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# BANK OF FINLAND

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# BULLETIN

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2003 • Vol. 77 No. 2



- Monetary policy and economic outlook
  - Financial stability in Finland
  - Housing finance in Finland
  - Towards electronic payments
-

# BANK OF FINLAND BULLETIN

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**T**he imbalances that have long burdened the world economy have still not been corrected to any significant degree. Japan has not begun to tackle its debt problem and the US current account deficit continues to grow. In several euro area countries government deficit problems have worsened in the context of sluggish economic growth. However, at least one obstacle to growth has been removed with the quick end to the war in Iraq. Moreover, the notable weakening of the dollar is salutary for restoring balance to the US economy.

Spring-2003 forecasts of international organisations such as the OECD and IMF indicate that economic growth in the industrial countries will gradually pick up toward the end of 2003. In the euro area countries, GDP growth will probably remain relatively sluggish through the latter part of the year, as only gradual improvements are expected in consumer and industry confidence. The low level of interest rates and downtrend in import prices are, however, supportive of private consumption in the euro area. The international organisations are looking for a notable acceleration of US economic growth in 2004, as well as fairly strong output growth in the euro area. However, the downside risk is still of a considerable magnitude.

Slow economic growth has exacerbated the government deficit problems of EU countries. In Germany and France budget deficits in 2002 exceeded the 3%-of-GDP maximum specified in the Treaty Establishing the European Union. Countries with deficit problems are required to reduce their structural deficits by at least 0.5 percentage point a year. Considering the present economic outlook, this is an ambitious project that will put tight constraints on these countries' near-term fiscal policies.

In Finland employment has generally not reacted in recent years to fluctuations in export-related production. Industrial enterprises have avoided layoffs even in the face of occasional reductions in output.

Recently however, confidence in a quick economic recovery has faded and layoffs and firings have become commonplace. Continuous growth in service-sector output, thanks to the strength of private consumption, has helped to offset the weak outlook for industry. This has strengthened the employment situation in the service sector. The strong demand for consumption is partly due to households' confidence in their own finances, which has not been shaken by the world's economic problems and military conflicts. Household demand has also been bolstered by low interest rates on loans and persistently subdued inflation, which has boosted real wages.

Overall, the outlook for the Finnish economy in 2003–2004 has not changed essentially from that presented in the Bank of Finland's macroeconomic forecast published in March 2003. Economic growth is expected to pick up gradually, as the world economy recovers, but to remain notably slower than that of the late 1990s. There is however some downside risk should the recovery of the world economy be delayed or the rise in unemployment begin to erode households' confidence.

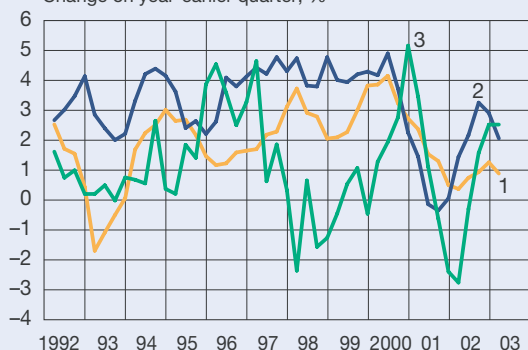
In contrast to other euro area countries, Finland's general government budget has remained clearly in surplus. If the new Government's spending limits are realised, its promised tax cut of just over EUR 1 billion will not jeopardise the balancing of the central government budget by the next parliamentary elections.

### World economic recovery – bumping along

Growth of the world economy has been gyrating for more than two years. The problems that followed in the wake of ICT-sector overheating around the millennium-change have proven more formidable than initially perceived. Optimistic growth expectations

**Chart 1.**  
**Real GDP**

Change on year-earlier quarter, %



1. Euro area
2. United States
3. Japan

Sources: Eurostat, Bureau of Economic Analysis (BEA) and Economic and Social Research Institute (ESRI), Japan.

have been fading, as evidenced by the three-year descent of share prices. Finding new profitable investment outlets has become increasingly difficult. The propensity to invest has been dampened also by the reduction in market values of companies. The low level of interest rates has however helped to bolster private consumption and housing investment in the industrial countries.

Output growth in the industrial countries began to recover in the early part of 2002, led by the US economy. The fast-growing Chinese economy provided a further boost to the world economy. Total output in the industrial countries grew by 1.8% on average in 2002, even though growth in the euro area, and especially in Japan, remained lacklustre due to weak domestic demand (Chart 1). The heightening of the crisis in Iraq around the end of 2002 increased the uncertainty, and economic growth again turned generally sluggish. Concern about disturbances in oil deliveries led to a notable rise in the prices of oil and some other strategic commodities. At its peak at the start of March 2003, the price of Brent crude was about USD 35 a barrel.

Share prices on stock exchanges around the world began to rise just before actual military operations commenced in Iraq in March. At the same time, the price of oil began to fall rapidly, when it became apparent that output would be maintained at the normal level. In the course of a couple weeks, the world price of crude oil dropped by nearly USD 10.

Some of the uncertainty attached to the economic outlook was removed when the war in Iraq turned out to be short and contained. However, because of

the imbalances present in the world economy, a rapid spurt in growth is not in the offing. Another growth restraint is the SARS epidemic, which is reducing travel and trade. All this means that prospects for world economic growth remain much the same as in the Bank of Finland's forecast published in March 2003. During the spring, the forecasts of international organisations have been revised to reflect a more pessimistic outlook on economic growth.

Behind the difficulties confronting the world economy are a number of imbalances that are partially unrelated to each other (Box 1). One factor that was conducive to the development of imbalances was the acceleration of technological advance in the 1990s, which fostered expectations of rapid income growth that later proved to be unfounded. In the United States the acceleration led to increased indebtedness of companies and households and a worsening of the current account deficit. As growth has faltered, the US federal government has begun to follow the private sector into debt. In Europe and Japan, essential restructurings were left undone, as were repairs of fundamental structures of the public sector, as exports and tax revenues grew in connection with a rapidly growing world economy.

US monetary policy has long been accommodative (Chart 2). Low interest rates have buoyed private consumption, partly via increases in the asset-value of housing. The swift resolution of the war in Iraq has restored household confidence in the future. The forecasts of international organisations point to a pick-up in US economic growth in the latter half of

## Box 1. Financial imbalances are constraining growth

Structural financial problems of the major economies are slowing world economic growth. The US current account deficit is the most important, albeit not the most troublesome, of these imbalances. Japan's internal debt problems still give more cause for concern. China's banks are also plagued by large numbers of non-performing loans. Debts of the public have also increased in European countries, and some of these pose – relatively benign – banking problems.

The US current account deficit rose to 5% of GDP in 2002. Its significance for the world economy is sharpened by noting that, in dollars, it exceeds the combined deficit of other countries. This means that the United States absorbs the bulk of the world's savings surpluses. US exports cover only some 60% of imports. The investment ratio was relatively high in 2002 (just over 20% of GDP) while the savings ratio was only 16%. The public sector as well as companies and households ran deficits. In the private sector, especially among households, indebtedness has risen notably.

Just ten years ago, US external assets and liabilities were roughly in balance. Now, the country's negative net international investment position amounts to over a fourth of GDP (Chart). As regards direct and portfolio investment, US external assets and liabilities are fairly well balanced. The excess of liabilities can be thought of simply as interest-bearing securities issued mainly by the federal government and the private sector. Especially

in the last couple years, the US current account deficit has been financed mainly by bonds.

Despite the huge external liability position, it was not until 2002 that the income flows on US assets and liabilities became outward on net. From the US perspective, foreign direct investment in particular produces considerably more income for residents than for nonresidents. This advantageous income flow reduces the burden of the external liability position, but, as the negative position grows, interest payments are growing rapidly.

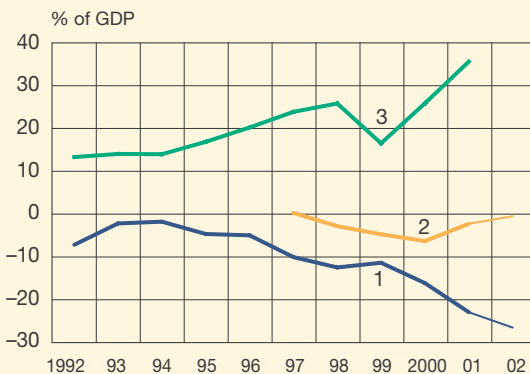
### Who finances the US deficit?

In the final analysis, financing for the US deficit comes from countries with current account surpluses. Japan's surplus has long been the largest in absolute terms, annually some 1% of US GDP (2.5% of Japan's GDP). In 2002 the countries of western Europe (excl. United Kingdom) posted a combined surplus of a similar magnitude. The oil producing countries made up the third significant surplus group.<sup>1</sup>

Japanese investors have large holdings of both domestic and foreign assets. The country's net international investment position amounts to about a third of its GDP. The euro area has in recent years had a small negative position, but now its external assets and liabilities are nearly in balance.

<sup>1</sup> The world balance of payments is marked by a notable statistical discrepancy, amounting to about 1.5% of US GDP. The statistics overestimate deficits and/or underestimate surpluses by this amount.

**Chart.**  
**Net international investment position**



1. United States
2. Euro area
3. Japan

Observations for 2002 are based on current account surplus/deficit.

Source: IMF.

Via the international financial markets and direct investment, the assets of surplus countries are put at the disposal of deficit countries. In recent years, financing for the US deficit has not come entirely from the private markets. A significant portion has come from central banks.

Apparently, during the last couple years, some of the Asian countries financed nearly a fourth of the US current account deficit by building up their stocks of international reserve assets. Japan's international reserves now amount to nearly 5% of US GDP, while those of China and Hong Kong together amount to nearly 4%. These reserves are held largely in US debt instruments, albeit some countries have increased their holdings of euro-denominated claims. Although China's current account surplus is small, the country has received huge inflows of direct investment, which, with its exchange rate fixed, has built up its stock of international reserves.

The exchange rate policies of Japan and China are slowing the depreciation of the dollar. These policies support the countries' current accounts while, at the same time, these countries are financing US indebtedness. Japan and China are both confronted with internal financial difficulties, primarily large amounts of non-performing loans. China's problem may be less serious, provided its

economy returns to fast-track growth. The country saves and invests in huge amounts, nearly 40% of GDP. Japan's economy has been in a stupor for years, even though its savings and investment ratios remain high, about 25% of GDP. Further exacerbation of these countries' internal debt problems would probably weaken their currencies, eg against the dollar.

Changes in the euro area savings surplus depend largely on the euro's external value as well as the growth of consumption and investment in the euro area. Euro area savings and investment have been fairly well balanced despite the growth of corporate and household debt and problems concerning some of the countries and banks, but the tarnished economic outlook has slowed the strengthening of the euro. In any case, in the last year and a half, the euro has appreciated by more than 25% vs the dollar and more than 10% in terms of the trade-weighted currency index.

Recent movements in exchange rates and the price of oil have paved the way for balancing the current accounts. Nonetheless, the imbalances are likely to persist in the near term and the large debt overhangs – even without a serious debt crisis – will have a pronounced braking effect on the coming economic upswing.

2003, as investment recovers and consumption demand – bolstered by tax easing – continues to grow. However, there is a high downside risk, especially in light of households' heavy indebtedness.

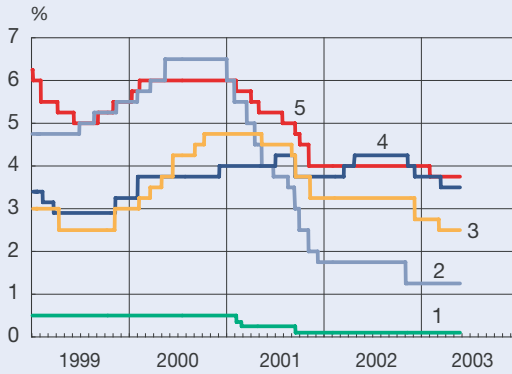
Japan's deflation and problems in the financial sector continue unabated. Near-zero nominal interest rates have not sufficiently strengthened demand, as prices trend downward. In order to increase liquidity, Japan's central bank has begun to purchase corporate debt directly from companies – bypassing the banks. According to international organisation forecasts, the decline in consumer prices will nonetheless continue on into 2004. Attempts to stimulate the Japanese economy via public spending have failed and have also led to a swift increase in central government indebtedness. The projected modest growth of Japan's economy will in fact be largely dependent on exports in 2003 and 2004.

Dollar weakening in recent months vs the euro and other currencies should have gradual salutary

effects on some of the imbalances in the world economy. However, in the short run, euro appreciation could lead to production cutbacks in the euro area (Chart 3). As measured by the trade-weighted index, the dollar had by end-May depreciated about 10% compared to its average for 2002. The yen has actually weakened very little on average – hardly enough to break the country's deflationary cycle.

Long-term interest rates have fallen to exceptionally low levels in the industrial countries, in both nominal and real terms. In connection with the war in Iraq, the level of interest rates moved up temporarily, only to decline again in May. The low level of real long-term rates reflects diminished prospects for economic growth. Although the price of energy has caused gyrations in the inflation rate in the early part of the year, inflation expectations have diminished, which has helped to bring down nominal interest rates (Chart 4).

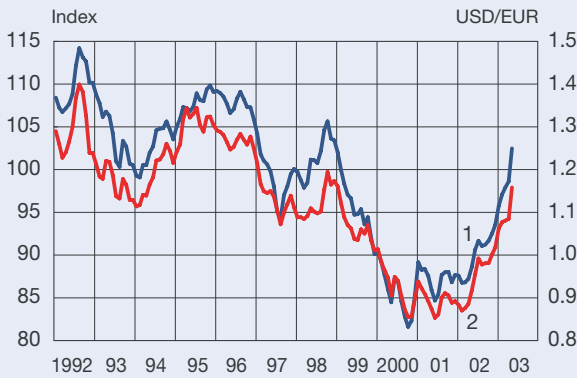
**Chart 2.**  
**Policy rates**



1. Japan: discount rate
2. United States: fed funds target rate
3. Eurosystem: main refinancing rate / minimum bid rate
4. Sweden: repo rate
5. United Kingdom: repo rate

Source: Reuters.

**Chart 3.**  
**Euro's effective and USD exchange rates**

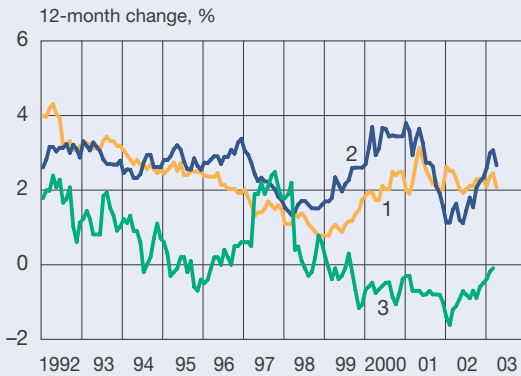


1. Index, 1999 Q1 = 100 (LHS)<sup>1</sup>
2. USD-value of one euro (RHS)<sup>2</sup>

- <sup>1</sup> Prior to 1999: trade-weighted index of currencies of the euro area countries; rising curve indicates euro appreciation.
- <sup>2</sup> Until 31 Dec 1998: ecu rate.

Source: European Central Bank.

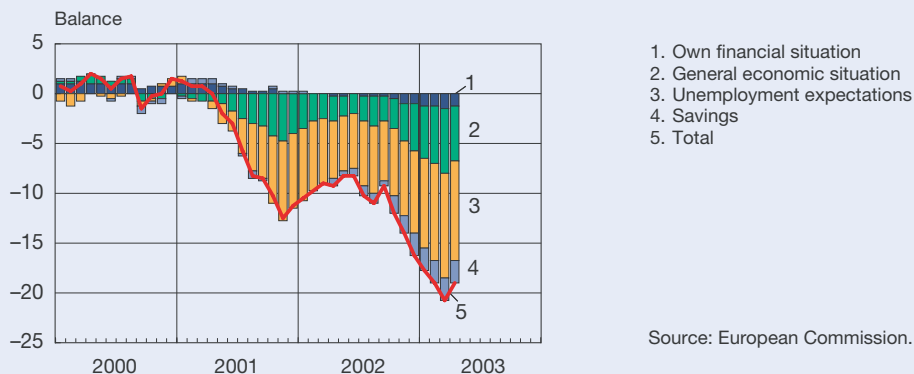
**Chart 4.**  
**Consumer prices**



1. Euro area
2. United States
3. Japan

Sources: Eurostat and OECD.

**Chart 5.**  
**Euro area consumer confidence indicator: components and total**



## Euro area domestic demand is lacklustre

Total output in the euro area grew by only 0.8% in 2002 compared to the previous year. The main reason for the lacklustre performance was the weakness of domestic demand. Investment by companies declined for the second year running. Prices of shares of European companies fell by 30% in 2002, as measured by the Dow Jones EURO STOXX index, which constrained companies' propensity to invest. Private consumption growth decelerated notably compared to 2001. The increase in unemployment has clearly reduced consumer confidence in the euro area (Chart 5).

The uncertainty brought on by the war in Iraq, as well as the structural problems of the euro area, have been instrumental in the continued weakening of the economy in the early months of 2003. Unemployment has continued on its upward trajectory and, according to the international organisations, is likely to increase further in 2003, to nearly 9% of the labour force. If the world economy begins to recover toward year-end, as projected, growth in the euro area should begin to accelerate. The low level of interest rates is salutary for growth of domestic demand. However, the recovery is expected to be a slow one: the international organisations are forecasting only about 1% GDP growth for the euro area in 2003. For next year too, growth is expected to lag behind that of the US economy.

Behind the sluggish growth of the euro area are a number of structural factors and rigidities. The pace of reform slowed in many countries as the millennium wound down. Germany has experienced particularly sluggish GDP growth and unemployment has increased for three years running. Domestic demand declined already in 2002, and GDP growth has been buoyed mainly by exports and public consumption. Chancellor Schröder's Government is trying to increase the economy's efficiency by reducing taxes and improving the operability of the labour market eg via reform of unemployment insurance.

The sluggishness of economic growth has exacerbated EU countries' government deficit problems. In 2002 the general government deficits of Germany and France exceeded the limit of 3% of GDP prescribed in the Treaty Establishing the European Union and, without a substantial growth recovery, we will probably see such deficits again this year, possibly among an enlarged group of countries.

Finance ministers of the euro area countries have agreed that countries facing government deficit problems are to reduce their structural deficits by at least 0.5 percentage point per year. In light of the present economic outlook, this is an ambitious goal that will in the coming years put tight constraints on fiscal policies in these countries. As a means of spurring the economy, growth of government deficits will not be an alternative to structural reform, even if the outcome for economic performance is considerably weaker than expected.



## Euro countries' inflation in the region of 2%

Euro area consumer prices, as measured by the harmonised index of consumer prices (HICP), rose by just over 2% in 2002. Inflation has long been buoyed by rapidly rising service prices, even as prices of non-energy industrial products have risen at a subdued rate. The wide movements in the price of crude oil have caused temporary changes in inflation rates. The rise in prices of energy products in spring 2003 boosted HICP inflation to nearly 2.5% pa. Subsequently, the price of oil expressed in euro has declined considerably, partly as a result of the strengthening of the euro. Euro appreciation could begin to dampen price rises more widely toward year-end. According to forecasts of the international organisations, euro area consumer prices should increase by less than 2% in 2004.

In recent years, inflation differentials between euro area countries have been considerably narrower than at the start of the 1990s. Currently, the differentials are of the same magnitude as those between different regions of the United States. German inflation has recently been running at close to 1% pa, whereas in Ireland and Portugal it has fluctuated around 5% and 4% respectively.

## Easy conditions in euro area financial markets

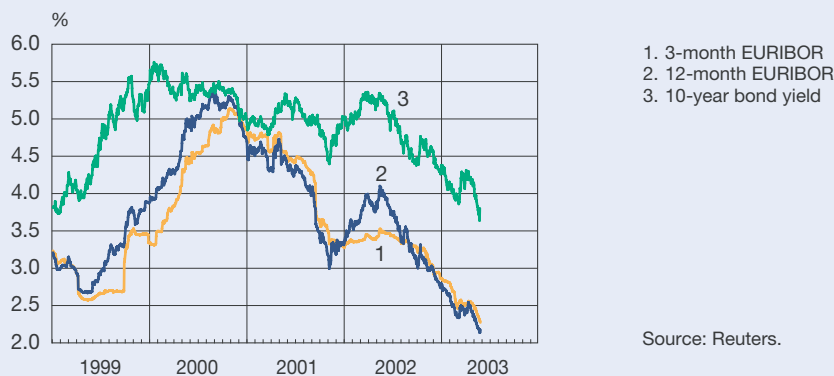
In March the ECB's interest rate on the main refinancing operations was lowered to 2.5% and, with

the markets looking in the late spring for further cuts, the longer-term EURIBORs have repeatedly been below the policy rate (Chart 6). The real policy rate – ie the policy rate deflated by realised euro area consumer inflation – has remained close to zero during the spring.

The euro area money supply has continued to grow at a rapid rate. The broad monetary aggregate (M3) has been growing at 7–8% pa. Movements in the money supply have reflected growth of the euro area current account surplus as well as persistently brisk sales of euro area securities to non-area residents. Moreover, the 4–5% increase in lending by monetary financial institutions can be considered quite substantial in the context of the current economic situation. Lending has been associated largely with purchases of housing.

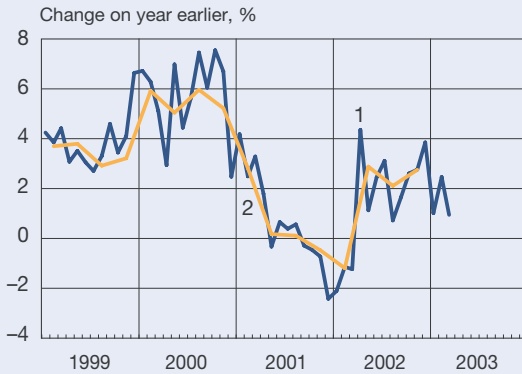
In April the ECB Council specified its monetary policy strategy. Price stability is still defined as an increase in the euro area HICP of less than 2% pa over the medium term. The Council also agreed that, in aiming at its price stability objective, it would attempt to keep the inflation rate around 2% over the medium term. This refinement emphasises the ECB's firm intent to have an adequate margin of safety against the risk of deflation. In this connection, possible measurement biases in the HICP, as well as inflation differentials in the euro area, are taken into account. The Council also decided to discontinue annual confirmation of the reference rate of growth of the money supply, as a means of emphasising that the reference rate is intended as a comparative measure of monetary developments specifically for the long run.

**Chart 6.**  
**Euro area interest rates**



Source: Reuters.

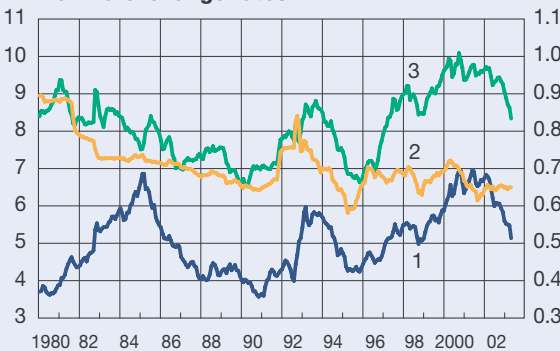
**Chart 7.**  
**Finland's total output**



1. Monthly indicator of total output
2. GDP

Source: Statistics Finland.

**Chart 8.**  
**Markka exchange rates**



1. US dollar (LHS)
2. Swedish krona (RHS)
3. Pound sterling (LHS)

Rising curve indicates markka (euro) depreciation.  
From Jan 1999, rates based on fixed euro/markka conversion rate.

Sources: Bank of Finland and Reuters.

## Finland's unemployment on the rise

Finnish GDP grew by just 1.6% in 2002 (Chart 7). Industrial production has long been subject to wide gyrations, due mainly to difficulties in market conditions of the electronics industry. Prospects in other export sectors have also fluctuated, in line with world markets. The start of 2003 was difficult for exporting firms, which posted a marked decline in profitability in the first quarter. Nor is a notable improvement likely in the second quarter. Export demand could pick up moderately in the second half of 2003, provided the world economy recovers as anticipated. Recent sizeable movements in exchange rates have added to exporters' problems. However, the external value of the euro does not appear to be particularly

strong when compared to the value of the Finnish markka over recent decades (Chart 8).

