longer term, too.

Inflation forecast of December 2004 with Libor at 0.75% and of March 2005 with Libor at 0.75%



Inflation forecast of March 2005 with Libor at 0.75%

	2005	2006	2007
Average annual inflation in percent	1.0	1.0	2.1

1 Development of the global economy

The downturn in global economic growth that set in around mid-year persisted in the fourth quarter of 2004. The flagging momentum in Europe and Asia was only partially offset by the continued strong stimuli emanating from the US.

Overall, the growth slowdown was slightly more pronounced than the National Bank had anticipated at its last monetary policy assessment in December 2004. In the second half of the year, the high oil prices in particular had a slowing effect; as too did the sharp depreciation of the dollar – for Europe.

The prospects that the economy in Europe will strengthen over the coming months look good. The overall robust state of the world economy and the continued favourable monetary conditions underpin this assertion. However, the price of oil and the performance of the US currency remain serious economic threats.

Brisk domestic demand and growing US trade deficit

Domestic demand in the US picked up significantly in the fourth quarter. Private sector spending moved up by 4.2% compared with the previous period, while corporate investment expanded by around 20% for the second time running. Given that the trade deficit widened considerably in the wake of increasing imports and only moderate growth in

exports, the robust domestic demand did not result in higher growth of the gross domestic product (GDP). At 3.8%, GDP growth was in fact a touch weaker than in the previous period (4%).

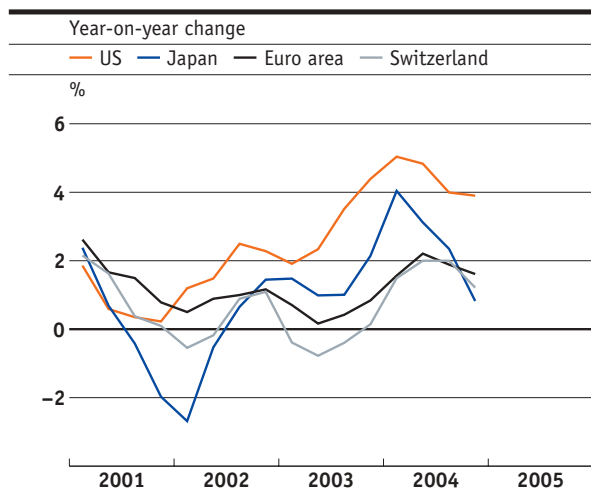
The indicators available for January suggest that the manufacturing sector and construction industry will continue to grow vigorously. Labour market indicators also revealed favourable results. Employment – which rose sharply in February – is likely to increase further in the coming months and underpin private sector spending. Buoyed up by the low dollar exchange rate, exports should provide impetus for growth. The favourable corporate financial situation is expected to keep investment activity strong.

European economy floundering

At 0.6%, fourth-quarter GDP growth in the euro area was at its weakest in 18 months. The disappointing result reflects the decline of GDP in Germany (-0.9%) and Italy (-1.2%) in particular, and stands in stark contrast to the acceleration in France (3.1%).

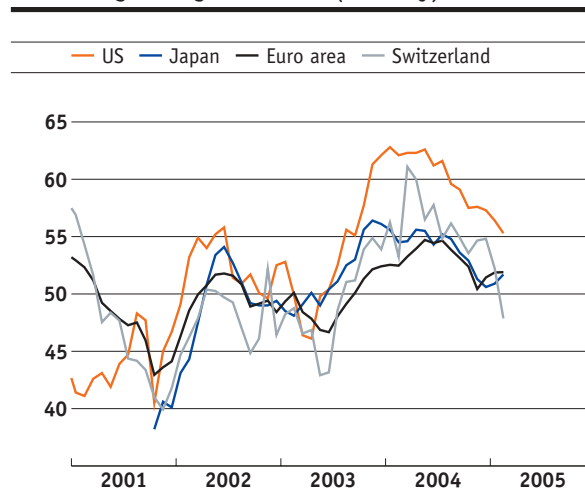
The GDP drop in Germany was primarily attributable to the fall-off in government spending and the reduction in inventories. As was the case in the entire euro area, corporate investment activity was also muted. Sluggish domestic turnover and the strong euro are likely to have been two equally contributing factors. However, a ray of hope was provided by private consumption, which exceeded its year-earlier level in the fourth quarter.

Graph 1.1
Real GDP



Sources: Bank for International Settlements (BIS), State Secretariat for Economic Affairs (seco)

Graph 1.2
Purchasing managers' indices (industry)



Source: Datastream

Notwithstanding the poor economic results in the second half of 2004, the chances that the euro area will slide into a recession are slim. Most of the monthly economic indicators are still close to their historical averages and point to moderate economic growth. Some signs, albeit still weak, suggest that growth in Germany will pick up speed over the course of this year. This particularly includes an improvement in consumer sentiment.

Slight slowdown in economic momentum in Asia

Economic development in Asia was uneven in the fourth quarter. In Japan, GDP stagnated after two quarters of negative growth. This downturn was partly attributable to the unexpected drop in private consumption and the distinctly negative foreign trade contribution. Growth in the emerging Asian industrialised countries (Korea, Taiwan, Hong Kong, Singapore) slowed; a development that was due in particular to the weakening of the highly cyclical demand for IT products, especially from the US. In China, by contrast, economic growth remained robust. There was still hardly any sign of the slowdown that had been projected and that the Chinese government had strived for. However, retail sales fell off in the fourth quarter, indicating a gradual weakening in domestic demand growth.

Leading indicators in the first quarter of 2005 suggest that the Japanese economy will pick up pace

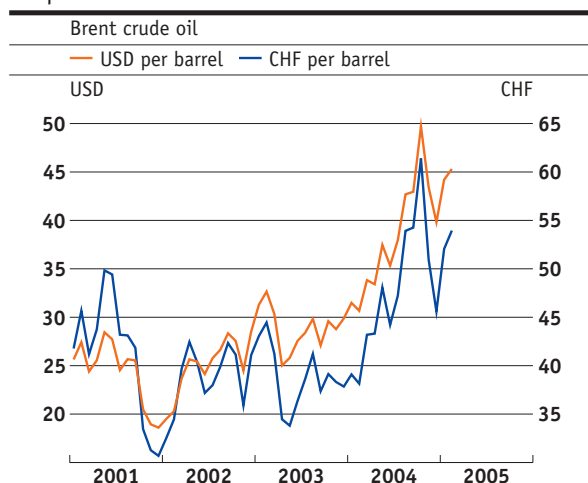
once again. Domestic demand, which is currently benefiting from the general labour market recovery and the favourable investment climate, is likely to shore up this development. In China, growth is still expected to slow. As long as the Chinese government retains its currency peg to the US dollar, it will also have to take on board certain expansionary monetary policy conditions of the US. This means that the threat of the Chinese economy overheating is not averted.

Declining inflation due to falling oil prices

The annual inflation rates measured against the consumer price indices dropped back between October 2004 and January 2005 in most industrialised countries. In the US, annual inflation receded from 3.2% to 3.0%; in the euro area from 2.4% to 1.9%. This is primarily attributable to the drop in the price of oil – the average price of Brent crude fell from USD 50 a barrel in October to USD 44 in January. Annual inflation in the euro area advanced slightly in February to 2.0%, while remaining at 3% in the US.

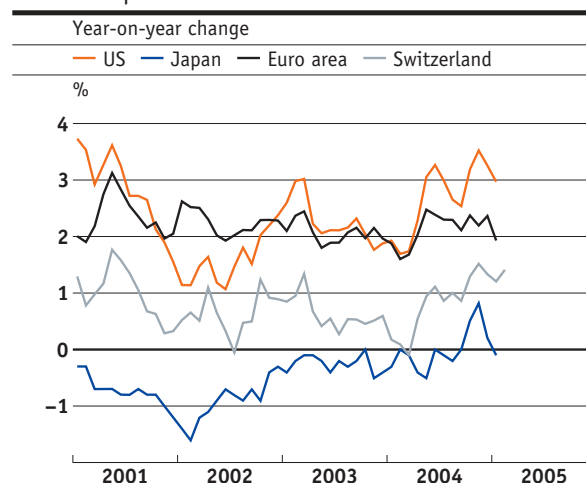
Core inflation – excluding the volatile components of oil and food – developed along a different path. Owing to the slide of the dollar and the vigorous domestic demand from October to February, core inflation in the US increased by 0.4 percentage points to 2.4%. Meanwhile in the euro area, it dropped from 1.9% to 1.4%.

Graph 1.3
Oil prices



Source: SNB

Graph 1.4
Consumer prices



Source: BIS

Gradual tightening of US monetary policy reins

In February 2005, the US Federal Reserve (Fed) pushed up its key interest rate – the federal funds rate – for the sixth time since June 2004 by 0.25 percentage points, thus bringing it to 2.5%. According to the Fed, the robust domestic demand and the short-term interest rates – which are still very low by historical standards – call for a tightening of monetary policy. This will be a slow process, however, as high oil prices and weak foreign demand continue to pose certain risks, while at the same time, the stable inflationary expectations help to keep inflationary risks in check.

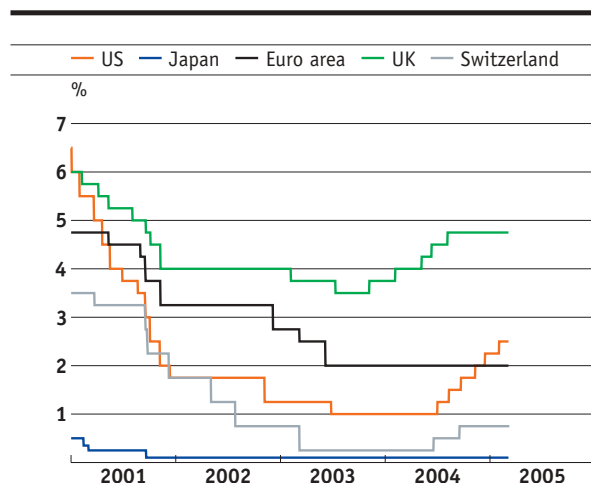
The European Central Bank (ECB) has kept its main refinancing rate at 2% since June 2003. Its reason for this unaltered monetary policy is the absence of mounting domestic price pressures within the euro area. Given the brisk growth in money supply and lending, however, the ECB is keeping a close eye on medium-term risks to price stability.

Subdued economic prospects

Disappointing economic development in Europe and Japan resulted in forecasting institutions downgrading their growth forecasts for 2005. Between November 2004 and February 2005, the consensus forecast for the euro area dropped from 1.9% to 1.7%; and for Japan from 1.8% to 1.1%. For the US, meanwhile, it climbed by 0.1 percentage points to 3.5% (cf. table 1.1).

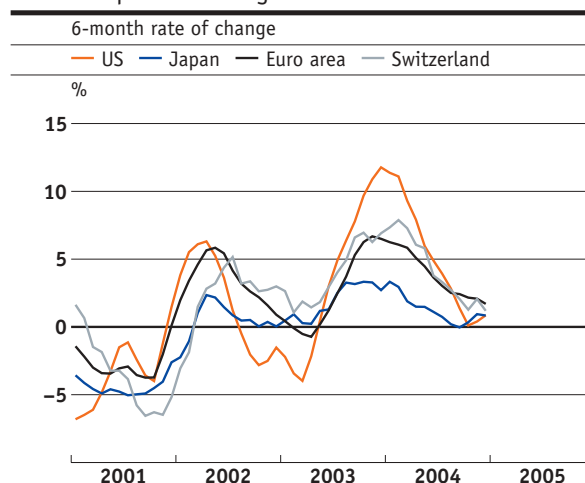
In view of the inflation forecast of March 2005, the National Bank revised its expectations for GDP development in the EU slightly downwards on the December 2004 forecast. However, where Europe is concerned, it anticipates slightly higher growth than projected by the consensus forecast (cf. chapter 4.1).

Graph 1.5
Official interest rates



Sources: BIS, SNB

Graph 1.6
OECD composite leading indicators



Source: OECD

	Economic growth ¹				Inflation ²			
	IMF		Consensus ³		IMF		Consensus ³	
	2005	2006	2005	2006	2005	2006	2005	2006
United States	3.7	3.7	3.5	3.4	2.8	2.4	2.4	2.2
Japan	0.8	1.9	1.1	1.8	0.3	0.4	0.0	0.3
Euro area	1.6	2.2	1.7	2.0	2.0	1.9	1.8	1.7
Germany	0.8	1.9	1.2	1.6	1.4	1.2	1.3	1.2
France	2.0	2.3	1.9	2.2	2.2	2.0	1.8	1.7
Italy	1.2	2.0	1.4	1.8	2.8	2.3	2.0	1.9
United Kingdom	2.6	2.6	2.5	2.4	1.5	1.8	1.7	1.8

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

2 Consumer prices, year-on-year change in percent. IMF: euro area, United Kingdom: harmonised inflation figures

3 Consensus forecasts are monthly surveys conducted among over 240 leading companies and economic research institutes in approximately 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.

Sources: IMF: World Economic Outlook, April 2005; Consensus: February 2005 Survey

2 Development of the Swiss economy

2.1 Aggregate demand and output

Slight GDP decline

The Swiss economy lost considerable momentum at the end of 2004. According to estimates by the State Secretariat for Economic Affairs (seco), real GDP receded in the fourth quarter by an annualised 0.3% on the previous period. It thus exceeded the year-earlier figure by 1.2%, after having risen 2.0% in the third quarter. Based on the quarterly estimate published by seco, economic expansion for 2004 as a whole averages 1.7%.

All demand components – with the exception of government consumption – flattened off. While private spending grew at an only slightly slower pace, investments in construction and equipment contracted compared with the previous quarter. Overall, therefore, domestic demand (excluding inventories) declined somewhat. Foreign trade was also beginning to show signs of weakening. Exports of goods – not including the volatile exports of valuables – stagnated, while exports of services waned. Imports exhibited a broad-based decline.

Given the weaker global economic expansion, a slowdown in economic recovery had to be expected in Switzerland as well. In fact, since autumn 2004, a series of indicators have been suggesting that the manufacturing and service sectors are beginning to lose steam. The economic downturn as evidenced by GDP development was more pronounced, however,

than the National Bank had anticipated. The decline in construction investment as projected by seco conflicted with other indicators that anticipate firmer development in construction activity.

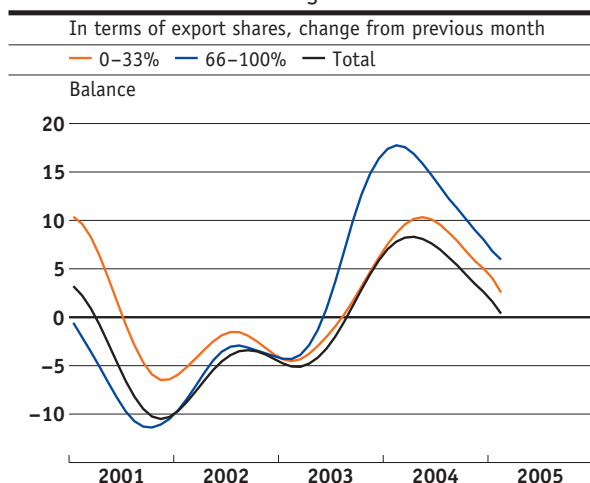
The National Bank assumes that the period of economic weakness will be overcome in the quarters ahead. This assessment is based on the fact that Switzerland continues to benefit from the positive global economic environment as well as the favourable monetary conditions at home. For this to be possible, however, it is vital that the exchange rate and the oil price in particular do not cause any further disruptions.

Slowdown in industrial activity

Following the upturn at the end of 2003 and beginning of 2004, growth in industrial output fell off considerably over the remainder of 2004. In the fourth quarter, the manufacturing industry's output expanded by 0.7%, thus exceeding the year-earlier figure by 4.9% (third quarter: 3.8%). Practically all sectors were affected by the slowdown.

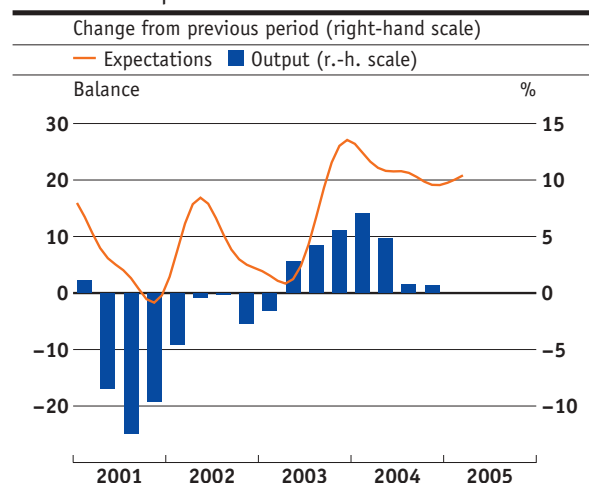
According to the results of the survey conducted by the Institute for Business Cycle Research at the Swiss Federal Institute of Technology (KOF/FIT), industrial growth was boosted only very slightly at the beginning of 2005. The order intake continued to decline in January and companies' assessment of the order situation did not improve further. Orders in hand, however, remained at a satisfactory level. Owing to the slowdown in demand, companies decided nonetheless to cut output levels slightly. Inventories were still considered to be adequate.

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
Industrial output



Sources: Swiss Federal Statistical Office (SFSO), KOF/FIT

Real GDP and components
Year-on-year growth rates

Table 2.1

	2001	2002	2003	2004	2003				2004			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Private consumption	2.0	0.3	0.5	1.3	0.6	0.6	1.0	1.5	2.3	0.5	0.8	0.7
Government consumption	4.2	3.2	1.4	1.2	-0.1	2.1	2.1	1.4	2.1	0.6	-1.3	1.0
Investment in fixed assets	-3.1	0.3	-0.3	3.4	2.5	-10.5	11.7	9.6	-1.5	8.1	2.2	-5.8
Construction	-3.4	2.2	1.8	3.5	5.6	1.2	3.7	8.4	6.7	0.5	2.1	-8.6
Equipment	-2.9	-1.1	-2.0	3.4	0.1	-19.1	18.9	10.6	-7.9	14.8	2.3	-3.4
Domestic final demand	1.0	0.7	0.4	1.7	1.0	-1.8	3.5	3.3	1.4	2.2	0.9	-0.8
Domestic demand¹	-	-	-	-	-	-	-	-	-	-	-	-
Total exports	0.2	-0.2	0.0	6.6	-9.7	4.6	10.5	11.3	9.6	-0.1	4.5	1.8
Goods ²	3.7	0.3	0.7	7.6	-3.8	2.8	9.2	14.0	10.8	0.6	7.4	0.2
Services	-2.8	-3.8	0.6	3.2	-12.3	4.4	15.9	7.8	-1.6	0.8	3.1	-6.0
Aggregate demand	-	-	-	-	-	-	-	-	-	-	-	-
Total imports	3.2	-2.8	1.4	5.5	3.1	-1.2	10.1	14.3	-4.9	12.9	9.1	-4.6
Goods ²	1.6	-2.2	2.7	6.4	22.9	-18.6	23.3	15.7	0.6	2.7	15.2	-3.3
Services	11.2	-1.7	-1.4	1.5	-0.4	-0.9	-3.2	-3.7	9.4	1.6	2.3	-4.3
GDP	1.0	0.3	-0.4	1.7	-4.3	0.1	2.0	2.6	1.4	2.2	1.6	-0.3

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

2 Excluding the above under footnote 1

Source: seco

Outlook

As the KOF/FIT survey results reveal, companies do not expect demand to pick up in the near term. Output is thus unlikely to grow much in the first quarter. The purchasing managers' index (PMI) purports the same: in February, it once again just barely fell into a range that signals declining output.

