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# BANK OF FINLAND

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# BULLETIN

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2003 • Vol. 77 No. 3



- The Bank of Finland's macroeconomic forecast 2003–2005
  - Is Finland's current account surplus here to stay?
  - Competition and regulation in European retail payment systems
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## The Bank of Finland's macroeconomic forecast 2003–2005

Since the spring there has been a general downward revision of the estimates for growth in Finnish gross domestic product in 2003. There has not, however, been any significant change in the factors seen as influencing growth.<sup>1</sup> As expected, the early part of the year was marked by weak growth as a sluggish global economy depressed exports and investment. The effects of the extended export recession began to show particularly in the form of the threat of layoffs in manufacturing. In the spring there was a general expectation that the global economy would begin to recover during the summer, and recent indicators suggest this is in fact happening. There are visible signs of growth especially in the United States, and this is expected to also stimulate stronger growth in the euro area. The improved outlook should also be reflected in Finnish growth towards the end of the year. However, the Bank of Finland's forecast for Finnish growth in 2003<sup>2</sup> predicts lower overall growth than in 2002, with an annual GDP growth estimate of 1.3% (Chart 1, Table 1).

Finnish GDP growth for 2004 and 2005 is estimated to reach almost 3%. Growth in these years will be broadly based, with improved export performance, an upturn in investment activity and a continued stable rise in household consumption. Finland's growth prospects are, however, linked to developments in the world economy (Box 1) and short-term fluctuations in the information and communications technology sector.

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<sup>1</sup> The revised estimates for GDP growth in 2001 and 2002 are considerably higher than the advance estimates. The estimate for 2001 has doubled from 0.6% to 1.2%. Latest statistics for 2002 indicate growth of 2.2%, or 0.6 percentage points higher than previously estimated. The latter figure could still change when Statistics Finland revises its estimate.

<sup>2</sup> The figures in the forecast are based on information available on 8 September 2003.

Despite accelerating growth, Finland's unemployment rate will fall only slowly. A larger than expected rise in real wages in the private sector will limit the demand for labour. Rapidly rising wage costs combined with lacklustre growth in productivity will also reduce the ability of local government to take on more staff. There has been a slower-than-expected rise in the employment rate, which is expected to remain below 68% throughout the forecast period. There have so far been no structural reforms to the labour market that could improve the employment situation. Finland suffers from a high and persistent level of structural unemployment.

The pace of inflation has slowed more quickly than expected during 2003. As measured by the Harmonised Index of Consumer Prices (HICP), the rate of increase in Finnish consumer prices over the year as a whole is likely to be just 1.4%. The pace of inflation has been slowed by the appreciation of the euro, the moderate trend in import prices and special domestic factors such as the reduction in car tax. In 2004, the inflation picture will also be dominated by temporary factors. The planned reduction in excise duties will result particularly in lower retail prices for alcoholic beverages, and to some extent also in lower prices for restaurant services. The tax cut will be seen in retail prices very quickly. The widening price margins resulting from domestic cost developments and strengthening demand will, however, bring about such an increase in consumer prices in 2005 that inflation will be above 2% by the end of the year.

The view of world economic recovery underpinning this forecast contains within it considerable risk factors. Short-term growth could well be stronger than expected. This applies particularly to developments in the engine of the world economy, the United States, where the indicators suggest growth in the second half of 2003 could be much stronger than previously expected. Even so, the US economy is still subject to

**Table 1. Forecast summary****Demand and supply 2001–2005 (2000 prices)**

	2001	2002	2003f	2004f	2005f
<b>%-change on year earlier</b>					
Gross domestic product	1.2	2.2	1.3	2.9	2.8
Imports	0.2	1.3	0.9	6.1	6.4
Exports	-0.8	4.9	1.4	6.3	5.8
Private consumption	2.0	1.5	3.4	2.1	2.4
Public consumption	2.2	4.0	1.4	1.6	1.6
Private fixed investment	3.7	-5.9	-2.9	5.9	5.7
Public investment	8.1	8.0	-3.9	-5.5	-2.3
Inventory change + stat discrepancy, % of year-earlier total demand	-0.5	-0.2	-0.3	0.0	0.0
Total demand	1.0	2.0	1.2	3.7	3.7
Final domestic demand	1.8	0.6	1.1	2.4	2.7

**Key economic indicators**

	2001	2002	2003f	2004f	2005f
<b>%-change</b>					
Harmonised index of consumer prices	2.7	2.0	1.4	1.0	1.8
Consumer price index	2.6	1.6	1.1	1.0	1.9
Wage and salary earnings	4.5	3.5	3.9	3.7	4.1
Labour productivity	0.7	2.3	1.2	2.3	2.6
Unit labour costs	5.2	0.7	2.3	2.0	2.0
Number of employed	1.4	0.2	-0.3	0.2	0.6
Employment rate, 15–64 year-olds, %	67.7	67.7	67.3	67.4	67.7
Unemployment rate, %	9.1	9.1	9.3	9.2	9.0
Export prices of goods and services	-2.5	-4.7	-2.8	-0.5	0.7
Terms of trade	0.5	-2.5	-4.9	-1.1	-0.6

**% of GDP, national accounts**

Ratio of taxes to GDP	45.7	45.8	44.9	44.4	44.5
General government net lending	5.2	4.2	2.4	2.1	2.4
General government debt (EMU definition)	44.0	42.7	45.2	45.0	44.3
Goods account	10.5	9.9	8.6	8.4	8.2
Current account	7.2	7.6	5.8	5.9	6.1
Avg interest rate on deposit banks' new loans, %	5.1	4.2	3.5	4.0	4.7

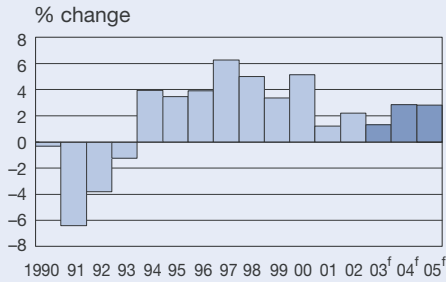
f = forecast

Sources: Statistics Finland and Bank of Finland.