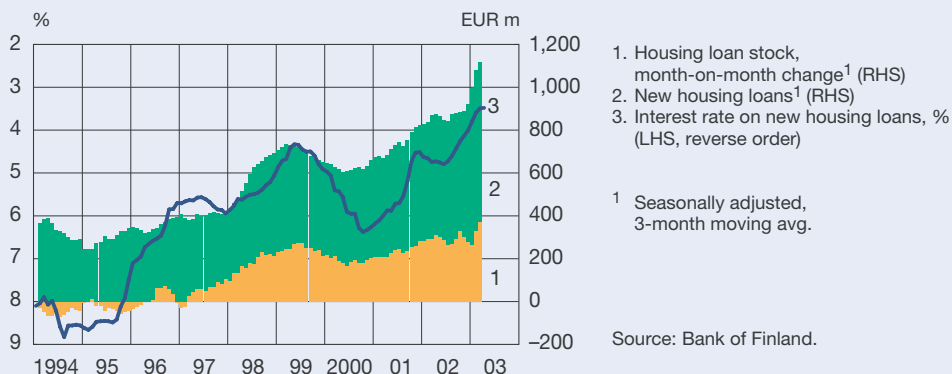
The problems concerning export markets have not had a notable impact on domestic demand; private consumption has continued to grow at a fairly robust pace. Although households' concern about the Finnish economy and rising unemployment have increased, confidence in their own finances has remained firm. One factor that has helped bolster household confidence is the persistence of good employment conditions in the service sector. Stability of the domestic markets has also been abetted by low interest rates, which have enabled entrance of new customer groups into the housing markets (Chart 9). In its forecast published in March 2003, the Bank of Finland estimated GDP growth at 1.7% in 2003 and

just under 3% in 2004. Recent data appears to confirm these figures.

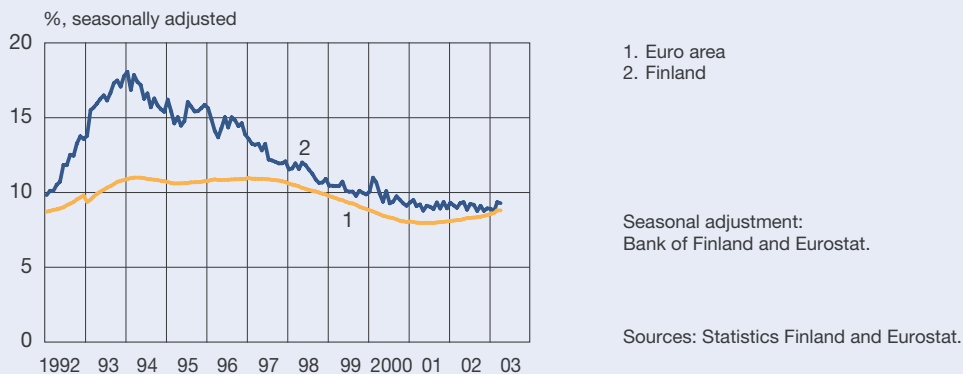
The rise in unemployment has until recently been restrained by companies' inclination to 'hoard' their employees, in some cases even in the presence of inadequate order books. Companies whose balance sheets have remained strong have not seen fit to take the risk of releasing skilled employees. Moreover, many companies in the service sector have expanded their staffs. For these reasons, the unemployment rate was receding moderately right up until the early months of 2003. However, the continuing slacken-

ing of market conditions began to be reflected in the spring in layoffs and firings, especially in the industrial sector. The unemployment rate in fact rose by a half percentage point in a span of two months (Chart 10). This was no surprise, as the Bank of Finland had indicated an increase in unemployment in its March forecast. There is, however, a chance that labour market conditions will weaken more than forecasted. In that case, there is a risk that the increasing threat of unemployment could begin to erode household confidence and reduce private consumption, which would result in weaker-than-forecasted economic growth.

**Chart 9.**  
**Housing loans and interest rates**



**Chart 10.**  
**Unemployment rates**



## Box 2. Finland's government finances and the stance of fiscal policy up to the next parliamentary elections

The Government's goals in respect of fiscal position and debt ratio set the boundaries for fiscal policy to the next elections. According to these goals, the central government's cyclically adjusted budget is to be in balance (in national accounting terms) by the next elections and ratio of central government debt to GDP is to continue on its downward path, except when cyclical conditions cause breaks in the trend. In the context of these boundaries, the Government has decided to increase central government expenditure by a total of EUR 1.12 billion compared to the spending limits approved by the previous Government, which covered the current period up to the next elections. The Government has also stated its intent to cut labour taxes at least EUR 1.12 billion during the same period.

The spending rules of the Government's programme allow for real expenditure growth of nearly 1% per year. The aim of strengthening the system of spending limits and facilitating the monitoring underlines the importance of the rules. In future, supplementary budgets will have to fit within the spending framework. Moreover, because the spending rules apply only to discretionary (definitely under Government control) parts of expenditure increases, breaking of the rules will now be more clearly apparent. The Government has emphasised its commitment to spending limits by stating its intent to actualise its programme only in so far as proposed measures fit within updated spending limits.

According to the Government's decisions, tax policy is the flexible segment of fiscal policy. The spending limit decided at the start of the Government's term clearly specifies the maximum spending growth over the period to the next elections. In the event that, despite spending growth and the promised tax easing, the central government budget appears set to accumulate a surplus (while the economy is growing at a normal rate), the aim will not be to speed up debt paydown but rather to disperse the surplus to tax payers via tax cuts. At mid-term, the Government will make a determination as to whether greater-than-announced reductions in labour taxes and employer contributions would be

consistent with the goal of balancing the central government budget.

In a situation where numerous uncertainty factors hamper evaluation of whether central government finances are on a firm foundation, it is important that actions be justified in terms of structural policy. Short-term deviations from budget balance are permissible only if the measures involved are part of an economic policy that clearly improves prospects for economic growth and thus helps to put central government finances back onto a durable path. Reductions in tax rates that increase the economy's flexibility are salutary for employment and economic growth. Only productivity growth and increasing employment can create a firm foundation for public finances.

According to the agreed spending limits, spending growth and the promised tax cut of just over EUR 1 billion should not jeopardise central government fiscal balance nor the debt ratio goal. If the Government's tax and expenditure limits are observed, it is likely that the central government budget will be slightly in surplus at the time of the next elections. If, moreover, the number of employed increases by 100,000 during the same period, in line with the Government's aim, the possibilities would improve for a bigger-than-announced tax cut. Nonetheless, without additional measures aimed at unemployment security and an active labour market policy, it will be difficult to achieve the targeted increase in employment.

It is also possible that unpleasant surprises could reduce central government revenues in the coming years. Removal of import restrictions may necessitate a larger-than-expected reduction in excise taxes on alcohol and tobacco in order to prevent a drop in domestic sales. Progress in economic integration, as well as heightened tax competition, could increasingly drive production activities out of Finland, which would in turn reduce Finland's corporate tax revenues. It may also be difficult to blend the Government's spending rules and the goals set for other segments of policy. Realisation of these risks would markedly reduce the possibilities for a tax reduction before the next elections.

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## Finnish inflation has moderated

Consumer prices in Finland, as in many other countries, have been bumped around recently by a number of one-off factors, from acts of nature to gyrations in the price of oil. Rises in energy product prices boosted HICP inflation to close to 2% pa in the early part of 2003. During the spring, however, the inflation rate slowed to less than 1.5% pa. The rise in service prices, which had been spurring inflation, has slowed, partly because the upward trend in rents has levelled off.

The strengthening of the euro and stabilising of oil prices should help to constrain inflation in the latter part of 2003. Nor are domestic factors expected to boost inflation; more likely, heightened competition will ease the pressure on prices. Consumers' inflation expectations have already been adjusted downward. It is estimated that HICP inflation for 2003 will be close to the 1.5% rate indicated in the Bank of Finland's March forecast.

## Finland's current account surplus to remain large

Despite problems concerning exports, Finland continues to post exceptionally large current account surpluses – 7% of annual GDP. Part of the surplus is only apparent: some 2 percentage points consists of retained income of Nokia, which is almost totally foreign-owned.

In recent years, Finland's savings surplus has been invested abroad, mainly by pension funds, insurance corporations and investment funds. For this reason, the domestic-liquidity-providing effects of the surplus have remained modest. The growth of bank deposits has in fact been considerably more constrained in Finland than in the euro area on average.

Nonetheless, the easy state of the financial markets is apparent in the continued 10% annual growth of bank lending. Lending has focused mainly on the housing market. The demand for housing loans has been spurred by low interest rates – from time to time, because of the floating-rate regime, the lowest in the euro area. In the spring, interest rates paid on new housing loans have been at record low levels, in the region of 3.5%, and the rate on the housing loan stock has been pushed down to just over 4%.

## Central government finances weakening

Even though sluggish economic growth has constrained revenue growth and fomented spending pressures in the public sector also in Finland, the country's general government fiscal balance has remained clearly in surplus, in contrast to the situation in other euro area countries. The central government again posted a sizeable budgetary surplus in 2002. Over the next few years, tax cuts and especially some substantial reductions in one-off revenues, eg from options and capital gains, will weaken the central government's fiscal position compared with recent years. The fiscal aims of the new Government are however supportive of stable developments in central government finances during the period to the next elections (Box 2). If the agreed spending limits are adhered to, the Government's promised EUR 1 billion-plus tax cut will not jeopardise the goal of balancing the central government budget by the next elections.

4 June 2003

■ **Key words: inflation, monetary policy, economic situation**

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## Financial stability in Finland

Poor performance by the major economies and political tensions in the international arena during the winter and spring have put a strain on the international financial system. Sluggish growth has been reflected in banking sector earnings and share prices, while the political tensions have meant a continuance of uncertainty in the international capital markets.

The expected pick-up in growth in the global economy has been repeatedly delayed. Although the United States is the most likely engine for powering recovery in the world economy, its economic performance is burdened by its current account deficit and the considerable indebtedness of the household sector. The outlook for the Japanese economy remains bleak, although a gradual export-driven recovery is now expected for this year and next year. The risks facing the emerging economies have remained fairly minor despite the negative effects of the Sars epidemic on growth, especially in some Asian countries. A substantial delay in world economic recovery, or in a worst-case scenario a deepening recession, poses one of the greatest risks to the stability of the international financial system.

Economic recovery is not expected to pick up in the euro area until next year, when it will be accompanied by growing divergences in performance between member countries. One of the main problems for the euro area in the present economic climate is the high level of indebtedness in the non-financial corporate sector, which undermines companies' ability to bear risk and willingness to borrow. The beginning of the year has seen both positive and negative signals on the state of the corporate sector. Adjustments in credit ratings in the first quarter indicate an increase in credit risk, although many companies in the euro area have reported better-than-expected first-quarter earnings, and share prices have been rising again since the end of March. Moreover, interest rate spreads between euro

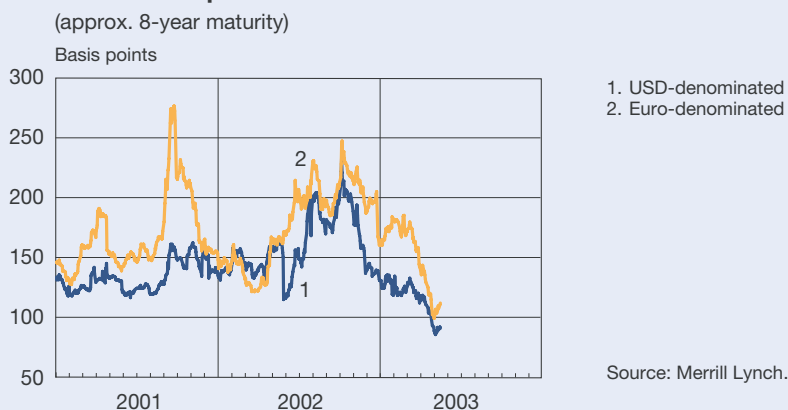
area corporate and government bonds have been narrowing since as long ago as last autumn. Households in the euro area are not as deeply indebted as non-financial corporations or US households, although the aggregate figures do not necessarily reveal the high levels of indebtedness in individual countries.

The long-standing downward trend in the stock market has shown signs of coming to an end. Since the end of March, share prices have been rising in many countries and there has been less stock market volatility. However, the lengthy decline in share prices has caused investor interest to shift to bonds. Demand has been brisk for corporate bonds as well as government bonds, and there has been a notable narrowing of interest rate spreads between corporate bonds and risk-free interest returns (Chart 1). However, given the continued poor performance of the economy in general, the narrow spreads have raised concern over a possible bond price bubble and the negative effects that a sudden sharp rise in interest rates would have on the asset holdings of banks and particularly insurance corporations.

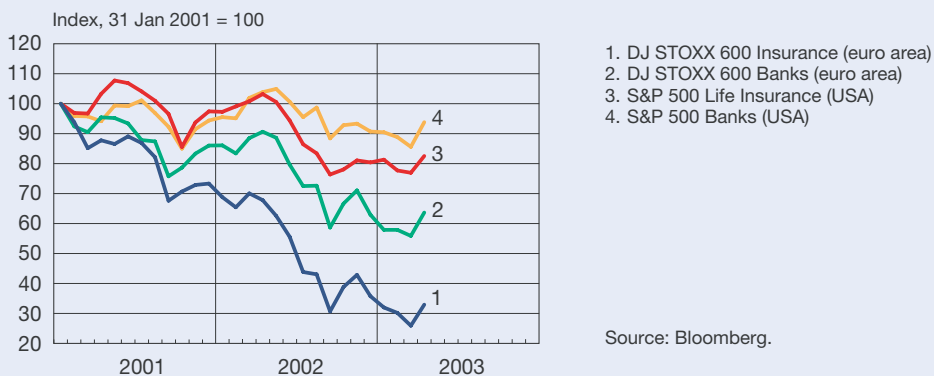
Viewed globally, payment systems and securities settlement systems have performed reliably despite the difficult market environment. However, the increase in cross-border transactions will inevitably place greater pressure on liquidity management within the systems.

The prospects for the banking sector vary greatly according to market area. In the United States, the banks have so far withstood the effects of the sluggish economy fairly well. Despite an increase in loan losses in retail banking, the banks have managed to boost their net interest income, in addition to which growth in other income has also reinforced profitability. The financial performance of the investment banks has also been better than expected, but their future performance is overshadowed by compensation claims relating to the accounting scandals and stock analysis.

**Chart 1.**  
**Interest rate spreads: BBB vs AAA bonds**  
 (approx. 8-year maturity)



**Chart 2.**  
**Stock indices for the insurance and banking sectors in Europe and the USA**



The Japanese banking sector is still in very bad health, a state of affairs reflected in the continued sharp drop in the market value of Japanese banks. The market value of the four largest banks fell by a half in the year to April 2003. The Japanese authorities have launched a programme of measures to deal with the problems in the banking sector. The aims include a reduction in non-performing assets and tighter practices pertaining to loan loss provisions. However, the actual impact of these measures remains unclear. The most recent special audit of the largest banks by Japan's banking supervisors revealed the need for a significant increase in loan loss provisions. Japan's fifth largest bank, Resona<sup>1</sup>, announced in May

that it will need to resort to government support to maintain its capital adequacy. The Japanese Government has already committed itself to providing support to ensure the stability of the banking system.

The insurance sector worldwide has been suffering in recent years and remains one of the most vulnerable parts of the international financial system. This has been reflected in the general decline in insurance sector credit ratings and in the fact that the fall in share prices has been more marked in the insurance sector than in the banking sector (Chart 2).

<sup>1</sup> Resona Bank was created by a merger between Daiwa Bank and Asahi Bank in the early part of 2003.



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The main cause of the problems experienced by insurance corporations has been the dramatic fall in share prices in recent years. The difficulties of life insurers have been exacerbated by guaranteed-yield life insurance and pension schemes. The falling share prices have been particularly damaging for European insurance corporations, whose equity investments were relatively much larger than those of insurance corporations in the United States. The threat of a renewed fall in share prices continues to hang over the insurance sector, while a sudden rise in currently low interest rates could pose a new threat for insurance companies that have switched their investments into bonds.

The transfer of credit risk through credit derivatives and insurance products has increased considerably in recent years. The credit derivatives market and some of its key actors operate beyond the boundaries of regulation. In general, the credit derivatives market, like other derivatives markets, fosters the stability of the financial system by facilitating the efficient allocation of risk to those parties that are both willing and best placed to bear it. However, the rapid growth in volumes and the relative novelty of these types of instrument raise the question of whether the market is perhaps transferring credit risk in an uncontrolled manner to market participants whose risk management is inadequate. A number of projects have been launched by the authorities in an attempt to clarify the situation.

## Present condition of the financial markets in the EU area

In the past two years, there has been a marked deterioration in the profitability of banks in the EU area. This has mainly been caused by an increase in loan loss provisions and a decline in securities-related income. In some countries, another contributory factor has been longer-term structural problems in the banking sector, such as overcapacity and inefficiency. Early data for this year suggest the trend is already levelling off slightly. Several large banks in the EU area report improved results for the first quarter of 2003. Profitability development has, however, differed between the banks in different countries, and also very much between individual banks in the same country.

The major German banks, in particular, have suffered a considerable drop in earnings. German banks have put forward a number of plans for improving efficiency by cutting costs, and the data available on the first quarter of 2003 indicate some signs of improvement. Like the major commercial banks, the local banks, which play a key role in the German economy, have also become weakened in recent years. Recovery prospects for the banking sector are clouded by the present weakness of the German economy.

Weakened profitability notwithstanding, the capital adequacy of banks in the EU area has so far remained good. The banks suffering the largest losses have resorted to additional capital and the sale of risky assets in order to maintain a good capital position.

There has been a rapid deceleration in the pace of growth in lending by banks in the euro area due to weak macroeconomic development and higher levels of credit risk in the corporate sector. According to the Eurosystem's bank lending survey, the banks have to some extent tightened their lending criteria within the euro area during spring 2003. The indicators describing the condition of the corporate sector suggest we are not likely to see robust growth in lending in the near future.

The Nordic banking sector is on average in better condition than the EU area as a whole, but it too has shown a deterioration in profitability. In the Baltic States, financial system growth in recent years has been largely dependent on the banks. Bank lending to the corporate sector has been growing at an extremely rapid pace, which could give cause for concern over possible overheating. So far, the volume of non-performing loans has remained low and capital adequacy in the banking sector is good. The banking sector in the Baltic States is largely owned by Nordic banks, which should help to ensure stability.

Cross-border links within the euro area banking system have increased since the creation of a euro area-wide money market, thus also increasing the direct channels of contagion for disturbances to the financial system. On the other hand, the broader spectrum of money market participants facilitates a greater spread of risk and thus fosters stability. In some countries in the euro area, banks have also suffered from their links with insurance corporations.



## The domestic operating environment

After a few years of slow growth, the Finnish economy is expected to gather pace next year. The risk of weaker-than-forecasted performance nevertheless remains, due to the uncertainties in the global economy.

There is so far little indication of a significant increase in credit risk stemming from the domestic corporate sector. There has been only a slight rise in the number of payment disturbances and bankruptcies. Despite stronger demand for corporate loans from the banks in 2002, the debt-to-GDP ratio of the Finnish non-financial corporate sector, which had been rising slightly since 1999, turned downwards (Chart 3). The level of indebtedness is still considerably lower than in the early 1990s, and very low by international standards. Finnish corporate sector borrowing has in recent years looked abroad much more than before.

Despite the weak economic situation, there is relatively little threat of an increase in household credit risk. Household indebtedness remains low by international standards. Risks relate primarily to the possibility of a strong rise in unemployment accompanied by a simultaneous steep fall in house prices. Over the past year, the housing market has seen a levelling off in price rises. Viewed internationally, Finnish

households carry a relatively high level of interest rate risk, as most household borrowing is tied to short-term market rates. Wide interest rate fluctuations would therefore have a rapid impact on households' ability to service debt if sufficient buffers against interest rate risk have not been factored in when taking out loans.

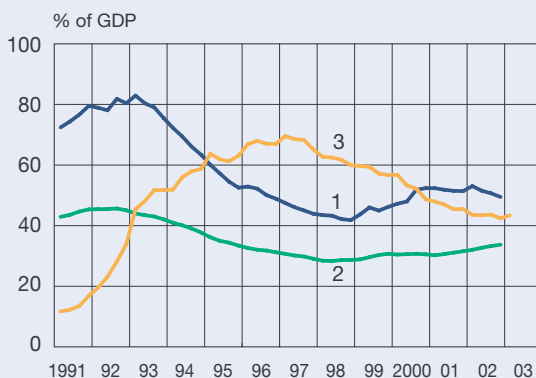
From the perspective of financial intermediation, there has been little activity in the domestic capital market, with companies acquiring very little new financing. Share trading volumes on the Helsinki stock exchange have remained high, although there has been a clear drop in the value of shares traded.

Bond issues in the early part of the year have focused primarily on government paper, while the value of new corporate bond issues has been fairly modest. In contrast to the international trend, and despite the weak market conditions, venture capital investment in Finland began to grow again in 2002 following the subdued activity of the previous year.

## Current situation and outlook for the Finnish banking and insurance sector

Data for the first quarter of the year indicate that the decline in the profitability of the Finnish banking

**Chart 3.**  
**Indebtedness by sector**



1. Companies (excl. housing corporations)
2. Households
3. Central government

Sources: Statistics Finland, State Treasury and Bank of Finland.

sector that began in 2001 can be expected to continue through 2003, but without any dramatic deterioration (Table).<sup>2</sup> Banking profits are suffering particularly from the present low interest rates, as the differences in the interest linkages of loan and deposit stocks means that changes in market rates are more strongly reflected in banks' interest income than in interest expenses. Continued brisk growth in the lending stock has, however, compensated for the impact of low market rates and held net interest income at approximately the same level as a year earlier (Chart 4). The banks' weakening financial performance is also due in part to increased personnel and other administrative expenses. On the whole, the present profitability of the banks is satisfactory, and their capital position is good.

A review of interest rate margins on new lending by the banks reveals some unhealthy features, particularly in the housing loan market (Chart 5). There are presumably a number of factors behind the narrowing of interest rate margins on housing loans to households. The arrival on the market of new banks has brought stiffer competition, particularly in the Greater Helsinki area, where banks have begun to

compete for market share and are less concerned than before with profitability. The banks have also probably reassessed the actual credit risks attendant on housing loans, which historical data suggest are much smaller than the risks with corporate loans. Another possible cause of the narrowing of interest rate margins could be the growth in the range of other products and services banks are currently offering households (eg various savings and insurance products), which has enabled cross-subsidisation between services and the underpricing of certain products. The above notwithstanding, it would seem clear that the margins on new housing loans are already too narrow to be compatible with long-term profitability.

Despite the sustained increase in the loans-to-deposits ratio, the liquidity position of the banks remains good. The credit ratings of Finnish financial corporations are solid and pose no problems for market-oriented funding.

In Finland, too, the financial performance of the insurance sector in 2002 was considerably weakened by the continued downward trend in the stock market. Despite a weakening of the solvency of both life and non-life insurance corporations in 2002, the solvency of the non-life insurance sector remains good, and that of the life sector fairly good. The solvency of an increasing number of life insurance corporations has, however, decreased, and is approaching only

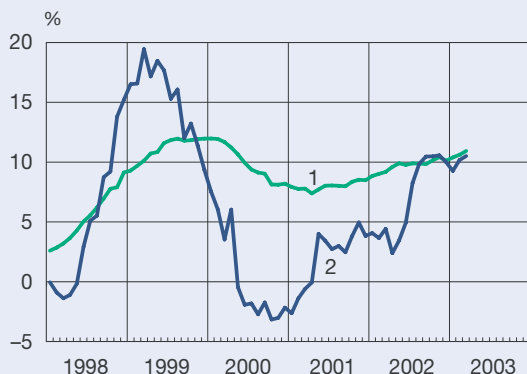
<sup>2</sup> One-off factors included within the survey period make it hard to compare first-quarter profitability for some banking groups.

**Table. Key data on selected deposit bank groups**

	Net interest income, EUR m			Operating profit, EUR m			Expenses, % of income		Capital adequacy ratios 31 March 2003	
	1-3 2003	1-3 2002	Change, %	1-3 2003	1-3 2002	Change, %	1-3 2003	2002	Tier I %	Total %
Nordea Group	835	837	-0.2	380	364	4.4			7.2	9.7
*Nordea Group, banking	919	894	2.8	370	411	-10.0	65	64		
Sampo Group				73	410	-82.2			18.8	17.7
*Sampo Group, banking and investment services functions	106	117	-9.4	74	82	-9.8	58	64	12.0	14.5
OKO Bank Group	208	209	-0.5	115	151	-23.8	62	61	13.5	15.1
*OKO Bank Consolidated	40	39	2.6	76	38		30	56	7.2	11.6
Savings Banks (excl. Aktia)	30	31	-4.2	14	15	-8.7	66	63	17.0	18.8
Aktia Savings Bank plc (Group)	19	18	4.5	7	7	-4.4	75	81	9.1	12.6
Local cooperative banks	20	20	-1.0	7	8	-3.9	70	68		21.4
Bank of Åland plc (Group)	7	8	-5.1	4	5	-22.2	70	69	8.5	11.2
Evlvi Bank plc	0	0		-1	1		167	111	34.8	34.8
eQ Bank Ltd	0	0		0	0		111	112	40.4	40.4
<b>Total</b>	<b>1 225</b>	<b>1 240</b>	<b>-1.2</b>	<b>599</b>	<b>631</b>	<b>-5.1</b>				
<b>Total excl. Nordea</b>	<b>390</b>	<b>403</b>	<b>-3.2</b>	<b>219</b>	<b>267</b>	<b>-18.2</b>				

Sources: Banks' interim reports and Bank of Finland calculations.