The impression that the SNB's delegates for regional economic relations got from their talks held with companies representing the major economic sectors continues to give grounds for confidence. Despite a slowdown in business, the export companies in particular were generally satisfied with both the order situation and order intake. However, the soft dollar was an increasing worry for many of them. On the whole, prospects for 2005 were considered optimistic. Nevertheless, growth in turnover is expected to be slower than in 2004 – as already suggested by many companies last autumn.

Weaker growth in exports

Compared with the previous quarter, growth in real exports contracted significantly in the fourth quarter. Exports of services dwindled and goods exports – not including the increase in exports of valuables – hardly grew at all. Given the favourable export performance in the first half of 2004, exports

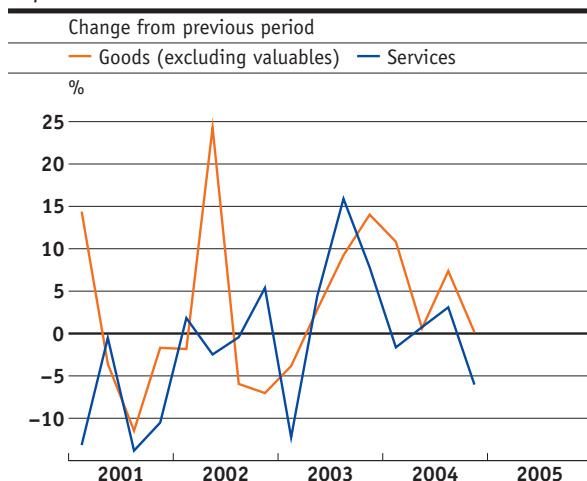
still managed to exceed their year-earlier level by 3.8%, rising by an average of 6.7% over the year.

Broken down by types of goods, exports of semi-manufactures declined, while capital goods exports stagnated. Within the capital goods category, however, shipments of industrial machinery – which makes up around 17% of total goods exports – performed well. Additional impetus was provided by exports of consumer goods, in particular chemicals and pharmaceuticals.

In January, the soft growth of goods exports seems to have accentuated: exports of consumer goods improved only slightly and exports of industrial machinery stagnated.

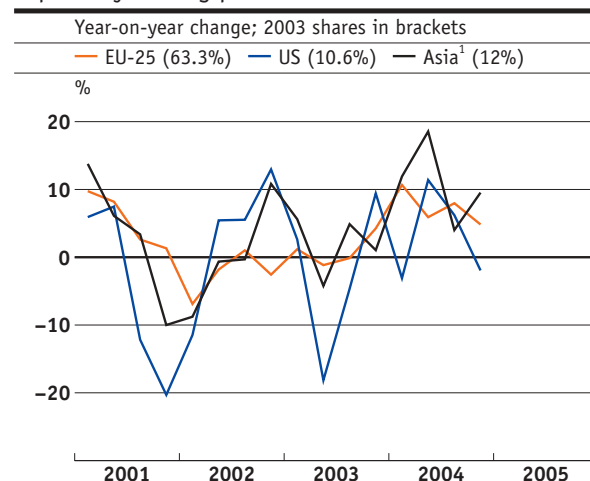
In nominal terms, exports of goods – which are used in the breakdown of exports by country – declined in the fourth quarter by 1.5% on the previous quarter. Yet they still exceeded the corresponding year-earlier level by 4.2%. As was the case in the third quarter, exports to the EU – particularly those to Germany – remained comparatively high. Swiss companies, as major suppliers to the German industry, benefited from the continued buoyant German export market. Exports to the US, by contrast, stagnated, while those to Asia – and to China in particular – were even lower than in previous quarters.

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)

Real exports of services fell in the fourth quarter compared with the previous period and were 1.2% below the year-back level. The steep decline in income from the insurance business and transport services continued to have a dampening effect. However, owing to the higher turnover in the international financial markets, bank commissions picked up slightly in the fourth quarter. Accounting for roughly one-third of all exports of services, receipts from tourism exhibited an especially high increase.

Dwindling imports

Real imports staged a marked decline in the fourth quarter, after having expanded vigorously in the two preceding quarters. Both goods and services were affected. In a year-on-year comparison, imports climbed by 2.7%.

Imports of capital goods recorded a particularly sharp decrease, although the drop was overstated by special factors, such as diminishing imports of aircraft. Imports of consumer goods also receded, while imports of raw materials and semi-manufactures firmed slightly. In January, overseas sourcing of goods flattened off further.

For the first time in a year, imports of services contracted, too. The steep fall in expenditure for transport services in particular had a major impact. Expenditure in tourism also dropped, although it did exceed the year-earlier figure – as too did the total of services imports.

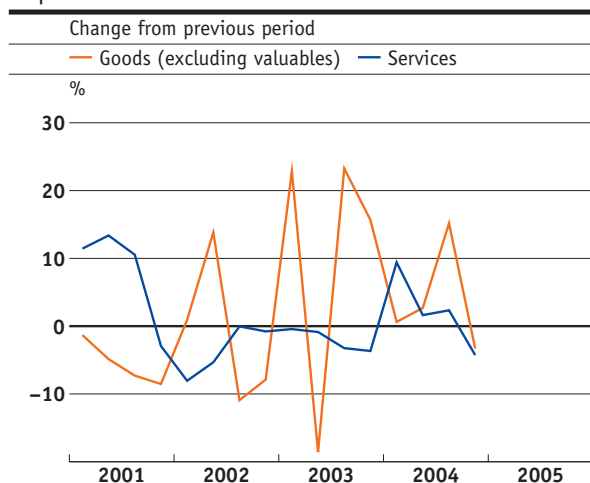
Modest growth in consumption

The moderate uptrend in private sector spending continued in the fourth quarter of 2004. However, at 0.7%, growth remained below its level at the beginning of 2004. Consumer spending climbed by 1.1% on the year-back figure.

Growth in consumption was driven primarily by expenditure in the relatively non-cyclical areas of housing and health. Goods consumption performed poorly by comparison. Real turnover in the retail trade contracted compared with the previous quarter and remained at the same level as a year earlier, despite one additional shopping day (third quarter: +0.6%). This development was partly a result of the declining backlog of demand for consumer durables, such as household items and home furnishings. In addition, households cut back expenditure on fuel and heating oil, given their high prices. In January, turnover in the retail trade remained weak, falling 3.1% short of the previous year's level. According to the survey conducted by KOF/FIT, the outlook in the retail industry for this and the next quarter became gloomier.

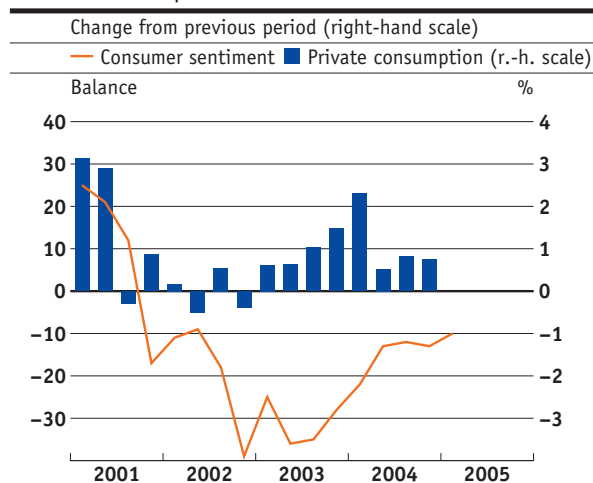
After an already muted summer season, tourism in the winter season got off to a slow start. The number of overnight stays by Swiss guests in the fourth quarter was 3.6% below the year-back level. According to the KOF/FIT quarterly survey, the hospitality sector expects this figure to remain low in the first quarter. Initial results appear somewhat more

Graph 2.5
Imports



Source: seco

Graph 2.6
Private consumption



Source: seco

upbeat, however. The ski resorts in particular were very satisfied with the winter season.

Robust consumer confidence and more favourable income trend

Despite the disappointing performance in retail, some developments in private consumption look encouraging. In January, the consumer sentiment index compiled by seco stood at -10 points. Compared with the October survey (-13 points), the households surveyed were thus slightly more optimistic. Insufficient job security continued to be a cause for concern. By contrast, the outlook regarding their personal financial situations was more positive than in October. They also considered the time for making major purchases as somewhat more favourable.

The income trend, which is likely to improve slightly on last year, also gives rise to optimism. Following an improvement of 0.7% in 2004, the SNB anticipates that the real income of employees will climb by 1.2% in 2005 as a result of the increase in wages and salaries. The moderate uptrend in private sector spending is therefore likely to continue.

Downturn in construction activity

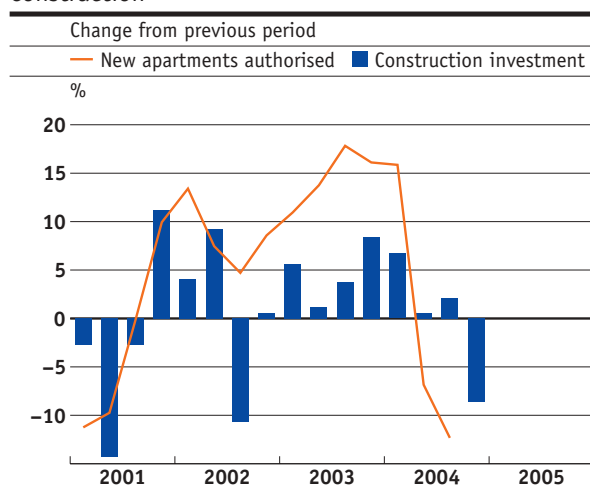
Construction investment intensified by 3.6% in 2004, thus contributing positively to overall economic development, as was also the case in the two previous years. However, it fell back in the fourth quarter

and stagnated as compared with the previous year. According to seco, this development is attributable to a decline in commercial construction and civil engineering projects, which could not be offset by the continued brisk growth in residential construction.

After having flattened off in the second and third quarters of 2004, the number of residential building permits issued shot up once again at the end of the year. Investment in residential construction is therefore set to expand considerably in the near term. Given the fact, however, that the accommodation situation improved greatly in 2004 and the vacancy rate increased slightly, a gradual slowdown in residential construction is to be expected.

The boost in corporate investment activity is likely to breathe life back into commercial construction. This is also projected by the results of the annual investment survey conducted by KOF/FIT in autumn 2004. Owing to the persistently high vacancy rate in office property, however, this recovery will probably be moderate. A turnaround in public-sector construction cannot be expected any time soon, given the government's cost-cutting measures.

Graph 2.7
Construction



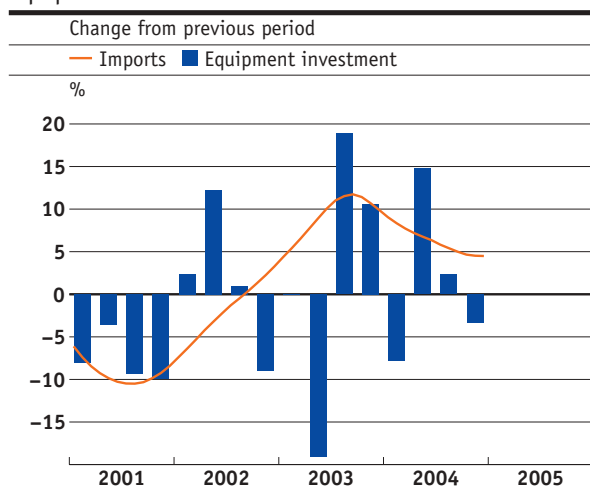
Sources: SFSO, seco

Moderate revival in equipment investment

Fourth-quarter development in equipment investment was also sluggish, exceeding its year-back level by just 1.1%. While imports of capital goods declined in a quarter-on-quarter comparison, the turnover in domestic capital goods was somewhat higher. According to seco, investment in machinery and demand for IT services in particular fell back.

An upswing in equipment investment can be expected in the first half of 2005. The increase in capacity utilisation and improvement in companies' earnings underpin this assertion. However, production will have to pick up as anticipated in the second half of the year before a sustained recovery in investment activity can be possible.

Graph 2.8
Equipment



Sources: FCA, seco

2.2 Capacity utilisation

Improved capacity utilisation in industry

Technical capacity utilisation in industry continued to strengthen in the fourth quarter. According to the KOF/FIT survey conducted in January 2005, it reached almost 85% (cf. graph 2.9). This is the highest level since the beginning of 1999 and is slightly above the long-run average. Compared with the first half of 2004, however, utilisation grew at a distinctly slower pace. This is a reflection of the downturn in output growth. As a result, capacity was not increased to the same extent as in the past.

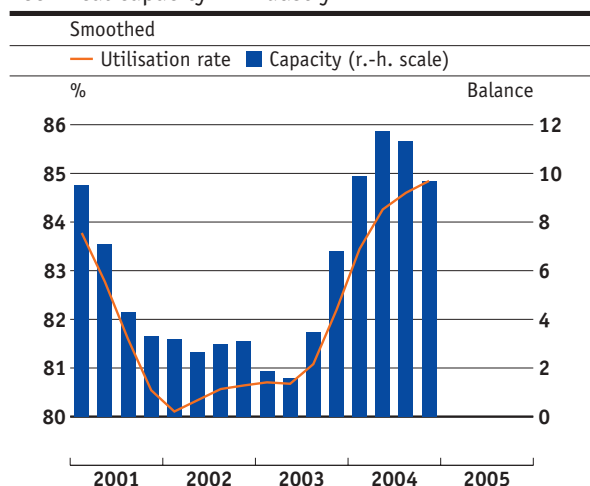
Whole-economy output gap slightly wider

The output gap in the economy as a whole is a more general means of measuring production capacity utilisation. Unlike the utilisation of technical capacity in industry, the output gap refers to all eco-

nomie sectors and, in addition to technical capacity, also takes the labour market situation into consideration. The output gap is defined as the difference between actual and potential real GDP. The latter has to be estimated; in the SNB this is achieved using three methods. These are briefly described in an earlier issue of the Quarterly Bulletin (cf. Quarterly Bulletin 2/2004, p. 21).

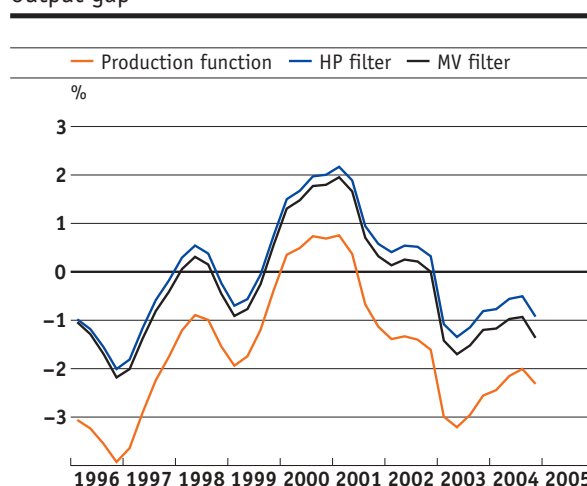
The different methods provide varying estimates for the level of the output gap (cf. graph 2.10) and thus sound a note of caution with regard to the assessment of production potential. That aside, however, all estimates indicate that the actual GDP is below the potential GDP and that the output gap narrowed steadily between the second quarter of 2003 and the third quarter of 2004. Due to the stagnation of GDP, however, this trend did not continue in the fourth quarter. The output gap widened slightly compared with the previous period.

Graph 2.9
Technical capacity in industry



Source: KOF/FIT

Graph 2.10
Output gap



Source: SNB

2.3 Labour market

Unsatisfactory labour market situation persists

The labour market failed to stage a turnaround in 2004. This was primarily due to the restrained economic growth, which was only slightly higher than the increase in labour productivity. In the fourth quarter, the number of persons in employment grew by a mere 0.2% on the previous quarter and only barely exceeded the year-earlier level. Job cuts in the manufacturing sector continued practically unabated (-1.6%). The chemical industry was one of the few sectors in which new jobs were created, while the number of employees in the service sector remained stagnant. Whereas employment in the areas of financial intermediaries and public services edged up, important sectors, such as the retail and wholesale trade, shed jobs yet again. The construction industry was the only sector to record a marked boost in employment figures (2.2%).

Broken down by employment level, the long-standing trends continued. While the number of full-time employees fell both in the manufacturing and service sectors, part-time employment figures grew further. Converted into full-time positions, employment fell in both economic sectors, albeit slightly less pronounced than in the previous quarter.

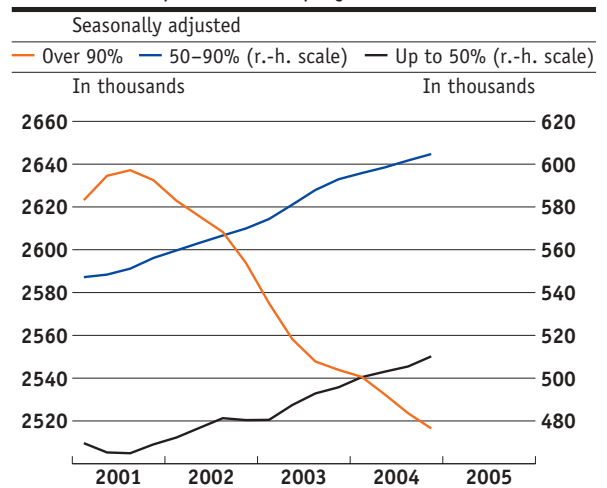
Stagnating unemployment rate

The unemployment figure in February 2005 persisted at 4.1%, corresponding to roughly 162,000 persons. The seasonally adjusted rate was flat at 3.8%. The number of job seekers also remained unchanged at around 218,100 persons until February, equivalent to a rate of 5.5% (seasonally adjusted).

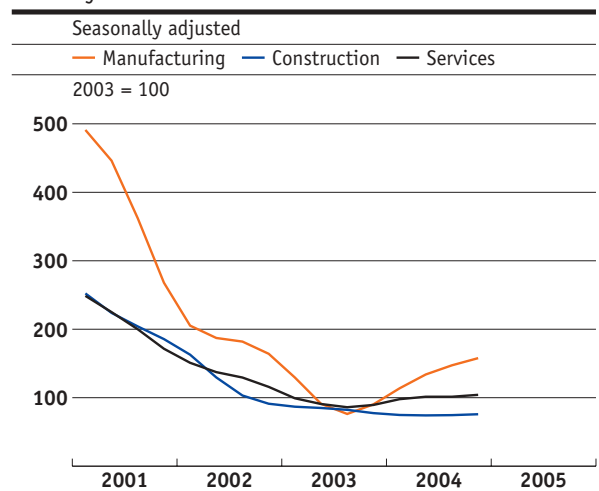
No rapid improvement on the horizon

Given the moderate GDP growth anticipated for the first half of 2005, a perceptible improvement in the labour market cannot be expected just yet. This is also reflected in the development of the leading employment indicators. The vacancies index compiled by the Swiss Federal Statistical Office (SFSO) improved only slightly in the fourth quarter, remaining low by historical standards. The Manpower Index stagnated and the employment component in the PMI indicated that job cuts in the manufacturing sector had continued up until the last count.