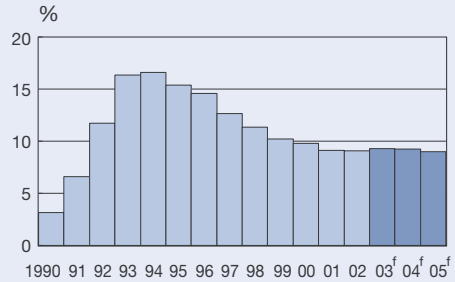
**Chart 1.**

**Key economic indicators**

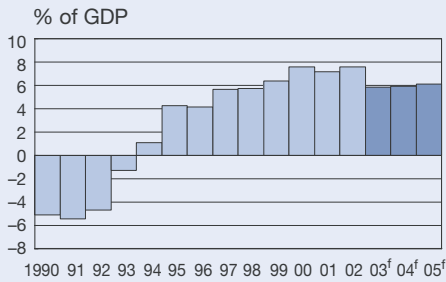
**Gross domestic product**



**Unemployment rate**

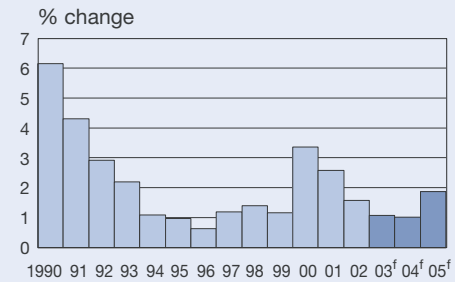


**Current account**

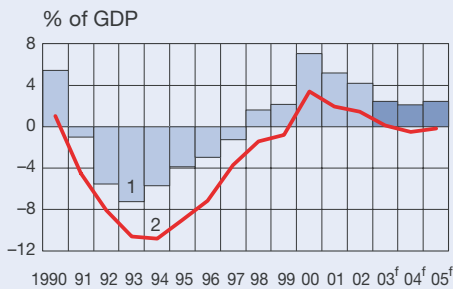


**Inflation**

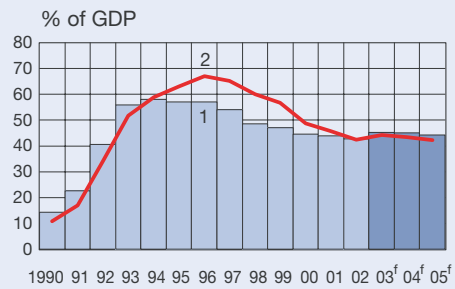
**Consumer price index**



**General government fiscal position (EMU definition)**



**General government debt (EMU definition)**



- 1. General government
  - 2. Central government
- f = forecast

Sources: Statistics Finland and Bank of Finland.

## Box 1. Forecast assumptions

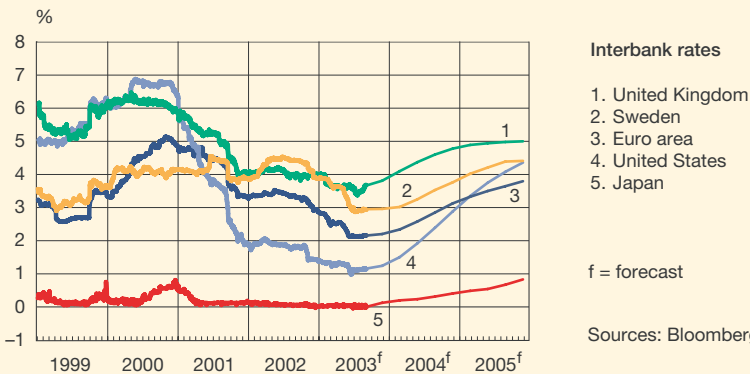
### International trade and import prices

With the relaxation of the tensions surrounding the war in Iraq and the SARS epidemic, world economic growth looks set to return to normal in the latter half of 2003. Growth will pick up first in the United States, but the global recovery will also stimulate growth in the euro area. Asian growth will also return close to its previous level. Growth in Finland's export markets is expected to pick up from just over 3% this year to a good 5% in 2004, and almost 7% the following year.

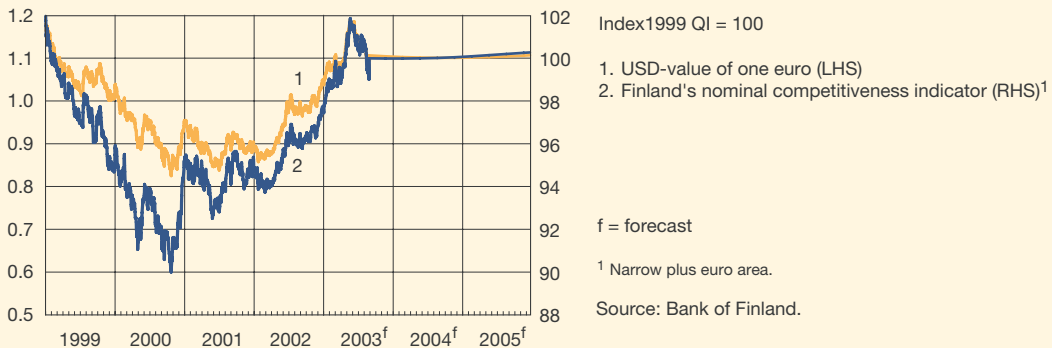
The euro-denominated export prices of Finland's trading partners will come down this year by an average of around 5.5%. The fall in prices is expected to end already this autumn, but the structure of world economic growth should give price

rises around a moderate 0.5% in 2004 and a good 1.5% the following year. Calculations also indicate that the decline in commodity prices (raw materials for manufacturing industry, excluding energy) already came to an end during the summer. The recovery of growth will see the pace of commodity price rises temporarily reach 6% next year, to fall back to under 3% in 2005. The price of a barrel of oil has over the summer risen gradually to just under 30 dollars, as the hopes for a rapid recovery in Iraqi oil output have faded. The price of oil is, however, expected to fall back to 25 dollars by the end of 2004 as the supply increases, and to remain at this level until the end of the forecast period. In accordance with these background assumptions, the prices of goods imports to Finland are expected to rise by approximately 1% in 2003.