**Chart 4.**  
**Growth rates for deposit bank lending**

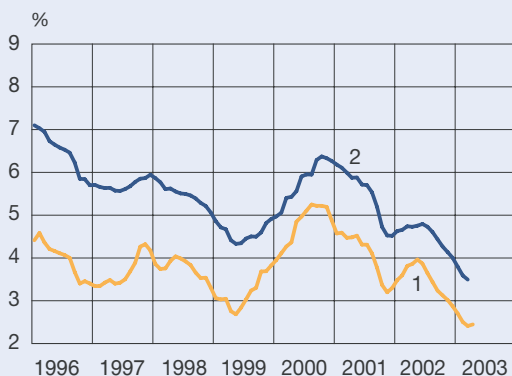


- 1. Households, 12-month change
- 2. Companies, 12-month change\*

\* Incl. loans to housing corporations from 2001.

Source: Bank of Finland.

**Chart 5.**  
**Average interest rate on new housing loans to households and 12-month EURIBOR**



- 1. 12-month EURIBOR
- 2. Interest on new housing loans to households

Sources: Reuters and Bank of Finland.

satisfactory. There was growth in premium income in both life and non-life insurance, boosting the profitability of companies in the sector.

As a consequence of the ongoing structural change, the most significant direct channels of contagion for foreign disturbances to the Finnish financial system are from the other Nordic countries, primarily Sweden and Denmark. The Finnish banking sector's exposure to emerging economies remains modest.

Economic forecasts indicate continued stability for Finland's financial sector. The banks are unlikely to suffer significant realisations of credit risk in the near future. Risk relating to the value of share hold-

ings is primarily a problem of the insurance sector, and life insurance corporations in particular, but could also affect the banking sector as a consequence of financial conglomeration. Due to the distribution of the lending stock, banks' risk exposures in respect of housing loans to households are large, but the realisation probabilities are low.

### Current state and future outlook for financial system infrastructure

Payment systems and securities clearing and settlement systems have on the whole functioned fairly

reliably and efficiently. TARGET,<sup>3</sup> the payment system operated by the European System of Central Banks, and the Euro Banking Association's EURO1 system are the most important payment systems in the EU area, and the number of payments made through them has grown at a relatively steady pace since 1999.

Utilisation rates for TARGET and for the Bank of Finland's real-time gross settlement system (BoF-RTGS), which is part of TARGET, continued to be very high during 2002. The European System of Central Banks has launched a project (the TARGET2 project) to make TARGET better suited to the needs of users and to changing conditions. TARGET2 will begin operating some time in the second half of the present decade.

There have been very few problems with the Finnish domestic payment systems (banks' online system for express transfers and cheques (POPS), retail interbank payment system (PMJ)). Most traffic in the Finnish payment and settlement systems has involved a few large participants, and disturbances with their payments can have serious implications for the functioning of the systems. Cash dispensers and ATMs have also operated without significant disturbances.

Although the payment systems have from time to time suffered minor disturbances, adequate contingency procedures and plans have ensured the operational reliability of the key systems. It is particularly important to pay attention to their precision and proper maintenance at times of change in the prevailing market structures and business models, or when participants are looking to cut costs.

The European Commission and the Eurosystem have long been dissatisfied with the inefficiency of cross-border retail payments, and credit transfers in particular. The regulation on retail payments enacted by the European Commission and Parliament in 2002 will be extended as of 1 July 2003 to cover euro-denominated cross-border credit transfers. In summer 2002, banks in the euro area set up the European Payments Council (EPC), which has drawn up an overall plan for the development of payment systems. The EPC's system of governance could, however, be cumbersome when it comes to the implementation

of reforms in practice, as it has little power to oblige its members to comply with any measures it may propose. The tight schedule of the regulation could lead banks to cover the cut in the price of credit transfers from other income; in other words, there is a likelihood of cross-subsidisation.

The clearing and settlement systems of the Finnish Central Securities Depository (APK), part of the HEX Group, have operated reliably. The completion of stock exchange transactions within the stipulated time (T+3) has worked well (the monthly average for settled trades in 2002 was 99.19%). Three clearing members have risen to such a dominant position in the Finnish market that it underlines how important it is for key participants to have reliable systems.

HEX's project for updating its equities clearing and settlement system has progressed as planned, and the present system will be replaced by the phased introduction of the new HEXClear system during autumn 2003. HEXClear will reduce the risks attendant on the settlement of equity transactions, as transactions will be completed against payment (delivery versus payment, or DVP) and the schedule on the settlement day will become more flexible. However, flexibility must not be allowed to lead to a general postponement of the time of settlement, and international regulation will seek to ensure that proper incentives for early settlement can be implemented in system rules.

The merger between HEX and the Swedish OM, operator of the Stockholm exchange, will have implications for the future of HEX's operations in Finland. In addition to the harmonisation of trading platforms, the merger plan foresees the introduction of joint, centrally operated and maintained securities settlement systems in the participating central securities depositories. Reorganisation and system integration will presumably tie up a major slice of HEX's resources during the transition period.

Central counterparty clearing has spread in the main markets, and the introduction of new technology and increased integration will make it easier to introduce it in the Nordic countries and Baltic States as well. The plans already drawn up for the merger of HEX and OM should reduce the prevailing uncertainty and increase investment interest among participants in northern European marketplaces. The example of HEX and OM could in fact lead to a broader integration of stock exchange and settlement

<sup>3</sup> Trans-European Automated Real-Time Gross Settlement Express Transfer system.

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operations across the Nordic and Baltic region. The increase in cross-border operations will also require closer cooperation between the relevant authorities in the countries involved.

## Key projects for the development of regulation and supervision

A key project in the area of international financial system regulation is the Basel Committee's reform of capital adequacy requirements (Basel II), which is planned to come into effect by the end of 2006. In April, the Committee published the final consultation document before the planned adoption of the reform during the final quarter of 2003. The results of the QIS3 field test to assess the quantitative impact of Basel II were published at the beginning of May and suggest there will on average be relatively little change to capital adequacy requirements as a result of the reform, although there will be clear differences between individual banks. On the other hand, the banks have clearly had difficulties gathering data for capital adequacy calculations according to the most advanced methods used in the QIS3 survey.

The insurance sector has also made a start on the international reform of solvency requirements, with the objective of achieving requirements for the whole of the EU area that take account of the actual risks of insurance corporations. A number of assessments suggest the present EU requirements are inadequate.

Under an EU regulation issued last year, International Accounting Standards (IAS) would become compulsory in 2005 for preparing the consolidated financial statements of all listed companies in the Member States. The IAS reform could also be extended to cover non-listed companies, but no decision has yet been taken. For the financial sector, the relevant aspect of the reform is the change to valuation practices, which means that a larger proportion of balance sheet assets are always to be valued at their fair market value. Other changes include the handling of loan loss provisions and own funds. The IAS standards have been criticised as increasing the volatility of corporate profits.

Both Basel II and the IAS reforms are already having an impact on the operations of the banks and other companies in the financial sector. Both reforms require considerable system changes within compa-

nies, and the uncertainties surrounding implementation are therefore increasing expenses in the sector and could affect banks' risk management.

In February 2003, the Council of the European Union took a decision on the establishment of the Financial Services Committee (FSC). The Committee's function is to advise the Council and the Commission and oversee various issues and projects relating to the financial markets.

There are several operational and regulatory development projects under way in the field of payment and settlement systems which are expected to lead to further improvements in efficiency and reliability. They could, however, have an impact on competitive positions, particularly in respect of securities settlement systems. The new initiatives by the authorities for fostering integration will increase the pressures for consolidation of settlement systems, as the linkage models tried so far have not produced sufficiently rapid improvements in efficiency. Some uncertainty has been generated by the report of the Giovannini Group, a working group set up to assist the European Commission, which criticises the inefficient operational mode of the national infrastructures and calls for increased integration.

The G10 countries are cooperating in the development of global central counterparty recommendations, which examine factors such as access criteria, financial resources and other risk management measures. In parallel, the ESCB and the Committee of European Securities Regulators (CESR) are working together to develop European regulation of securities clearing and settlement systems based on the previously published global recommendations. The ESCB and the CESR will be consulting the relevant parties on the standards under preparation in early autumn.

The European Commission is preparing new framework legislation for the area of payment systems in an attempt to clarify the legislation and enhance both the convergence of the competitive environment and stability.

The Finnish Parliament passed the new Act on the Financial Supervision Authority during the first half of 2003. The new Act extends the supervisory powers of the FSA to cover the granting and revoking of licences. Supervision of the FSA itself was also reinforced by placing supervision of the appropriateness and efficiency of its operations within the remit of the Parliamentary Supervisory Council.

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The report of the working group appointed in January by the Ministry of Finance to review the Act on the Bank of Finland was published in May. The working group proposes changes to the legal provisions governing the size of the Bank's capital, its reserves, and its distribution of profits. Under the proposal, the Bank of Finland would make a one-off transfer to the government from its capital and reserve funds of EUR 1,085 million, and it would as a rule transfer its entire profits to the government each year. The working group memorandum includes the dissenting opinion of the members representing the Bank of Finland in regard to the size of the Bank's capital and the distribution of profits. It is crucially important that the Bank of Finland have sufficient capital to draw upon in the event of a crisis in the financial system. Apart from this, the capital reduction proposed by the majority on the working group would in general make it harder for the Bank to discharge its key functions within the European System of Central Banks.

The working group's proposal also contains a provision on the Bank of Finland's right to issue regulations concerning such operational details of payment and settlement system administration, internal control or risk management as are required for implementing guidelines or instructions issued by the European Central Bank. On the whole, the new provision is very important from the perspective of the organisational structure of the Bank of Finland's pay-

ment systems oversight, but in the form proposed it could prove overly restrictive in today's rapidly changing operating environment.

In May 2002, the Government appointed a working group to assess the need for legislation to ensure a level playing field for savings products marketed in Finland. The working group published its interim report in February. This proposes that life insurance, mutual fund shares, bank deposits and the marketing of direct portfolio investments as investment services should in principle be examined as mutually competing savings products. According to the working group, steps should be taken to harmonise the regulation of savings products between different market sectors, particularly in respect of taxation, in order to increase competition. Steps should also be taken to foster convergence of the principles governing product marketing and contract terms. The interim report includes the dissenting opinion of the representative of the Ministry of Social Affairs and Health. The working group will continue its work into the second half of the year.

23 May 2003

- **Key words: financial system, stability, banking sector, securities markets, payment and settlement systems**

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# Housing finance in Finland

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Bank of Finland

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**A** low level of interest rates has stimulated the growth of housing loans in Finland. Banks' housing loans have in fact been on a steep upward path for several years now. In Finland new housing loans are in large part tied to short-term interest rates. Because of variable-rate financing of housing, the rates on new housing loans are currently among the lowest in the euro area.

Although fixed-rate loans and loans tied to longer-term interest rates are available in Finland, households tend to favour linkage to short-term rates, which then exposes them to considerable interest-rate risk.<sup>1</sup>

Costs of new housing loans have been reduced not only by the decline in short-term interest rates used as reference rates for housing loans but also by a narrowing trend – several years running – in interest rate margins on banks' housing loans.

## Housing markets in Finland

Over the last two decades, developments in real housing prices have been less steady in Finland than in the other European countries.

Housing markets have been destabilised by both the economy's proneness to business cycles and certain structural features of housing such as the interest rate sensitivity of the finance system and sluggish adjustment of housing construction to the marked focus of demand on growth centres.

The supply-demand imbalance has also been exacerbated by pronounced internal migration, which is the reason for such marked regional differences in housing markets across Finland. In southern Finland

and several other growth areas, housing demand has been strong and prices have been on the rise for several years. In other parts of Finland, the demand for housing has been weaker and developments in housing prices more subdued. It is in fact typical of Finnish housing markets that, even though the number of dwellings exceeds the number of households, there remain chronic housing shortages in many growth centres.<sup>2</sup>

The robust demand for housing loans is also maintained by the fact that Finns tend to live in dwellings that are somewhat cramped, by European standards. A household will typically first buy a small dwelling and then, as its income rises, try to move up to larger and larger dwellings.

At the end of 2001 there were slightly more than 2.5 million occupied dwellings in Finland. Of these, 64% were owner-occupied, 19% market-financed rentals, and 17% public-sector rentals. Owner occupation in Finland started to gain share in the early 1970s when the regulation of rental housing was tightened. Owner-occupied dwellings accounted for 60% of the housing stock in 1970. By 1990 the share had grown to just over 70%. Owner-occupied housing lost ground during the severe recession of the 1990s but has been on the rise again in recent years.

## Production of market-financed housing

In Finland housing construction peaked in 1989 and then declined sharply in the first half of the 1990s. The nadir was reached in the middle of the decade,

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<sup>1</sup> Although in the context of EMU interest rate fluctuations have narrowed compared to a decade ago, households are well advised to be prepared for a (possibly pronounced) rise in interest rates from present levels as the euro area economy recovers.

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<sup>2</sup> Strong demand for housing and housing loans is also abetted by the rather low (by European standards) level of housing in Finland. In many cases, a household will first purchase a small dwelling and try to upgrade as its income rises.



**Table 1. Finnish housing market indicators**

– Housing investment/GDP	4.5%	(2001)
– Avg dwelling size	76 m <sup>2</sup>	(2001)
– Dwelling-price-to-disposable income	2.3	(2001)
– Owner-occupied housing share	64%	(2001)
– Housing loan stock/GDP	32%	(2001)
– Banks' share of housing loan stock	77%	(2001)
– Avg loan maturity	18	(2001)
– Avg interest rate on banks' housing loan stock	4.23%	(Mar 2003)
– Avg interest rate on new housing loans	3.49%	(Mar 2003)

Sources: Statistics Finland, European Central Bank, Bank of Finland.

when output was just over a fourth that of 1989. Market-financed housing starts were subdued in the early years of the 1990s. Conditions in housing construction and markets are also well depicted by the fact that the stock of housing loans to households declined over a period of several years in the early 1990s. As a result, the share of subsidised housing construction rose to nearly 70% of total housing construction. At the same time the structure of housing finance changed, as banks' share of the housing loan stock fell sharply and the public sector became a key source of new housing loans.

In the 1980s conditions relating to housing finance changed in connection with financial deregulation.

During the era of tight regulation – and still today – banks were key to market-based financing of housing construction in Finland. Other financial institutions – mortgage banks etc – have accounted for only a minor share in housing finance. Quantity and price regulation of bank lending made housing loans a scarce commodity, with the result that banks, in an effort to offer housing loans to as many customers as possible, aimed for maximal turnover of loan stock, so that average maturities on housing loans became extremely short by European standards – considerably under ten years.

### Housing financed by the public sector

The tightening of rent controls at the start of the 1990s reduced the availability of market-financed rentals. This created a need to develop the system for public sector production and financing of housing. Up until the end of the 1980s, public-sector participation in housing administration involved many levels. Within the central administration, housing activities were included in the remits of both the Ministry of the Environment and its own Housing Administration. The provincial governments and municipalities were also involved.

In order to improve the effectiveness of central administration operations, public-sector financing of housing production was centralised at the start of 1990 in a new housing development fund. In 1993 the fund became the Housing Fund of Finland (ARA). The purpose of this fund (which is off the central government budget) is to supplement market-based housing construction with state-subsidised housing construction.

**Table 2. Administrative categories of housing, %**

	1970	1980	1990	2001
Owner-occupied	60	65	72	64
Market rentals	34	19	12	19
Public-sector rentals	5	14	14	17

Source: Statistics Finland.



Some of the primary tasks of ARA are to:

- grant Housing Fund loans, approve interest-subsidised loans, empower municipalities to approve interest-subsidised loans for owner-occupied housing, and channel funds to municipalities for repair assistance
- control quality and costs in respect of government subsidised housing construction
- monitor government guarantees of owner-occupied housing loans
- oversee the Housing Fund's raising of funds.

The Housing Fund's lending and support activities consist of Housing Fund loans, interest-subsidised loans, assistance, and guarantees. Housing Fund loans are extended for both rentals and right-of-occupancy housing but no longer for owner-occupied housing. Interest-subsidised loans are loans granted by banks and other financial corporations, on which part of the interest is paid directly to the lender. Recipients of such loans are approved municipalities, other public sector entities, and philanthropic organisations. Assistance is given mainly for repairs. The Housing Fund may guarantee a loan in connection with owner-occupied housing if the borrower's own collateral is not sufficient to secure a bank loan.

In connection with the decline in market interest rates, Housing Fund loans have, over the last few years, lost much of their importance as a finance source for housing construction. Some loans have been paid off early and replaced by cheaper bank loans. The stock of public-sector lending has in fact been on the decline for some time. To deal with the situation, the Government in February 2003 decided on a revamping of interest rates on Housing Fund loans. Rates on new Housing Fund loans are now tied to a reference rate based on ten-year government bonds, subject however to minimum and maximum rates of 3.4% and 6%.

The Housing Fund obtains financing from interest and principal payments on its loans as well as from external sources. External finance was initially raised mainly via issuance of ten-year Housing bonds. Since 1995 external financing has been obtained primarily via securitisation of Housing Fund loans within the 'Fennica' programme. So far, there have been six issues within the programme framework (Fennica No. 1–6), together raising EUR 2.7 billion of financing. In 2002 the Housing Fund expanded the scope of its

long-term financing activity via refinancing agreements with the European Investment Bank (EIB) and Council of Europe Development Bank (CEB).

## Legislative initiatives affecting housing and real estate markets

In recent years efforts have been made, via legislative initiatives, to broaden the range of sources for market-based housing finance and increase the diversity of the housing markets. In 2000 the new Mortgage Bank Act entered into force. Business operations of mortgage banks are now limited to lending on the security of shares in housing and real estate corporations, occupancy rights, and real estate mortgages. A mortgage bank can also make loans to, or on the guarantee of, public sector entities.

Mortgage banks fund their operations by issuing collateralised bonds. Loans granted by a mortgage bank are secured by recording the bonds used as collateral in a register maintained by the mortgage bank. A mortgage bank loan cannot exceed 60% of the value of the dwelling or real estate used as security. Holders of mortgage bonds have preferred claims in case the mortgage bank is unable to meet all of its obligations.

Currently in Finland there are three mortgage banks that have been established by banks. In addition, the Finnish Mortgage Society, which operates like a mortgage bank, has been in business for over a hundred years. Mortgage banking has so far remained a very low-key activity in Finland. With fixed-rate housing loans currently out of favour, banks' variable-rate housing loans are the primary means of market-based housing finance. Another drawback of housing-related borrowing from mortgage banks is that the dwelling or real estate securing the loan cannot be used eg to secure a second mortgage if it is used as collateral for a mortgage bank loan.

## Lending, interest rates and margins

Currently, banks operating in Finland are the prime source of housing finance. Their market share has however fluctuated widely over the last couple decades. In the waning years of the era of tight regulation, in the early 1980s, banks' share of housing loans

dropped below 60%. Other finance came mainly from the public sector, but the mortgage banks also made real estate loans at that time. Deregulation of the financial markets was quickly reflected also in rapid growth of the stock of banks' housing loans. Already by 1990 banks accounted for three-fourths of the housing loan stock.

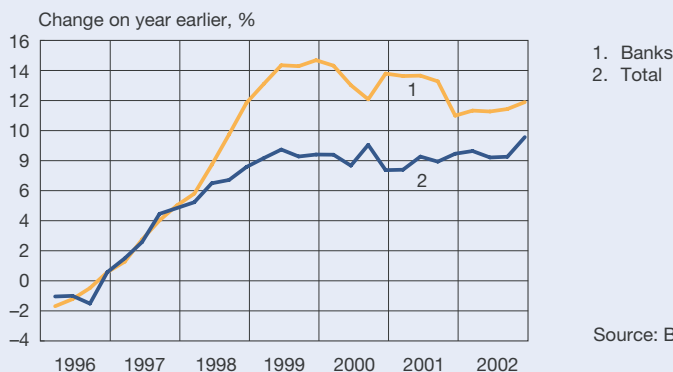
During the recession years the stock of banks' housing loans began to decline as the demand for market-based housing finance faltered in the wake of growing unemployment and rising interest rates. The housing loan stock actually declined for five years running, in 1991–1995. Public-sector finance of housing largely supplanted market-based finance, and the housing loan stock declined (slightly) only in 1995. Banks' share of the housing loan stock decreased in the first half of the 1990s, to just over 60%. Economic recovery, lower unemployment, an improvement in households' income expectations, lower interest rates, and a wave of internal migration led to an increase in households' investment in housing in the latter part of the 1990s. The decline in market interest rates was also instrumental in the public sector's rapid loss of share in new housing loans. Outstanding public-sector housing loans were also paid off with cheaper refinancing from banks (Chart 1).

The share of housing loans in Finland's total lending stock has increased sharply in the last ten years, from a fifth to nearly a third. The share of housing loans in Finnish households' total loan stock has risen continually during the last ten years. In September 2002 the share was nearly 70%. Households' other borrowing is for consumption and study (Chart 2).

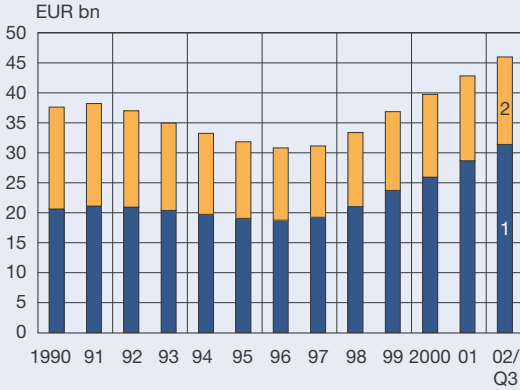
Use of the base rate as a reference rate for new housing loans diminished rapidly in the early 1990s and was virtually ended in the latter part of the decade. Use of long-term reference rates on housing loans was also discontinued after the mid-1990s. In recent years, EURIBOR and banks' own prime rates have been used as reference rates; nowadays, the bulk of this lending is tied to EURIBORs. In Finland the major part of housing loans (about 90%) is tied to one-year or shorter-term market rates. Fixed-rate loans are still rare in market-based housing finance. Loans at fixed rates or tied to longer-term rates are available and are promoted in Finland. But households here seem to prefer loans tied to short- rather than long-term rates. This subjects these households to the effects of changing interest rates – a matter of some concern as regards monetary stability (Chart 3).

Because of the interest rate system, rates on new housing loans in Finland are currently the lowest in

**Chart 1.**  
**Growth of housing loan stock**



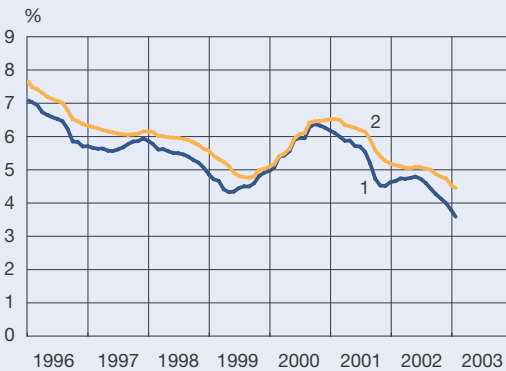
**Chart 2.**  
**Household loan stocks**



1. Households' housing loan stock
2. Households' other loan stock

Source: Statistics Finland.

**Chart 3.**  
**Interest rates on new housing loans and stock**



1. Interest rate on new housing loans
2. Avg interest rate on housing loan stock

Source: Bank of Finland.

the euro countries. In March 2003 the average rate on new housing loans in Finland was 3.49%, compared to over 5% in many European countries (based on non-harmonised data collected by the European Central Bank). For new fixed-rate housing loans, the interest rate differentials across euro area countries are smaller. For example, at the end of 2002 the in-

terest rate on new fixed-rate housing loans in Finland was 4.47%, which was on a par with comparable rates in many other euro area countries (Chart 4).

Another factor that has restrained interest rates paid by households on housing loans is the remarkable improvement in banks' efficiency since the recession years. Moreover, the Finnish banking system

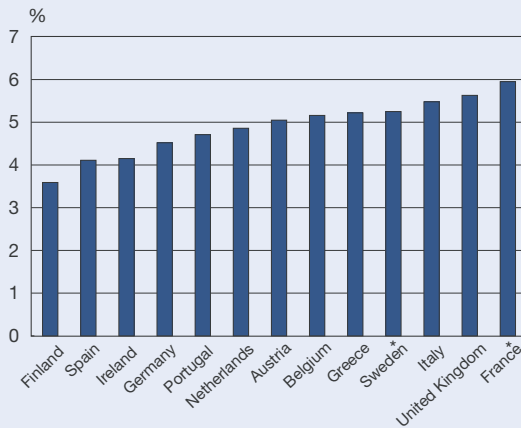
is a 'universal banking system', in which low deposit rates mean low lending rates. Margins on banks' housing loans have also been shrinking continually and were on average in the region of one percentage point at the end of 2002 (Chart 5).

Even though the Finnish banking system is currently one of the most centralised in Europe, the Finnish banking market is highly competitive. This is another reason for the marked – perhaps overdone – narrowing of interest rate margins.