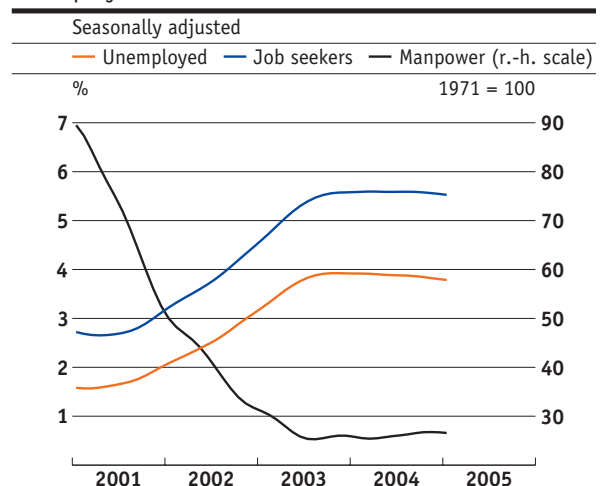
Graph 2.11
Full-time and part-time employment



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

Subsiding inflation in producer and import prices

The price pressure exerted by producer and import prices on the downstream consumer level eased considerably. Due to the falling prices for petroleum products, imported goods in January were 1.8% more expensive than a year earlier, following a 2.6% increase in October. Between October and January, annual producer-price inflation dropped back from 1.7% to 1.0%, reaching its lowest level since March 2004. Registering a 1.5% increase, the prices of goods destined for the domestic market rose at a somewhat slower pace than in October (2.6%), yet still faster than those of export goods (0.5%).

Broken down by types of goods, the price erosion of agricultural products, which started in mid-2004, continued (January: -2.2%). Prices of consumer goods and capital goods, meanwhile, remained virtually stable. As a result of the persistently high prices for metal products, the upward price pressure for materials and supplies was still above average at 3.1%, but no longer reached the levels of October. Price increases for energy slowed from 12.4% to 4.5%.

Slightly lower consumer price inflation

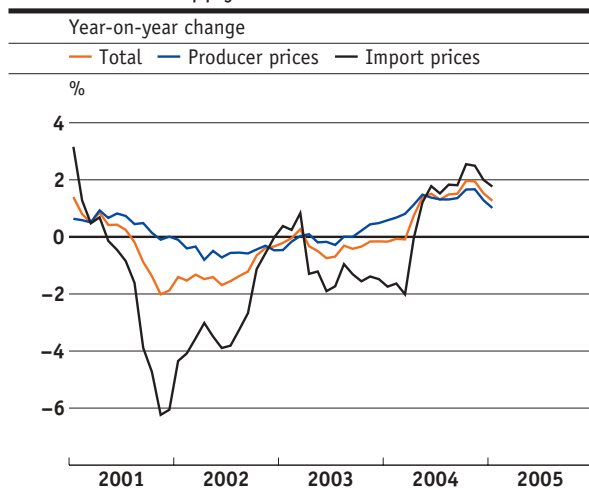
Annual inflation, as measured by the national consumer price index (CPI), fell by 0.3 percentage points to 1.2% from November to January, but

advanced again in February to 1.4%. The inflation trend was strongly influenced by the prices of goods (including oil products). Averaged over the first quarter, inflation is likely to be slightly lower than the SNB had anticipated in its inflation forecast in December 2004. The parameters for the core inflation rate indicated a moderate and stable trend in the general price level.

Easing domestic inflation

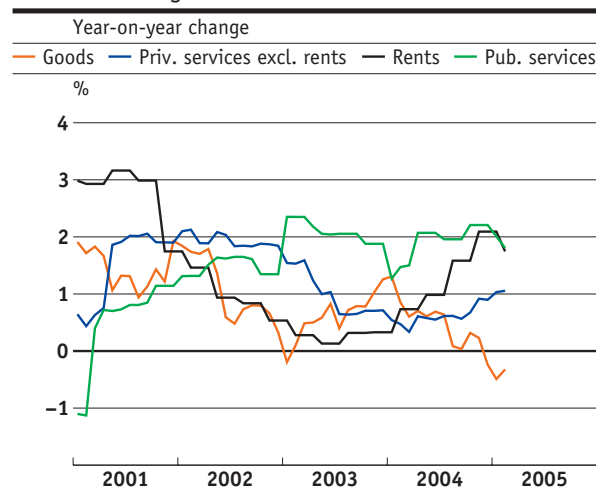
The annual inflation for domestic goods and services fell back from 1.2% to 1.0% between November and February. This fall was partly attributable to the slightly falling prices of domestic goods, which account for roughly one-quarter of the domestic basket of commodities. Prices of electricity and certain food products, such as fruit and meat, registered a particularly strong decline. A more significant development was the drop in the annual rent inflation, measured on a quarterly basis; it slid 0.4 percentage points to 1.7% between October and February. The annual price inflation for other private services rose by 0.2 percentage points to 1.1% between November and February. Price increases were registered especially in rail (SBB rates) and air transport, as well as in individual health care services. Prices of public services fell from 2.2% to 1.8%. This was due largely to the slower rise in prices for hospital services and fees for refuse removal and sewage. A price surge was recorded, by contrast, in rates for public regional transport.

Graph 2.14
Prices of total supply



Source: SFSO

Graph 2.15
CPI: Domestic goods and services



Sources: SFSO, SNB

Temporary downturn in import inflation

The falling fuel and heating oil prices forced the annual price inflation for imported consumer goods from November to January down by one percentage point to 1.5%. It climbed anew in February to 2.5%. At an annual price inflation of 15.1%, oil products still accounted for almost half of the entire consumer inflation. At the same time, the decline in the price of other imported goods slowed to a standstill for the first time in more than two years (+0.1%). This was due in part to the price hikes on vegetables following harvest losses in Spain in the wake of bad weather. Prices for consumer electronics, meanwhile, fell more sharply and stood 8.0% below the year-earlier level in February, as against -4.9% in November.

Slight decline in SNB's core inflation

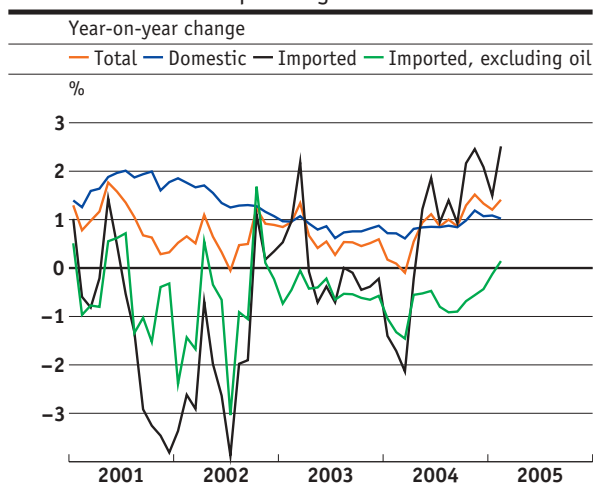
Inflation, as measured by the CPI, is subject to numerous short-term influences which may distort perceptions of trend in the general price level. The SNB therefore calculates a parameter for the core inflation. For any given period, this core inflation

rate excludes the 15% of goods with the highest annual price variation and the 15% of goods with the lowest annual price variation from the consumer price index commodities basket. After having increased to 1.1% between July and November 2004, the core inflation, which is calculated according to the above-mentioned method, stayed put until January 2005. It then dropped to 1.0% in February.

Rise in SFSO's core inflation rates

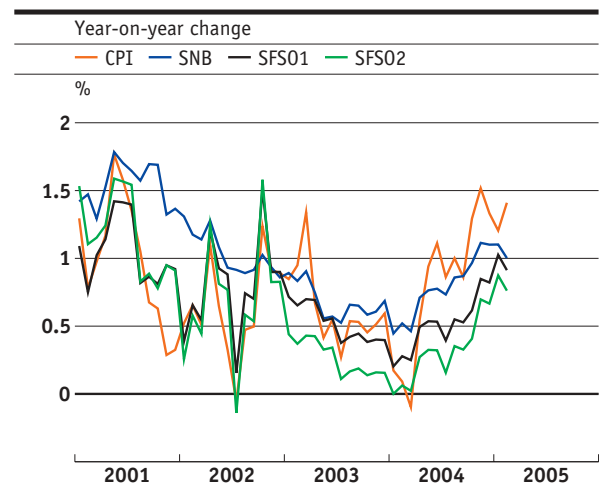
Unlike the core inflation rate calculated by the SNB, the two core inflation rates calculated by the SFSO exclude the same goods from the commodities basket in any given period. In the case of core inflation 1, food, beverages, tobacco, seasonal products, energy and fuels are excluded. Core inflation 2 additionally excludes products with administered prices. In contrast to the SNB core inflation rate, those published by the SFSO in February were both 0.1 percentage points higher than in November. Core inflation 1 amounted to 0.9%; core inflation 2 to 0.8%.

Graph 2.16
CPI: Domestic and imported goods and services



Sources: SFSO, SNB

Graph 2.17
Core inflation



Sources: SFSO, SNB

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

Table 2.2

	2004	2004					2005	
		Q2	Q3	Q4	November	December	January	February
Overall CPI	0.8	0.9	0.9	1.4	1.5	1.3	1.2	1.4
Domestic goods and services	0.9	0.8	0.9	1.1	1.2	1.1	1.1	1.0
Goods	0.5	0.7	0.3	0.1	0.2	-0.2	-0.5	-0.3
Services	1.0	0.9	1.1	1.4	1.5	1.5	1.5	1.4
Private services excluding rents	0.6	0.6	0.6	0.8	0.9	0.9	1.0	1.1
Rents	1.2	0.9	1.4	1.9	2.1	2.1	2.1	1.7
Public services	1.9	2.1	2.0	2.2	2.2	2.2	2.0	1.8
Imported goods and services	0.6	0.9	1.1	2.2	2.5	2.1	1.5	2.5
Excluding oil products	-0.8	-0.5	-0.9	-0.6	-0.6	-0.4	-0.1	0.1
Oil products	9.3	10.3	12.7	19.2	20.9	17.6	10.0	15.1

Sources: SFSO, SNB

3 Monetary development

3.1 Interest rates

Money market rates in Switzerland unchanged

At its December 2004 assessment, the SNB left the target range for the three-month Libor rate unchanged at 0.25–1.25%, after having raised this range by a quarter of a percentage point in September. It continued to target the mid-point of 0.75%. In the three months following the assessment, the three-month Libor rate stood very close to that level. The SNB steers the three-month Libor indirectly by setting the level of repo rates, in particular the weekly repo rate. The latter showed a rising trend, fluctuating between 0.50% in December and 0.64% in February. In principle, the repo rate is set on the basis of monetary policy requirements, taking due account of the market situation. During the period under review, it became somewhat more difficult to predict the market situation. One factor was the adjustment of the banks' demand for base money to the new liquidity requirements which entered into force on 1 January 2005. These new requirements will probably tend to result in a decline in the demand for sight deposits. Not all banks, however, have immediately adapted their practice in line with the new minimum reserve requirement.

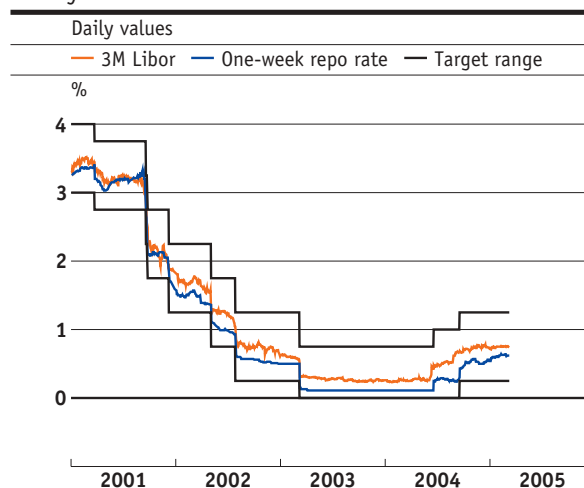
Stable short-term interest rates expected

Following the quarterly assessment of December, the three-month rate implicit in the Swiss money market futures contract with a maturity of 14 March 2005 (i.e. three days prior to the assessment of 17 March) initially slipped further. At 0.8%, it has remained stable at 0.8% since the beginning of January (cf. graph 3.2), suggesting that the markets no longer expected a tightening of monetary policy until mid-March.

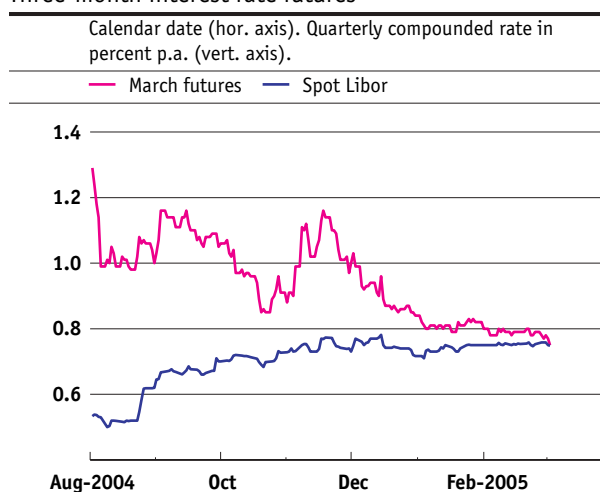
Forward rates slightly lower since December

Graph 3.3 depicts three forward rates computed based on the interest rate structure of the Swiss-franc Libor and the spot rate of the three-month Libor since December 2004. A forward contract is a contract concluded today which is to be fulfilled at some point in the future. Consequently, it is comparable to a futures contract. Forward contracts differ from futures contracts in that the terms are not standardised and afford the parties more freedom with regard to the due date and the investment sum. The

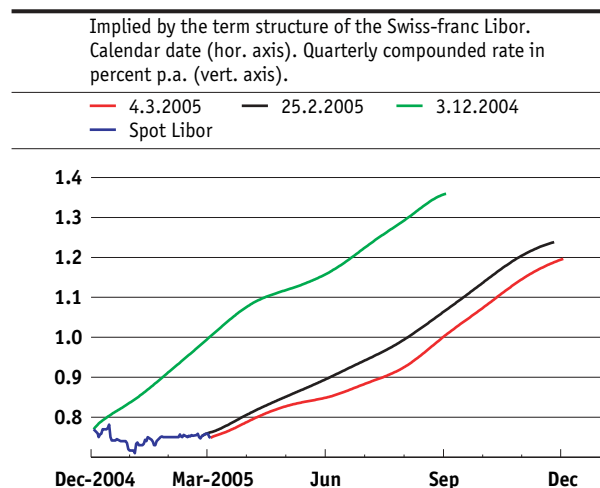
Graph 3.1
Money market rates



Graph 3.2
Three-month interest rate futures



Graph 3.3
Three-month forward interest rate



Graphs 3.1, 3.2, 3.3:
Source: SNB

red curve shows the forward interest rate for three-month contracts maturing between 4 March and 4 December 2005 based on the interest rate structure of the Swiss-franc Libor observed on 4 March. It shows, for instance, that a cash taker concluded a forward contract on 4 March guaranteeing a loan amount at a specified due date, e.g. 1 July. Consequently, the contract would run for a three-month period starting 1 July, and the loan would be repayable – including the agreed forward rate – on 1 October 2005. The interest charged by the cash provider would amount to 0.88%. By contrast, for a contract concluded on 4 March 2005 maturing on 4 December (repayment date 4 March 2006), interest would be payable at a rate of 1.2%. The graph also depicts the forward rates of the preceding week and of 3 December 2004, evidencing a slight decline in these rates in the past three months.

If the forward interest rate curve were a guide, financial market participants would expect two increases in the three-month Libor this year, totalling 0.5 percentage points overall. However, forward rates give only a limited indication of market expectations for the three-month spot Libor. Because the risk premium means that the forward rate is generally higher than the expected spot rate, it can only be used as an indicator of interest rate expectations in the market if the risk premium is exactly zero. However, this scenario is the exception rather than the rule.

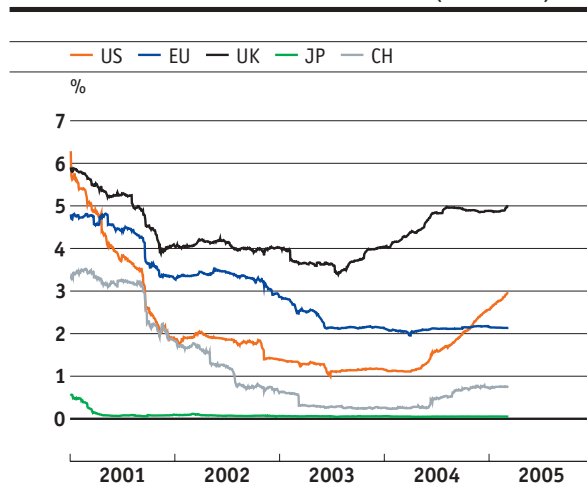
Interest rate differential to dollar investments widens

The increases in the US key rates between December and February by a total of 0.5 percentage points led to a further widening of the interest rate differential between the dollar and the Swiss franc. Measured by the interest on three-month money market investments, this spread widened by an average of 160 basis points in November to 210 basis points in February. The interest rate differential to the euro remained unchanged at 140 basis points (cf. graph 3.4)

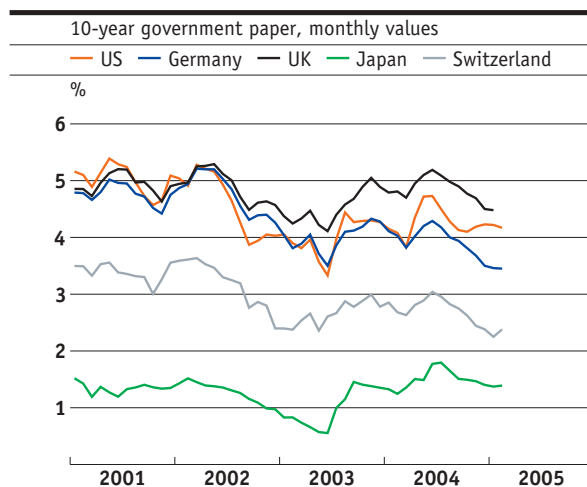
Sharp decline in long-term interest rates

Yields on longer-term bonds continued to slip until the beginning of February, registering a particular steep decrease in Switzerland and in Europe (cf. graph 3.5). The yield on ten-year Swiss Confederation bonds fell from an average of 2.5% in November to 2.3% in January. In February, it fell below its summer 2003 trough. In the period from November to the beginning of February, the yield on German government paper with a maturity of ten years dwindled

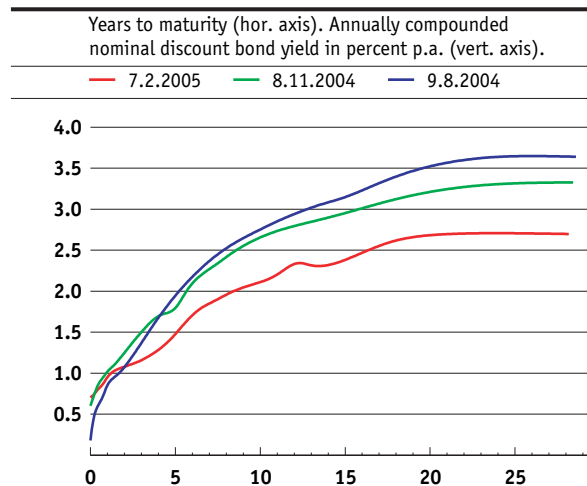
Graph 3.4
International short-term interest rates (3 months)



Graph 3.5
Interest rates abroad



Graph 3.6
Term structure of Swiss Confederation bonds



Graphs 3.4, 3.5, 3.6:
Source: SNB

from 3.7% to 3.5%. Yields in the United Kingdom also lost 20 basis points, dropping from 4.7% to 4.5% during the same period. Average monthly yields in Japan and in the US remained practically unchanged.