**Chart A.**  
3-month interest rates and market expectations: selected currencies



**Chart B.**  
Expected exchange rates



**Table. Forecast assumptions**

	2001	2002	2003f	2004f	2005f
Import volume in Finnish export markets, % change	1.5	1.7	3.7	5.3	6.9
Finnish import prices, % change	-2.8	-2.9	2.5	0.3	1.3
Oil price, USD per barrel	24.4	25.0	28.9	26.1	25.0
Import prices in Finnish export markets, % change	-0.8	-2.3	-5.4	0.6	1.8
3-month EURIBOR, %	4.3	3.4	2.5	3.2	3.8
Yield on taxable 4–5 year government bonds, %	4.5	4.4	3.4	3.9	4.3
Finland's nominal competitiveness indicator <sup>1</sup>	94.4	95.5	99.8	100.0	100.2
US dollar-value of one euro	0.90	0.94	1.10	1.10	1.10

<sup>1</sup> Narrow plus euro area, 1999 Q1 = 100

f = forecast

Sources: Bank of Finland and Statistics Finland.

This rising trend will almost even out in 2004, to pick up again to just under 1.5% in 2005.

### Interest and exchange rate expectations derived from market expectations

Interest rate and exchange rate expectations are derived from market expectations on 29 August 2003. Thus the underlying assumption is purely technical and so does not reflect a view on the interest rate policy of the ECB Governing Council nor entail an estimate of the equilibrium exchange rate. Expectations are calculated from publicly quoted interest rate futures.<sup>1</sup> Market participants believe the decline in short-term interest rates has ended. They expect rates to rise gradually from

around the turn of the year and to reach just under 4% by the end of 2005 (Chart A). Correspondingly, the external value of the euro should remain in the range of USD 1.10 – 1.12. Finland's nominal competitiveness indicator is expected to remain steady during the forecast period (Chart B).

<sup>1</sup> An interest rate future is a standardised money market instrument that enables immediate fixing of the interest rate on a debt instrument that is due at a future date. Assumptions on long-term interest rates are based on an estimated yield curve as at 29 August 2003. (For the procedure see Seppälä–Viertiö: The Term Structure of Interest Rates: Estimation and Interpretations. Bank of Finland Discussion Papers 19/1996.)

long-term imbalances that could still retighten their grip, causing a further slowing of growth towards the end of the forecast period. Another factor posing a risk of weaker-than-forecast growth in the near future is a possible delay in the expected recovery of growth in the euro area, as factors such as the substantial increase in budget deficits have brought greater uncertainty in euro area countries.

Short-term inflation risks in Finland relate to weaker-than-expected inflation. Wage drift in the immediate future could be lower than expected, as decelerating inflation has meant a rise in real earnings. Moreover, the tax changes timed for early 2004 could result in an even slower rate of inflation than that forecast. There is a risk of higher-than-expected

inflation in the event of faster-than-expected growth in the world economy resulting in a possible increase in inflation expectations. Moreover, it has been assumed the moderate wages development of recent years will continue to the end of the forecast period. In the expected context of accelerating growth at that time, the increase in contractual wages and wage drift could both be larger than expected.

Finland's general government and central government finances have both remained relatively stable, despite fading growth and the lack of exceptional tax revenues resulting from rising share prices. This stability has been supported by the restrained growth in central government expenditure compared with the rest of the economy. The general government finan-

cial surplus will contract during the period covered by the forecast horizon, and central government finances will go into deficit in 2004. At the same time, the situation in local government is beginning to give cause for concern. The local government structural funding deficit appears to be growing already, even before the expected growth in expenditure on healthcare and other forms of care begins to place a serious strain on local government finances towards the end of the present decade. Before this happens, local government must take steps to achieve greater efficiency in the provision of services. Even so, the public finances as a whole will remain in surplus as a result of the surplus in the employment pension funds.

This basic scenario is, however, overshadowed by numerous risks. The impact of international tax competition on the tax base and tax revenues is hard to estimate. Value-added tax, various product taxes and especially corporation tax are, however, all vulnerable to tax competition. EU enlargement could draw production and consumption towards countries with lower tax levels, eroding the tax base more than expected.

In such a period of relatively weak growth, the stringent spending policy for the next few years set by the Government is absolutely essential if general government debt is to be reduced once more. Another reason why expenditure will have to be adapted to a much tighter spending framework is the pressure to continue cutting taxes, both to boost employment and support growth, but also in response to the challenges of international tax competition.

Of fundamental importance to the funding base for general government are the future labour market choices of those members of the labour force now approaching retirement age. By the end of the forecast period we will already be in a situation in which the age cohorts leaving working life will be larger than those entering it. If the employment rate among those approaching retirement age does not rise, the size of the labour force will begin at this point to contract rapidly.

Vitally important to the achievement of the Government's employment target are structural reforms to raise the employment rate. In order to create a hundred thousand new jobs over its four-year term and further raise the employment rate thereafter, the Government will need to reassess the tax and social benefits systems and the regulation and operating principles of the labour market. If this proves unsuccessful,

the declining employment rate caused by the ageing of the population will erode the funding base of the public finances, and the ability to maintain the present welfare state model into the future will be decisively weakened.

## Exports past the worst

Export prices have fallen considerably since the end of 2002. The most dramatic fall has been in information and communications technology, where rapidly rising productivity has been depressing prices for several years. Despite the fact that prices in the sector have not fallen any further during the summer months, the downward trend is expected to continue at an annual rate of approximately 5% throughout the forecast period. Meanwhile, the prolonged market slump in the forest industries has led to a situation where attempts to bolster prices by restricting output are no longer sustainable. The downward trend in export prices in the forest industries sector has actually steepened recently, although it is expected to come to a halt as a result of the recovery in the world economy. The same is also expected for the rest of the export sector. However, information and communications technology accounts for such a large share of overall exports that export prices as a whole will continue to fall during 2004 and will rise by only around 0.5% per annum in 2005.