In addition to the narrowing interest rate margins on housing loans, another apparent change in housing finance activities of banks operating in Finland is the increase in collateral values of dwellings.

Borrowers' possibilities of having lenders compete with each other were markedly improved in summer 1998 when the stamp duty on borrowing was abrogated. Before that, there was no reason to compare offers on outstanding loans since the stamp duty completely offset any possible interest-rate advantage.

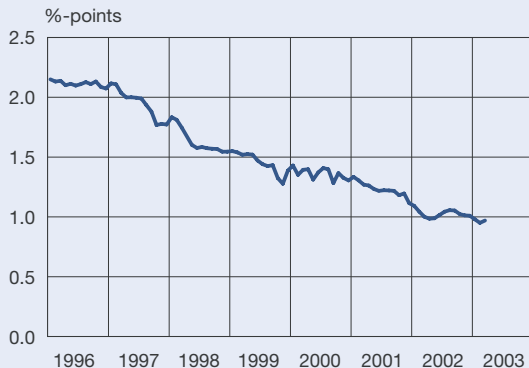
**Chart 4.**  
Interest rate on new housing loans, selected EU countries, Feb 2003



\* Dec 2002.

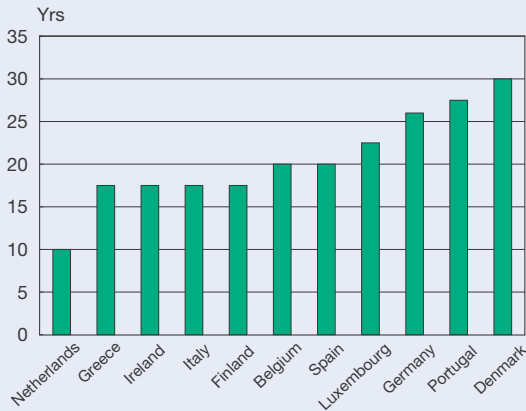
Source: European Central Bank.

**Chart 5.**  
Interest rate margin on deposit banks' new housing loans



Source: Bank of Finland.

**Chart 6.**  
**Maturity of typical new housing loan in selected EU countries, 2002**



Source: European Central Bank.

### Current situation regarding housing finance – Finland vs other European countries<sup>3</sup>

Compared to other European countries, Finnish households' indebtedness is quite modest. In 2001 the ratio of the stock of Finnish households' housing debt to GDP was some 21%, compared to the EU-country average of about 39%. The ratio was highest in the Netherlands (74%) and lowest in Italy (10%). By other measures of indebtedness as well – eg the ratio of disposable income to housing debt stock – Finnish households are on average presently carrying a fairly light debt load, by European standards.

Measures of average indebtedness, however, gloss over the fact that Finnish households now seem to be taking on as much debt as households in Europe as a whole.

The fact that households' average indebtedness is low while first-home buyers' indebtedness is

high suggests that in Finland the older households' indebtedness is quite light, in relative terms. The older generations have paid off their housing loans at a faster rate than in the comparative group of European countries. But this tells us little about how today's younger generations will behave in their later years. At the start of the 1980s housing loans in Finland were still of much shorter maturity than is now the case, and prior savings were more important. These special features of the Finnish housing finance system have gradually disappeared, so that nowadays housing loans are not expected to be paid off as quickly as before. This means that we can expect households' average indebtedness to increase over time.

New housing loans in Finland are still of short maturity by European standards but not exceptionally so. At present, a typical housing loan in Finland is of 17–18 years maturity – on a par with Italy, Ireland and Greece. Shorter-term housing loans are common in the Netherlands, where ten years is the typical maturity and the bulk of loans are extended, rather than paid off, at maturity. The longest-term housing loans are found in Denmark, where a new loan will typically have original maturity of 30 years (Chart 6).

<sup>3</sup> Data in this section are mainly from 'Structural Factors in EU housing Markets', March 2003, European Central Bank.

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## Outlook for the future

The stock of banks' housing loans has been growing at a rapid pace for a long time, with the result that households' indebtedness ratio has started to increase. Despite this increase, Finnish households' indebtedness has not yet reached a level that should cause concern. There are, however, several aspects of the situation that warrant close monitoring.

Finnish households have subjected themselves to considerable interest rate risk by taking out almost exclusively variable-rate loans. A notable rise in the level of interest rates would quickly boost households' interest costs and reduce their ability to repay loans.

The portion of the collateral value of housing used to back loans is on the rise. In the wake of the recession years, collateral evaluation was tighter, but in recent years the practice has changed more in line with the other Nordic countries and many European countries. Changes in collateral arrangements can however increase the risks of the financial system. Raising the collateral value of dwellings could mean

trouble for the financial system if housing prices should slip into a steep descent. From the perspective of financial stability, one would not like to see excessive easing of collateral evaluation vis-à-vis housing loans. In setting the collateral value of dwellings, the level should be such as to withstand even a sizeable drop in prices. This is important in order to avoid more 1990s-type disturbances in the housing market.

The narrowing of banks' margin on housing loans is reflected in banks' net interest income, and the relative profitability of banks' housing finance activity has in fact weakened. For this reason, one might well not hope to see a further narrowing of the margin.

11 May 2003

- **Key words: housing markets, housing finance, housing loans, interest rates**

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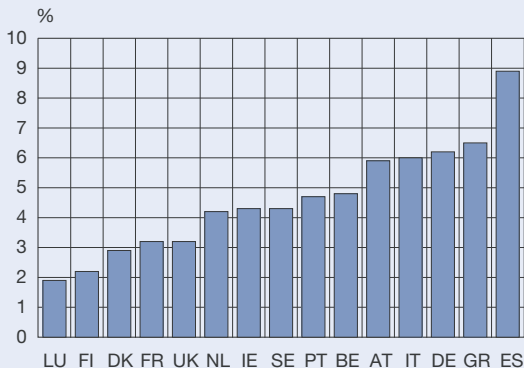
## Finland – the land of credit transfers and card payments

Finnish consumers are active users of electronic payment methods. Card payments and credit transfers, in particular, are popular methods of payment. Banks operating in Finland have taken advantage of new technologies in service provision and have worked together to develop efficient payment systems. Almost everyone in Finland has a bank account, as salaries and social benefits began to be paid via the banks as early as the 1960s and 1970s. Initially, the banks provided their customers with cheques, so they would not have to withdraw their salaries from their accounts in cash. In the 1980s, customers began to make retail purchases using debit cards issued by the banks instead of cheques. On the one hand the cards were more convenient to use, while at the same time the

banks also began (in 1988) to levy a charge for drawing cheques. Nowadays, cards are a very popular way to make payments in Finland, and the amount of cash in circulation relative to GDP has fallen to just over 2%, one of the lowest figures in the EU. The cash-to-GDP ratio is also low in Luxembourg and Denmark, among others. In 2000, the highest cash-to-GDP ratio among EU Member States was in Spain, at almost 9% (Chart 1). The relatively small level of cash in circulation in Finland is due partly to the high degree of electrification in retail payments and partly to the rapid flow-through rate for banknotes. The introduction of the euro as a cash currency led to a substantial reduction in the value of banknotes in circulation, but by the beginning of 2003 it had risen again to the pre-cash-changeover level (Chart 2).

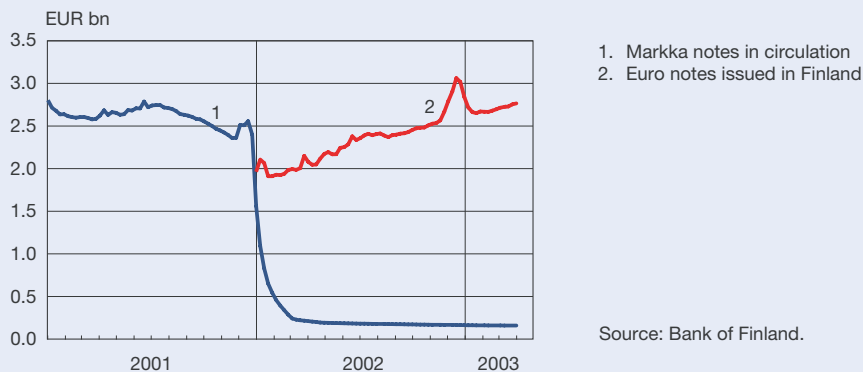
In Finland in 2000 there were 105 credit transfers and 71 payments by debit or credit card for every

**Chart 1.**  
**Cash held by the public relative to GDP, EU countries, 2000**

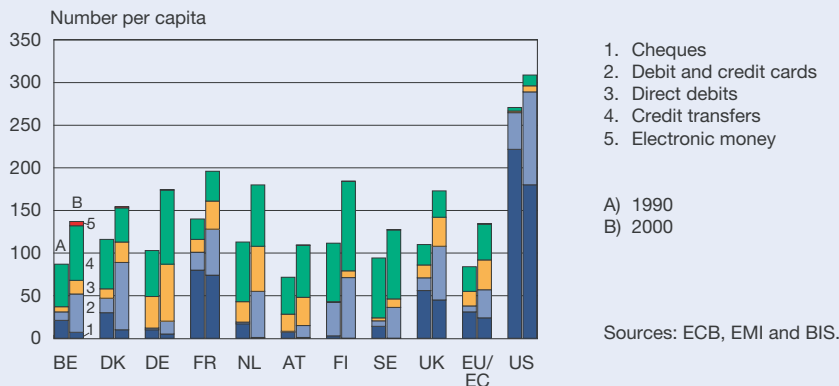


Source: European Central Bank.

**Chart 2.**  
**Banknotes in circulation in Finland**



**Chart 3.**  
**Use of payment instruments other than cash, 1990 and 2000**



person in the country. The corresponding average figures for EU Member States were 42 credit transfers and 33 card payments per person (Chart 3). There are considerable differences between the various EU countries in respect of the electrification of retail payments. Cheques are still commonly used in France and the United Kingdom, although their use has admittedly declined over the past decade. The use of paper-based payment instruments will continue to decline in the future, as consumers switch to more efficient, electronic methods of payment.

## Paying by card in Finland and elsewhere

Paying by card, and by debit card in particular, is very popular in Finland: the value of card payment transactions grew almost eightfold during the period 1986–2002 (Chart 4). There was considerable expansion in the use of card payments towards the end of the 1980s, although growth fell back and even ebbed slightly during the recession of the early 1990s. Since the end of the recession there has once again been a rapid

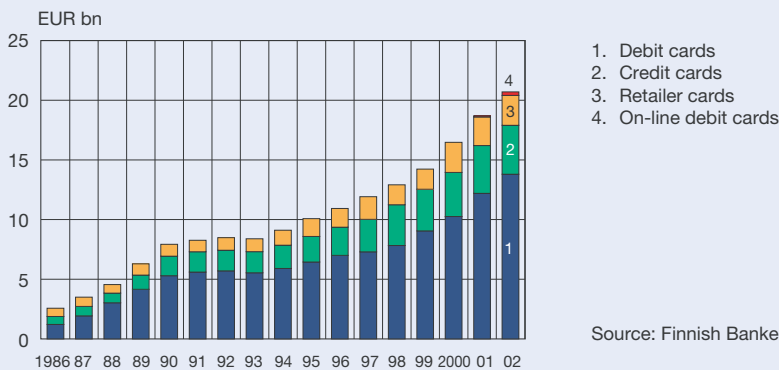


increase in the level of payments by card. In the period leading up to the introduction of the euro as a cash currency, the banks and card companies ran extensive campaigns to promote card payments, and there was indeed a considerable increase in the number of payment cards in circulation during the course of 2001. This was followed by a marked rise in the number of actual payments by card during 2002.

In addition to the absolute growth in card payments, it is also interesting to compare the growth in card payments in Finland with developments in other countries. Between 1990 and 2000, growth in the value of card payments relative to GDP in Finland

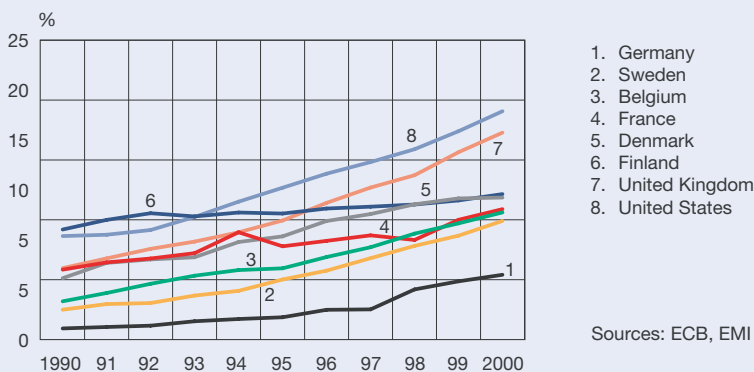
was fairly moderate in comparison with, for example, developments in the United States and the United Kingdom (Chart 5). One possible explanation is that there was already a considerable increase in card payments in Finland towards the end of the 1980s, a trend reflected in the country's leading position in the early 1990s (Chart 5). On the other hand, the pace of GDP growth exerts a major influence on the figures. Towards the end of the 1990s, Finnish GDP growth was more rapid than that of most reference countries, which goes some way to explaining the relatively small rise in the GDP ratio of card payments in Finland. Moreover, the switch from cheque payments to

**Chart 4.**  
Value of payment card transactions in Finland, 1986–2002



Source: Finnish Bankers' Association.

**Chart 5.**  
Value of card payments relative to GDP



Sources: ECB, EMI and BIS.

card payments is an important factor in the figures for the United States and the United Kingdom, as there was a reduction in payments by cheque in these countries between 1990 and 2000 (Chart 3). On the other hand, it is possible that in the United States, for example, cards are used to make different types of payment than in Finland. Finns are accustomed to using credit transfers from their bank accounts to make payments that are typically made by cheque or credit card in the United States. Another ratio indicating the development of card payments is the number of card payments per capita (Chart 6). This reveals that the relative rise in the number of card payments in Finland has been slightly faster than the relative growth in the value of card payments. In common with chart 5, it also suggests that card payments are much more common in the United States than in Europe.

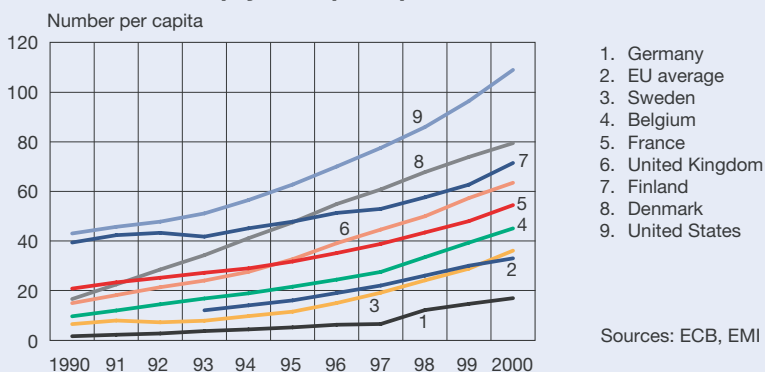
## New retail payment methods

The retail payments market would appear to have become more competitive as companies other than banks are now offering services in this area. For example, mobile telephone operators around the world have been active in developing payment services. Finland's Internet and mobile phone penetrations are among the highest in the world, and technological

advances coupled with Finns' readiness to use new technology have encouraged service providers to develop new methods of payment. For example, several new services based on separate customer accounts have been introduced onto the market both in Finland and elsewhere. The typical method of making payments via these accounts is for the customer to transfer money from his bank account to his separate customer account and thereafter use the latter either by mobile phone or over the Internet. The separate customer account is not a bank account and is not covered by the deposit guarantee that covers bank accounts. Many solutions combine features of mobile phone and Internet payments. These easy-to-use new methods of payment based on separate customer accounts have become popular particularly in the United States, where services based on bank accounts are not nearly as common as in Finland.

In addition to applications based on separate customer accounts, customers using the Internet can also make payments via a 'button payment service' developed by the banks. This allows the customer to select his bank's payment button on an Internet trader's website, which takes him temporarily to his own Internet banking service to make the payment. In addition, many credit card issuers have developed more secure methods of paying by credit card over the Internet, while electronic money can also be used to make Internet payments.

**Chart 6.**  
**Number of card payments per capita**



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The applications developed for paying by mobile phone can also be classified in a number of ways. In Finland, there are several solutions based on separate customer accounts as well as credit card applications and applications for paying via the customer's phone bill or a separate invoice. These latter two include parking fees, items bought from vending machines, purchase of logos and public transport tickets; transport tickets can only be bought by mobile phone text message. Some solutions have also required special features of the mobile phone. For example, a payment application for dual chip phones has been in use as a pilot project in Finland.

In addition to the new payment methods, traditional service providers such as the banks are also offering traditional services via new channels. For example, besides visiting a branch or using an ATM, private bank customers can also handle their banking business by text message, WAP phone, digital television, personal digital assistant (PDA) or via a PC in the form of Internet banking services. It is natural to offer customers services through a range of different channels, as each customer has different needs and different capacities for using the different channels.

## Challenges facing the new payment methods

What factors will determine which new payment methods will become popular with consumers and thus survive, and which of them will perhaps be withdrawn at the end of a pilot phase? One key factor in developing new payment methods is the pricing. The effectiveness of pricing was clearly evident in the disappearance of cheques and the spread of debit cards towards the end of the 1980s. In addition to being sensibly priced, a new payment method should be easy to use and reliable and should genuinely provide the consumer with extra value compared to his existing method of payment. Finnish consumers are particularly familiar with making payments through cheap and easy-to-use debit cards, which thus occupy a strong position as a payment instrument in consumers' pockets. It is clear that a competing payment method must be at least as good and cheap as the existing alternatives if consumers are to start using it. Also important are the security and reliability

of a payment method. Consumers must be able to rely on the security of their payment method, because if faith in a given payment application is shaken this can undermine consumer confidence more generally. Moreover, rapid, preferably real-time, money transfers between accounts is important in itself, while the interoperability of different applications is another important factor.

It is hard for a new application to achieve critical mass, ie a sufficiently large body of users to make it economically viable. It is not uncommon to get into a kind of chicken and egg situation: on the one hand shopkeepers may be reluctant to invest in, for example, updating their payment terminals, because they do not believe that enough customers will use the new method of payment, while on the other hand those consumers who have adopted the new method cannot use it due to a lack of stores that accept it. This would appear to be a fairly common problem with new applications. A good example is the electronic money systems that have already been on the market for some time. At least so far, there has been little use of electronic money either in Finland or elsewhere.

International compatibility could also be an important factor, at least from the perspective of internal market development within the euro area. The present systems are almost entirely national applications. There are, however, a number of cooperative forums up and running, for example in the area of mobile phone payments. These are dedicated to fostering payments by mobile phone through means such as standardisation. Such cooperation is vital to the future of the whole sector. At present, international credit cards are the best example of a worldwide payment instrument.

Distinctive national features and the history of retail payments also have relevance for the development of new payment methods. In Finland, for example, bank accounts are very common and the banks are trusted service providers. It is fairly hard for new competitors to enter such a small, efficient, well-functioning and competitive retail payments market. Of course, developing payment methods also pose challenges for the authorities. Legislation must be kept up to date with a changing world. A good example of this is the new law on credit institutions that entered into force in February 2003 and was discussed in issue 4/2002 of the Bulletin (Kauko 2002). From the

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perspective of the central banks an important aim is to ensure that payment systems work efficiently and reliably and are secure in all respects. The central banks also seek to foster competitive market conditions and support the development of standards and infrastructure.

Thus, there are numerous challenges facing the new retail payment methods. It will be interesting to see if any of the new methods will be a success, either nationally or in the wider world. On the other hand, a change in consumer habits – for example, a notable increase in e-commerce – would probably also lead to a further increase in the use of electronic payment methods.

8 May 2003

- **Key words: card payments, Internet payments, mobile payments, challenges facing the new payment methods**

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Kauko, K (2002) New legislation to diversify financial services. Bank of Finland Bulletin 4/2002.

## First supplementary budget for 2003

Parliament approved the first supplementary budget for 2003 on 18 June 2003. The budget shows a deficit of EUR 516 million. The revenue estimate was decreased by EUR 151 million and the expenditure estimate was increased by EUR 365 million. Tax revenue was estimated as decreasing by EUR 387 million while other revenue – in this case mainly received dividends – was increased by EUR 237 million, compared to the regular budget for 2003. An easing in income taxation was approved and will be applied from July 2003. On the expenditure side, supplementary appropriation was granted for measures that were particularly aimed at promoting domestic demand and employment.

## Commemorative bi-metallic coin in honour of the Ice Hockey World Championships in Finland

The Ministry of Finance has decided to mint a series of EUR 5 commemorative coins in honour of the Ice Hockey World Championships held in Finland in late spring 2003.



The commemorative coin, designed by the sculptor Pentti Mäkinen, is a double metal compound measuring 35 mm in diameter and weighing 20 grams. The inner circle of the coin is 75 per cent copper and 25 per cent nickel, while the outer circle is 89 per cent copper, 5 per cent each of aluminium and zinc and 1 per cent tin. A total of 150,000 coins have been struck at a selling price of EUR 5.

The artistic inspiration for the coin is taken from Finnish nature. The obverse side shows three ice-hockey sticks with a puck in an embossed figure. The inner circle also shows the year of the championships together with the letters 'MM', meaning 'World Championships' in Finnish. The reverse side has three pines in a Finnish landscape together with the words '5 EURO'. The three sticks and pines can be interpreted as symbolic of the three cities where the games were held and the three medal teams. The picture is surrounded by the text 'SUOMI' on the left and 'FINLAND' on the right.

## Publication of the Bank of Finland

The Bank of Finland Annual Report 2002 has been published. The Report contains sections on monetary and economic policy, financial markets, payments, maintenance of currency supply, foreign reserves and other central bank activities in 2002, as well as the Bank of Finland's financial statements and accompanying notes. The statistical appendix contains various data on the Eurosystem and the Bank of Finland. Vammala 2003. 99 pages. ISSN 1239-9345 (print), ISSN 1456-579X (online).

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# Eurosystem monetary policy instruments

6 June 2003

## Key interest rates

The main refinancing operations are the principal monetary policy instrument used by the Eurosystem<sup>1</sup>. Changes in the interest rate applied in the main refinancing operations signal the stance of Eurosystem monetary policy and have a major impact on the shortest money market rates. From the start of 1999 to June 2000 the main refinancing operations of the Eurosystem were conducted via fixed rate tenders. At its meeting on 8 June 2000 the ECB Governing Council decided that, starting with the operation to be settled on 28 June 2000, the main refinancing operations of the Eurosystem would be conducted as variable rate tenders, using the multiple rate auction procedure. The Governing Council also decided to set a minimum bid rate for these operations. The minimum bid rate was initially 4.25%, the same level as applied in the previous fixed rate tender operations. Since then, the minimum bid rate has been changed nine times. Effective 6 June 2003, the minimum bid rate is 2.00%. In the new procedure, the minimum bid rate signals the monetary policy stance, which previously was indicated by the rate applied to fixed rate tenders.

The Eurosystem uses the rates on its standing facilities as a corridor for overnight market interest rates. The interest rates on the marginal lending facility and deposit facility are set separately by the Eurosystem.

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<sup>1</sup> The European System of Central Banks (ESCB) comprises the European Central Bank (ECB) and the national central banks of the EU member states. The Eurosystem is composed of the ECB and the national central banks of the member states participating in Stage Three of Economic and Monetary Union. The Eurosystem's supreme decision-making body is the Governing Council of the ECB, which comprises the six members of the Executive Board of the ECB and the governors of the twelve national central banks in the Eurosystem.

Effective 6 June 2003, the interest rate on the Eurosystem marginal lending facility is 3.00% and the overnight interest rate on the deposit facility 1.00%.

## Open market operations

Open market operations play an important role in Eurosystem monetary policy. They are used for the purposes of steering interest rates, managing market liquidity, and signalling the stance of monetary policy. Open market operations are normally executed by national central banks on the initiative of the ECB. Open market operations can be divided into four categories:

1) The *main refinancing operations* are weekly liquidity-providing operations executed by national central banks via standard tenders with two-week maturity. They play a pivotal role in pursuing the purposes of Eurosystem open market operations and provide the bulk of refinancing to the financial sector.

2) The *longer-term refinancing operations* are liquidity-providing standard tender operations with monthly frequency and three-month maturity. These operations are used to provide counterparties with additional longer-term refinancing. These operations are not intended for market signalling and hence they are normally executed on the basis of variable-rate tenders.

3) *Fine-tuning operations* are executed on an ad hoc basis in order to smooth interest rate movements caused by unexpected changes in market liquidity. Fine-tuning operations are executed by national central banks primarily as reverse transactions, but they can also take the form of outright transactions, foreign exchange swaps or collection of fixed-term deposits. Fine-tuning operations are executed via quick tenders or bilateral procedures. Under exceptional

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circumstances and by decision of the ECB Governing Council, the ECB may execute fine-tuning operations in a decentralised manner.

4) *Structural operations* are executed with the aim of adjusting the structural position of the Eurosystem vis-à-vis the financial sector. Structural operations can be executed through reverse transactions, outright transactions or the issuance of ECB debt certificates.