Very long rates (up to 25 years) receded even more than the ten-year interest rates, which are generally the main focus of attention. This is an unusual development in that yields on bonds with very long maturities generally fluctuate less than shorter-term rates and are only partially influenced by movements at the shorter end of the interest rate curve. In addition to an anticipated slowdown of economic activity and lower inflation, this development is ascribed to a divergence in supply and demand for bonds. According to the Confederation's new issue calendar, this year's issuing volume will only be half the previous year's figure. At the same time, the demand for Swiss Confederation bonds seems to have risen. This might be due to the fact that insurance companies must adhere to more stringent asset and liability management rules. As a result, these companies are increasingly bringing the duration of their bond portfolios into line with the maturity structure of their (long-term) liabilities.

Mid-February saw the beginning of a worldwide correction, triggering a rise in capital market yields. The surprisingly hefty rise in US producer prices in January could have been the cause for this develop-

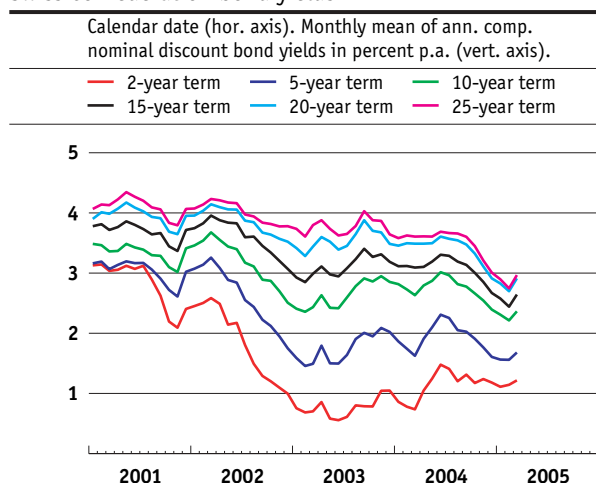
ment. After having levelled off by 0.3% in December, they firmed again by 0.3% in January. From their low at the beginning of February, yields on ten-year US government bonds gained 40 basis points by the beginning of March while German government bonds advanced by 30 basis points. The corresponding Swiss yields went up by 30 basis points as well.

Slight rise in credit interest rate spreads

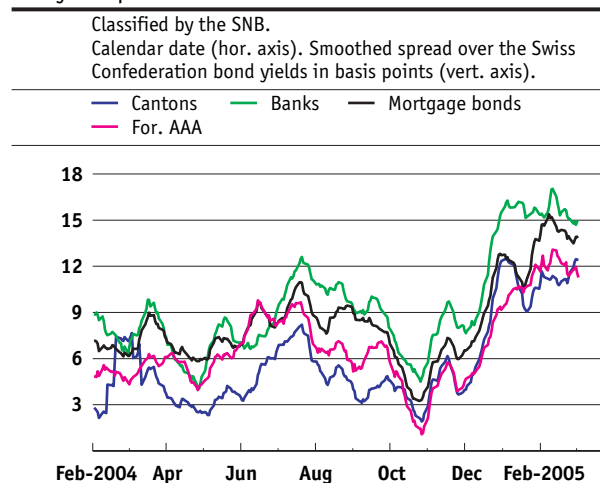
Changes in the financing conditions for bond issuers with different ratings can be illustrated by means of credit interest rate spreads. This spread, which can be interpreted as a measure of credit risk, is the differential between a yield on a corporate bond and the corresponding yield on Swiss Confederation bonds (see "Box: Assignment of bonds to ratings classes", Monetary Policy Report 1/2004, p. 33). Graphs 3.8 and 3.9 depict the spreads for ten-year discount bonds and spreads for bonds with a maturity of five years since February 2004. The sectors shown are cantons, banks, mortgage bonds, industry and foreign bonds. First-class bonds enjoy the highest rating and are shown in graph 3.8, while graph 3.9 shows interest rate spreads for bonds with the second highest rating.

The graphs capture a similar development for both first-class and second-class bond yields since December 2004. Each class exhibits an ascending

Graph 3.7
Swiss Confederation bond yields



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



Graphs 3.7 and 3.8:
Source: SNB

trend for all sectors, but with the interest spread for second-class bonds widening further – as anticipated. This applies in particular to industry bonds and bonds of foreign banks with a Standard & Poor’s rating of “A”.

Credit interest rate spreads in the second-rated class show a delayed reaction to changes in Swiss Confederation bond yields. This also explains the narrowing of the interest rate spreads for second-class bonds during February, when yields on Swiss Confederation bonds began to climb. Consequently, a continued widening of interest rate spreads is to be expected in this class.

The interest rate spread serves as a leading indicator for economic activity. The rule of thumb is that a wider interest rate spread points to a deceleration in economic activity. Conversely, a narrowing of this spread suggests an accelerating economy. The observed increase in the interest rate spread is consistent with the economic slowdown predicted for the months ahead. The spreads are still low, however, which basically signals an economic revival.

Negative short-term real interest rates

Graph 3.10 shows the development of the real interest rate with a one-year maturity. The real interest rate is defined as the difference between the twelve-month nominal interest rate and the expected

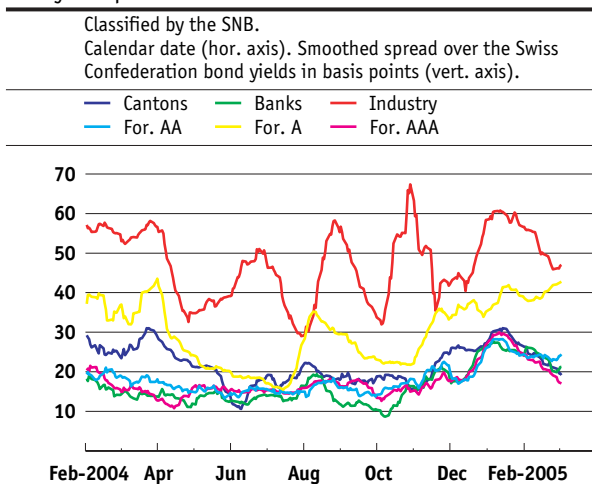
rise in consumer prices for the same period. Inflation expectations are calculated as the average of the forecasts prepared by a number of different forecasting institutions (cf. Consensus Forecast, January 2005).²

Even though the three-month Libor was lifted in two steps in 2004, the real twelve-month interest rate remained negative. Real short-term interest rates have been negative for two-and-a-half years. This is the longest period of negative real interest rates³ yet recorded in Switzerland, although the lows seen at the beginning of the 1980s have not been reached.

² Cf. table 1.1, footnote 3

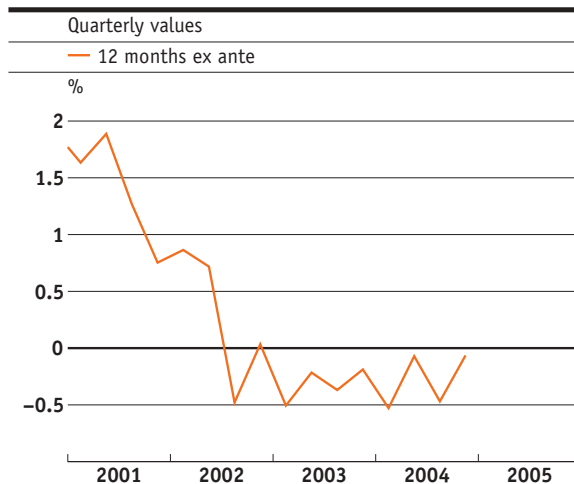
³ At least since 1979, the beginning of our observation period

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



Source: SNB

Graph 3.10
Estimated real interest rates



Source: SNB

3.2 Exchange rates

Swiss franc weaker

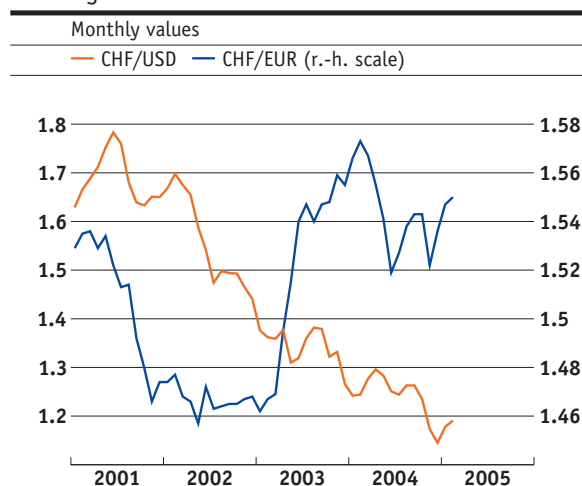
After heavy losses in October and November 2004, the dollar stabilised at roughly CHF 1.14 in December, just over its record low of CHF 1.12 on 19 April 1995. In the first weeks of 2005, the dollar regained ground quickly: it was back at CHF 1.22 by the beginning of February but eased back to CHF 1.16 towards the end of the month. The dollar was hit by the record trade deficit in the US, equivalent to 5.3% of the country's GDP and by fears about Asian central banks shifting their currency reserves. The euro appreciated slightly vis-à-vis the Swiss franc, advancing from CHF 1.52 at the beginning of December to CHF 1.54 at the end of February.

In real terms, the Swiss franc firmed vis-à-vis the 24 major trading partners in October and November, only to fall back to its October level by February. In January, the real export-weighted external value of the Swiss franc corresponded to the average for the past three years.

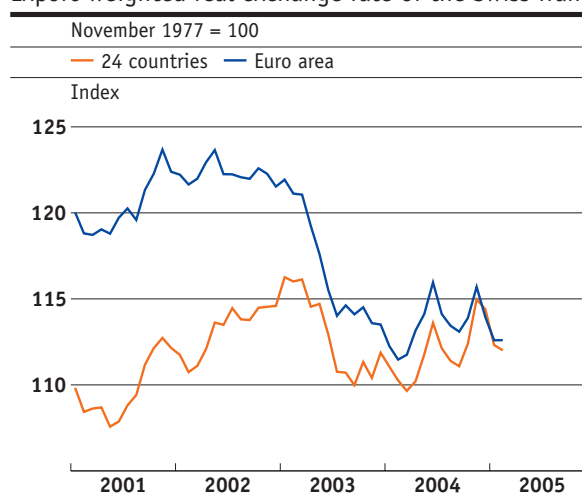
Monetary conditions more expansionary

The Monetary Conditions Index (MCI) is a measure used to assess the monetary environment of the Swiss economy. It combines the three-month Libor rate and the nominal trade-weighted Swiss franc index with a weighting of 5:1 and 3:1 respectively (see "Box: The Monetary Conditions Index (MCI)", Monetary Policy Report 1/2004, p. 27). A decline in the MCI indicates a more expansionary monetary policy stance. The weakening of the Swiss franc since the beginning of the year caused the MCI to lose between 40 basis points (with a weighting of 5:1) and 80 basis points (with a weighting of 3:1) since the assessment in December 2004 and the beginning of February. This represents a perceptible relaxation of monetary conditions. Buoyed by a firmer Swiss franc, the reverse trend started to set in during the course of February, with the MCI falling 20–40 basis points below its December level.

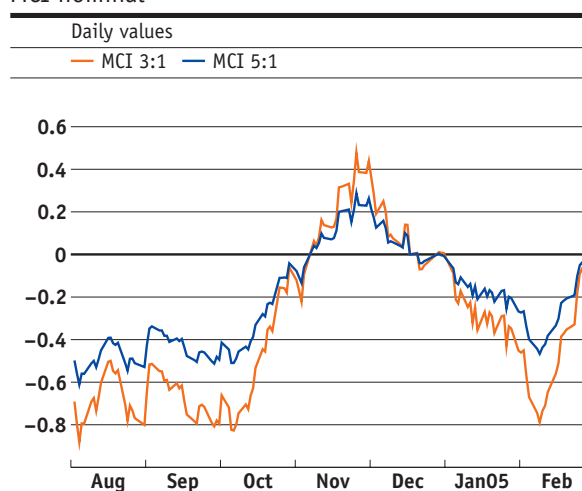
Graph 3.11
Exchange rates



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

Rise in stock indices

Owing to the positive trend on equity markets worldwide, coupled with favourable quarterly results, the Swiss stock market staged a notable rally from November on. Stocks in the “Basic Resources” sector of the market (steel, wood, metals) registered the highest gains, moving up by 22% from December to February. The construction sector ranked second, advancing by approximately 14%. The Swiss Performance Index (SPI), which comprises all stocks of Swiss issuers quoted on the Swiss stock exchange, rose from 4,100 points at the beginning of December to over 4,500 points at the beginning of March. The Swiss Market Index (SMI), the index for Swiss blue chips, surpassed the 6,000 mark at the beginning of March. This was its highest level since July 2002 and was 60% above its March 2004 low (but still 40% short of its August 2000 peak). The trend on the stock markets points to a robust global economy.

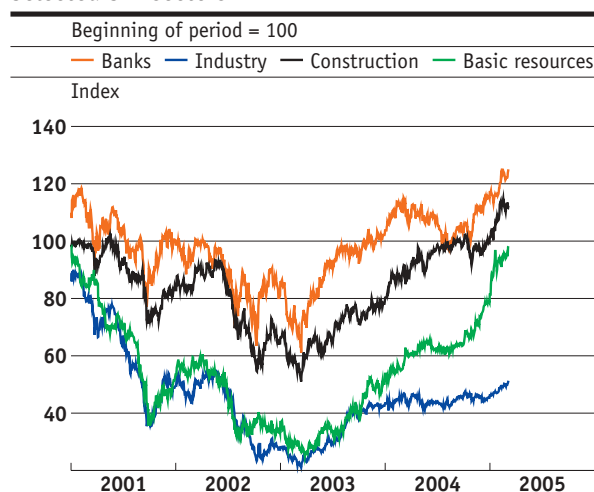
Sharper rise in apartment rents, but office rents down

The price index computed by Wüest & Partner shows that the upward movement in apartment rents accelerated in the fourth quarter, while rents for office space continued to fall. Apartment rents rose at an annualised rate of 5%. After having risen slight-

ly in the third quarter of 2004, the clearly more volatile index for office space fell at an annual rate of 10.7%. Thus the downward trend in office rents witnessed for three years now has remained unbroken. The price index, which reflects the prices of owner-occupied apartments and of single-family homes in equal part, surpassed the previous year’s level by over 2% in the fourth quarter. Prices of owner-occupied apartments rose faster than those of single-family homes, a trend observed for some time now. Apartment prices exceeded the year-back level by 3.4%, while prices of single-family homes went up by 1.1% during the same period.

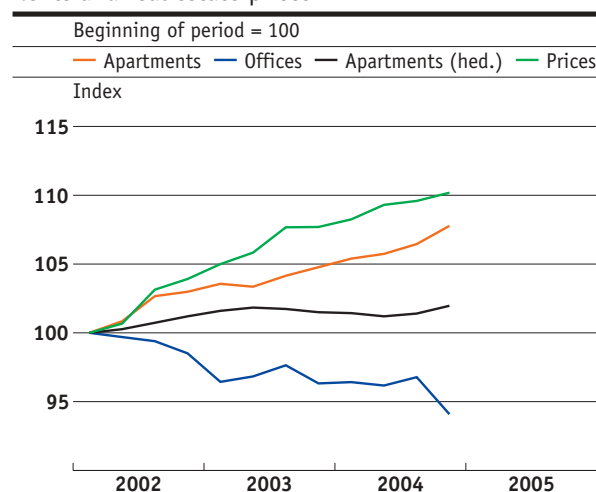
In addition to the indices described above, graph 3.15 also includes a hedonic rent index computed by the real estate portal “homegate.ch” and Zürcher Kantonalbank. This index is adjusted for changes in the quality standards of the apartments. In contrast to the gentle upturn in the Wüest & Partner index, the homegate index curve is almost flat. In other words, the increase in rents was considerably smaller once quality improvements are factored in. Looking at the monthly development since autumn 2004, however, a rising trend can also be observed in most of the sub-indices computed by homegate. Although prices in some segments of the real estate market have firmed steadily, the process has been a gradual one overall.

Graph 3.14
Selected SPI sectors



Source: Swiss Exchange (SWX)

Graph 3.15
Rents and real estate prices



Sources: Wüest & Partner, homegate.ch

3.4 Monetary aggregates

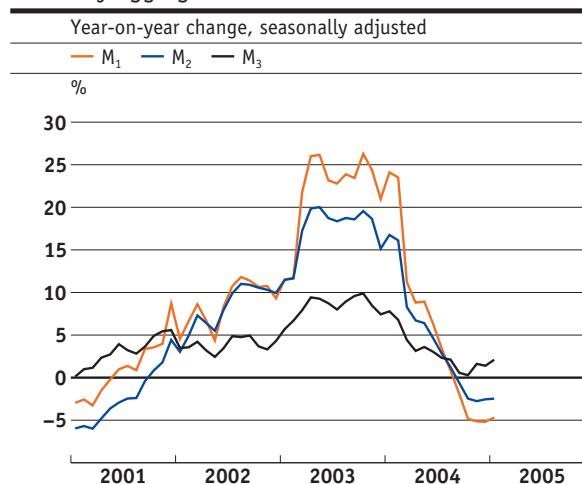
Continued decline in excess liquidity

The marked decline in liquid funds in the fourth quarter 2004 continued at the beginning of 2005. M1, which is composed of currency in circulation, sight deposits and transaction accounts, fell by 4.7% and 5.4% respectively in January and February compared with the previous year. M2 (M1 plus savings deposits) receded by 2.5% and 3.1% respectively, while M3 (M2 plus time deposits) registered a slight year-on-year increase in January and February (2.2% and 1.6%). The decline of M1 and M2 must be seen against the background of the extremely high growth rates in 2003 and signifies a return to the long-term trend in money supply growth.