The sluggish inflation in the international economy will also be reflected in import prices. The structure of growth will mean above all that the rise in import prices for capital goods will be very sluggish throughout the forecast period. In 2003, sluggish import price inflation has also been affected by the appreciation of the euro. Next year, the expected rise in raw material prices (excluding energy) will be compensated by a fall in the price of oil. The spread of growth through the global economy will lead to a moderate (under 1.5%) rise in import prices in 2005. Falling export prices combined with slowly rising import prices will mean the weakening terms of trade that have been a feature of recent years will continue during the forecast period (Chart 2). The deterioration in the terms of trade has been particularly dramatic in the last three quarters, but export and import price forecasts indicate the pace of deterioration will slow during the forecast period.



Despite the sharp decline in prices, the value of information and communications technology exports this year is estimated to remain more or less at the level of last year. In terms of volume, this represents a considerable increase in the sector's exports. In 2004 and 2005, there will already be a marked increase in the value of electronics exports. Exports will, however, grow more slowly than the value of world trade in the sector, reflecting the fact that sectoral output is growing faster abroad than it is in Finland. Despite the slowing pace of price erosion, there will still be rapid growth in the volume of information and communications technology exports during the forecast period.

The pace of export growth in the forest industries will pick up during 2004, while other exports will not begin to accelerate until 2005. Overall export growth this year will be only around 1.5%, but will rise to 6% annual growth in each of the next two years. Although there will be some loss of market share this year, export growth in 2004 and 2005 will keep pace with the growth in world trade. The country structure of Finland's export markets is expected to change in such a way that the slow recovery of trade within the euro area will be compensated by rapid growth in trade with Russia. Imports will grow approximately 1% in 2003, rising in tandem with export growth to just over 6% per annum in 2004–2005.

The goods account surplus will shrink this year to just over 8% of GDP and remain at this level throughout the forecast period. Finland's net international investment position excluding equity items has already moved into a net asset position. Assets

will continue to grow as a consequence of the current account surplus, which will increase the level of interest and other receipts from abroad. The deficits on the income and current transfers accounts will shrink considerably during the forecast period, while the current account surplus will remain at approximately 6% of GDP.

## Investment slow to recover

Investment activity in Finland remains very sluggish for the second year in a row. Continued weak export demand, overcapacity in some sectors and uncertainty over the recovery in the world economy have induced caution in corporate investments. The low level of investment activity means there is little emergence of new production capacity. Investment in productive capacity has been directed primarily at maintaining existing capacity and at, for instance, the construction of commercial premises. According to the June investment survey (TT, 18 June 2003), expenditure on research and investment was also lower in 2003. Recovery in investment activity in 2003 may also be subdued by the uncertainty surrounding the content of proposed reforms to corporation and capital taxation.

According to the forecast, private sector investment in productive capacity will begin to pick up towards the end of the present year, but over the year as a whole there will still be a reduction of just over 6% on last year. Investment growth will accelerate to

**Chart 2.**  
**Finland's terms of trade**

Index 2000 = 100



f = forecast

Sources: Statistics Finland and Bank of Finland.

around 7% in 2004 and 2005. Investment will recover as uncertainty evaporates and the world economy begins to grow. Interest rates will remain relatively low and thus supportive of investment throughout the forecast period. The GDP share of investment in productive capacity will, however, not go above around 11%, as the acceleration in investment growth will not continue through 2005. In the future, an increasing proportion of this investment will probably be channelled abroad, for instance to Finland's neighbouring areas. Fixed investment in the public sector will contract in every year of the forecast period, primarily due to the tight financial position of the local government sector.

Housing investment has maintained the level of private investment in Finland. For 2003, the growth in housing investment is estimated at just under 6%. Despite rising interest rates, there will only be a slight easing in the pace of growth in the construction industry in 2004 and 2005. Housing construction will benefit from the continuance of strong profitability in the building sector and brisk demand in the housing market.

The rising trend in house prices that began in 2002 has slowed only slightly during the course of 2003. Housing demand continues to be strong. The low level of interest rates has sustained house-buyers' willingness to take on large housing loans. The housing market is not overheated, but there is reason for concern over the future ability of households to service their debts, as interest rates could rise several times before households have repaid their housing loans. The robustness of the housing market reflects house-

holds' confidence in their own finances, although housing demand has also been supported by competition between the banks for household customers and the lengthening of repayment periods. The estimated rise in house prices in 2003 will be just over 5%, slowing to around 3–4% in the next few years. It should be noted that the forecast covers the average prices for old owner-occupied apartments throughout the whole of Finland. In many areas the trend in prices will differ considerably from the average.

## Lacklustre improvement in employment rate

The centralised incomes policy agreement reached in November 2002 is in force until the end of 2004. When the incomes agreements were concluded, the expectation was for considerably higher inflation for 2003 than is actually materialising now and is forecast for next year.<sup>3</sup> For example, in autumn 2002 the Bank of Finland forecast the GDP deflator would grow at almost 2% in 2003 and around 1.5% in 2004. In the present forecast, the pace of growth of the GDP deflator in 2003 will be approximately one percentage point, and next year still approximately half a percentage point slower, although the differences in consumer prices are less. Real wages have thus grown

<sup>3</sup> There was a fear that inflation could take off so rapidly that an index clause was included in the agreements under which an erosion of real wages by consumer price inflation of over 2.7% would be compensated by extra pay increases.

**Table 2. Costs and prices**

	2001	2002	2003f	2004f	2005f
<b>%-change on year earlier</b>					
Wage and salary earnings	4.5	3.5	3.9	3.7	4.1
Labour costs	5.0	2.8	3.6	4.1	4.6
Productivity <sup>1</sup>	0.7	2.3	1.2	2.3	2.6
Unit labour cost	5.2	0.7	2.3	2.0	2.0
Real wages in the private sector <sup>2</sup>	1.4	3.4	3.2	3.1	2.9
Harmonised index of consumer prices	2.7	2.0	1.4	1.0	1.8

<sup>1</sup> Relative to hrs worked.