## Standing facilities

The standing facilities are intended to limit excessive movements in overnight interest rates by providing or absorbing overnight liquidity and to signal the general stance of monetary policy. Two standing facilities are available: the marginal lending facility and the deposit facility. Counterparties can use the marginal lending facility to obtain overnight liquidity from national central banks against eligible assets. The interest rate on the marginal lending facility provides a ceiling for the overnight market interest rate. Counterparties can use the deposit facility to make overnight deposits at national central banks. The interest rate on the deposit facility provides a floor for the overnight market interest rate. Under normal circumstances, there are no quantitative limits on access to the standing facilities.

## Minimum reserve system

The Eurosystem minimum reserve system applies to credit institutions in the euro area and is used primarily for stabilising money market interest rates and creating (or enlarging) a structural liquidity shortage. The reserve base for a credit institution is defined in terms of liability items on its balance sheet. The reserve base includes deposits, debt securities issued and money market paper. However, liabilities vs other institutions subject to the minimum reserve system are not included in the reserve base. Liabilities included in the reserve base are subject to a 2% or zero reserve ratio. Liabilities included in the reserve base and to which a zero reserve ratio is applied comprise deposits with an agreed maturity of over two years, repos, and debt securities issued with an agreed maturity of over two years.

In order to pursue the aim of stabilising interest rates, the Eurosystem minimum reserve system enables institutions to make use of averaging provisions. Compliance with the reserve requirement is determined on the basis of an institution's average daily reserve holdings over a one-month maintenance period. Institutions' holdings of required reserves are remunerated at the interest rate of the main refinancing operations. When the main financing operations are conducted as variable rate tenders, the interest rate on minimum reserves is determined on the basis of the marginal interest rates applied in the tenders held during the maintenance period in question.

With effect from the start of 2001, the group of institutions in Finland subject to the minimum reserve requirement was extended to include all institutions, in addition to deposit banks, that are authorised to operate as credit institutions. The purpose of this change was to bring the definition of institutions subject to the minimum reserve requirement into line with the practice applied in other euro area countries. A list of the institutions subject to the Eurosystem minimum reserve requirements is available on the ECB website (<https://mfi-assets.ecb.int>).

## Counterparties to monetary policy operations

Credit institutions subject to Eurosystem minimum reserve requirements may, in general, access Eurosystem standing facilities and participate in the Eurosystem's main refinancing operations and longer-term refinancing operations. The Eurosystem has limited the group of counterparties for fine-tuning operations and structural operations to counterparties that are active players in the money market. For outright transactions, no restrictions are placed on the group of counterparties. For foreign exchange swaps, the counterparties must be counterparties for foreign exchange intervention operations who are active players in the foreign exchange market.

## Assets eligible for monetary policy operations

Under the ESCB/ECB Statute, all Eurosystem credit operations must be based on adequate collateral. The

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Eurosystem accepts a wide range of securities, issued by both public sector and private sector entities, as underlying assets for its operations. For purposes internal to the Eurosystem, eligible assets are divided into two categories. ‘Tier one’ consists of marketable debt instruments fulfilling uniform euro area-wide eligibility criteria specified by the ECB. ‘Tier two’ consists of assets, both marketable and nonmarketable, that are of particular importance for national financial markets and banking systems and for which

eligibility criteria are established by the national central banks and approved by the ECB. Both tier one and tier two assets may be used as collateral for Eurosystem monetary policy operations. A list of eligible assets is available on the ECB’s website (<https://mfi-assets.ecb.int>). More detailed information on Eurosystem monetary policy instruments is posted on the Bank of Finland’s website ([http://www.bof.fi/eng/2\\_rahapolitiikka/index.stm](http://www.bof.fi/eng/2_rahapolitiikka/index.stm)).



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## Abstracts

### Series E

#### Effects of moral hazard and monitoring on monetary policy transmission

Jukka Topi

E:24

- Key words: monetary policy transmission, monitoring, moral hazard, bank lending channel

This study discusses the effects of financial intermediation, banks' moral hazard and monitoring on monetary policy transmission in a simple model where borrowers are dependent on loans granted by banks with superior monitoring skills. As distinct from the prior literature on monetary policy transmission, this study does not regard banks' deposit funding as a reason for their special role in monetary transmission. Instead, we focus on banks' role in monitoring their loan customers as part of financial intermediation and on the effects of monitoring on monetary policy.

We find that when the intensity of monitoring is endogenous banks acting as financial intermediaries with moral hazard problems respond less to monetary policy in lending than nonintermediary lenders that only lend their own capital without moral

hazard problems. We also find that in the model the lending response of intermediary banks to monetary policy depends on the ratio of their own capital to the volume of lending. The finding is fairly insensitive to the market structure of the banking sector. In the case of a monopoly bank, an increase in the bank's capital-to-loans ratio always weakens the transmission of monetary policy to bank lending. In the case of competitive banks, an increase in the capital-to-loans ratio weakens the transmission of monetary policy to aggregate bank lending, up to a critical level.

Using a data set covering the Finnish banking sector in 1995–2000, we also offer some tentative empirical evidence that is broadly consistent with the model. Banks with higher capital ratios tend to respond less to changes in monetary policy. Our conclusion is that the outcome of the model might be helpful in explaining the heterogeneity of banks' responses to monetary policy, which is frequently observed in the empirical literature.

#### Price setting behavior in an open economy and the determination of Finnish foreign trade prices

Hanna Freystätter

E:25

- Key words: local currency pricing, producer currency pricing, GMM, Finnish foreign trade prices

This paper investigates price setting of internationally traded goods. We develop a theoretical model that incorporates sticky prices in the currency of both the buyer (local currency pricing) and seller (producer currency pricing). The nature of price setting is thus forward looking and the exchange rate effect depends on the relative share of local currency and producer currency pricing firms in the economy. The model is estimated with Finnish foreign trade price data for the period 1980–1998. The estimation results seem to support the model. The estimated share of local currency pricing is 40% in the export sector and 60% in the import sector, implying that there is limited pass-through from exchange rate to destination-country prices in both sectors.

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## Central bank tenders: three essays on money market liquidity auctions

Tuomas Välimäki

E:26

- Key words: central bank operational framework, short-term interest rates, money markets, tenders, liquidity policy, bidding

Most OECD central banks implement monetary policy by supplying reserves to the banking sector with the aim of influencing short-term interbank interest rates. To interpret the monetary policy stance accurately, one needs to be familiar with the mechanism for determining the money market equilibrium. The aim of this study is to deepen our understanding of the various effects of different intervention styles on the short-term money market when monetary policy is implemented with an operational framework similar to that of the European Central Bank (ECB).

In the first essay of this study, we model banks' demand for central bank reserves (liquidity) for each day of an n-day reserve maintenance period and analyse liquidity determination under alternative liquidity policy rules that a central bank might apply in fixed rate tenders. It is shown that there is a tradeoff between the central bank's ability to keep a market interest rate close to the tender rate and the stability of liquidity holdings within a maintenance period. The second essay presents a model of a single bank's optimal bidding in the context of fixed rate liquidity tenders. It is shown that banks' bidding crucially depends on the central bank's liquidity policy for tender allotments. This essay also analyses ECB liquidity policy in terms of the model. The final essay models the money market equilibrium and analyses banks' bidding when the central bank uses variable rate tenders. The liquidity supply is fully endogenised by having the central bank minimise a loss function that includes deviations-from-target of interest rate and liquidity. ECB experiences with variable rate tenders are also studied in this essay.

## Discussion papers

### Restructuring securities systems processing – a blue print proposal for real-time/t+0 processing

Harry Leinonen

7/2003

- Key words: securities settlement, securities settlement infrastructure, DVP processing, securities trading interfaces

Securities settlement is an area in which nobody seems to be content with the current international processing systems, but neither has a proposal for improvement emerged that has attracted common support. This paper describes a possible solution based on an international, harmonised and simplified institutional structure operating in an open real-time network structure. All deals are settled in immediate, t+0, real-time, which means that all assets and funds are delivered immediately, thereby removing settlement risk. Inter-custodian delivery problems of securities will disappear, because only securities available on investors' accounts can be settled, which continuously equals the amount on the omnibus-accounts. This also eliminates the risks related to 'naked' short selling, because in most cases investors have to make securities and funds available before trading. This may divide the current market in a spot, t+0, and a short-term, t+3, futures' market. Corporate actions can be organised in coordination and executed in synchronisation through the infrastructure network in which all custodians and registrars/CSDs participate. The paper describes the concrete new methods required (eg international custody account number system, ICAN, and DVP codes for matching) and the probable impact of immediate real-time settlement on trading patterns, liquidity issues and risk containment. These are all areas in which the proposed new infrastructural solutions would bring benefits to the users, mainly faster/immediate delivery, less risks, lower processing costs, more competition and more efficient processing of corporate actions. Custodians' liquidity management will need to focus on the sufficiency of the real-time balance of settlement money, which might be more or less strained compared to the current situation, depending on the off-setting patterns of incoming and out-

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going settlements during the day. International implementation will require coordination and engagement by key players.

### **Card, Internet and mobile payments in Finland**

Hanna Jyrkönen – Heli Paunonen  
8/2003

- Key words: retail payments, payment cards, Internet payments, mobile payments

Retail payment methods are in a stage of rapid development. New service providers and technological developments enable new payment services through a variety of channels. Payment solutions are being developed based eg on the Internet and on mobile phones. Presumably, the use of paper-based payment instruments will decrease further in the future thanks to electronification in the retail payment area.

In this paper we focus on card payments in Finland and certain other countries. We also look at Internet- and mobile-based payments and discuss some of the challenges related to the new solutions. The paper ends with a brief discussion of recent changes in Finnish legislation in connection with retail payments.

### **Money as an indicator variable for monetary policy when money demand is forward looking**

Lauri Kajanoja  
9/2003

- Key words: monetary policy, partial information, money, monetary aggregates, euro area

This paper studies the gain from using money as an indicator when monetary policy is made under data uncertainty. We use a forward and backward looking model, calibrated for the euro area. The policymaker cannot completely observe the state of the economy. Money reveals some of the private sector's information to the policymaker, especially if there is a forward looking element in money demand. We show that observing money can considerably re-

duce the loss that is due to incomplete information. However, taking also into account other financial market data could decrease the marginal importance of money as an indicator.

### **Friedman's money supply rule vs optimal interest rate policy**

George W. Evans – Seppo Honkapohja  
10/2003

- Key words: monetary policy, determinacy, stability under learning

Using New Keynesian models, we compare Friedman's k-percent money supply rule to optimal interest rate setting, with respect to determinacy, stability under learning and optimality. We first review the recent literature. Open-loop interest rate rules are subject to indeterminacy and instability problems, but a properly chosen expectations-based rule yields determinacy and stability under learning, and implements optimal policy. We then show that Friedman's rule also can generate equilibria that are determinate and stable under learning. However, in computing the mean quadratic welfare loss, we find that for calibrated models Friedman's rule performs poorly compared to the optimal interest rate rule.

### **Labour market flexibility and policy coordination in a monetary union**

Anssi Rantala  
11/2003

- Key words: wage flexibility, economic policy coordination, credibility, precommitment

Sufficiently flexible labour markets are considered an important precondition for countries to benefit from membership in the monetary union. Economic policy coordination within the European Community is extensive and includes issues related to labour market structures. In this paper we study the determination of flexibility of the labour market and, ultimately, of wages in a member country of the monetary union. As a starting point, the analysis assumes that each country's government, in formulating its labour market policy, decides the degree of nominal wage flexibility in light of the fact that this

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involves political costs that increase with the degree of wage flexibility. The study then focuses on the effects of monetary union membership on each country's prospects for coordination of economic policies – specifically labour market policies. The study shows that coordination of labour market policies contributes to greater nominal wage flexibility in member countries. However, coordination of labour market policies will be effective only if unemployment is persistent or under discretionary monetary policy. From the perspective of macroeconomic stability, there is no particular need for coordinating labour market policies among member countries if the common central bank can credibly precommit to a low inflation target or if fluctuations in unemployment are white noise.

**Optimal discretionary monetary policy in the open economy:  
Choosing between CPI and domestic inflation as target variables**

Alfred V. Guender  
12/2003

■ Key words: monetary policy, inflation target

In an open economy, a choice can be made between two measures of inflation for use as a target variable: CPI inflation or domestic inflation. This paper considers flexible and strict inflation targeting strategies and explores the circumstances under which a domestic inflation target is preferred to a CPI inflation target. This is done from the perspectives of the central bank and society as a whole.

The quantitative results of this paper indicate that under suitable conditions the temporal properties of stochastic disturbances are instrumental in determining which inflation target is preferred. The choice of target variable from society's viewpoint coincides almost perfectly with the choice of the central bank if the utility of the representative household serves as the welfare criterion for society.

If qualitative aspects matter in the choice of inflation target, then the role of temporal properties of the stochastic disturbances becomes less prominent.

Policy conclusions are drawn with the help of a forward-looking model for a small open economy. This model has proper micro-foundations and ex-

hibits two important features. First, the degree of openness affects the parameters of the IS relation and, second, under domestic inflation targeting, the existence of a direct exchange rate channel in the Phillips Curve impairs the perfect stabilising properties of monetary policy in the presence of demand-side disturbances.

**Banks' equity stakes in borrowing firms:  
A corporate finance approach**

Jukka Vauhkonen  
13/2003

■ Key words: banks' equity holdings, firms' capital structure, social welfare

In most countries, banks' equity holdings in firms that borrow from them are rather small. In light of the theoretical literature, this is somewhat surprising. For example, according to agency cost models, allowing banks to hold equity would seem to alleviate firms' asset substitution moral hazard problem associated with debt financing. This idea is formalised in John, John, and Saunders in a model where banks are modeled as passive investors and bank loans are the only source of outside finance for firms. In this paper, we argue that this alleged benefit of banks' equity holding is small or non-existent when banks are modeled explicitly as active monitors and firms have access also to market finance.

**Financial contracts and contingent control rights**

Jukka Vauhkonen  
14/2003

■ Key words: incomplete contracts, financial contracting, contingent contracts, control rights, joint ownership

According to empirical studies of venture capital finance, the division of control rights between entrepreneur and venture capitalists is often contingent on certain measures of firm performance. If the indicator of the company's performance (eg earnings before taxes and interest) is low, the venture capital firm obtains full control of the company. If company

performance improves, the entrepreneur retains or obtains more control rights. If company performance is very good, the venture capitalist relinquishes most of his control rights. In this article, we extend the incomplete contracting model of Aghion and Bolton to construct a theoretical model that is consistent with these empirical findings.

### **Cross-country asymmetries in euro area monetary transmission: the role of national financial systems**

Hanna Putkuri  
15/2003

- Key words: EMU, monetary transmission, bank lending channel, panel data analysis

Since 1 January 1999 the ECB has conducted a single monetary policy in the euro area, but the mechanisms by which and the extent to which monetary shocks are transmitted into prices and real economic activity may vary from country to country. This paper investigates how and to what extent the impact of monetary policy depends on national features of financial systems. The main interest is in examining whether the bank lending channel of monetary policy results in asymmetric loan supply reactions on the aggregate level across countries.

The variety of transmission mechanisms suggests that the potency of monetary policy may depend on several country-specific factors. On the basis of descriptive analysis, the present Member States seem to differ considerably in terms of their financial systems. The econometric analysis using aggregate data on a panel of twelve countries supports the view that some of these differences may lead to cross-country asymmetries in responses to the common monetary policy. In particular, a larger size and a lower degree of capitalisation of a banking sector are found to strengthen the bank lending channel on the aggregate level.

## **BOFit Discussion papers**

### **The political economy of reforms: Empirical evidence from post-communist transition in the 1990s**

Byung-Yeon Kim and Jukka Pirttilä  
4/2003

- Key words: political constraints, economic reform, transition, growth, dynamic panel models

Using a novel data set from post-communist countries in the 1990s, this paper examines linkages between political constraints, economic reforms and growth. A dynamic panel analysis suggests public support for reform is negatively associated with income inequality and unemployment. Both the *ex post* and *ex ante* political constraints of public support affect progress in economic reform, which in turn influences economic growth. The findings highlight that, while economic reforms are needed to foster growth, they must be designed so that they do not undermine political support for reform.

### **What drives financial crises in emerging markets?**

Tuomas Komulainen – Johanna Lukkarila  
5/2003

- Key words: currency crises, banking crises, emerging markets, liberalization, probit model

The study examines the reasons for financial crises in 31 emerging market countries during 1980-2001. It estimates a probit model using 23 macroeconomic and financial sector variables. Traditional variables such as unemployment and inflation, as well as several indicators of indebtedness such as private sector liabilities and the foreign liabilities of banks, explain currency crises rather well, and it appears currency crises occur in tandem with banking crises. Indeed, in emerging market countries vulnerability to crisis is exacerbated by situations involving large liabilities that permit sudden capital outflows. Increases in indebtedness followed the liberalization of capital flows and domestic financial sectors.



### Land, climate and population

Finland covers an area of more than 338,000 square kilometres. The total area is slowly increasing because of the steady uplift of the land since the last glacial era. The country shares frontiers with Sweden in the west, Norway in the north and Russia in the east and has a coastline bordered by the Baltic Sea in the south and west. Agricultural land accounts for 6% of the total area, forest and other wooded land for 68% and inland waters for 10%. Located between latitudes 60° and 70° north, Finland has warm summers and cold winters. Helsinki on the south coast has an average maximum temperature of 21° C (70° F) in July and -3° C (25° F) in February.

Finland has a population of 5,194,901 (31 December 2002) and an average population density of 17 per square kilometre. The largest towns are Helsinki, the capital, with 559,716 inhabitants, Espoo 221,597, Tampere 199,823, Vantaa 181,890 and Turku 174,618.

There are two official languages: 93% of the population speaks Finnish as its mother tongue and 5.7% Swedish. There is a small Lapp population in the north. Finnish is a member of the small Finno-Ugrian group of languages, which also includes Estonian and Hungarian.

### Form of government

Finland is a parliamentary democracy with a republican constitution. From the twelfth century to 1809 Finland was part of the Kingdom of Sweden. In 1809 Finland was annexed to Russia as an autonomous Grand Duchy with the Tsar as Grand Duke. On 6 December 1917 Finland declared its independence. The republican constitution adopted in 1919 remains essentially unchanged today.

The legislative power of the country is exercised by Parliament and the President of the Republic. The supreme executive power is vested in the President, who is elected for a period of six years. The President for the current term, 1 March 2000 to 1 March 2006, is Ms Tarja Halonen.

Parliament, comprising 200 members, is elected by universal suffrage for a period of four years. Following the parliamentary elections of 2003, the seats of the various parties in Parliament are distributed as follows:

Centre Party 55; Social Democratic Party 53; National Coalition Party 40; Left Alliance 19; Green League 14; Swedish People's Party 9; Christian League 7; True Finns 3.

Of the 18 ministerial posts in the present Government appointed in April 2003, 8 are held by the Centre Party, 8 by the Social Democratic Party and 2 the Swed-

ish People's Party. The Prime Minister is Mrs Anneli Jäätteenmäki of the Centre Party.

Finland is divided into 446 self-governing municipalities. Members of a municipal council are elected by universal suffrage for a period of four years.

### International relations

Finland became a member of the BIS in 1930, the IMF in 1948, the IBRD in 1948, GATT in 1950, the UN in 1955, the Nordic Council in 1955, the IFC in 1956, IDA in 1960, EFTA in 1961, the ADB in 1966, the OECD in 1969, the IDB in 1977, the AfDB in 1982, the MIGA in 1988, the Council of Europe in 1989, the EBRD in 1991 and the EU in 1995.

Citizens of the five Nordic countries, Denmark, Finland, Iceland, Norway and Sweden, have enjoyed a common labour market, a passport union and reciprocal social security benefits since the mid-1950s. All the Nordic countries joined the Shengen area on 25 March 2001.

Having abolished most quantitative restrictions on foreign trade in 1957, Finland first took part in European free trade arrangements under the aegis of EFTA in 1961. Finland's free trade agreement with the EEC entered into force in 1974 and agreements for the removal of trade barriers were concluded with several eastern European countries as well. The agreement on the European Economic Area (EEA) between the member countries of EFTA and the European Union came into effect at the start of 1994. Finland became a member of the European Union on 1 January 1995. Finland and ten other EU countries entered Stage Three of EMU in 1999.

### The economy

**Output and employment.** Of the gross domestic product of EUR 118 billion in basic values in 2001, 1.5% was generated in agriculture, hunting and fishing, 1.9% in forestry, 27.7% in industry, 5.9% in construction, 11.6% in trade, restaurants and hotels, 10.8% in transport and communications, 3.9% in finance and insurance, 18.7% in other private services and 17.9% by producers of government services. Of total employment of 2.3 million persons in 2001, 5.6% were engaged in primary production, 27.4% in industry and construction and 67.0% in services.

In 2001 expenditure on the gross domestic product in purchasers' values amounted to EUR 136 billion and was distributed as follows: net exports 8.2% (exports

39.8%, imports – 31.6%), gross fixed capital formation 20.4%, private consumption 49.9% and government consumption 20.8%. Finland's tax ratio (gross taxes including compulsory employment pension contributions relative to GDP) was 45.5%.

Average annual (compounded) growth of real GDP was 4.7% in the period 1950–59, 5.0% in 1960–69, 3.7% in 1970–79, 3.6% in 1980–89 and 1.4% in 1990–99. Finland's GDP per capita in 2001 was USD 23,442.

**Foreign trade.** EU countries absorb the bulk of Finnish goods exports. In 1998–2002 their average share was 55.4%. Over the same period, Finnish exports to other European countries (including Russia) accounted for 18.4% and to the rest of the world for 26.2%. During the same period the regional distribution of Finnish goods imports was quite similar to that of exports: EU countries accounted for 56.6%, other European countries for 19.4% and the rest of the world for 23.9%.

In 2002 the share of forest industry products in total goods exports was 26.3%, the share of metal and electrical products 54.5% and the share of other goods 19.1%. Raw materials and intermediate goods and energy together accounted for 50.8% of goods imports, capital goods for 22.1% and durable and non-durable consumer goods for 27.1%.

**Forest resources.** Finland has abundant forest resources but only limited amounts of other raw materials. The growing stock comprises 1,927 million cubic metres, of which 46% is pine, 36% spruce, 15% birch and 3% other broad-leaved species.

According to the National Forest Inventory for 1992–1998, the annual volume increment was about 76 million cubic metres. Over the same period the average annual drain was about 59 million cubic metres.

## Finance and banking

**Currency.** Finland had its own monetary system from 1865 to 1998. The currency unit was the markka (plural markkaa), which was divided into 100 penniä (singular penni). During the last decades of this period the objective of foreign exchange policy was to maintain a fixed exchange rate in relation to a given currency basket. On 8 September 1992 the markka was allowed to float. On 14 October 1996 the markka joined the Exchange Rate Mechanism of the European Monetary System. Since the start of 1999 Finland has participated in the single currency area, in accordance with the Treaty establishing the European Community. The conversion rate for the markka, as confirmed by the Council of the European Union on 31 December 1998, is 5.94573. With effect from the start of 1999, the currency unit used in Finland is the euro, which is divided into 100 cent. The changeover to euro cash was effected in Finland, as in the whole euro area, at the start of 2002, and the markka ceased to be legal tender as of 1 March 2002.

**The Central Bank.** The two new laws adopted in 1997 and 1998 make Finnish legislation compatible with the requirements of the Treaty establishing the European Community and the Statute of the European System of Central Banks and the European Central Bank. The latter law, the new Act on the Bank of Finland, integrates the Bank of Finland into the ESCB. In performing the tasks of the ESCB, the Bank of Finland acts in accord with guidelines and instructions issued by the ECB. Under the Treaty, the primary objective of the Bank of Finland is to maintain price stability. The new Act did not change the division of responsibilities between the Parliamentary Supervisory Council and the Board. The tasks of the Council are connected with supervision of the Bank's administration and operations, administrative decisions and certain other responsibilities. The Board of the Bank of Finland comprises the Chairman (Governor) and a maximum of five (currently three) other members, all of whom are appointed by the President of the Republic upon a proposal of the Council. The Chairman of the Board is appointed for a seven-year term and the other members of the Board each for a five-year term. The Bank of Finland has a head office in Helsinki and four branch offices in other towns.

**Other banks** (31 December 2002). Finland has three major groups of deposit banks with a total of about 1,572 branches. In addition there are five smaller banks and banking groups. The commercial banks have a total of 23 foreign branches, subsidiaries and associate banks and 7 representative offices abroad. There are 40 savings banks, a group of cooperative banks (243) and 42 local cooperative banks. In addition, 8 foreign banks have branches and 4 foreign banks have representative offices in Finland.

**Financial markets.** The total stock of domestic credit amounted to EUR 119.6 billion at end-December 2002 and was broken down by lender group as follows: deposit banks 64%; insurance companies 3%; pension insurance institutions 12%; other credit institutions 11%; central and local governments and social security funds 10%.

In the money market, the total value of instruments outstanding was about EUR 26.4 billion at end-March 2003; bank certificates of deposit accounted for 54% of the total and Treasury bills, commercial paper and local authority paper for the rest.