Developments in monetary aggregates over the last two years have been dominated by switching between sight and time deposits. Unlike M1 and M2, growth in M3 has not been affected by these switches. This is because M3 comprises both sight and time deposits. The 10.1% year-on-year drop in sight deposits had a decisive influence on the decline of M1 and M2. The growth of M3, however, was the result of a rise in time deposits of 44.1%.

Due to the weak growth in money supply in the last few months, the ECM money overhang has been

Graph 3.16
Monetary aggregates



Source: SNB

reduced (cf. "Box: Money supply growth and inflation"). This indicator suggests that the inflation potential has levelled off in the middle range of the three-year forecasting horizon.

Monetary aggregates¹

Table 3.1

	2003	2004	2003	2004						2005
			Q4	Q1	Q2	Q3	Q4	December	January	February
Monetary base²	40.4	41.7	41.5	42.2	41.7	41.1	41.8	43.4	42.9	41.8
<i>Change³</i>	5.3	3.2	7.4	7.7	4.5	0.2	0.7	0.1	-0.4	-0.6
M₁²	273.5	287.9	293.1	297.2	295.0	281.2	278.1	275.3	283.2	283.8
<i>Change³</i>	21.9	5.2	23.7	19.3	8.0	0.8	-5.1	-5.2	-4.7	-5.4
M₂²	475.1	495.4	498.1	505.2	503.3	488.1	485.0	483.4	492.1	492.8
<i>Change³</i>	17.4	4.3	17.7	13.6	6.0	1.2	-2.6	-2.6	-2.5	-3.1
M₃²	544.9	561.5	556.9	563.5	562.9	556.6	562.9	565.0	576.1	574.7
<i>Change³</i>	8.3	3.0	8.6	6.3	3.2	1.7	1.1	1.4	2.2	1.6

1 1995 definition

2 Level in CHF billions

3 Year-on-year change in percent

Source: SNB

Box: Money supply growth and inflation

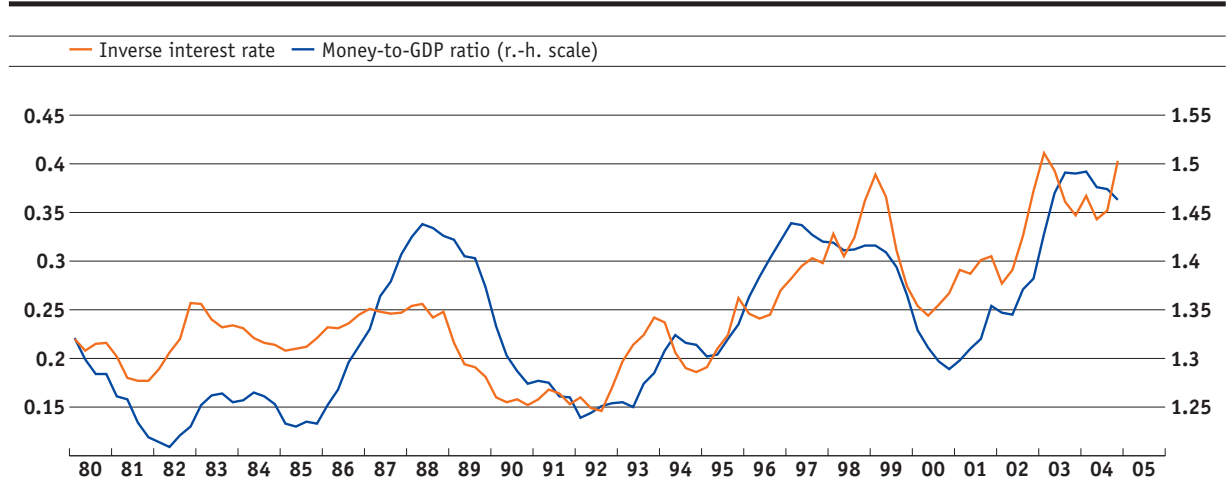
On the demand side, money supply growth must be viewed in conjunction with the volume of transactions in the economy. This correlation is illustrated by the ratio of money supply to nominal GDP, which is a measure of the transaction volume. In the discussion below, M3 money supply is extended by the inclusion of fiduciary transactions of Swiss residents, which closely approximate to money holding. Since M3 money holding gives rise to opportunity costs in the form of lost interest earnings, the money-to-GDP ratio should move in the opposite direction to long-term interest rates. Graph 3.17 plots the money-to-GDP ratio against the reciprocal value of long-term interest rates. Since the beginning of the 1990s in particular, a close correlation has been observable between these two variables. Since 2000, falling interest rates (visible in the graph as a rise in the inverted interest rate) have produced a sharp rise in the money-to-GDP ratio. With long-term interest rates remaining low (cf. 3.1), no significant decline in this ratio is discernible.

Excessive money supply growth entails the risk of higher future inflation rates. The transaction volume in the economy and the opportunity costs of holding money determine the equilibrium money sup-

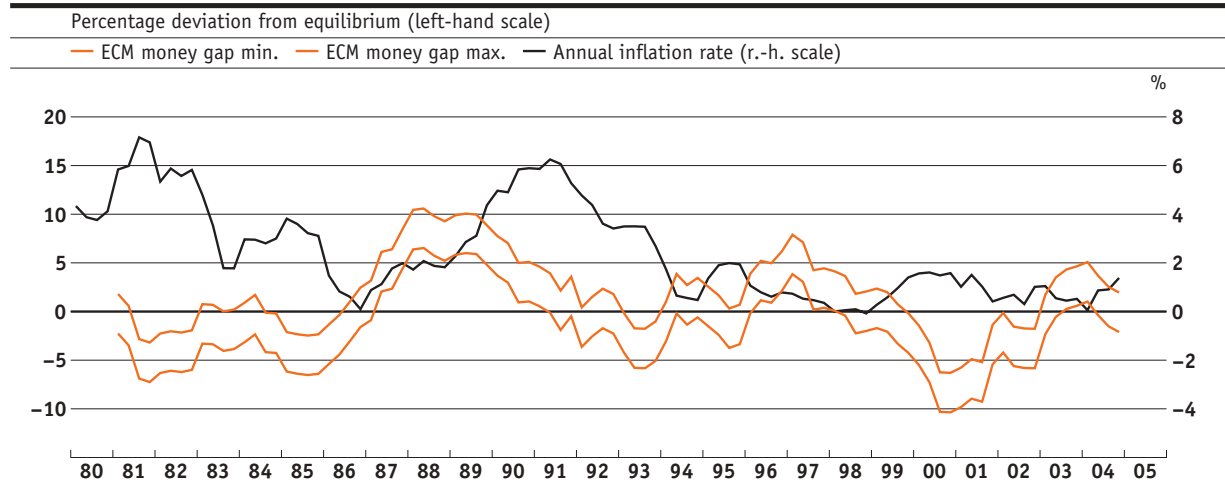
ply, which is a benchmark for an appropriate supply of money to the economy. If the current money supply exceeds this equilibrium money supply, an ECM (equilibrium-correction-model) money overhang is said to exist. The opposite scenario may be referred to as an ECM money gap. EC (equilibrium correction) models are widely used for analysing economic developments on the basis of deviations from an equilibrium.

Graph 3.18 shows the percentage deviations of M3 money supply from its equilibrium value. To take statistical uncertainties into account, two curves are plotted for the money gap/overhang in the graph. One indicates the maximum deviation in money supply from the equilibrium (ECM money gap max.), and the other the minimum deviation (ECM money gap min.). Significant deviations from the equilibrium money supply exist whenever both curves are either above or below the zero line. The difference between M3 money supply and its equilibrium value, i.e. the ECM money overhang, is closely correlated with the future course of inflation. The ECM money overhang is an indicator for inflation one to one-and-a-half years ahead. In addition to the ECM principle, the SNB uses other money overhang indicators for forecasting inflation over an even longer horizon.

Graph 3.17
Money-to-GDP ratio



Graph 3.18
Money gap and annual inflation rate



Graphs 3.17 and 3.18:
Source: SNB

3.5 Loans

Credit volume continues to expand

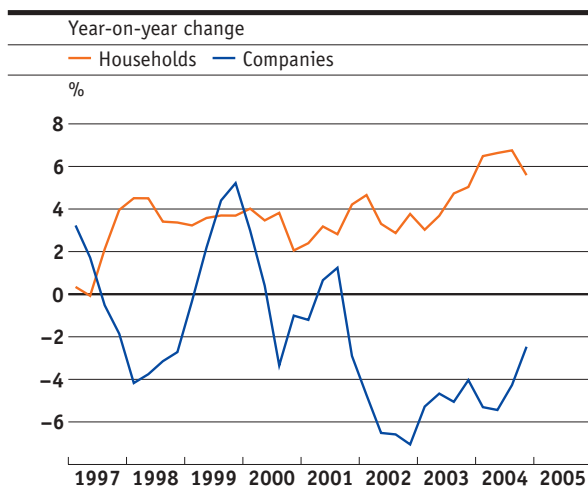
Bank loans continued on their growth trajectory, exceeding their year-back volume by 3.6% in the fourth quarter of 2004. This growth is attributable to an expansion of loans to households, which make up approximately two-thirds of bank loans. These loans rose by 5.6% compared with the previous year, while corporate loans receded by 2.5%.

The same contrasting trend can also be observed if aggregate loans are broken down into mortgage and other loans. Mortgage loans, which are granted primarily to households, were up by 5.2% in the fourth quarter. The volume of other loans, the

majority of which are drawn by companies, contracted by 2.6%. Averaged over the year, other loans registered a 3.1% decrease, compared with a 8.7% fall in the previous year.

Unsecured loans in particular declined during this period: while secured loans grew by 4.0%, they fell by 6.8% in the fourth quarter of 2004. At the end of December 2004, secured loans surpassed the corresponding year-back level by 7.0%, while unsecured loans undershot it by 9.0%. The fact that other loans as a whole exhibited a weaker decline in 2004 than in 2003 is due to a recovery in the volume of secured loans: after having fallen by an average of 10.7% in 2003, they picked up by 3.2% in 2004.

Graph 3.19
Bank loans



Source: SNB

Bank loans¹

Year-on-year change in percent

Table 3.2

	2003	2004	2003	2004							2005
			Q4	Q1	Q2	Q3	Q4	November	December	January	
Total	2.1	3.6	2.9	3.2	3.4	4.0	3.6	3.8	3.4	3.3	
Mortgage claims	5.6	5.4	5.5	5.4	5.4	5.4	5.2	5.4	5.0	5.2	
Other loans	-8.7	-3.1	-6.1	-4.6	-3.8	-1.2	-2.6	-2.3	-2.7	-4.0	
of which secured	-10.7	3.2	-4.3	-1.6	3.5	7.2	4.0	2.5	7.0	2.3	
of which unsecured	-7.4	-7.1	-7.3	-6.5	-8.4	-6.6	-6.8	-5.4	-9.0	-8.1	

¹ Bank balances, level of data collection: 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 acts on production and prices with a considerable time lag. In Switzerland, monetary policy changes have their maximum impact 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 that is to be expected in two to three years if monetary policy remains unchanged. The inflation forecast is thus one of the pillars of the SNB's monetary policy concept, along with the definition of price stability and the operational target (cf. "Box: Inflation forecasting as part of the monetary policy concept", Monetary Policy Report 4/2004, p. 35).

4.1 Assumptions for global economic development

Economic recovery in Europe slightly delayed

The SNB's inflation forecast is based on an international economic scenario reflecting the Bank's assessment of the most likely development of the global economy in the next three years. Table 4.1 shows the major external assumptions in comparison with the December forecast.

The main changes compared with December relate to the long-term development of the oil price, short-term economic prospects in the EU, and the dollar/euro exchange rate.

The price of oil rose at a slower pace (average of USD 44.4 per barrel) in the fourth quarter of 2004 than projected in the December inflation forecast (USD 47.5 per barrel). Based on this slightly lower level, the oil price is now assumed to fall only to USD 40 per barrel by the beginning of 2007 (assumption of the previous quarter: USD 30 per barrel).

There are signs that the economic recovery in the EU will be delayed somewhat. The ECB can thus be expected to adopt a more restrictive stance only towards the end of 2005, a quarter later than anticipated in December.

Lastly, the dollar/euro exchange rate was fixed at 1.30 (as a technical assumption for model simulations), compared with 1.28 in the December forecast. Real growth expectations for the US are virtually unchanged at 3.5% for 2005.

Assumptions for inflation forecasts

Table 4.1

	2005	2006	2007
Inflation forecast of March 2005			
GDP US ¹	3.4	3.4	3.4
GDP EU-15 ¹	1.9	2.3	2.1
Exchange rate USD/EUR ²	1.3	1.3	1.3
Oil price in USD/barrel ²	44.9	41.9	40.2
Inflation forecast of December 2004			
GDP US ¹	3.5	3.5	3.3
GDP EU-15 ¹	2.0	2.2	2.1
Exchange rate USD/EUR ²	1.3	1.3	1.3
Oil price in USD/barrel ²	42.0	34.0	30.0

1 Change in percent

2 Level

4.2 Inflation forecast Q1 2005 to Q4 2007

The inflation forecast is derived from the analysis of different indicators, model estimates and the assessment of any special factors. Graph 4.1 depicts the inflation forecast of March 2005 alongside those of September and December 2004. The new forecast, which extends from the first quarter of 2005 to the fourth quarter of 2007, is based on a 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 17 March 2005.

Graph 4.1 shows that the new inflation forecast is lower than that of December and, as of the end of 2005, also that of September. Inflation will fall below 1% in the course of 2005. The SNB expects upward price pressure on domestic goods to remain very moderate, as ample production capacity is still available in the economy as a whole. This view is confirmed by the KOF/FIT quarterly survey of industry in the fourth quarter: a large majority of the domestically oriented companies surveyed expect selling prices to remain unchanged or even fall. Pressure on prices of basic necessities is likely to persist due to the highly competitive retail market. Furthermore, the SNB predicts that price increases for services will remain at an above-average level in the short run, but believes that rents and prices for public services are unlikely to mount. Imported goods are also expected to exhibit lower inflation rates. Forecast

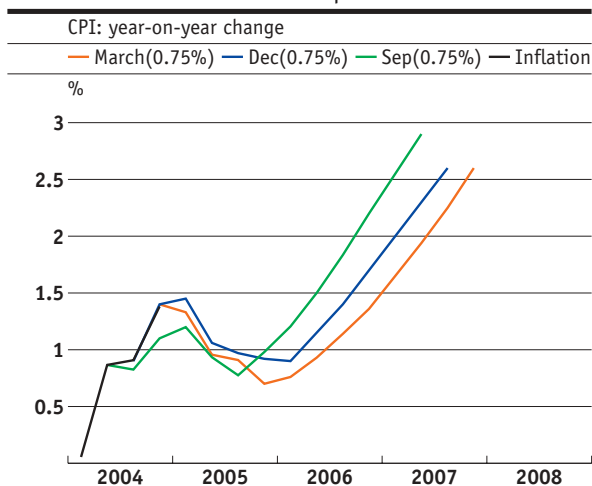
inflation steadily recedes from 1.3% in the first quarter of 2005 to 0.7% in the last quarter of this year. The average annual inflation rate for 2005 is put at 1%.

In the medium term, i.e. for a period of one to two years, the development of inflation hinges on the economic outlook. The expected continued delay in European economic growth this year will affect the Swiss economy. As real GDP will grow at a slightly more relaxed pace than assumed in the December forecast, utilisation of capacity in the economy as a whole will rise less quickly. As a result, expected medium-term inflationary pressure is somewhat lower than predicted in December. With the three-month Libor constant at 0.75%, the forecast puts the inflation rate at 1.0% for 2006, compared with the December projection of 1.3%.

In the longer term, price developments will primarily be determined by monetary factors. The reliability of longer-range inflation forecasts is limited. Experience has shown, however, that the availability of ample liquidity can pose a risk to price stability as – in the course of an economic recovery – it creates scope not only for additional transactions but also for price increases. In the last two years, liquidity levels in Switzerland increased steeply. However, they have recently declined somewhat, so that the longer-term inflation risk from the monetary side has decreased further. Hence the fact that the new inflation forecast is lower at the long end than the December and also the September projection, even assuming a constant three-month Libor.

According to the March inflation forecast, price stability would be in jeopardy as of the mid-2007. This assumes an unchanged three-month Libor of 0.75% over the next three years. The new forecast thus makes it clear that the current interest rate level cannot be sustained and that the National Bank will have to raise interest rates once the output gap narrows.

Graph 4.1
SNB inflation forecasts: a comparison



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

Summary report to the attention of the Governing Board of the Swiss National Bank for its quarterly assessment of March 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. The main results of the talks held between December 2004 and February 2005 on the current and future economic situation are summarised below.

Summary

The talks held between December 2004 and February 2005 with around 140 companies representing the major economic sectors revealed a predominantly favourable picture. The business results for 2004, which range from good to excellent, contributed to this positive assessment. Despite a slowdown in business, the export companies surveyed were generally satisfied with both the order situation and order intake.

The export-oriented companies continued to view the business situation more favourably than those geared to the domestic market, which were still unable to report any broad-based economic pickup. However, the soft dollar was an increasing worry for many export companies. The major weaknesses of the domestic economy are the low level of consumer spending, an only gradual improvement in investor confidence, and a construction sector driven solely by residential building.

The companies surveyed were still reluctant to invest. Only a few were planning to expand capacity substantially; in some cases, moreover, these expansion plans were confined to foreign countries (Asia). A number of companies held out the prospect of increasing their workforce this year; at the same time, though, some are still planning to cut jobs.

On the whole, prospects for 2005 were considered optimistic. Nevertheless, growth in turnover is expected to be slower than in 2004 – as already suggested by many companies last autumn.

1 Production

Manufacturing

Most of the strongly export-oriented companies started the new year with a solid order backlog and a satisfactory order intake. Demand from Asia and the US remained buoyant. The weak dollar, however, often required painful price concessions or even resulted in orders being lost to competitors in the dollar area. Demand from Europe was still rated as slack, but the business climate in Germany was given a slightly more optimistic assessment than in autumn 2004.

The recovery of the export market was felt by almost all industries. Watchmaking, the chemical/pharmaceutical and medical industries performed particularly well. The various branches of the mechanical engineering industry as well as the metalworking sector also reported excellent business. Although turnover was mostly expected to grow at a slower pace this year, none of the companies surveyed anticipated a drop in business. Only manufacturers of semiconductors seemed to be bracing themselves for significantly weaker demand.

Services

The majority of retail companies surveyed considered business to be sluggish. For the most part, Christmas business remained below expectations, barely reaching the year-earlier result. The consumer electronics segment, by contrast, performed relatively well. Weak business activity was experienced by the textile industry in particular. Consumers were still perceived as price-conscious and selective. The companies surveyed attributed the lacklustre consumer sentiment mainly to the absence of any recovery in the labour market, to uncertainty over retirement benefits and to the increase in healthcare costs – factors that are unlikely to improve in the short term.

The tourist industry was slightly more upbeat. Thanks to good snow conditions in January and February, the ski resorts enjoyed excellent occupancy levels. In general, the hospitality sector reported a slight upturn in spending levels among both private individuals and companies.

Apart from the transportation and logistics industries, other corporate services segments also seem to be benefiting from the economic revival. This was especially true of the advertising industry, consultancy and IT services. IT providers in particular continued to suffer from extremely tight margins, plummeting hardware prices and persistently low consumer spending.