<sup>2</sup> The average wage in the private sector relative to the cost of private production.

f = forecast

Sources: Statistics Finland and Bank of Finland.

more quickly than expected. In addition to low interest rates, this is presumably one reason why households' confidence in their own finances has remained strong. On the other hand, the sluggish development of producer prices has meant an even larger increase in employers' real labour costs. An increase of this magnitude in real labour costs while other factors remain unchanged can be expected to weaken labour demand by approximately 0.5% this year and 0.25% in 2004 (Table 2).

Real wages<sup>4</sup> are estimated to rise by almost 3.5% in 2003 as a result of incomes agreements and wage drift. At the same time productivity is only expected to rise by just under 1.5%. This is the main reason why the employment rate has fallen by approximately 0.3% in 2003 (Table 3). In 2004, the effect is expected to be milder but in the same direction. In 2004, wage rises in line with the incomes agreements will be 0.6 percentage points smaller than the rise implemented this spring. Real wages are forecast to rise in 2004 by around 3%, while productivity growth will rise to almost 2.5%, thus narrowing the gap between the rise in real wages and productivity growth. On the other hand, the recovery in growth will boost labour demand to such an extent that the employment rate, too, will already rise by 0.2%. Accelerating inflation and reduced unemployment will increase the growth in wage drift to almost 2% by the end of 2005. Productivity growth is also expected to gather pace so that it overtakes growth in real wages and boosts labour demand by around a further 0.5% in 2005.

<sup>4</sup> Average hourly wages relative to the GDP deflator.

Labour supply follows the trend in the employment rate, but less strongly. The supply of labour will remain almost unchanged this year and grow by approximately 0.2% next year. Real wage growth and income tax cuts this year and next year will boost labour supply. Assuming no further cuts in income tax in 2005, the economic recovery will be insufficient to fill the gap, and the growth in the labour supply will then be just 0.4%. The unemployment rate will rise this year to 9.3%, as labour demand contracts more rapidly than supply. In 2004, the unemployment rate will remain almost unchanged. Unemployment will not begin to come down until the final year of the forecast period, ending up at around 9%.

### Positive developments in household income will boost both consumption and savings

Private consumption has sustained growth in Finland in recent years. This has been supported by low interest rates, stable income development and, until the end of last year, the improving employment situation. Taken together, these factors explain why households have remained confident about their own finances. The extended period of slow GDP growth and increasing unemployment have not significantly affected behaviour in the household sector. However, the growth in private consumption slowed to 1.5% in 2002 as real income growth fell to approximately 1% and unemployment began to rise. Consumption is forecast to rise by 3.5% this year in line with a simi-

**Table 3. Employment**

	2001	2002	2003f	2004f	2005f
<b>Change on year earlier, %</b>					
Labour force	0.6	0.2	-0.1	0.2	0.4
Employed	1.4	0.2	-0.3	0.2	0.6
Unemployment rate, %	9.1	9.1	9.3	9.2	9.0
Employment rate, %	67.7	67.7	67.3	67.4	67.7

f = forecast

Sources: Statistics Finland and Bank of Finland.

**Table 4. Household income, demand and savings**

	2001	2002	2003f	2004f	2005f
Disposable real income, % change	1.9	1.0	3.7	3.6	2.4
Private consumption, % change	2.0	1.5	3.4	2.1	2.4
Housing investment, % change	-10.6	2.3	5.6	3.5	3.4
Net savings ratio, %	-0.2	-0.3	-0.1	1.4	1.4
Bank lending, % of disposable income	61.1	64.6	69.8	71.5	72.5

f = forecast

Sources: Statistics Finland and Bank of Finland.

lar rise in households' real disposable income. The slower pace of growth in consumption in 2002 was due in part to decisions on taxation, as the car tax reform subdued retail sales of cars. In 2003, in contrast, there has been vigorous growth in the car trade: by August, sales of private cars had grown by more than 20% on the corresponding period in the previous year. Consumption growth will slow to just over 2% in 2004 and 2005. Consumption growth will be depressed by the slowing of real wage growth to around 2.5% in 2005. Real wage growth will, in turn, be depressed by the slightly higher pace of inflation and the dwindling stimulant effect of income tax cuts.

While real disposable income will rise more rapidly than expected in 2003 and 2004 as a result of lower inflation and tax cuts, the level of savings will also rise (Table 4). The net rate of savings in the household sector (ratio of savings to disposable income) will rise to approximately 1.5% in 2004 and 2005. This represents a relatively large change, as the rate of household savings in 2001 and 2002 was slightly negative. However, household savings have been noticeably higher than this, if pension savings are taken into account (Box 2).

### Continued brisk demand for bank loans

Short-term market interest rates have been extremely low during the early part of 2003. Long-term interest rates, which were exceptionally low in June, have risen slightly, but they are also at an historically low level. Interest-rate expectations began to rise over the

summer, reflecting expectations of a recovery in the world economy. The market expects three-month market rates to rise to 3.8% in 2005, against 2.5% in 2003. Long-term rates are expected to rise over the same period from 3.4 to 4.3%. Real interest rates have also been relatively low, but will rise slightly during the forecast period. The interest-rate expectations used in the forecast have been calculated directly from the yield curve and thus correspond to market expectations.

During the forecast period, the average rate of interest on new loans granted to households is estimated to rise to 4.7% in 2005. This represents an increase of just over one percentage point on 2003. The increase matches the expected change in market rates, and banks' interest rate margins are therefore expected to remain stable. The relatively low level of interest rates will help to maintain strong household credit demand over the next few years, and the level of household debt will increase. However, by the end of 2005, rising interest rates will have cut the growth of new loans to households to half, from just over 12% in 2003. Measured in terms of the volume of bank loans in relation to disposable income, the household debt ratio will rise during the forecast period by approximately three percentage points to 72.5%, which is not an exceptionally high level. Admittedly, the debt ratio of some individual households could rise to a worryingly high level in relation to their ability to service their debts.