At end-March 2003 there were 103 companies on the main list, 28 on the investors' list and 15 on the NM list of the HEX. At end-March 2003 total market capitalisation was EUR 124.4 billion for the main list, EUR 0.36 billion for the investors' list and EUR 0.29 billion for the NM list. Domestic bonds and debentures in circulation at end-March 2003 amounted to EUR 50.8 billion; government bonds accounted for 84% of the total. Share turnover on the HEX amounted to EUR 58.9 billion in January–March 2003.





# VISITING SCHOLARS PROGRAMME

## BANK OF FINLAND

*The Bank of Finland, the national central bank, has about 670 employees, some 30 of whom are involved in research. The Bank is located in Helsinki.*

The Bank welcomes applications from foreign and Finnish scholars for a post under its Visiting Scholars Programme at the Research Department. Scholarships for six months are available for faculty or post-doctoral level research projects in two main research areas:

- (1) The modelling of monetary policy
- (2) The future of the financial services sector.

In the area of monetary policy modelling, we are especially interested in incorporating the analysis of credibility and policy uncertainty in applied models that could be used to analyze monetary policy in practice. The second area aims at illuminating the ongoing structural transformation of the global financial services industry, as driven by electrification and increased competition in particular. This area includes stability and other public policy aspects of the transformation.

A visiting scholar will be expected to conduct research based on a mutually agreed research plan. Articles stemming from the research are expected to be included in the Bank's Discussion Papers and may be published elsewhere as well. A visiting scholar should normally also give a lecture at the Bank to an audience of economists on his or her research topic as well as interact with other researchers engaged in projects in the same area.

Remuneration for visiting scholars will be commensurate with their research experience.

Persons interested in applying are invited to send

- a brief research proposal concerning either of the two areas
- a CV specifying the applicant's academic and research background, with the names of two or three referees

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                          Helsinki, Finland  
                          Fax: +358 9 183 2560  
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## Balance sheet of the Bank of Finland, EUR million

	2003			
	28.2.	28.3.	25.4.	30.5.
<b>Assets</b>				
<b>1 Gold and gold receivables</b>	515	515	485	485
<b>2 Claims on non-euro area residents denominated in foreign currency</b>	8,810	8,905	8,468	8,398
2.1 Receivables from the IMF	816	815	832	835
2.2 Balances with banks and security investments, external loans and other external assets	7,994	8,090	7,636	7,564
<b>3 Claims on euro area residents denominated in foreign currency</b>	683	778	743	708
<b>4 Claims on non-euro area residents denominated in euro</b>	0	0	0	0
4.1 Balances with banks, security investments and loans	0	0	0	0
4.2 Claims arising from the credit facility under the ERM II	–	–	–	–
<b>5 Lending to euro area credit institutions related to monetary policy operations denominated in euro</b>	1,772	2,434	2,670	920
5.1 Main refinancing operations	1,344	2,006	2,242	913
5.2 Longer-term refinancing operations	428	428	428	7
5.3 Fine-tuning reverse operations	–	–	–	–
5.4 Structural reverse operations	–	–	–	–
5.5 Marginal lending facility	–	–	–	–
5.6 Credits related to margin calls	–	–	–	–
<b>6 Other claims on euro area credit institutions denominated in euro</b>	2	1	1	1
<b>7 Securities of euro area residents denominated in euro</b>	–	–	–	–
<b>8 General government debt denominated in euro</b>	0	0	0	0
<b>9 Intra-Eurosystem claims</b>	3,553	3,553	3,630	3,616
9.1 Share in ECB capital	70	70	70	70
9.2 Claims equivalent to the transfer of foreign currency reserves	699	699	699	699
9.3 Claims related to the issuance of ECB debt certificates	–	–	–	–
9.4 Claims related to TARGET and correspondent accounts (net)	–	–	–	–
9.5 Claims related to other operational requirements within the Eurosystem	2,784	2,784	2,862	2,847
<b>10 Other assets</b>	787	771	1 001	999
<b>Total assets</b>	16,122	16,957	17,000	15,128

Totals/sub-totals may not add up because of rounding.

	2003			
	28.2.	28.3.	25.4.	30.5.
<b>Liabilities</b>				
<b>1 Banknotes in circulation<sup>1</sup></b>	5,482	5,539	5,717	5,888
<b>2 Liabilities to euro area credit institutions related to monetary policy operations denominated in euro</b>	5,642	1,179	2,294	5,035
2.1 Current accounts (covering the minimum reserve system)	5,642	1,179	2,294	5,035
2.2 Deposit facility	–	–	–	–
2.3 Fixed-term deposits	–	–	–	–
2.4 Fine-tuning reverse operations	–	–	–	–
2.5 Deposits related to margin calls	–	–	–	–
<b>3 Other liabilities to euro area credit institutions denominated in euro</b>	–	–	–	–
<b>4 Liabilities to other euro area residents denominated in euro</b>	2	2	10	10
4.1 General government	–	–	–	–
4.2 Other liabilities	2	2	10	10
<b>5 Liabilities to non-euro area residents denominated in euro</b>	1	1	1	1
<b>6 Liabilities to euro area residents denominated in foreign currency</b>	0	0	–2	–2
<b>7 Liabilities to non-euro area residents denominated in foreign currency</b>	11	148	65	26
7.1 Deposits, balances and other liabilities	11	148	65	26
7.2 Liabilities arising from the credit facility under the ERM II	–	–	–	–
<b>8 Counterpart of special drawing rights allocated by the IMF</b>	185	185	180	180
<b>9 Intra-Eurosystem liabilities</b>	–692	4 368	3 292	1 404
9.1 Liabilities related to promissory notes backing the issuance of ECB debt certificates	–	–	–	–
9.2 Liabilities related to TARGET and correspondent accounts (net)	–692	4 368	3 292	1 404
9.3 Liabilities related to other operational requirements within the Eurosystem	–	–	–	–
<b>10 Other liabilities</b>	334	378	396	322
<b>11 Revaluation account</b>	689	689	580	580
<b>12 Capital and reserves</b>	4,468	4,468	4,468	4,493
<b>Total liabilities</b>	16,122	16,957	17,000	15,128

<sup>1</sup> According to the accounting regime chosen by the Eurosystem on the issue of euro banknotes, a share of 8% of the total value of the euro banknotes in circulation is allocated to the ECB on a monthly basis. The counterpart of this adjustment is disclosed under 'Other claims within the Eurosystem'. The remaining 92% of the value of the euro banknotes in circulation are allocated to the NCBs on a monthly

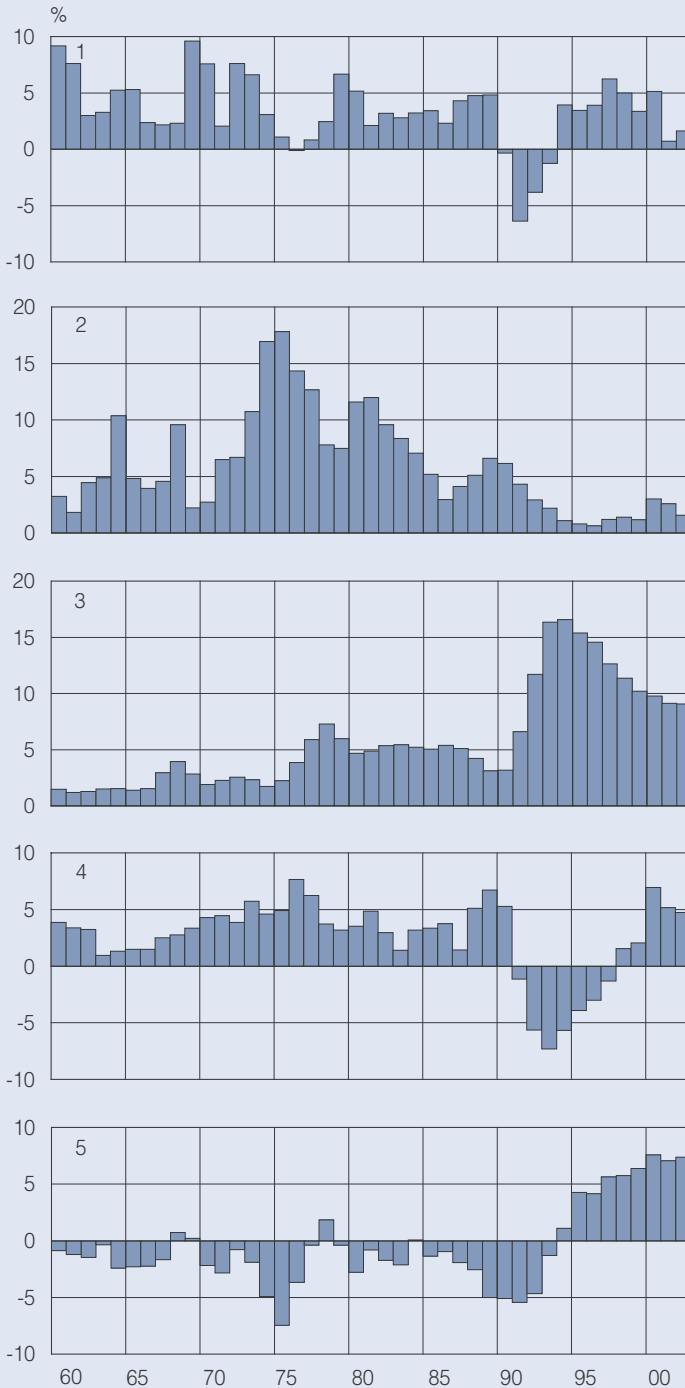
basis too, whereby each NCB shows in its balance sheet a share of the euro banknotes issued corresponding to its paid-up share in the ECB's capital. The difference between the value of the euro banknotes allocated to the NCB according to the aforementioned accounting regime, and the value of euro banknotes put into circulation, is also disclosed under 'Other claims/debts within the Eurosystem'.

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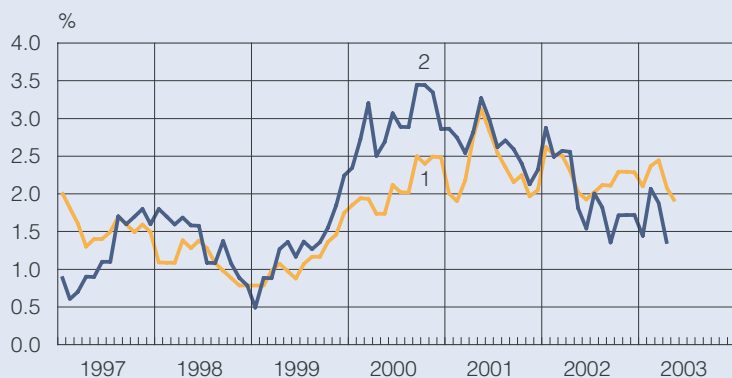
## 1. Finland: key economic indicators



1. GDP, volume change from previous year
2. Consumer prices, change from previous year
3. Unemployment rate
4. General government fiscal position, % of GDP
5. Current account, % of GDP

Sources:  
 Statistics Finland and  
 Bank of Finland.

## 2. Price stability in the euro area and Finland

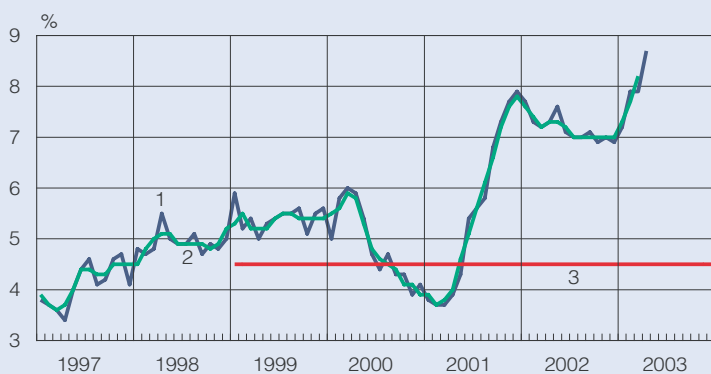


Harmonised index of consumer prices, 12-month change, %

1. Euro area
2. Finland

Sources:  
Eurostat and Statistics Finland.

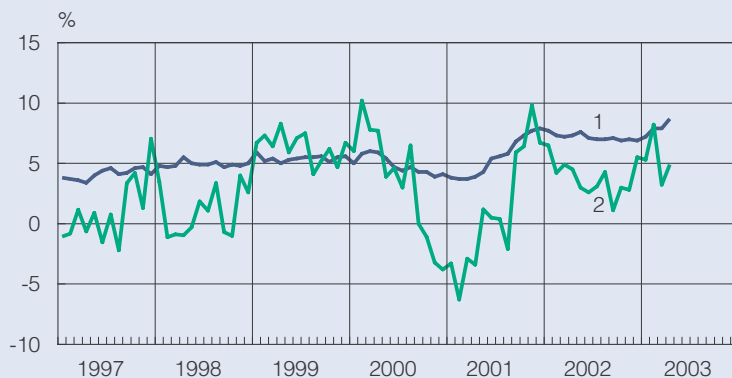
## 3. Monetary aggregates for the euro area



1. M3, 12-month change, %
2. M3, 3-month moving average of 12-month change, %
3. Reference value for M3 growth

Source:  
European Central Bank.

## 4. Growth of the money stock in the euro area and Finland

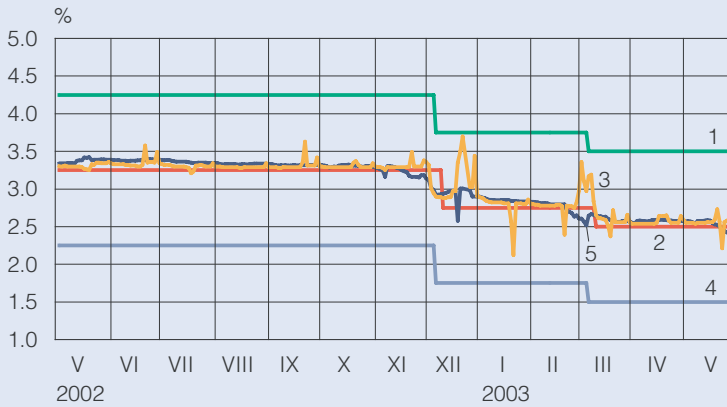


12-month change, %

1. M3 for the euro area
2. Finnish Contribution to euro area M3 (excl. currency in circulation with the public)

Sources:  
European Central Bank and Bank of Finland.

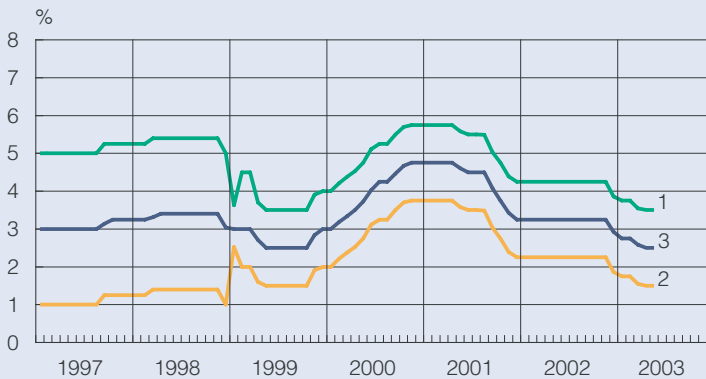
## 5. Eurosystem interest rates and money market rates



1. Marginal lending rate
2. Main refinancing rate / minimum bid rate
3. Eonia rate
4. Deposit rate
5. 1-month Euribor

Sources:  
European Central Bank and Reuters.

## 6. Eurosystem (Bank of Finland) interest rates

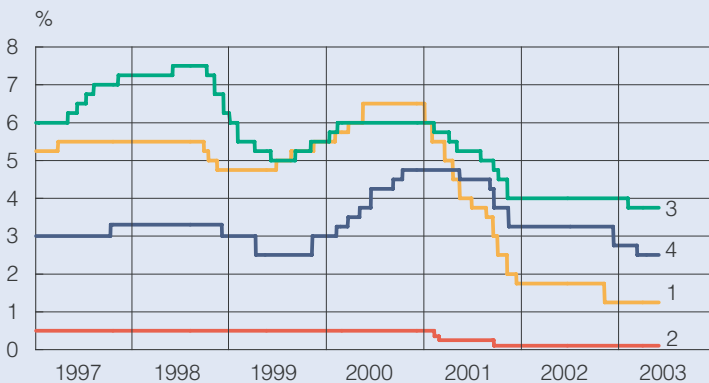


Bank of Finland interest rates until end-1998

1. Marginal lending rate (liquidity credit rate until end-1998)
2. Deposit rate (excess-reserve rate until end-1998)
3. Main refinancing rate / minimum bid rate (tender rate until end-1998)

Source:  
European Central Bank.

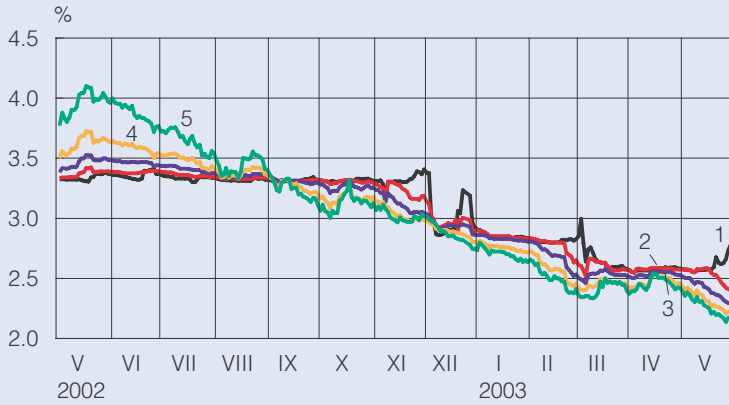
## 7. Official interest rates



1. USA: fed funds target rate
2. Japan: discount rate
3. United Kingdom: repo rate
4. Eurosystem: main refinancing rate (German repo rate until end-1998)

Source: Bloomberg.

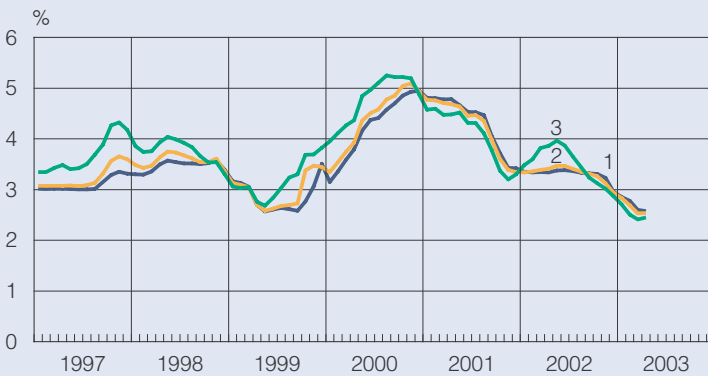
### 8. Euribor rates, daily values



- 1. 1-week
- 2. 1-month
- 3. 3-month
- 4. 6-month
- 5. 12-month

Source: Reuters.

### 9. Euribor rates, monthly values

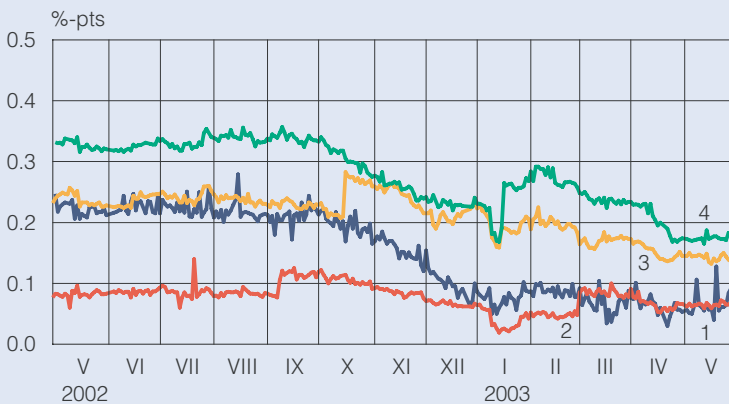


Helibor rates until end-1998

- 1. 1-month
- 2. 3-month
- 3. 12-month

Source: Reuters.

### 10. Differentials between ten-year yields for Germany and selected euro area countries

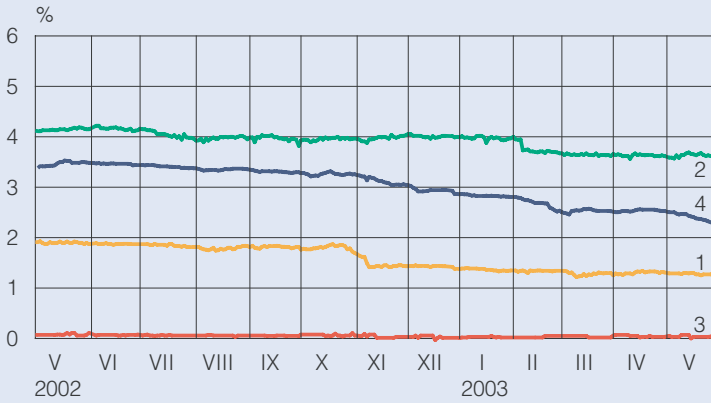


- 1. Finland
- 2. France
- 3. Italy
- 4. Largest differential

Source: Reuters.



### 11. International three-month interest rates, daily values

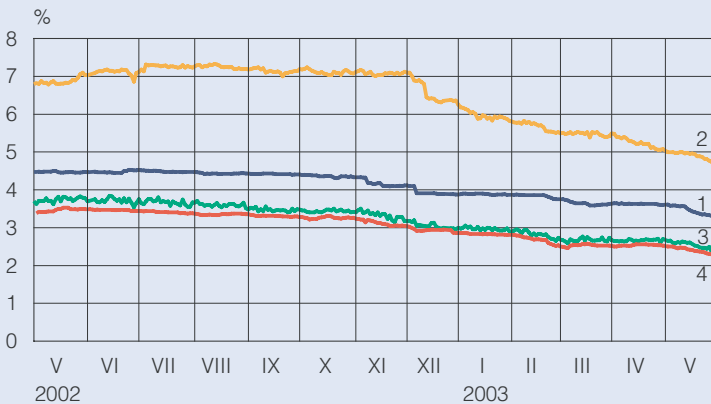


Interbank rates

1. United States
2. United Kingdom
3. Japan
4. Euro area

Source: Reuters.

### 12. Three-month interest rates in the Nordic countries, daily values

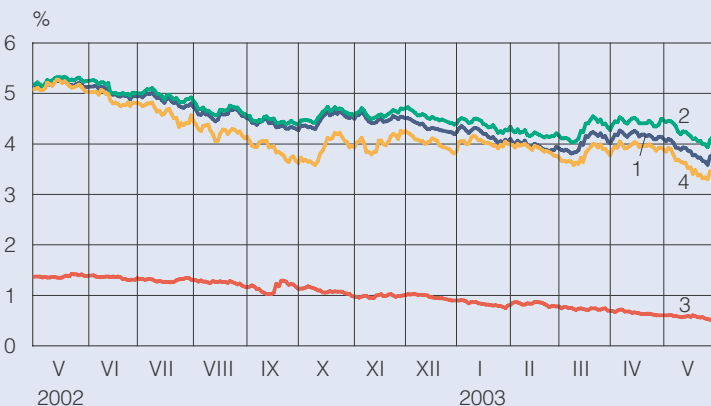


Interbank rates

1. Sweden (Stibor)
2. Norway
3. Denmark
4. Finland (Euribor)

Source: Reuters.

### 13. International long-term interest rates, daily values

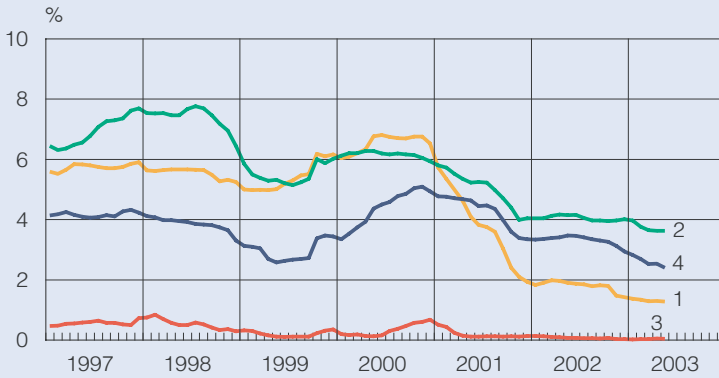


Yields on ten-year government bonds

1. Germany
2. United Kingdom
3. Japan
4. United States

Source: Reuters.

### 14. International three-month interest rates, monthly values

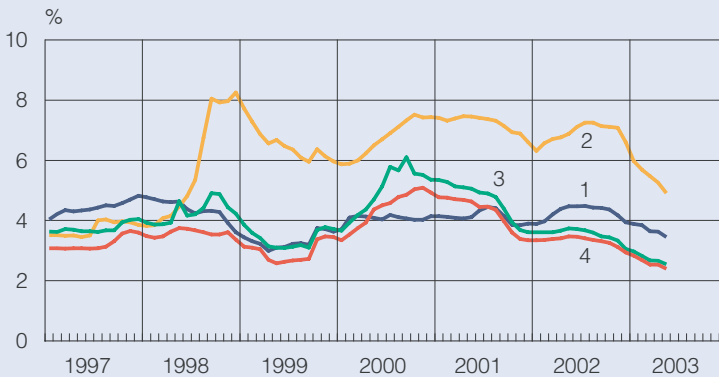


Interbank rates

1. United States
2. United Kingdom
3. Japan
4. Euro area

Source: Reuters.