The talks held with banks revealed an unchanged picture. While corporate lending was rather slack, mortgage loans expanded vigorously. Given the stiff competition for good risks, the banks are making far-reaching concessions to their clients in this segment with regard to terms and conditions. Some of the companies surveyed doubted that the banks and clients were paying due attention to the risk of interest rate changes. With margins falling, asset management also remained highly competitive.

Construction

Construction activity continued to be driven primarily by new residential building and renovation projects. Whereas the brisk demand for housing had mainly benefited urban areas so far, peripheral regions now seem to follow suit. Given the high vacancy rate, a general upswing in commercial construction was not in sight. Some positive signals came from the hospitality industry, though. The lack of momentum from civil engineering was a particular worry.

2 Labour market

Following last year's modest personnel increases by some companies, most of them were not planning to change their staff levels. Nevertheless, some buoyant export companies announced their intention to hire additional staff this year, too. As before, though, there were also companies intending either to reduce headcounts or to create additional jobs abroad so as to rationalise their operations. Some companies found it difficult to recruit qualified employees.

3 Prices and margins

The majority of the companies were exposed to strong price competition, which squeezed their margins. Like last autumn, some companies voiced their intention to raise prices this year in order to pass on the higher costs. However, additional price increases are feasible only in exceptional cases of very strong demand. Many export companies expressed concern about the dollar's weakness. The euro exchange rate, by contrast, gave no reason for complaint. The companies surveyed also seem to be satisfied with the development of salaries and wages in 2005.

Recent developments in the hedge fund industry

Philipp M. Hildebrand, Member of the Governing Board of the Swiss National Bank, Zurich

1 Introduction¹

The rapid growth of the hedge fund industry has triggered a wide range of policy and regulatory discussions. Central banks are interested in the activities of hedge funds to the extent that they enhance or undermine the stability of the financial system. Representatives from a number of central banks have recently discussed the role of hedge funds and their impact on the financial system. This study was written in the context of these discussions.

The study reviews the most important developments in the hedge fund industry since the late 1990s. First, it surveys the evolution of the hedge fund industry's asset base and the main strategies to which assets are being allocated. Second, it examines the question of whether the activities of hedge funds may lead to excessive market volatility. Third, it discusses potential systemic risks associated with extreme leverage in the hedge fund industry. Finally, it touches upon the debate on hedge fund regulation.

¹ I would like to acknowledge the research assistance of Vincent Crettol and Antoine Veyrassat (Swiss National Bank) and comments by Chris Aylmer (BIS). I am also grateful for comments from staff members at the US Federal Reserve, the European Central Bank, the Bank of Japan and de Nederlandsche Bank.

2 Definition

Definitions surrounding hedge funds and the hedge fund industry can give rise to confusion. In many ways, as the industry stands today, the word "hedge" has little definitional value.² Indeed, it can be misleading. At its core, hedge funds are best understood as potentially leveraged private investment vehicles deploying a wide range of largely unconstrained investment strategies with the aim of achieving high absolute rates of return (alpha).

Hedge fund managers typically invest a share of their personal wealth – often in the form of deferred compensation – in their own hedge fund vehicles in order to align their incentives with the interests of the external investors. Most hedge funds impose minimum investment requirements of at least USD 500,000. In many cases, these limits are significantly higher. Hedge funds typically have a dual fee structure. The investor pays an annual management fee of 1% to 5%. In addition, hedge funds usually charge incentive fees on any capital gains, in some cases above a pre-defined threshold such as the Treasury bill rate. Industry wide, these incentive fees vary between 20% and 50%. Alternatively, a number of fund managers charge all expenses of the management company to the fund. An increasing number of hedge funds impose investment lock-in periods of one to three years on their clients. During these lock-in periods principal, and in many cases profits, cannot be withdrawn. From the investor's point of view, liquidity is further constrained by the fact that even in the absence of, or beyond lock-in periods, redemption schedules are such that redemption orders can take three to six months to be executed.

² Alfred Winslow Jones is credited for the creation of the first hedge fund in 1949. His strategy consisted in combining long positions in undervalued stocks and short positions in overvalued stocks, in an attempt to minimise the influence of overall stock market moves. To magnify his portfolio's return, Jones added leverage. See L'habitant (2002).

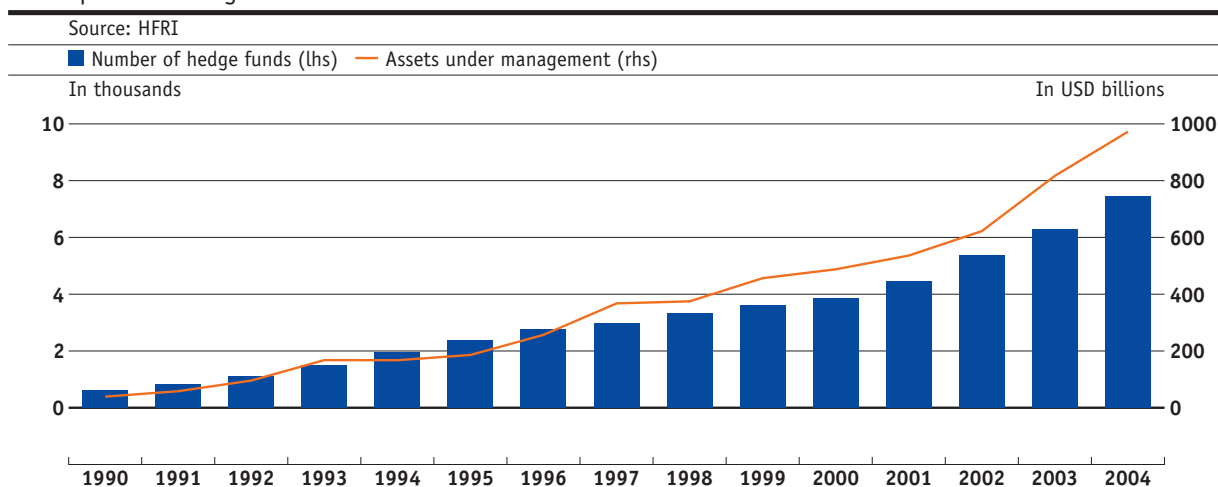
3 Capital base growth

During the last decade, the hedge fund industry has steadily grown in size. According to various sources, there were over 7400 hedge funds managing assets totaling USD 970 billion at the end of 2004 (Graph 1).³ In addition, USD 265 billion was held in privately managed accounts run by hedge fund managers. Not included in these figures is the significant pool of capital managed by the proprietary trading desks of global investment banks. Though not formally structured around hedge fund vehicles, the trading of these assets closely mirrors the investment activi-

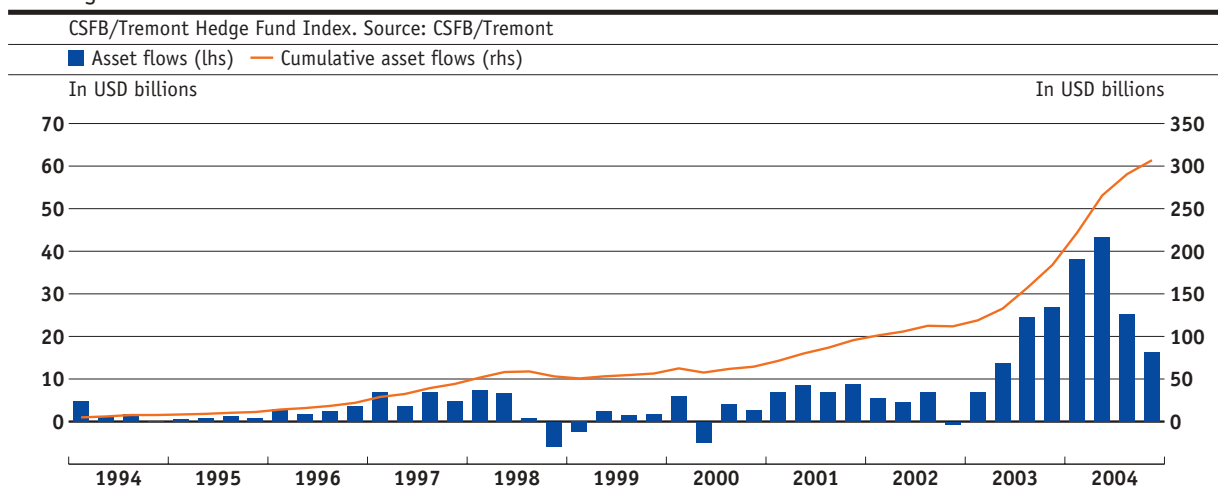
ties of hedge funds. Moreover, the compensation schemes of investment banks' proprietary desks increasingly reflect hedge fund compensation structures.

According to the CSFB/Tremont Hedge Fund Index, there has been only a few quarters with net outflows since 1994 (Graph 2).⁴ These outflows were associated with the Russian default, the Asian crisis and the bursting of the tech bubble. Since 2002, the pace of hedge fund investing has clearly accelerated. During the second quarter of 2004, total asset inflows topped at USD 43 billion, before receding to USD 25 billion in the third quarter.

Graph 1
Development of hedge funds



Graph 2
All hedge funds asset flows



3 Figures from Hedge Fund Research Inc, December 2004. Van Hedge Fund Advisors International, cited in an IMF (2004) study, estimate that 8800 hedge funds manage about USD 970 billion of assets.

4 The CSFB/Tremont Hedge Fund Index is the largest asset-weighted hedge fund index. Performance is calculated net of fees. The CSFB/Tremont Index is broadly diversified, encompassing around 400 funds across

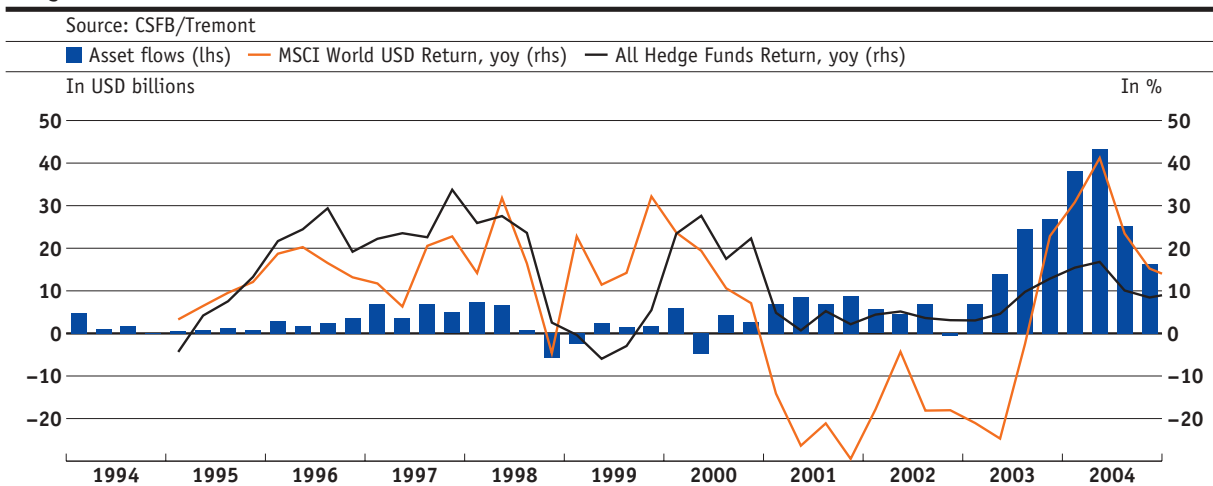
ten style-based sectors, and is representative of the entire hedge fund industry. Assets included within the CSFB/Tremont Hedge Fund Index amounted to USD 615 billion in September 2004.

Until the second half of the nineties, investors in the hedge fund industry were largely high net worth individuals. During the second half of the nineties, however, pension funds, endowments and other institutional investors began to allocate small percentages of their asset base to hedge funds. More recently, the promotion of funds of funds has encouraged new inflows to the industry.⁵ Notwithstanding industry flow data which suggest that assets from institutional investors have recently grown more rapidly than the overall industry capital base, the largest share of the industry's total client base continues to be private wealthy individuals, either as direct investors or through funds of funds vehicles.

The high relative rates of return have clearly contributed to the strong inflows (Graph 3). However, these figures need to be interpreted carefully. There is no definitive source for hedge fund data. Most vendor databases collect data that hedge funds disclose voluntarily. Many large hedge funds that are closed to new investors do not report to the data vendors. In addition, hedge funds that perform poorly often stop reporting to the vendor databases as their performance deteriorates (leaving the series open to 'survivor' bias). The databases are useful in understanding growth and trends within the hedge fund universe, but should not be relied upon as providing unbiased measures of the industry's performance.

The positive relationship between relative rates of return and inflows was particularly evident in the period between 1995 and 1998. In 1999, the hedge fund industry underperformed the MSCI (Morgan Stanley Capital International) World USD Index and inflows consequently slowed. The period between 2000 and 2002 brought renewed large inflows, driven by returns that were modest, but compared favourably to the losses of the MSCI World USD Index. In 2003 hedge fund returns increased though not nearly as much as the MSCI. Nonetheless, inflows reached record highs during that period. Overall, returns during the last few years have been much less spectacular than during the nineties. Even in 2003, most hedge fund managers were unable to match the returns achieved between 1995 and 1998. This decline in relative performance is associated with a rapid acceleration of inflows, leading to an apparent reduction in profit opportunities. The same pattern appears to be at work in 2004, where against the backdrop of record inflows, returns have declined markedly – annual returns in Q4 2004 were below 10%, compared with a 12.5% return for the MSCI World USD Index.

Graph 3
Hedge fund assets flows and returns



5 Funds of funds are investment pools which make allocations to a number of hedge funds, thereby seeking to benefit from diversification. They are typically operated by private banks, asset management firms or institution-

al asset managers (pension funds and endowments). They exist in virtually all strategy segments of the industry and typically combine different strategies in one fund of funds. The managers of these funds of funds negotiate

with the individual hedge funds on the size of investment and fee structure. These fees are passed on to clients, in addition to a management fee for the fund of funds itself.

4 Hedge fund strategies

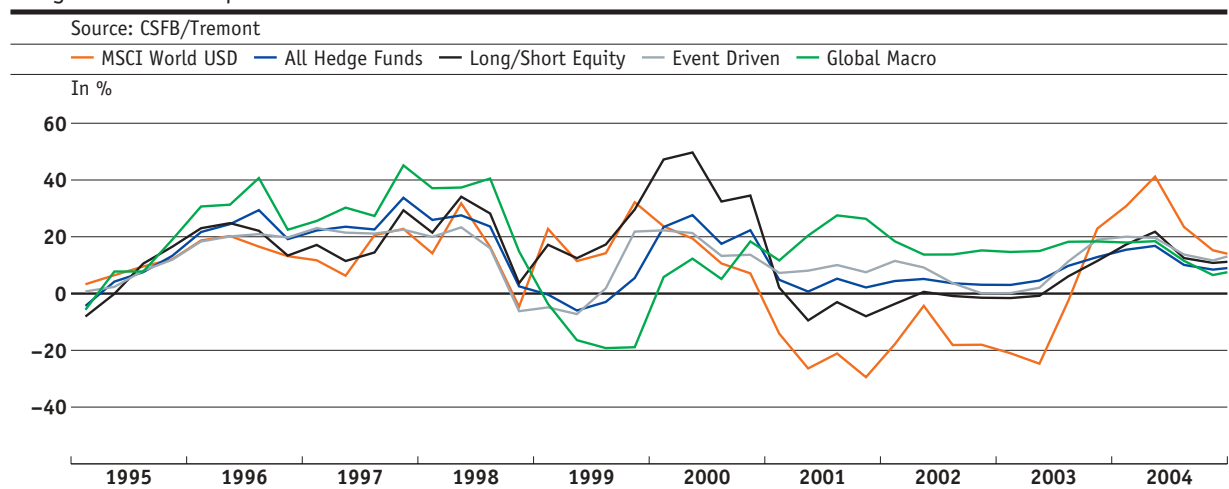
The following paragraphs focus on the different hedge fund strategies and returns as defined by CSFB/Tremont. Hedge funds are typically categorized according to their dominant strategies. These strategies are by no means the sole domain of hedge funds, with pension funds, university endowments, family offices and other asset managers all making use of these strategies at times. The performance of the various sectors is shown in Graph 4.

Long/Short Equity

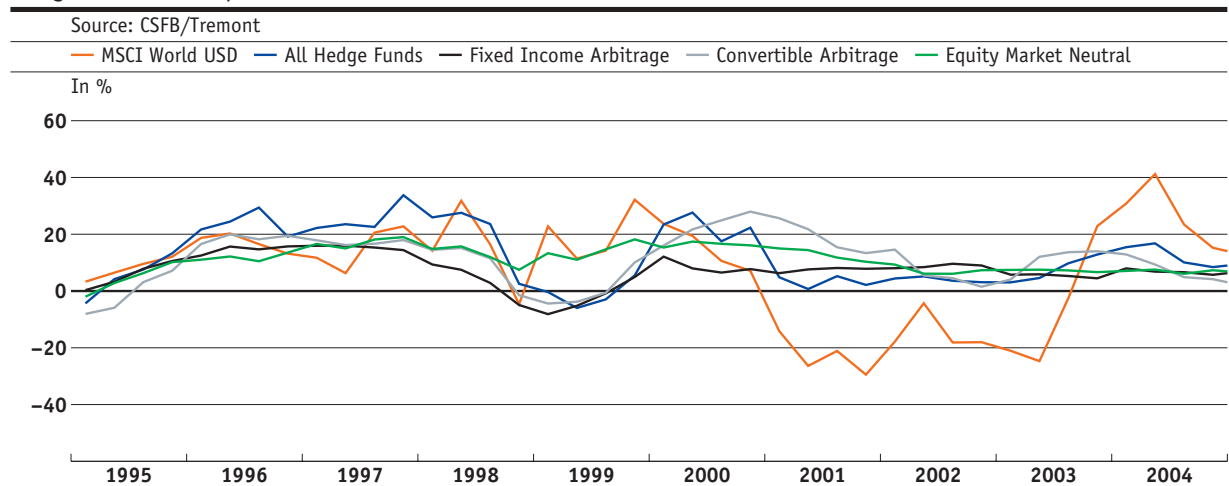
A long/short equity manager is long and/or short in equities, but not necessarily market neutral.

This category currently accounts for around one third of the hedge fund industry's capital base. Long and short positions can be held in value, growth, large cap and small cap stocks. Inflows were rather steady except for a large outflow in Q4 2002. Like other hedge fund categories, inflows picked up significantly in 2003; the USD 13.5 billion inflow in Q2 2004 represents the most significant sector-specific inflow since the inception of the CSFB/Tremont index. Returns averaged 16% during the nineties, were mostly negative in 2001 and in 2002, picked up again in 2003 and decreased again in 2004. Overall, returns have been slightly above the overall CSFB/Tremont hedge fund index (11%) and were characterized by the highest correlation with the MSCI index.