Growth in the volume of bank loans to companies is expected to slow somewhat, to an average increase of 7% per annum. The GDP ratio of corporate credit will thus continue its slow rise. Growth in bank deposits will remain stable at just under 4% per annum.

## Box 2. Household and general government savings

Households' pension savings are mainly derived from pension contributions deducted from the employee's gross salary. Finland's statutory pension system is partly fund-based, as approximately a quarter of annual contributions ends up in privately managed employment pension funds. At the end of 2002, private pension funds totalled EUR 53.5 bn, the local government pension fund EUR 11.9 bn and the central government pension fund EUR 5.2 bn. Voluntary pension savings totalled around EUR 14 billion in 2001.

In the national accounts, statutory pension savings are entered against the employment pension funds under general government. The pension system is in principle benefit-based in the sense that pension benefits are only indirectly dependent on contributions. In this sense the pension funds are essentially a contribution to collective savings. The assets in the funds are, however, earmarked for future use in the payment of pensions. When, in addition to this, the pension system has been moved increasingly in the direction of an account system in which the interdependence of benefits and con-

tributions at the level of the individual has been increased, the funds can justifiably be examined as part of total household savings.

If the pension funds were included under household savings, the GDP ratio of household savings would rise by almost 3 percentage points, while general government savings would be correspondingly reduced. Instead of 4.2%, Finland's 2002 EMU surplus would then have been approximately 1.7% and almost entirely dependent on the central government surplus. This calculation supports the contention that Finland's public sector economy is not quite as strong as it often appears in international comparisons.

According to the Bank of Finland's forecast the difference between savings as recorded in the national accounts and the actual calculated savings rate will be maintained over the next few years. The calculated savings rate for the household sector will rise during the forecast period to around 2.3%. Correspondingly, the adjusted savings for the general government as a whole would according to the forecast drop from approximately 2% to negative savings of around 0.5 percentage points.

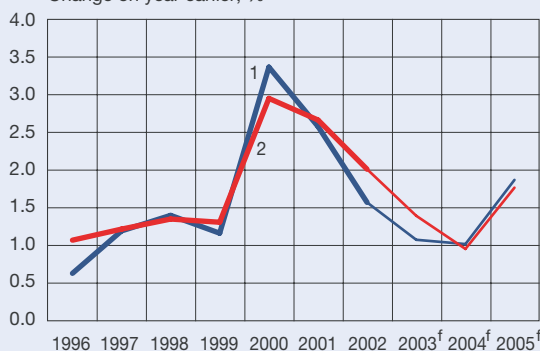
**Table. Net lending by general government and household sectors in 2002, % of GDP**

Sector	National Accounts	Adjusted
Household sector	-1.2	1.7
General government	4.2	1.5
Central government	1.4	1.4
Local government	-0.3	-0.3
Employment pension funds	3.0	0.3
Other social security funds	0.0	0.0

Sources: Statistics Finland and Bank of Finland.

**Chart 3.  
Inflation**

Change on year earlier, %



1. Consumer price index (CPI)
2. Harmonised index of consumer prices (HICP)

f = forecast

Sources: Statistics Finland and Bank of Finland.

## Markedly slower inflation due to exceptional factors

Over the forecast period as a whole, prices are now expected to rise at a much slower rate than estimated in earlier Bank of Finland forecasts. There was already a significant deceleration in the pace of inflation in the early part of 2003. The fall in import prices fuelled by the appreciation of the euro, weak demand for industrial products and the reduction in car tax combined with lower taxes on imported cars have during the summer reduced the rise in consumer prices to 0.5%. Average consumer price inflation for the year as a whole will be around 1%. For 2003 as a whole, the aforementioned factors will exert a stronger influence than the acceleration in the pace of growth in unit labour costs caused by relatively large pay increases in relation to the present state of the economy.

Special temporary factors will also dominate the inflation picture in 2004 (Box 3). The cut in excise duty on alcoholic beverages is expected to reduce the retail price of spirits and beer in particular, and also to some extent bring down the price of restaurant services. The effects of the tax cut are expected to show in retail prices very quickly.<sup>5</sup> On average, consumer prices will certainly fall in the early part

<sup>5</sup> An example of this effect is the fall in food prices as a consequence of Finnish accession to the EU.

of 2004, but will then begin to rise again under the effect of rising import prices and particularly the rising trend in domestic cost developments. The average rate of inflation in 2004 will, however, remain at 1%. In 2005, consumer price inflation will accelerate to close to 2% in the form of higher price marginals caused by domestic cost developments and growing demand.

As measured by the Harmonised Index of Consumer Prices (HICP), inflation will decelerate less in 2003 than inflation measured according to the domestic consumer price index. The HICP does not show the impact of low interest rates on housing costs. For the same reason, the HICP rate of inflation in 2005 will be slower than the rate indicated by the domestic consumer price index. The fall in import prices and weak demand will also subdue the rise in domestic producer price indices this year.

## Central government finances go into deficit

Lacklustre economic growth, the erosion of exceptional income items and tax cuts will reduce the general government financial surplus to 2.4% in 2003 and to close to 2% in 2004 and 2005. The financial position of central government will remain slightly in surplus this year, but go into deficit in 2004. The financial position of local government will remain

### Box 3. The short-term inflation forecast fan chart

Finland's inflation outlook until the middle of 2004 is presented in the diagram below with the help of a fan chart. In the diagram, inflation uncertainty during the forecast period is indicated by the different-coloured areas in the fan. Inflation is forecast to lie within the darkest area with 50% probability. If the area is expanded to also include the slightly lighter area, inflation according to the Harmonised Index of Consumer Prices (HICP) should lie within this area with 75% probability. For the fan as a whole, the inflation forecast holds with 90% probability.

The short-term inflation forecast is calculated as the weighted average of items in the HICP, namely 'services', 'industrial goods', 'processed foods', 'unprocessed foods' and 'energy'. The uncertainty of the inflation forecast and the estimated risk weightings are calculated with the help of these items.