### 15. Three-month interest rates in the Nordic countries, monthly values

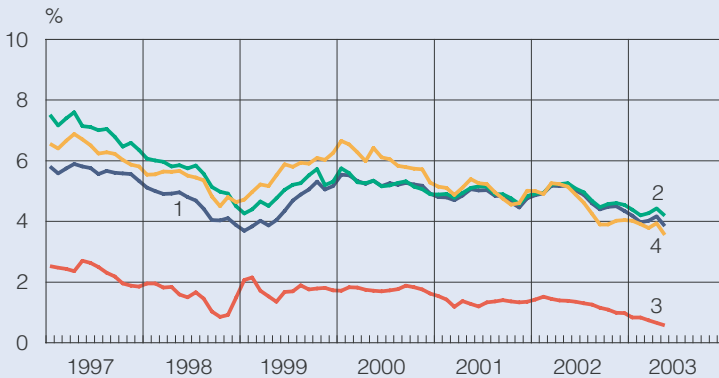


Interbank rates

1. Sweden (Stibor)
2. Norway
3. Denmark
4. Finland (Euribor; Helibor until end-1998)

Source: Reuters.

### 16. International long-term interest rates, monthly values

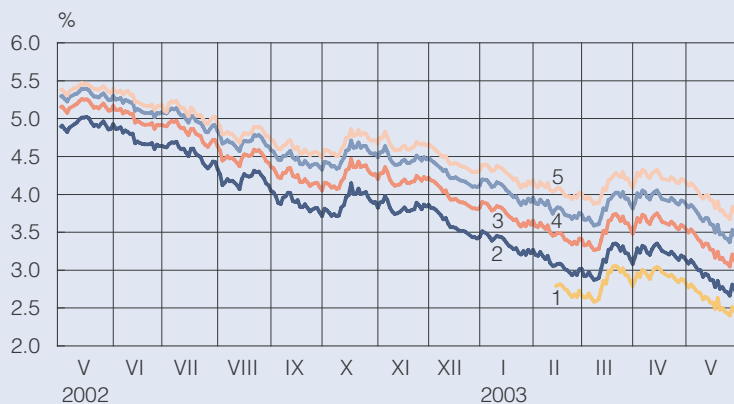


Yields on ten-year government bonds

1. Germany
2. United Kingdom
3. Japan
4. United States

Source: Reuters.

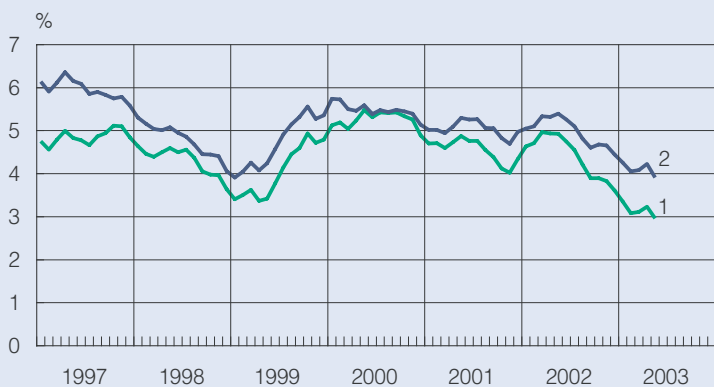
## 17. Yields on Finnish benchmark government bonds



1. Bond maturing on 4 July 2006, 2.75%
2. Bond maturing on 4 July 2007, 5%
3. Bond maturing on 25 April 2009, 5%
4. Bond maturing on 23 February 2011, 5.75%
5. Bond maturing on 4 July 2013, 5.375%

Source: Reuters.

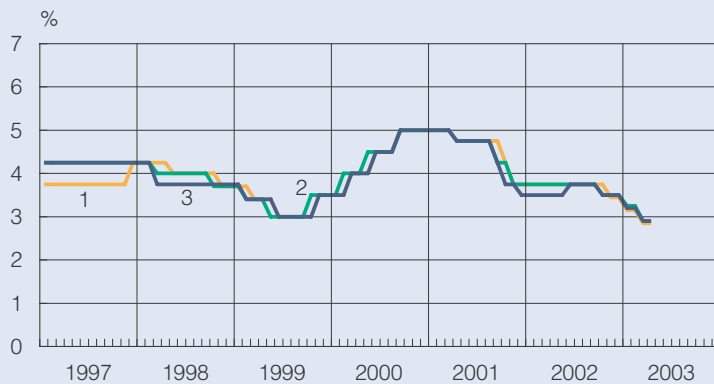
## 18. Yields on five and ten-year Finnish government bonds



1. 5 years
2. 10 years

Source: Reuters.

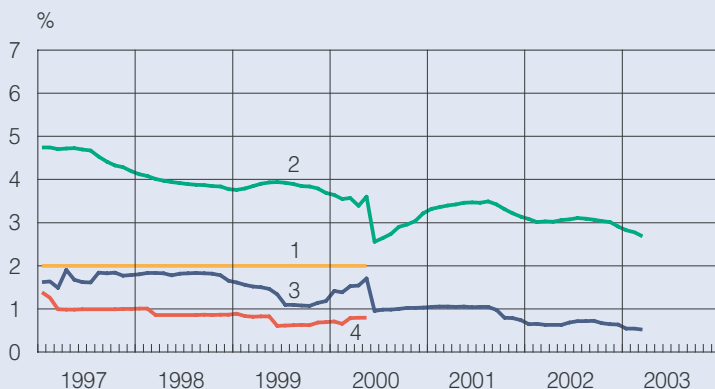
## 19. Bank reference rates in Finland



1. Nordea prime
2. Sampo prime
3. OKOBANK group prime

Source: Banks.

## 20. Bank deposit rates in Finland

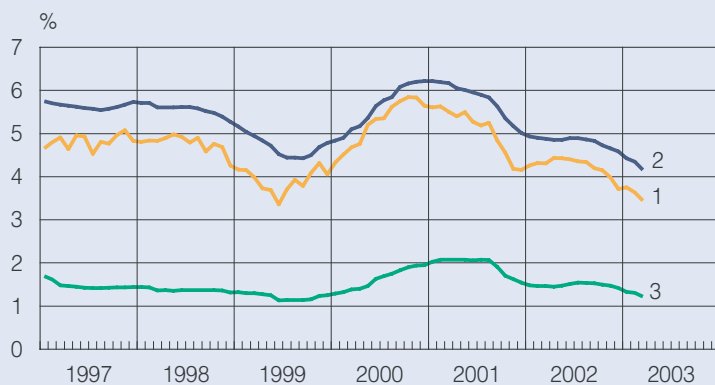


The tax treatment of deposits changed on 1 June 2000.

1. Rate on tax-exempt transaction accounts (upper limit)
2. Average rate on fixed-term deposits subject to withholding tax
3. Average rate on cheque and transaction accounts subject to withholding tax
4. Average rate on tax-exempt cheque and transaction accounts

Source: Bank of Finland.

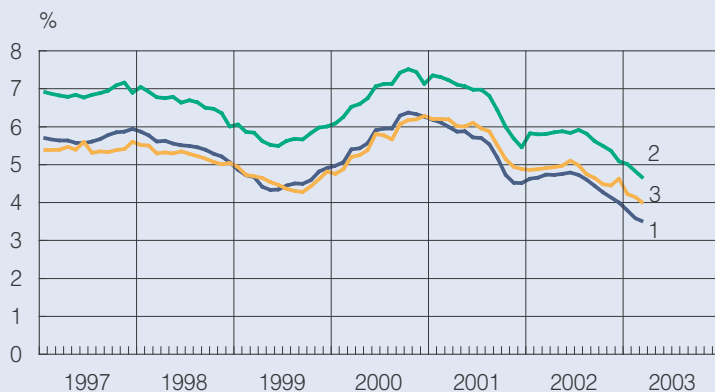
## 21. Bank lending and deposit rates in Finland



1. Rate on new lending
2. Average lending rate
3. Average deposit rate

Source: Bank of Finland.

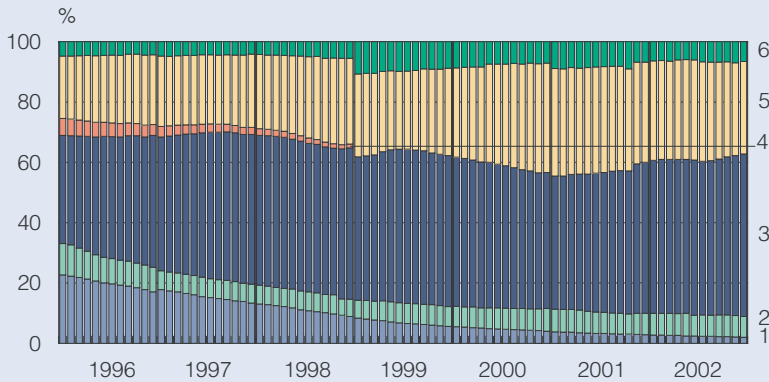
## 22. Interest rates charged by Finnish banks on new lending to households



1. New housing loans
2. New consumer credits
3. New study loans

Source: Bank of Finland.

### 23. Stock of bank lending in Finland

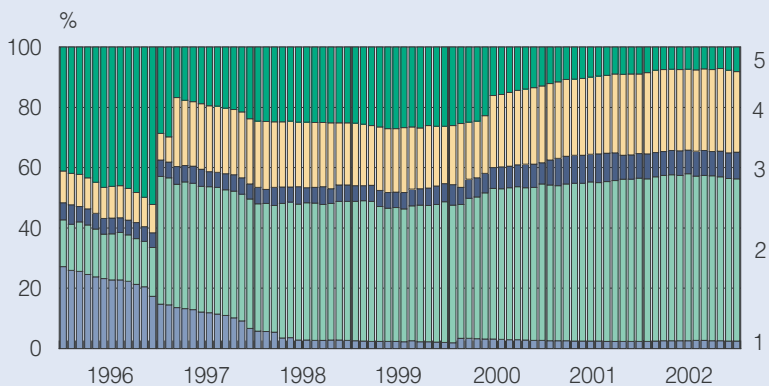


Interest rate linkages, percentages

1. Other
2. Fixed-rate
3. Linked to reference rates of individual banks (prime rates etc)
4. Linked to 3 and 5-year reference rates
5. Linked to Euribor (Helibor until end-1998)
6. Linked to base rate

Source: Bank of Finland.

### 24. Stock of bank deposits in Finland by interest rate linkage

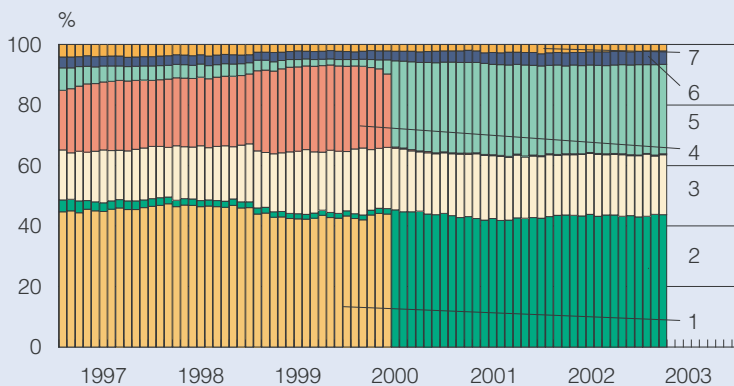


Interest rate linkages, percentages

1. Other
2. Fixed-rate
3. Linked to reference rates of individual banks (prime rates etc)
4. Linked to Euribor (Helibor until end-1998)
5. Linked to base rate

Source: Bank of Finland.

### 25. Stock of bank deposits in Finland by tax treatment

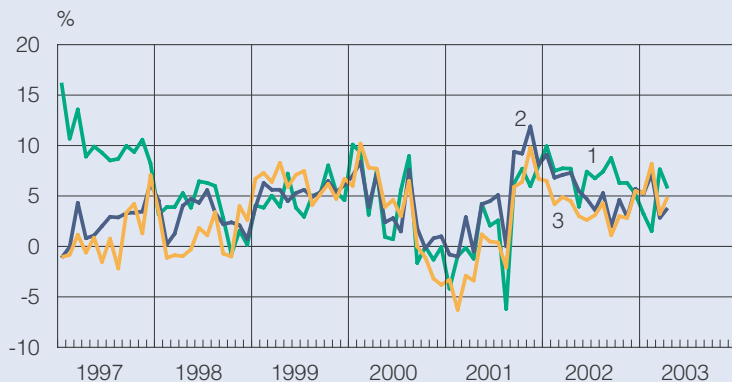


The tax treatment of deposits changed on 1 June 2000.

1. Fixed-term accounts and other accounts subject to withholding tax
2. Tax-exempt fixed-term accounts and other accounts
3. Other taxable cheque and transaction accounts
4. Cheque and transaction accounts subject to withholding tax
5. Tax-exempt cheque and transaction accounts
6. Other taxable accounts
7. Foreign currency accounts

Source: Bank of Finland.

## 26. Liabilities of Finnish monetary financial institutions included in monetary aggregates for the euro area (excl. currency in circulation with the public)

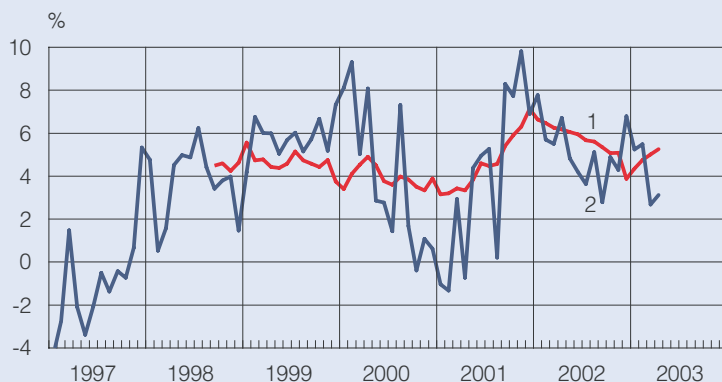


12-month change, %

- 1. M1
- 2. M2
- 3. M3

Source: Bank of Finland.

## 27. MFI deposits, euro area and Finland

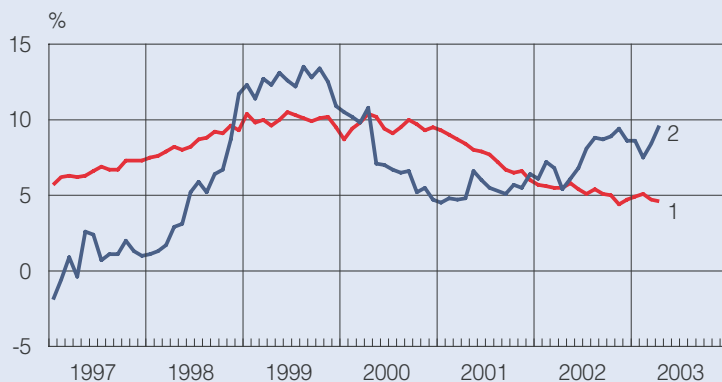


12-month change, %

- 1. Euro area residents' deposits at euro area MFIs
- 2. Finnish residents' deposits at Finnish MFIs

Sources:  
European Central Bank and  
Bank of Finland.

## 28. MFI loans to private sector, euro area and Finland



12-month change, %

- 1. Loans by euro area MFIs to euro area residents
- 2. Loans by Finnish MFIs to Finnish residents

Sources:  
European Central Bank and  
Bank of Finland.

### 29. Euro exchange rates against the US dollar and the yen, daily values

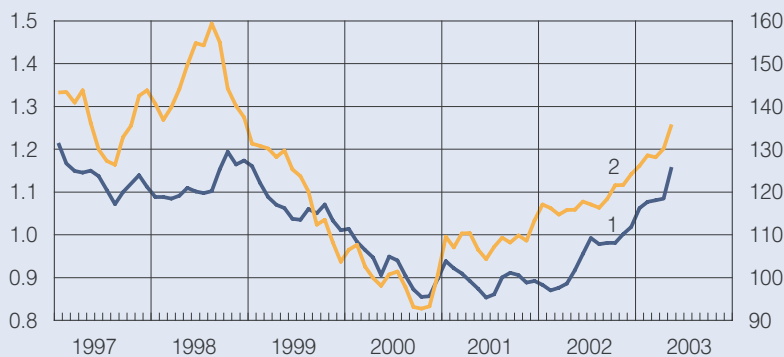


Rising curve indicates appreciation of euro

1. Value of one euro in US dollars (left-hand scale)
2. Value of one euro in Japanese yen (right-hand scale)

Sources: European Central Bank and Reuters.

### 30. Euro exchange rates against the US dollar and the yen, monthly values



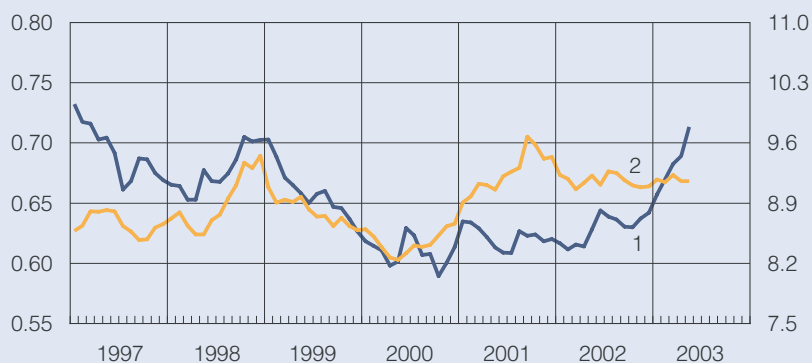
(ecu exchange rate until end-1998)

Rising curve indicates appreciation of euro

1. Value of one euro in US dollars (left-hand scale)
2. Value of one euro in Japanese yen (right-hand scale)

Sources: European Central Bank and Reuters.

### 31. Euro exchange rates against the pound sterling and the Swedish krona



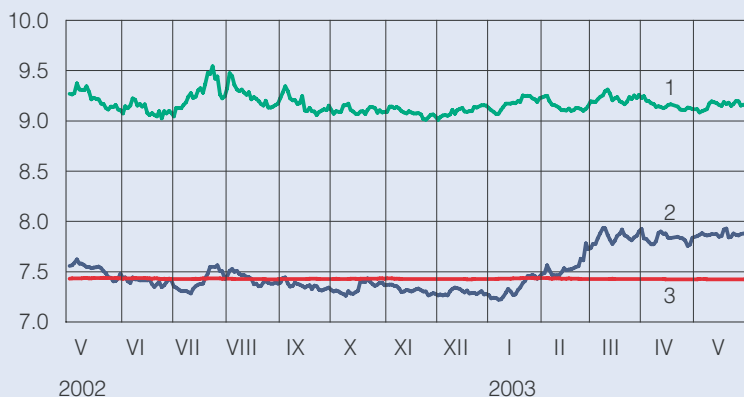
(ecu exchange rate until end-1998)

Rising curve indicates appreciation of euro

1. Value of one euro in pounds sterling (left-hand scale)
2. Value of one euro in Swedish kronor (right-hand scale)

Sources: European Central Bank and Reuters.

### 32. Euro exchange rates against the Scandinavian currencies

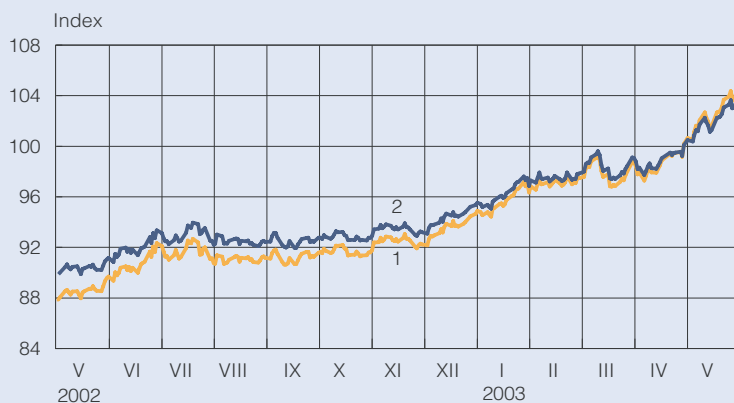


Rising curve indicates appreciation of euro

1. Value of one euro in Swedish kronor
2. Value of one euro in Norwegian kroner
3. Value of one euro in Danish kroner

Sources: European Central Bank and Reuters.

### 33. Euro's external value and Finland's competitiveness indicator



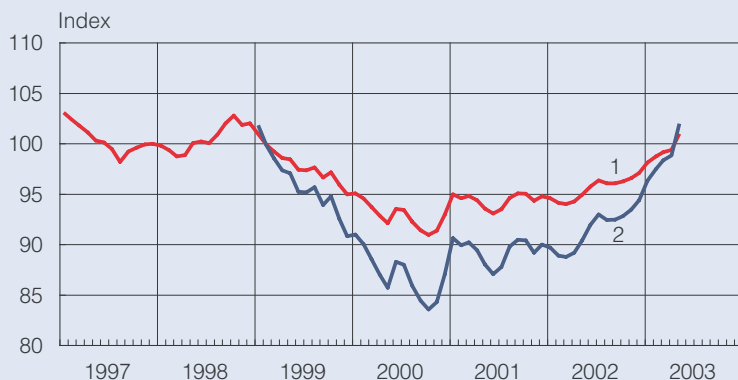
1999 Q1 = 100

An upward movement of the index represents an appreciation of the euro / a weakening in Finnish competitiveness

1. Euro's effective exchange rate
2. Finland's narrow competitiveness indicator

Sources: European Central Bank and Bank of Finland.

### 34. Competitiveness indicators for Finland



1999 Q1 = 100

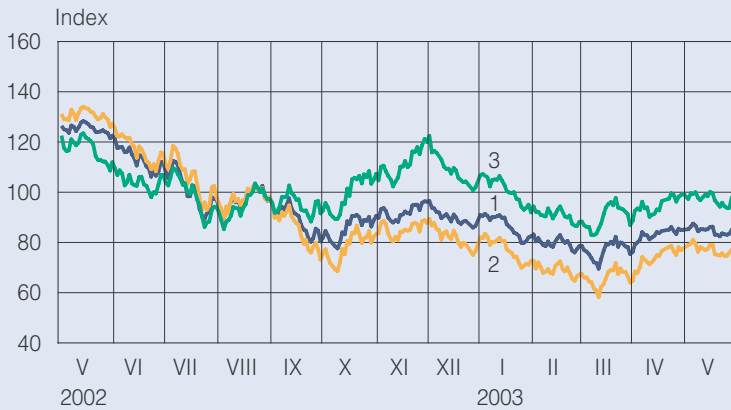
An upward movement of the index represents a weakening in Finnish competitiveness

1. Narrow plus euro area competitiveness indicator
2. Narrow competitiveness index

Source: Bank of Finland.



### 35. Selected stock price indices in the euro area, daily values

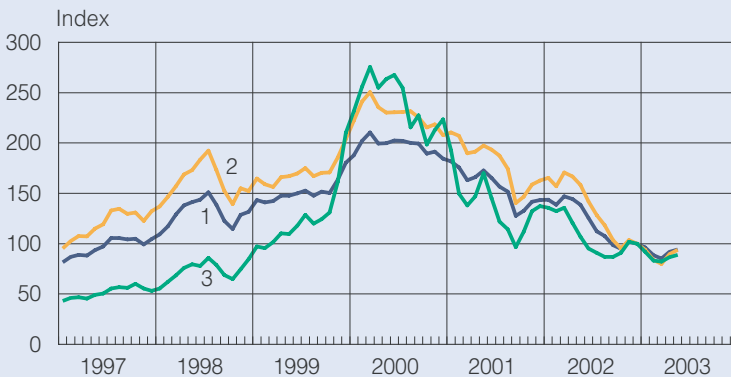


26 August 2002 = 100

1. Euro area:  
Dow Jones Euro Stoxx index
2. Germany: DAX index
3. Finland: HEX all-share index

Sources: Bloomberg and  
HEX Helsinki Exchanges.

### 36. Selected stock price indices in the euro area, monthly values

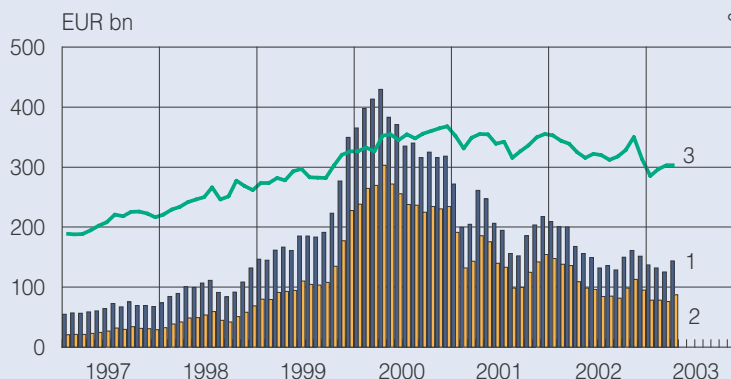


31 December 2002 = 100

1. Total euro area:  
Dow Jones Euro Stoxx index
2. Germany: DAX index
3. Finland: HEX all-share index

Sources: Bloomberg and  
HEX Helsinki Exchanges.