Graph 4a
Hedge funds sector performance



Graph 4b
Hedge funds sector performance



Event-driven

Event driven funds, which represent the second largest category, aim to generate profits from price movements associated with specific corporate events not yet fully anticipated by the market (e.g. restructuring, takeovers, mergers, liquidations or bankruptcies). Sub-categories are merger/risk arbitrage, distressed securities, regulation D and high yield. Steady inflows were interrupted towards the end of 1998 and again towards the end of 2002; inflows picked up strongly in Q3 2003. Returns have been close to average for the overall CSFB/Tremont hedge fund index.

Global Macro

Global macro strategies analyze shifts in macroeconomic trends, with a view to capitalizing on directional opportunities across the full spectrum of markets, asset classes and financial instruments. The manager expresses his view by holding equity, bond, currency, commodity or derivative positions. In cumulative terms, this index has outperformed all other strategies, with a compound annual return of around 14% between January 1994 and December 2004. Over the past few years, global macro returns have been consistently higher than average hedge fund returns, though they have not reached the levels recorded at the end of the nineties. Nonetheless, the share of funds devoted to this strategy has declined from its peak of around 35% in 1994. Starting in early 2003, however, substantial inflows returned, with USD 16 billion invested in this category in the first three quarters of 2004.

Fixed Income Arbitrage

Fixed income arbitrage strategies aim to take advantage of price anomalies between related fixed income securities. Typical instruments are interest rate swaps, government bonds, the forward yield curve and mortgage-backed securities. Annual returns have been steady at around 7% since 1994. Inflows have increased significantly since 2003.

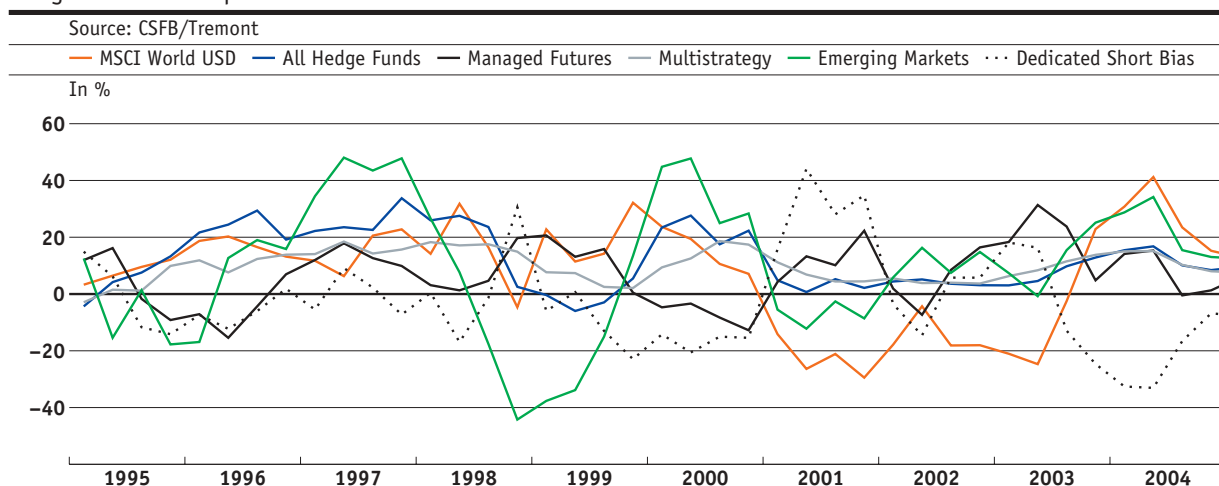
Convertible Arbitrage

Convertible arbitrage strategies aim to benefit from price discrepancies between convertible bonds and the common stock of the same company. Returns have generally been positive, except in 1998 and 1999. Capital inflows have been volatile over the past few years, while returns have been on a downward trend, consistent with diminished arbitrage opportunities.

Equity Market Neutral

Equity market neutral funds seek to exploit equity market inefficiencies. This typically involves being simultaneously long and short matched equity portfolios. Leverage is often applied to enhance returns. Inflows and returns have been relatively steady, although more recently returns have been particularly weak, owing perhaps to diminished arbitrage opportunities associated with strong inflows in the first quarter of 2004.

Graph 4c
Hedge funds sector performance



Managed Futures

Managed futures funds trade futures and derivatives in financial assets and tangible commodities worldwide, using systematic trend-following systems (computer driven) or a discretionary trading approach. Commodity trading advisors (CTA's) were originally distinguished from hedge funds because they were restricted to trading futures contracts. Today the distinction is blurred as CTA's often transact in over-the-counter derivative instruments. Until 2002 inflows were generally small, but they picked up significantly since, reaching USD 8.2bn in 2003 and USD 8.5bn during the first three quarters of 2004. Returns for managed futures funds are typically very volatile. For example, the quarterly returns for 2004 fluctuated between -10% and +12% with an average of 6%.

Other Strategies

Dedicated short bias funds hold net short positions, mostly in equities and equity derivatives. Emerging market funds take positions in a wide range of emerging market securities. Their strategies are often similar to long/short equity or global macro funds.

In terms of the most broadly aggregated taxonomy of different strategies, Fung and Hsieh (1999) distinguish between two broad approaches: the market timing approach (directional) and the non-directional approach (relative value). Market timing strategies take positions on the directions of markets. In their simplest form, they will be long or short

particular markets. Typical directional strategies are global macro, managed futures, emerging markets and dedicated short bias. Non-directional strategies attempt to extract value from arbitrage opportunities targeted at exploiting market anomalies and inefficiencies. A hedge fund manager using a non-directional strategy is long and short comparable securities and is market-neutral in so far as he or she seeks to eliminate systematic market risk. Typical market-neutral strategies are convertible arbitrage, equity market neutral and fixed income arbitrage.

There has been a pronounced shift in the investment style composition since the inception of the CSFB/Tremont Hedge Fund Index (Table 1). In general, capital has shifted from directional strategies to arbitrage/market neutral strategies. Typically, this shift is attributed to the arrival of institutional investors with a focus on risk adjusted returns. At the same time, computing and technological advances (e.g. modelling price movement patterns) have encouraged the shift to managed futures funds. Global macro funds have also seen substantial inflows after reaching a low point in 2001.

An ongoing issue for the hedge fund industry is that of style drift. This occurs when a hedge fund drifts away from its stated strategy. For example, in an environment where there is little convertible bond issuance, a hedge fund specializing in convertible bond arbitrage strategies may struggle to generate returns for its investors as well as fee income and new inflows for itself. The fund manager may then be tempted to generate returns using a different strategy.

Hedge fund strategies

Share of total hedge fund assets in percent

Table 1

	1994	2002	2004
	Q1	Q1	Q3
Long/Short Equity	26.8	42.8	32.3
Event Driven	11.5	20.1	18.5
Global Macro	34.6	9.3	10.5
Fixed Income Arbitrage	5.8	5.6	7.1
Convertible Arbitrage	1.8	8.4	6.8
Equity Market Neutral	1.2	6.7	5.6
Managed Futures	6.0	2.9	5.1
Other	12.3	4.2	14.1

Source: CSFB/Tremont

5 Hedge funds and market volatility

Throughout the last twenty years, it has become conventional wisdom to associate hedge funds with extreme market volatility. Typically in this context, the focus has been on global macro and, more recently, on managed futures funds. They typically have a preference for trading similar instruments. More important still, both strategies share a directional approach: global macro funds take directional positions on the basis of fundamental economic developments, while managed futures funds seek to identify systematic market trends on the basis of technical market signals.⁶

Though different in approach, both strategies typically thrive during times of sustained market trends. Global macro managers have an incentive to identify trends that funds in the managed futures segment are likely to benefit from. As a result, many macro funds go to great length to try to follow, or better yet, to lead market trends triggered by the managed futures strategies. Indeed, some macro hedge funds are launching their own managed futures funds to help them identify typical trading trigger points.

The underlying argument associating hedge funds with excessive market volatility is based on the premise that hedge funds push market prices temporarily away from their equilibrium, either in the short- or medium-term. The traditional counter-argument sees hedge funds fundamentally as stabilizing market participants who identify arbitrage opportunities, take profits as these opportunities get eliminated and in the process provide the market with liquidity.

There is analytical work in support of both hypotheses. According to Devenow and Welch (1996) investors infer information from hedge funds and follow their lead, not least because hedge funds have the reputation of being well informed. The combined transactions of the leader and the follower can trigger important market movements (and hence add to market volatility).

On the other hand, according to Eichengreen et al. (1998) hedge funds are less likely to herd than other investors because they take great pain to prevent disclosure of their positions. Furthermore, there is little reason to believe that hedge funds are more likely to overwhelm a market than other large traders because hedge funds are rather small when compared to the risk capital available to other large investors. Eichengreen and Mathieson (2003) also provide argu-

⁶ Work by Olson (2004) suggests that earning excess returns from the latter is becoming increasingly harder to achieve.

ments for why hedge funds are less likely than other institutional investors to engage in positive feedback trading that amplifies market volatility. Hedge funds, unlike most mutual funds, are not bound by their prospectuses to invest inflows in the same manner as existing funds under management. Moreover, hedge funds are less likely to be forced to liquidate losing positions and thus sell in a falling market. They may be better able to ride out fluctuations because their investors are often locked in for substantial periods. Thus hedge funds often act as stabilizing speculators by selling fundamentally overvalued assets and buying fundamentally undervalued assets, thereby providing liquidity to the market.

Nonetheless, with regard to herding, Eichengreen and Mathieson (2003) conclude that limited econometric evidence suggests that hedge funds may indeed herd together, though there is little evidence that other investors regularly follow their lead. Herding based on information cascades can happen when information is asymmetric, for example with regard to monetary policy decisions. The lesson for policymakers is that policy transparency encourages investors to trade on fundamentals rather than simply go with the herd.

In a similar vein, Fung and Hsieh (2000) have provided an extensive overview of the role of hedge funds during the periods of market turbulence of the 1990s. They provide quantitative estimates of the market impact of hedge funds over a comprehensive set of market events. The authors found several episodes in which hedge fund activities were prominent and probably significantly impacted markets (Exchange Rate Mechanism (ERM) Crisis 1992, the European bond market rally 1993 and subsequent decline 1994). At the same time, there were other episodes where hedge funds appear to have had little or no market impact (stock market crash 1987, Mexican peso crisis 1994, Asian currency crisis 1997). In the latter case, Fung and Hsieh found no evidence that hedge funds were able to manipulate markets

away from their “natural paths” driven by economic fundamentals. Nor did the authors find any evidence of positive feedback trading by hedge funds. Most of the time hedge funds appear not to have acted as a single group or pursued unrelated trades. In a few periods, Fung and Hsieh (2000) found evidence of style convergence when both global macro and trend-following funds (i.e. managed futures) had large positions and traded in the same direction. They found no evidence, however, of herding between hedge funds and other investors. Based on this limited survey of analytical work, it is difficult to conclude that hedge funds decisively affect market volatility.

Direct observation of market price action may provide some additional clues. Consistent with the increased flow of new capital into the global macro and managed futures segment, a number of markets that managed futures strategies typically engage in have recently become more liquid, particularly in the area of commodities, as demonstrated by the increase in turnover and rise in non-commercial positions in the gold and oil future markets (Graph 5).

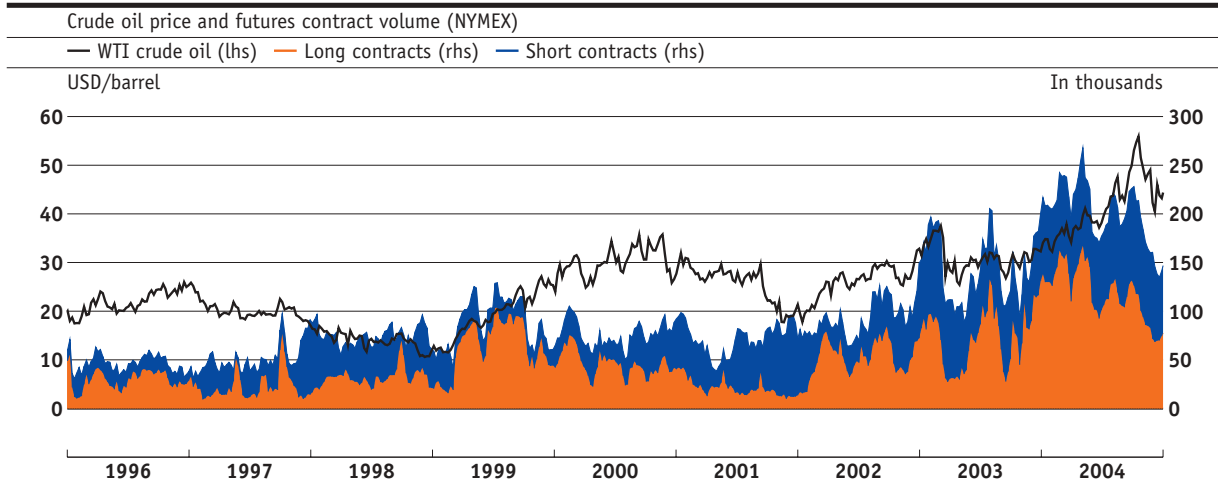
Whether the growth of the hedge fund industry has gone hand in hand with a change in market volatility, is difficult to assess. The increased significance of the industry since 1994 has not been accompanied by a clear change in market volatility (Graph 6).⁷ However, there have been episodes, e.g. between 1996 and 1999 or between 2001 and 2004, where inflows (outflows) into (from) hedge funds seem to have been associated with lower (higher) volatility.

Market observations also suggest that many technically driven hedge funds appear to hold similar positions on the basis of trading systems, driven by related trigger points.⁸ At least ex-post, one might therefore expect to be able to identify crowded technical points in the market. Analytically such points reflect moments of extreme market tension. An acceleration of an upward trend in prices, or a sharp reversal, can be a potential precursor to a new market equilibrium.

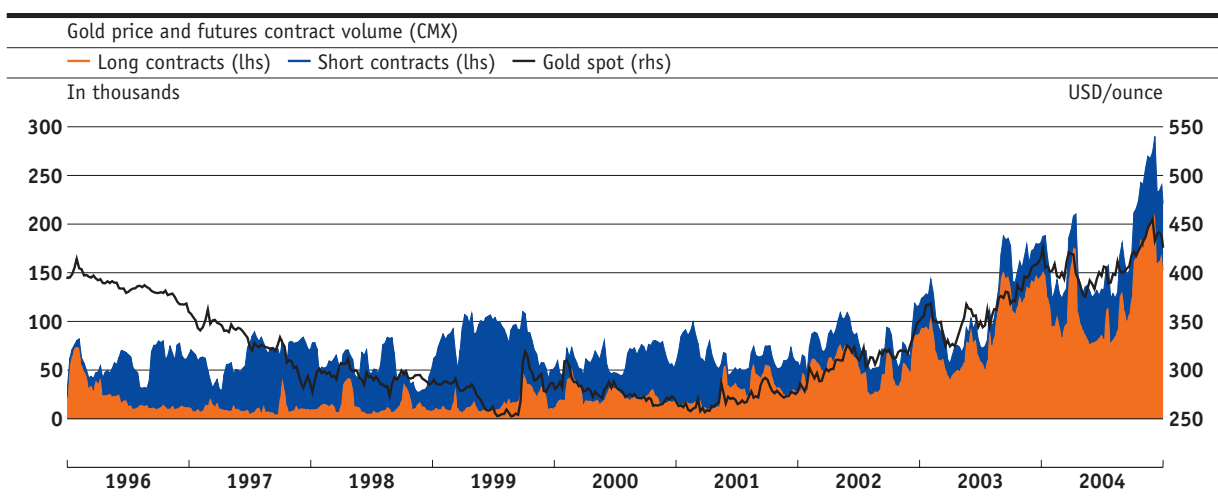
7 The implied volatility index calculated in Graph 6 is derived from normalized implied volatilities of at-the-money options in the stock (S&P), exchange (EUR/USD) and bond (10-year US Treasuries) markets.

8 For a discussion of clustering (or trigger points) in the foreign exchange market, see Osler (2003).

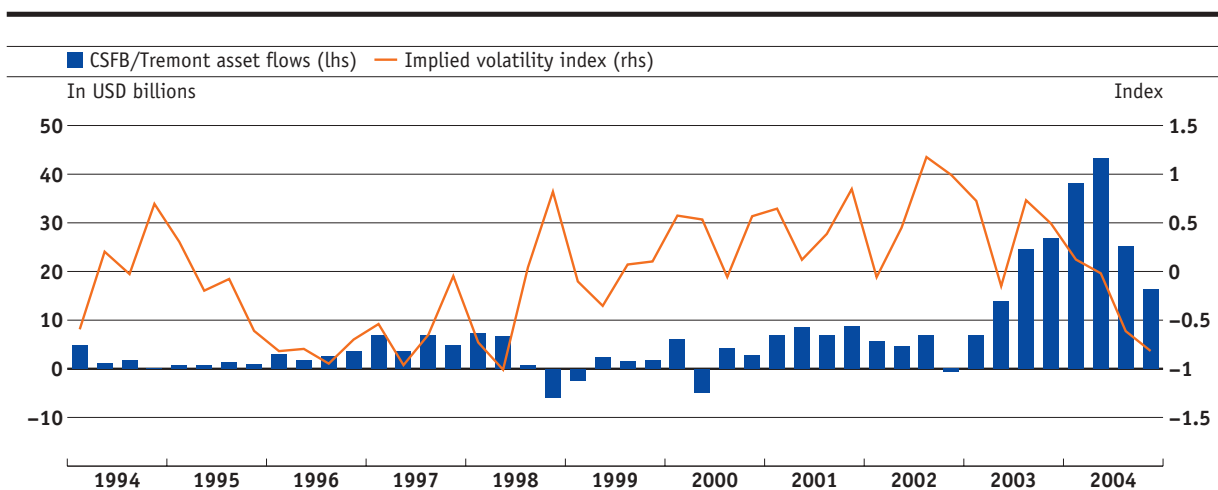
Graph 5a
Non-commercial positions in the oil futures markets



Graph 5b
Non-commercial positions in the gold futures markets



Graph 6
Asset flows and overall market volatility



There is some evidence that such dynamics may have occurred in recent months in various asset classes.⁹ A combined review of speculative positions in the market place, news flows and various hedge fund performance figures provides tentative evidence that heightened market volatility can at times be related to clustering patterns in the hedge fund industry. The following three examples provide a potential illustration of these dynamics.

- During the May to June 2003 period, speculative long positions in the US bond market appear to have been very large, based on the assumption that the Fed would have to reduce official interest rates below 1% because of deflationary risks. Long positions were further encouraged by market speculation that convexity hedgers (Fannie Mae, Freddie Mac) would eventually be forced to buy more duration and therefore drive interest rates lower. Ten-year Treasury yields promptly rallied by more than 80 basis points over the period until mid-June. This strongly trending market helped the hedge fund industry generate exceptional returns during the month of May 2003. The trend following CTAs, in particular, posted outstanding performances that month. However, the combination of a smaller-than-expected 25 basis point interest rate cut by the Fed on 24th June 2003, together with a discernible turn in language in the accompanying statement, took the market by surprise. A sharp sell-off in the bond market followed immediately. Generally negative hedge fund performance figures during the month of June are testimony to the gapping nature of the price movements following the Fed's interest rate decision.
- Data on speculative positions¹⁰ suggest that euro exposure was high and rising in mid-July 2004, prior to Federal Reserve (Fed) Chairman Alan Greenspan's monetary policy report to Congress. In his testimony, the Fed Chairman gave an inflation and interest rate outlook that was at the time perceived to be surprisingly "hawkish" by market participants. Immediately, following the testimony, long euro trades were covered on a large scale and the dollar appreciated sharply from 1.245 to 1.20 vis-à-vis the euro over the course of the following week.