The chart indicates very moderate short-term inflation towards the end of 2003. Considerable further deceleration is predicted for the beginning of 2004, as the short-term inflation forecast takes

account of the considerable reduction in alcohol tax planned for the first half of the year. The reduction in alcohol tax is expected to affect primarily the prices of processed foods. Some reduction is also forecast in service prices, and particularly alcohol prices in restaurants. A very rapid change is expected in retail prices, with the above-estimated effect being quickly reflected in consumer price inflation.

The risks involved in the short-term inflation forecast lean primarily in the direction of lower-than-expected inflation, and particularly the changes in indirect taxation planned for the first half of 2004. These could well have a greater-than-expected impact on lowering prices. In addition, there is growing uncertainty over the cost of energy as a result of both the recent increase in the price of oil and the recent fluctuation in the rate of exchange between the euro and the dollar. Moreover, the euro's recent weakening against the dollar creates the risk that the prices of industrial products will rise more than expected towards the end of 2003 and the early part of 2004.

**Chart.**  
**The short-term inflation forecast as a fan diagram**

Harmonised index of consumer prices  
Change on year earlier, %



f = forecast

Sources: Statistics Finland and Bank of Finland.

in deficit throughout the forecast period even if the municipalities were to raise their income tax percentage and cut back on investment. In contrast, the financial surplus of the social security funds will remain in the region of 3% of GDP. Fiscal policy will support growth in both 2003 and 2004.

The deficits and debt management measures by central government will increase the level of central government debt in the forecast period. The GDP ratio of central government debt will rise this year, but contract again in 2004 and 2005. At the same time the GDP ratio of general government debt will remain at just over 44%.

### Lacklustre growth and tax cuts will inhibit the growth of tax revenues

The combined yield from income and wealth taxes will be approximately 3% lower in 2003 than last year. Taxes paid by households will be almost as high as in 2002, but companies will pay around one tenth less than last year. The income tax cuts for wage earners implemented this year and the inflation adjustment of income tax rates for central government taxation will reduce income tax yield of central and local government by approximately EUR 740 million. Although central government will reimburse local government for the resulting loss of income, many mu-

nicipalities have been forced to cover their growing financial deficits by raising their local government income tax percentages. The yield from value-added tax and other indirect taxes on production and imports will grow at a stable rate of just over 3%, as the effects of changes in the various forms of indirect tax cancel each other out. The overall tax ratio will fall by one percentage point in 2003.

The yield from income and wealth taxes will rise again in 2004. The yield from both households and corporations will be larger, despite the fact that the income tax cuts for wage-earners proposed by the Government plus the inflation adjustment of income tax rates will cut the income tax yield for central and local government by approximately EUR 800 million. Despite the substantial increase in income transfers from central to local government, it is clear that the average local government income tax percentage will rise yet again. Tax revenue on industrial output and imports remains almost unchanged. The reduction of excise duty on alcoholic beverages will cut the yield from this form of tax by approximately EUR 300 million. At the same time part of the tax base for value-added tax and some product taxes will disappear abroad. The raising of vehicle tax will compensate for only a small portion of this loss. The overall tax ratio will fall by half a percentage point in 2004.

In 2005, growth in tax yield from both income and wealth taxes and production taxes and import

**Table 5. General government financial balance, % of GDP**

	2001	2002	2003f	2004f	2005f
General gov revenue	54.2	54.0	53.0	52.7	53.1
General gov expenditure	49.0	49.8	50.5	50.6	50.6
General gov primary expenditure	46.2	47.6	48.5	48.7	48.7
General gov interest expenditure	2.7	2.2	2.0	1.9	1.9
<b>General government net lending</b>	<b>5.2</b>	<b>4.2</b>	<b>2.4</b>	<b>2.1</b>	<b>2.4</b>
Central gov	2.0	1.4	0.1	-0.5	-0.2
Local gov	-0.4	-0.3	-0.4	-0.3	-0.4
Social security funds	3.6	3.0	2.8	3.0	3.0
General gov primary balance	8.0	6.4	4.4	4.0	4.3
<b>General gov debt</b>	<b>44.0</b>	<b>42.7</b>	<b>45.2</b>	<b>45.0</b>	<b>44.3</b>
Central gov debt	45.7	42.4	44.2	43.5	42.2
Tax ratio	45.7	45.8	44.9	44.4	44.5

f = forecast

Sources: Statistics Finland and Bank of Finland.



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duties will accelerate. The planned 1.5% inflation adjustment in central government income tax rates, the planned sliding reduction in the value-added tax liability threshold and the slight erosion of the product tax base will, however, be sufficient to keep the overall tax ratio unchanged in 2005.

### Fitting the growth in central government expenditure within the overall spending limits is an ambitious objective

The nominal growth in central government expenditure during the forecast period will average slightly over 4% per annum. The growth in expenditure will be dampened somewhat by a reduction in interest payments. Basic central government expenditure, ie expenditure excluding interest payments, will rise almost 6% this year. In 2004–2005, the annual nominal increase in basic expenditure will average slightly over 4%, with the real increase at around 1%.

Coverage of the deficit run by health insurance funds and reform of the local government recovery system for VAT refunds will result in an increase in central government transfer payments already this year. There will be a further rapid increase in transfers to local government in 2004, when central government increases its support for local government service provision and funding for social welfare and healthcare development projects, and also compensates the municipalities for the loss of revenue caused by the proposed tax cuts. Pressures to increase social welfare and healthcare appropriations will start to accumulate towards the end of the forecast period, and especially thereafter, as the population becomes progressively older. It could thus prove harder than expected to reconcile the extra appropriations required by current legislation and promised in the Government programme with the overall spending limits defined in the spring.

The nominal growth in local government expenditure during the forecast period will average slightly less than 4% per annum. The growth in expenditure will be dampened by considerable reduction in the level of local government investments. Local government expenditure excluding investments will grow by an average of 5% per annum. The local government wage bill is growing faster than average, as there

will be a rise in the number of municipal employees and the new employees will be better paid than those who will be retiring.

Statutory pensions paid as part of the system of social protection will grow at a steady average of almost 6% per annum during the forecast period. The average annual increase in employment pension payments will reach around 7%, at the same time as the total sum for the national pension will remain more or less unchanged. An increase in the number of people out of work will cause extra expenditure on unemployment by the social security funds and central government both this year and next. In addition, the Government will be directing more money into the implementation of labour policy.