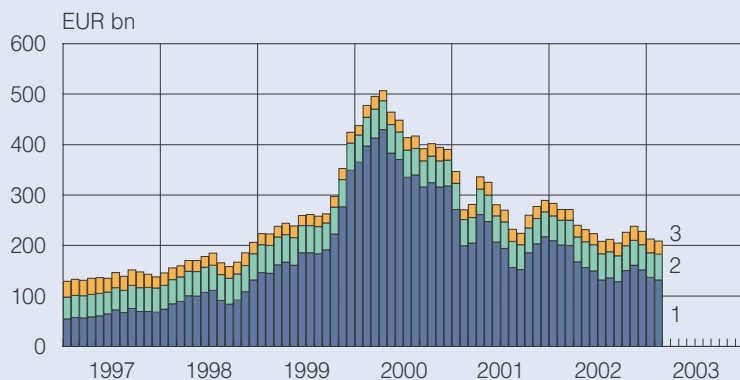
### 37. Listed shares in Finland: total market capitalisation and non-residents' holdings



1. Market capitalisation of all listed shares (left-hand scale)
2. Market capitalisation of non-residents' holdings (left-hand scale)
3. Market capitalisation of non-residents' holdings as a percentage of total market capitalisation (right-hand scale)

Sources: HEX Helsinki Exchanges and Finnish Central Securities Depository (APK).

### 38. Securities issued in Finland

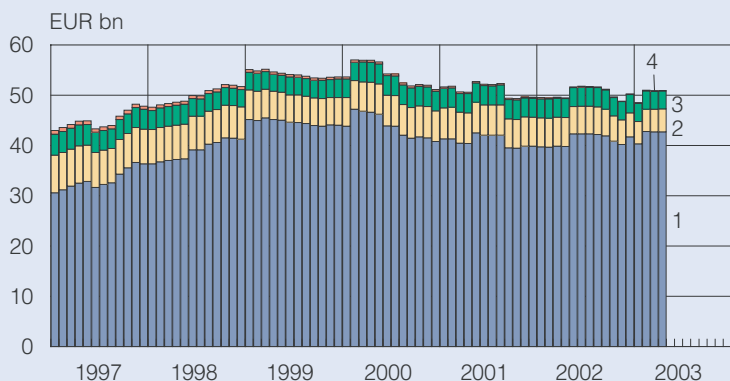


End-month stock

1. Market capitalisation of shares
2. Stock of bonds, nominal value
3. Outstanding money market instruments

Sources:  
HEX Helsinki Exchanges,  
Bank of Finland,  
Statistics Finland and  
State Treasury.

### 39. Bonds issued in Finland

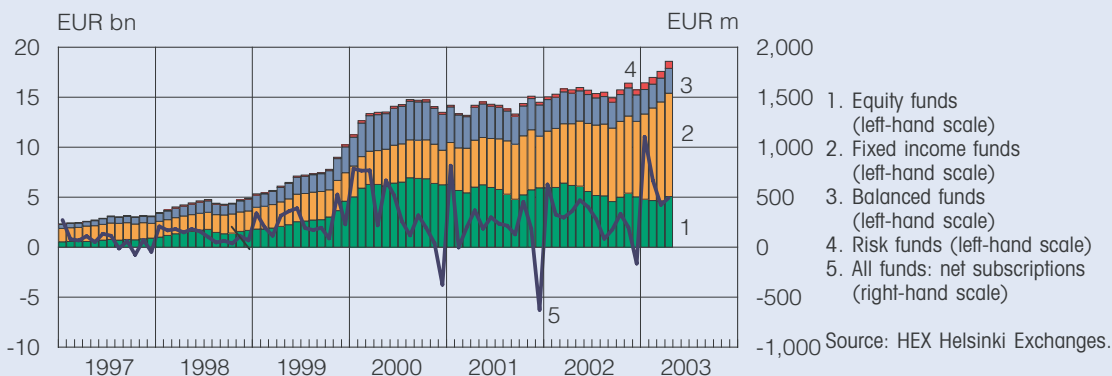


End-month stock

1. Central government
2. Financial institutions
3. Companies
4. Other

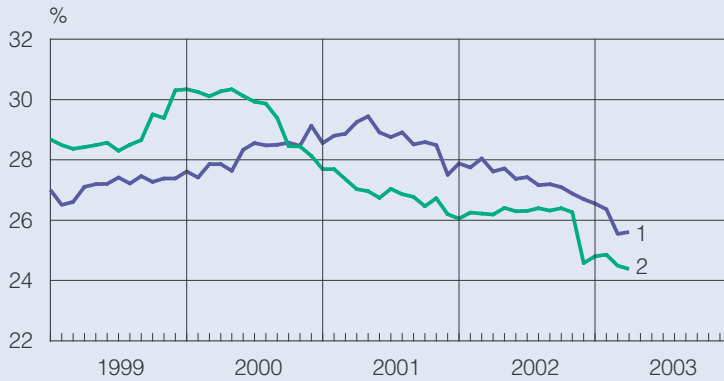
Source: Statistics Finland.

### 40. Mutual funds registered in Finland



Source: HEX Helsinki Exchanges.

### 41. Central government revenue and expenditure in Finland

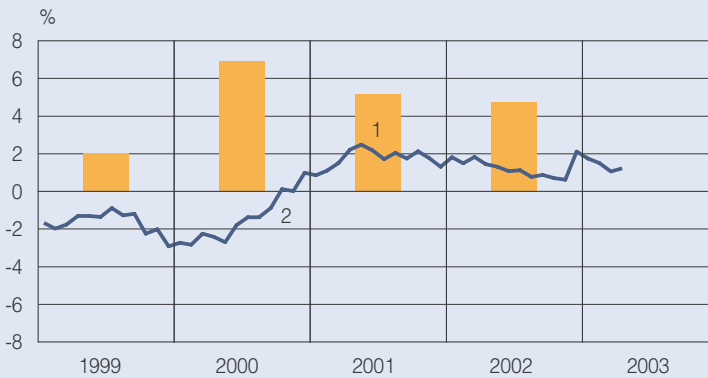


Excluding financial investments  
12-month moving totals, % of GDP

1. Revenue
2. Expenditure

Sources: State Treasury,  
Statistics Finland and  
Bank of Finland.

### 42. Public sector balances in Finland

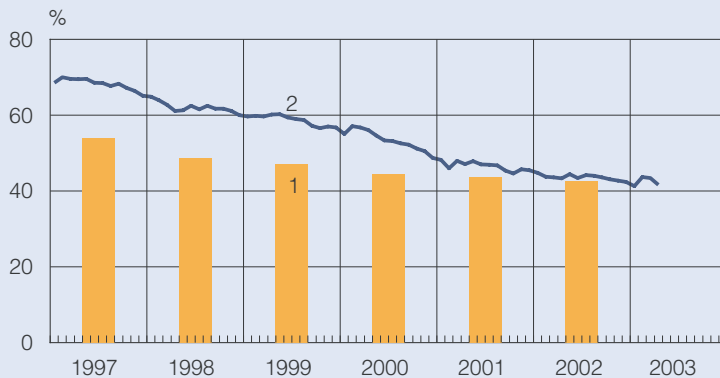


% of GDP

1. General government fiscal position
2. Central government revenue surplus, 12-month moving total

Sources: State Treasury,  
Statistics Finland and  
Bank of Finland.

### 43. Public debt in Finland

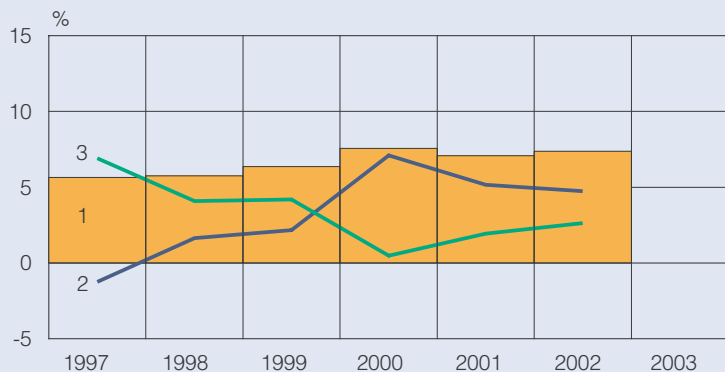


% of GDP

1. General government debt
2. Central government debt

Sources: Statistics Finland and  
State Treasury.

#### 44. Net lending in Finland by sector

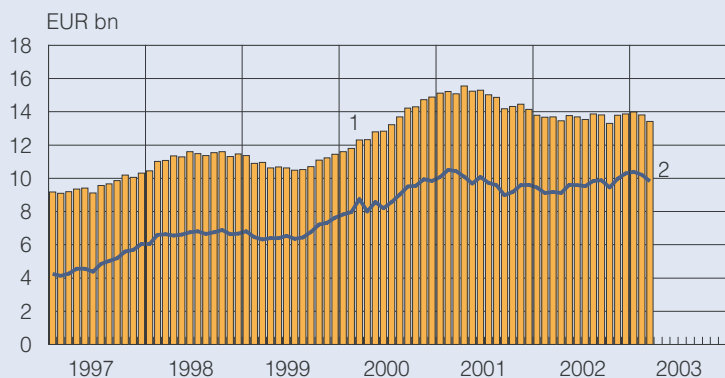


Main sectoral financial balances, % of GDP

1. Current account
2. General government sector
3. Private sector

Sources: Bank of Finland and Statistics Finland.

#### 45. Finland: goods account and current account

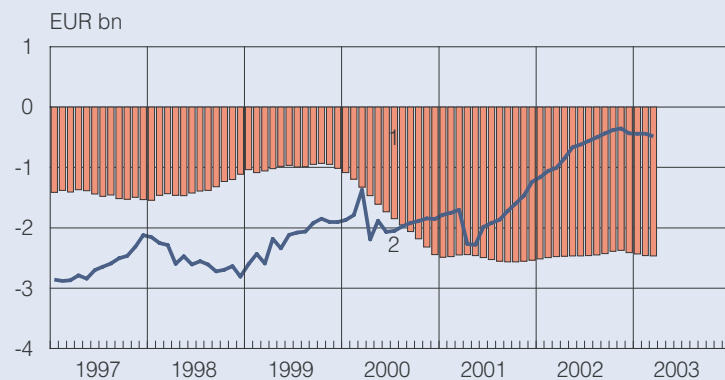


12-month moving totals

1. Goods account, fob
2. Current account

Source: Bank of Finland.

#### 46. Finland: services account and income account

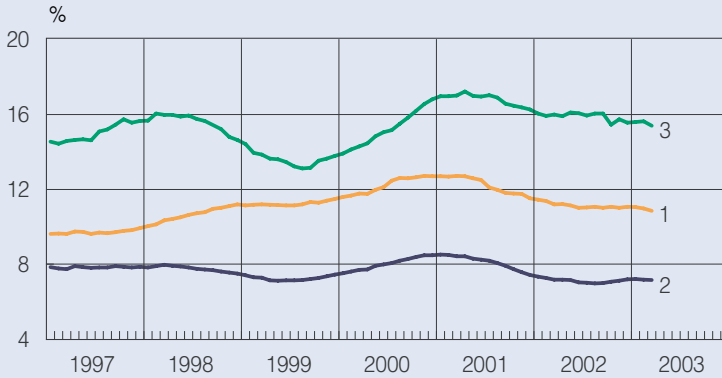


12-month moving totals

1. Services account (trade in goods, fob)
2. Income account

Source: Bank of Finland.

#### 47. Regional distribution of Finnish exports

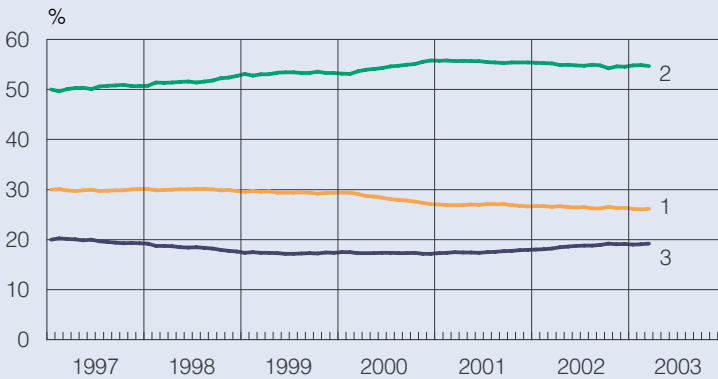


12-month moving totals,  
% of GDP

1. Euro area
2. Other EU member states
3. Rest of world

Sources:  
National Board of Customs  
and Statistics Finland.

#### 48. Finnish exports by industry

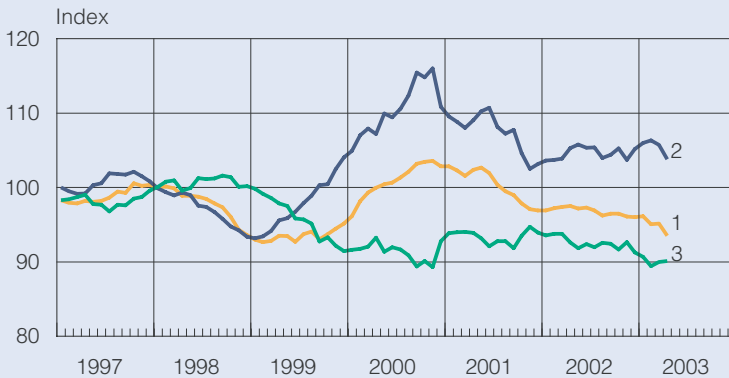


12-month moving totals,  
percentage of total exports

1. Forest industries
2. Metal and engineering  
industries (incl. electronics)
3. Other industry

Source:  
National Board of Customs.

#### 49. Finland's foreign trade: export prices, import prices and terms of trade

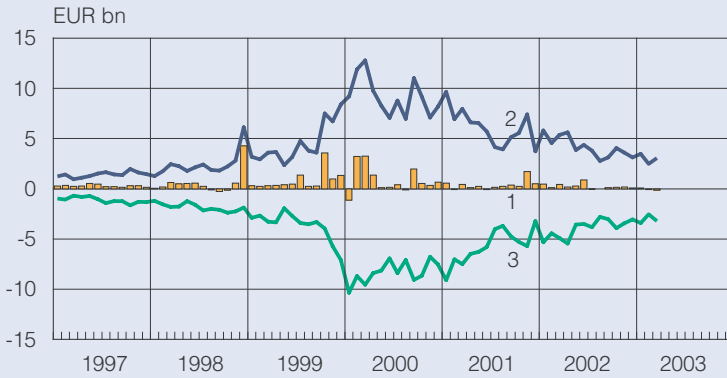


1995 = 100

1. Export prices
2. Import prices
3. Terms of trade

Source: Statistics Finland.

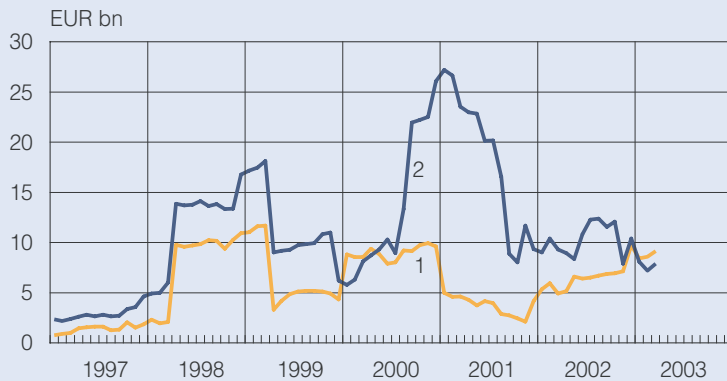
## 50. Non-residents' portfolio investment in Finnish shares



1. Net sales
2. Sales to non-residents
3. Repurchases from non-residents

Source: Bank of Finland.

## 51. Finland: direct investment

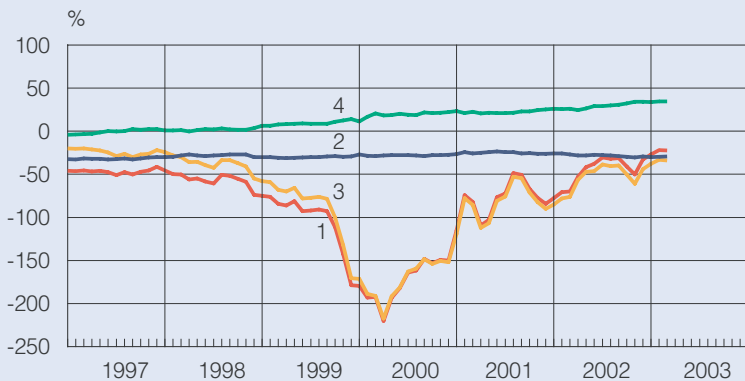


12-month moving totals

1. In Finland
2. Abroad

Source: Bank of Finland.

## 52. Finland's net international investment position

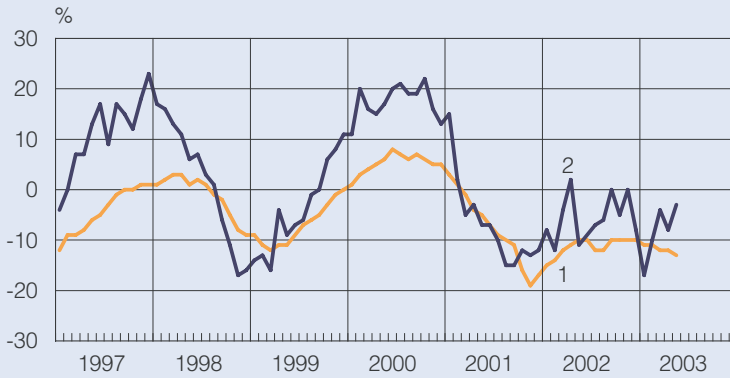


% of GDP

1. Net international investment position
2. Net international investment position of central government
3. Listed shares
4. Other items (excl. reserve assets)

Sources: Bank of Finland and Statistics Finland.

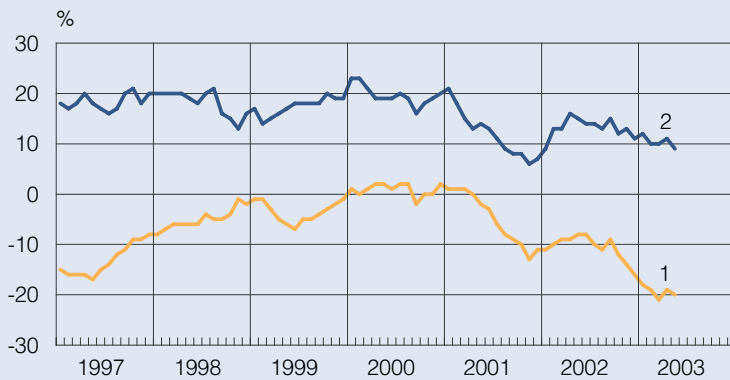
### 53. Industrial confidence indicator in the euro area and Finland



- 1. Euro area
- 2. Finland

Source: European Commission.

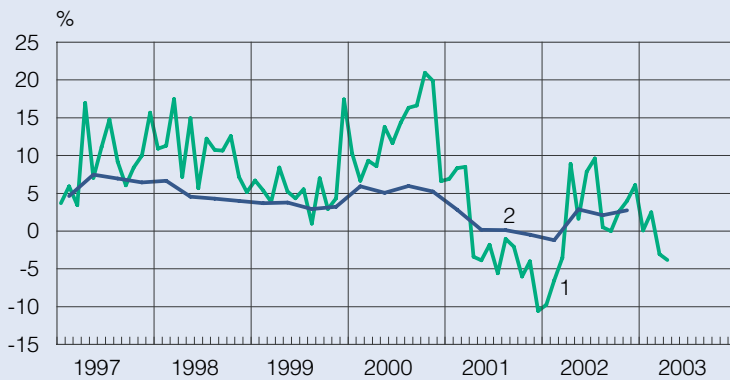
### 54. Consumer confidence indicator in the euro area and Finland



- 1. Euro area
- 2. Finland

Source: European Commission.

### 55. Finland: GDP and industrial production

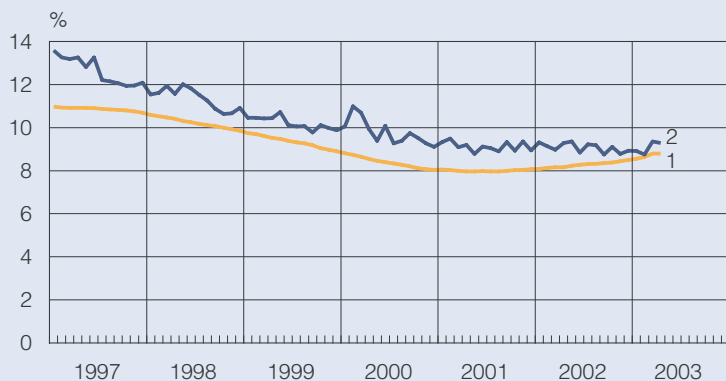


Percentage change from previous year

- 1. Industrial production
- 2. Gross domestic product

Source: Statistics Finland.

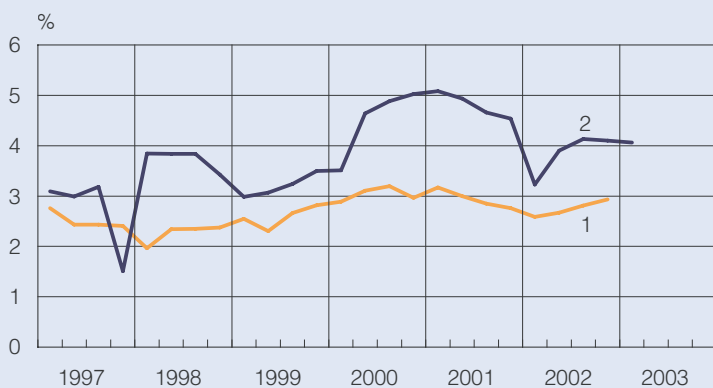
## 56. Unemployment rate in the euro area and Finland



- 1. Euro area
- 2. Finland

Sources: Eurostat, Statistics Finland and Bank of Finland.

## 57. Level of industrial earnings in the euro area and Finland

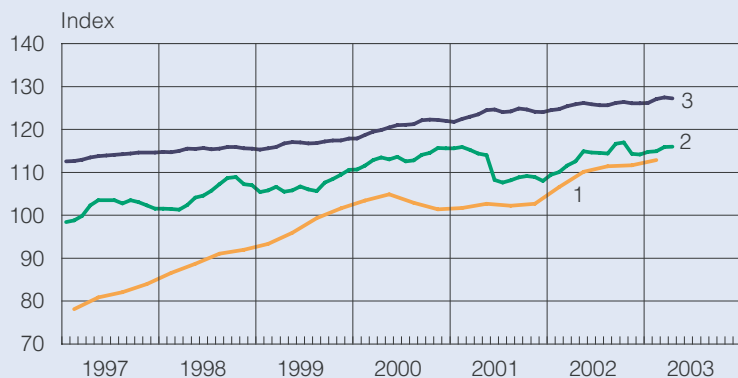


Percentage change from previous year

- 1. Euro area
- 2. Finland

Sources: Eurostat and Statistics Finland.

## 58. Selected asset prices in Finland



January 1990 = 100

- 1. Housing prices (secondary market; debt-free price per m<sup>2</sup>)
- 2. Stumpage prices
- 3. Consumer prices

Sources: Finnish Forest Research Institute, Statistics Finland and National Board of Customs.



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# Organisation of the Bank of Finland

16 May 2003

## Parliamentary Supervisory Council

**Olavi Ala-Nissilä, Chairman, Eero Heinäluoma, Vice Chairman, Ilkka Kanerva,  
Arja Alho, Janina Andersson, Sirkka-Liisa Anttila, Mari Kiviniemi,  
Martti Korhonen and Ben Zyskowicz**

Anton Mäkelä, Secretary to the Parliamentary Supervisory Council

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Governor

**Matti Louekoski**  
Deputy Governor

**Sinikka Salo**  
Member of the Board

**Pentti Hakkarainen**  
Member of the Board

Heikki T. Hämäläinen, Secretary to the Board

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Financial Markets  
Harry Leinonen\*

**Juha Tarkka**  
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David Mayes\*

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**Veli-Matti Lumiala**  
Security

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**Pekka Sutela**  
Institute for  
Economies in Transition

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\* Adviser to the Board

Branch offices: Kuopio, Oulu, Tampere and Turku.

The Financial Supervision Authority functions as an independent body in connection with the Bank of Finland; the Director General is Kaarlo Jännäri.

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