- Another example relates to the recent evolution of crude oil prices. Data on speculative positions suggest that non-commercial traders such as investment banks and hedge funds have become more involved in crude oil since 2003.¹¹ Their net long positions were positively correlated with price movements (see Graph 5), a behaviour that may have amplified price movements.¹²

It is important to point out that extreme care needs to be exercised when interpreting such examples. First of all, any number of factors can cause markets to move to new equilibrium points. Second, price action is often shaped by overall liquidity conditions in a specific market segment. Sharp price movements are more likely to occur in markets where trading activity is light. Third, the nature of market participants engaged at any particular time will impact the nature of price movements. For example, if a specific concentration point is made up largely of managed futures accounts with similar trading systems, sharp gapping movements are likely to occur. If on the other hand, a concentration point results from a wide variety of hedge funds with different strategies holding similar positions, the price action is likely to vary due to the different reaction functions – a result of varying time horizons, loss tolerances and volatility appetites amongst the engaged hedge funds.

Analyzing price action is clearly not a precise science. Mature capital markets are made up of too many different types of market participants to infer systematic market behaviour, let alone specify behaviour by one relatively small category of market participants. Nevertheless, the previous examples suggest that it is at least plausible, particularly in relation to the managed futures segment of the hedge fund industry, that large asset pools have recently been deployed in related strategies which may have contributed to cases of heightened market volatility. Consistent with this, the largest systematic trend followers of the managed futures segment have recently posted similar performances. The correlation of monthly returns since January 2003 of six of the biggest trend following CTAs ranged between 0.5 and 0.9, with all funds posting exceptionally poor performances during the second quarter of 2004.

9 According to Rankin (1999) and Yam (1999) the activities of hedge funds were disruptive around the time of the Asian crisis in particular markets.

10 Non-commercial positions on the CME (Chicago Mercantile Exchange) EUR/USD contract as reported by the Commodity Futures Trading Commission (CFTC).

11 Non-commercial positions on the Nymex (New York Mercantile Exchange) crude oil contract as reported by the CFTC.

12 For further discussion about speculation in oil markets, see BIS (2004, p. 6).

The obvious counter-argument is that despite recent inflows, the managed futures component of the industry is simply not large enough to materially affect price action in important market segments. This argument overlooks two dimensions: First, as noted above, many macro hedge funds are also involved in similar trades. Second, it is not sufficient to evaluate the potential impact of the managed futures segment by looking at the nominal size of capital invested in the strategy. Market information, as well as survey data, suggests that the managed futures segment is significantly more leveraged than other parts of the hedge fund industry. As a result, the capital deployed in the managed futures segment is likely to be significantly higher than is suggested by the flow data. In other words, merely considering the nominal capital base of a hedge fund strategy may significantly underestimate its real impact. Leverage is therefore an important issue in any assessment of how hedge funds affect overall market conditions.

6 Leverage

In the aftermath of the 1998 LTCM crisis, the use of leverage by hedge funds was one of the central points in a wide range of industry and policy discussions.¹³ The basic premise was a simple one: The use of leverage is an important investment tool for hedge funds in their quest to generate absolute returns commensurate with their fee structure. At the same time, leverage can magnify market risk, credit risk and liquidity risk.¹⁴

Given the rapid growth of the hedge fund industry, a natural focal point is the nature of the relationship between record industry inflows, diminishing returns and the potential use of excessive leverage. The basic argument is a simple one: Elevated hedge fund investment returns in the past have tended to attract a large number of new entrants into the hedge fund industry. Increasingly, these new entrants and their activities tend to eliminate market inefficiencies which had accounted for the past high returns. With diminished returns, hedge funds are finding it increasingly difficult to justify their elevated fee structure. In an attempt to preserve returns commensurate with their fees, hedge fund managers might be driven to resort to increasingly elevated levels of leverage.

The data on flows and returns suggest that at least some components of such dynamics are currently at work. Record inflows to the hedge fund industry during the first quarter of 2004 have indeed been followed by unsatisfactory performances throughout most of the hedge fund industry during the second quarter of 2004. Leverage figures are much harder to assemble and interpret than flows and performance data. A recent study of the Bank of England concludes that overall leverage in the hedge fund industry has not markedly increased and remains moderate compared with the 1997–1998 period.¹⁵ Various market sources and data services provide similar assessments of the degree of leverage currently deployed in the hedge fund industry.¹⁶ On balance, however, it is not particularly useful to put too much stock in such cursory assessments of industry leverage. First, the data aggregation problem is significant. Second, leverage can evolve greatly over time. Third, and perhaps most importantly, there are different forms of leverage, some of which are unlikely to be captured reliably by any aggregate industry data. Thus, it is more the type, level and dynamic character of leverage that matters.

13 See US President's Working Group on Financial Markets (1999); Counterparty Risk Management Policy Group (1999); Financial Stability Forum (2000); Managed Futures Association (2003).

14 Managed Futures Association (2003, p. 19).

15 Bank of England (2004).

16 According to Van Hedge Fund Advisors, the strategies with the highest leverage were fixed income arbitrage, convertible arbitrage and global macro, whereas short selling had the lowest leverage. Asset weighted leverage estimates of the different strategies ranged from 1.1 to 8.3.

The most basic form of leverage pertains to financial intermediaries (typically global investment banks) extending credit facilities to hedge funds to allow them to invest capital in excess of their own capital base. Such credit facilities are usually at the root of industry-wide or strategy-specific estimates of leverage in the hedge fund industry. Much of the regulatory discussion following the collapse of LTCM focused on this type of leverage and attempted to strengthen the relationship between financial intermediaries and hedge funds in order to improve counterparty risk management.

A second, more recent form of leverage in the hedge fund industry is related to the rapidly growing funds of funds industry. A number of fund of funds managers have begun to leverage their products by either using their own balance sheet (in the case of large banks or insurance companies) or, alternatively, using credit facilities from other financial firms with large balance sheets. 2:1 leverage ratios are typical, although in some cases, leverage ratios can be as high as 4:1. This form of leverage, though probably still limited, is unlikely to be captured by any industry leverage figures which are based on individual hedge funds.

Finally, the most complex form of leverage that hedge funds employ is instrument leverage. This type of leverage is embedded in the use of most kinds of derivative instruments. Extreme leverage of this type could conceivably have systemic repercussions.

The hedge fund industry and the investment banks trading with hedge funds do not calculate and apply the leverage concept in the form it is traditionally used (i.e. the value of positions as a multiple of equity). Hedge funds define a target value at risk (VaR) or capital allocation to each position. Similarly, investment banks trading with hedge funds control the risks involved with the hedge funds by allocating to the fund a VaR limit. All open positions to the fund – mainly derivatives like futures, swaps, swaptions or forwards – are taken into account in the VaR limit, with all offsetting positions usually netted out. The size of the total position the hedge fund can build is a function of the variables that determine the VaR – e.g. the volatilities and correlations of the returns of the different instruments. As a measure of risk control the VaR of the fund has to be covered with margins, mostly in the form of securities. Generally speaking the investment banks apply the well-known margin system of futures exchanges to the overall business with hedge funds. There are additional safety procedures. For example, as a result of a large draw

down in the net asset value, the VaR limit can be reduced automatically, forcing the fund to reduce or close out its positions.

Nonetheless, it should be kept in mind that VaR measures have limitations – they reflect price behaviour in normal markets and are not well suited to a stressed market environment. It is possible that the reliance of institutions on VaR could introduce feedback effects. There is some anecdotal evidence, for example, which suggests that institutions are selling options in order to boost returns. On the one hand, this is contributing to the smooth functioning of financial markets. On the other hand, these options sales reduce the price of volatility, which leads to a decrease in VaR estimates. Thus institutions may have access to greater leverage than would apply in time of more “normal” volatility levels.

17 See Counterparty Risk Management Policy Group (1999).

7 Regulation

There has been a noticeable increase in calls for additional regulatory oversight of hedge funds. Prior to engaging in a regulatory discussion, it is important to recognize two aspects: First, hedge funds are already subject to a wide range of indirect regulations. They operate in regulated financial markets; they utilize the infrastructure of regulated financial centres and – more importantly – they deal with regulated financial institutions. Second, many hedge funds are already subject to direct regulatory requirements. According to a recent informal survey by one of the world's leading fund of funds operators, amongst their 220 invested funds, 58% were registered with the US National Futures Association (NFA), 36% with the US Securities Exchange Commission (SEC), 30% with the UK Financial Services Authority (FSA) and 1% with the CFTC.¹⁸

As far as the necessity for further direct regulation goes, it is useful to distinguish between three different potential regulatory arenas: prudential matters, position reporting, and leverage. Prudential regulation is concerned with the commendable goal of eliminating fraud. As noted above, many hedge funds are already subject to registration with regulatory authorities, which is part of this effort. Indeed, there is probably some need to avoid regulatory overlap and clarify responsibilities between different regulatory agencies. Efforts undertaken by the FSA in London to ensure proper business structures as well as control and pricing processes have arguably diminished the fraud risks in the industry. For many institutional investors, registration appears to have become an important criterion in selecting hedge funds.

Regulatory initiatives in the arena of position reporting are, at best, an unrealistic proposition. At worst, it could undermine the integrity of financial markets. It is unrealistic because the timeliness and aggregation problems are virtually insurmountable in an industry which today represents nearly 12% of the total mutual funds industry in the United States. More importantly, it is potentially counterproductive because, amongst other things, position leaks could encourage behaviour by market participants which is fundamentally incompatible with a market-based price finding mechanism.

The most complex potential regulatory arena concerns leverage in the hedge fund industry. Extreme levels of leverage are an obvious source of concern for central banks in light of the credit risk nexus of hedge funds and the global banking system. This credit risk nexus could become particularly precarious if a large scale credit crisis were to coincide with a global capital market liquidity crisis. In light of this nexus, there is probably some validity to calls for further examination of the degree of leverage in the hedge fund industry, or at least the measurement methods deployed to assess leverage. But as noted above, there are vast aggregation problems, not dissimilar to those in the arena of position reporting, so expectations about what can be achieved need to be realistic. Mis-directed regulatory initiatives run the risk of being unable to accomplish what they set out to do. Nonetheless, the question of leverage in the hedge fund industry deserves further study.

Ultimately, the most critical point is likely to be situated in the risk management operations of the world's leading counterparties of the hedge fund industry. If the leading global investment banks maintain adequate counterparty risk and liquidity risk management systems and operations, leverage in the hedge fund industry should only represent a marginal risk to the stability of the global financial system. Therefore, further efforts to examine the question of leverage in the hedge fund industry should be directed primarily at the risk management operations and processes of the world's major investment banks. They are the primary trading partners of the hedge fund industry. They are also the most important providers of leverage to the industry. Fortunately, the global investment banking community is a small and concentrated one. This should facilitate further study of whether risk management systems and processes within the world's most important financial institutions adequately capture the risk taking of individual hedge funds.

¹⁸ In a recent speech in November 2004, a director of the SEC estimated that 40 to 50 percent of hedge fund advisers were voluntarily registered with SEC.

8 Conclusions

The hedge fund industry has undergone important changes since the LTCM crisis in 1998. Assets under management and the number of active funds have risen sharply, though the global hedge fund industry represented only 1.1% of the total capitalization of world bond and equity markets at the end of 2003. One important factor in the growth dynamic of the industry has been the growing demand for hedge fund investments from a wide range of institutional investors. Capital inflows have varied depending on the different hedge fund strategies.

Free of narrow constraints embedded in traditional investment guidelines, hedge funds have been an important source of innovation in the asset management industry. Moreover, hedge funds have rendered financial markets more liquid, more efficient and, ultimately, more flexible. Overall, the increased significance of the industry has not been accompanied by a clear change in market volatility. Nonetheless, the most recent rapid growth of both the number of hedge funds and their assets under management coincides with a dramatic reduction in market volatility. At the same time, market observation suggests that in some specific cases, certain segments of the hedge fund industry may have adversely impacted market volatility, either by accentuating existing market trends or by causing sharp price reversals or gapping price movements.

The use of leverage is a central characteristic of the hedge fund industry. Overall industry leverage is extremely difficult to measure. Market and survey evidence suggests that leverage is currently moderate. However, such leverage estimates must be interpreted with great caution as they are unlikely to capture the real extent of leverage embedded in the hedge fund industry. Leverage matters in a number of ways. One particular concern is that diminishing hedge fund returns in the aftermath of large capital inflows might motivate hedge fund managers to use extreme leverage to generate returns commensurate with the prevailing hedge fund fee structure. Systemic risks could conceivably result from such elevated levels of financial leverage, primarily through large credit risk transfers to the global banking system.

Ultimately, leverage, combined with inept asset management strategies, leads to hedge fund failures. These are likely to occur in the future as they have in the past. It is not inconceivable that expansionary monetary policy and the resulting global liquidity boost provide fertile grounds for the rise and fall of hedge funds. In the event of hedge fund failures, investors – for the most part wealthy individuals – will lose money. Nonetheless, such capital losses have no bearing on the stability of the financial system and should be of no concern to policy makers. What financial and economic policy makers must be concerned with are hedge fund failures or hedge fund activities that undermine the stability of the global financial system. Prudent and disciplined risk management methods, operations and processes in the global investment banks provide the most reliable defence against an erosion of lending standards and the potentially hazardous consequences of the use of excessive leverage in the hedge fund industry. Further study should be directed accordingly.

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Credit in the monetary transmission mechanism: an overview of some recent research using Swiss data

Mathias Zurlinden

Economic Study no. 2005-1

The conventional textbook model of monetary policy rests on the assumption that credit markets work smoothly and that internal and external funds are perfect substitutes ("money view"). An alternative view holds that the information asymmetries faced by lenders and borrowers give rise to agency costs which drive the price of external funds above the price of internal funds. This implies that internal and external funds are imperfect substitutes and a borrower's real decisions are affected by his capital structure ("credit view").

With regard to the monetary transmission mechanism, the credit view suggests that a monetary contraction reflected by an increase in the open-market interest rate tends to raise the external finance premium. As a result of the increase in the premium, the effects of monetary policy on the cost of borrowing and on real activity are amplified. The typical borrower may be either a firm or a household. But similar considerations are also relevant for the refinancing of banks. Therefore, two forms of the credit channel are usually distinguished: a general "balance sheet channel" (where the focus is on the balance sheets of firms) and a "bank lending channel" (where the focus is on the balance sheets of banks). The latter builds on the realistic assumption that banks are the only source of external funds for most borrowers.

The international empirical literature on the credit channel can be divided into studies using aggregate data and studies using panel data gathered from individual firms or banks. The problem with most studies using aggregate data is that correlations between aggregate output, aggregate credit and the monetary policy variable generally do not allow us to identify a credit channel. Results may be consistent with the credit view, but the money view predicts qualitatively similar correlations. Therefore, some authors have utilised interest-rate spreads. Working with Swiss data, Jean-Marc Natal (2003) includes an interest-rate spread in a VAR model to examine whether the interest rate spread responds to

a monetary policy shock as predicted by the credit view. The results are consistent with the existence of a credit channel; but additional evidence that corroborates this result is definitely needed since the interest rate series available for Switzerland do not allow us to measure the external finance premium accurately.

To tackle the problem of distinguishing shifts in credit supply from shifts in credit demand, the bulk of the international literature has focused on the cross-sectional implications of the credit view. These studies are carried out with firm-level or bank-level data. According to the credit view, firms (or banks) of small size and with poor balance sheets respond more strongly to a monetary contraction than large firms (banks) with no balance sheet problems. In Switzerland, there is the difficulty that no data set with firm-level balance sheets is published. For that reason, there is just one study working with firm-level data. The 2001 study by Daniel Kalt is based on the balance sheet data of a major Swiss bank's credit clients. Kalt examines the response of investment to a cash-flow shock. Whereas the responses appear to be small, the cross-sectional differences are consistent with the existence of a balance sheet channel.

All the other recent work with Swiss data has been done with bank-level data gathered by the SNB. These studies differ to some extent with regard to the model framework. Whereas Josef Perrez and Robert Bichsel (2003) and Olivier Steudler and Mathias Zurlinden (1998) adopt the familiar approach proposed by Kashyap and Stein (1985, 2000), Marlene Amstad and Sylvia Kaufmann (2003) perform their investigation in the context of a Markov-switching model and a cluster analysis. The results are not always clear-cut. But on the whole they suggest that a bank lending channel does exist. This implies, for example, that monetary policy can affect the economy through a credit channel even if the open-market interest rate has fallen to zero and the money channel therefore is closed.

The quantitative importance of the credit channel is an open question. Such an assessment must be carried out in the context of a complete macroeconomic model using the micro-foundations which are at the heart of the credit channel. Few examples are available in the literature on the credit channel, and to my knowledge none of these are based on a model using Swiss data.

Chronicle of monetary events

Target range for the three-month Libor rate left unchanged

At its quarterly assessment of 17 March 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 three-month Libor in the middle of the target range at around 0.75% for the time being.

Agreement on the distribution of the proceeds from the sale of 1,300 tonnes of gold

On 25 February 2005, the Federal Department of Finance (FDF) and the Swiss National Bank (SNB) concluded an agreement on the distribution of the proceeds from the sale of 1,300 tonnes of gold. Under this agreement, the SNB will distribute the counter-value of the 1,300 tonnes of gold no longer required for monetary policy – i.e. CHF 21.1 billion – from its 2004 annual profit, with one-third going to the Confederation and two-thirds to the cantons. The proceeds will be distributed in ten weekly tranches after the SNB's 2005 General Meeting of Shareholders in addition to the regular profit distribution of CHF 2.9 billion for the 2004 financial year.

The agreement was concluded as a result of the Council of States' decision of 16 December 2004 not to consider – for the second time – the Federal Council's proposal regarding the appropriation of the SNB's gold assets (cf. Quarterly Bulletin 3/2003, p. 59). The attempt to create a new legal basis for the appropriation of the surplus gold reserves had thus failed. On 2 February 2005, the Federal Council decided not to submit a new proposal on the appropriation of the gold assets to Parliament, but to have the SNB distribute these assets to the Confederation and the cantons in accordance with the existing law (art. 99 para. 4 Federal Constitution in conjunction with arts. 30–31 National Bank Act). The supplementary agreement concluded between the FDF and the SNB on 12 June 2003 regarding the distribution of income on free assets (cf. Quarterly Bulletin 2/2003, p. 119) will become null and void following the distribution of the proceeds from the sale of gold. At the same time, the SNB will be released of its dual role as a monetary policy authority and an asset manager for the state.

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