### The world economy is finally recovering

The factors causing uncertainty over world economic growth in the spring – the war in Iraq and SARS – have receded, and the world economy would appear to be returning towards the cautious recovery outlined in the winter forecast. Despite the weak economic figures in the spring, particularly in relation to the euro area, an increasing number of indicators are suggesting a rekindling of growth in the international economy. Share prices have generally continued on the rising curve that began in the spring, and there has been a noticeable rise in some business confidence indices. It seems growth will accelerate again first in the United States, from where it is unlikely to spread to the euro area until next year and the year after. The rest of the world, and particularly non-Japanese Asia, is already in clear growth. The pace and structure of growth differ clearly from the situation in the late 1990s: there is only a cautious growth in investment and a very moderate rise in prices. Growth remains very fragile. As yet, there has been no significant improvement in industrial output, the labour market or consumer confidence. Moreover, existing imbalances have not disappeared: US indebtedness, the major structural problems in the Japanese economy and the tensions in world politics could still weaken medium-term growth.

Real GDP growth in the euro area in 2002 was under 1%. Growth stopped altogether during the first half of 2003: there was a contraction in investment

**Table 6. International growth rates**

	2001	2002	2003f	2004f	2005f
<b>Real GDP, % change</b>					
World	2.1	2.8	2.6	3.4	4.0
United States	0.3	2.4	2.1	2.9	2.8
Euro area	1.5	0.8	0.5	1.4	2.3
Japan	0.4	0.2	1.8	1.1	1.7
<b>Import volume, % change</b>					
World	-0.1	2.3	3.8	5.2	7.0
United States	-2.9	3.7	3.4	3.4	5.0
Euro area	1.7	-0.4	2.8	4.5	5.9
Japan	0.1	2.0	3.8	2.2	4.1
<b>Imports of Finnish export markets</b>	<b>1.5</b>	<b>1.7</b>	<b>3.7</b>	<b>5.3</b>	<b>6.9</b>

f = forecast

Source: Bank of Finland.

and exports, and only weak growth in industrial output. Euro area growth is nevertheless expected to gradually recover. In the initial stages, at least, this is not expected to be reflected in employment, which will improve only towards the end of the forecast period when the pace of growth reaches just over 2%. Although it is hoped that structural reforms to increase flexibility in the economy will already begin to have an effect in the next few years, the fruits of the reforms will be enjoyed on a broad scale towards the end of the forecast period at the earliest.

US growth picked up to around 3% in the second quarter of this year. Admittedly, 1.8 percentage points of this were due to growth in defence spending. Growth also drew support from private consumption and information technology investments. Relaxed monetary and fiscal policies should continue to underpin private consumption, and growth is expected to accelerate during the second half of this year. Productivity growth has been rapid. This will be reflected initially in weak employment development, but should later have a positive impact on consumption and investment, and thus also strengthen employment. GDP growth is expected to stabilise at just under 3% during the forecast period. There nevertheless remains some uncertainty over growth in private consumption due to the continued strong growth in the level of household debt and concern over the state of general government finances. Large budget deficits – at present around 4.5% of GDP – could lead to a rise in

the savings ratio as households anticipate future expenditure cuts or tax increases.

Despite a slightly surprising burst of growth in the early part of 2003, Japanese growth is estimated to remain lacklustre throughout the forecast period. The delays to structural reform of the Japanese economy are still preventing the sustainable strengthening of growth. The abating of the SARS epidemic in China and, for instance, in Singapore will cause an acceleration of these countries' growth to at least the level of last year. Chinese export growth is still supported by the fixed exchange rate for the yuan. Latin America is also expected to return to a growth trend as economic imbalances are gradually resolved.

World trade is returning to a period of normal growth after several lean years. Finland's export markets will grow at approximately the same pace as world trade. A difference in timing will, however, affect the structure of the export markets: weak growth in the euro area will be compensated by an increasing focus on the rapidly growing Russian economy. Import growth in the key customer countries for Finnish exports is expected to grow this year by around 3% and accelerate next year and the year after to 6–7%.

12 September 2003

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

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# Is Finland's current account surplus here to stay?

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**F**or the past three years Finland has posted a current account surplus of approximately 7% of GDP, and these large surpluses are forecast to continue for many years to come. Viewed internationally, this is a large surplus, if not exceptional. Several oil-producing countries have from time to time achieved even larger surpluses, as have one or two small countries specialising in financial services.

Finland's large current account surplus is also interesting against the background that, until the mid-1990s, this was a country known for the size of its deficits. It is nothing short of astonishing that the capital structure has changed so much in the intervening years. And, contrary to general expectations, the surplus has shown no signs of contraction.

The dramatic change in the operating environment of the Finnish economy in the early 1990s has influenced both investments and savings, and, by extension, the current account as well. The liberalisation of the domestic market and capital flows has made itself felt through a number of channels. Finnish companies have gone international and sought to strengthen their balance sheets and achieve a higher return on equity than was possible in the earlier closed markets. In particular, the required return on equity would appear to have risen as a result of the liberalisation of investment activities, while the recession of the early 1990s has led to a more cautious approach to taking on debt. Moreover, changes in corporate taxation have had a positive impact on the financing structure of both businesses and households. The previous tax regime had clearly favoured the use of outside capital. A special mention is also due to Nokia, whose exceptionally high profitability has considerably increased the size of the overall current account surplus.

It is worth asking to what extent the current account surplus is structural, and thus relatively permanent, and to what extent it is a temporary phenomenon, accountable, for instance, to the recent weak-

ness of the euro. Whether permanent or temporary, it is nevertheless true that the improvement in the current account and the international investment position has already been of benefit to the Finnish economy. If we take into account the rapid ageing of the population, some level of current account surplus is undoubtedly a very positive factor for the future of the nation.

The current account is not simply a reflection of foreign trade; it is the product of all the various factors that influence the general financial balance of the economy. This balance is examined below from three points of view:

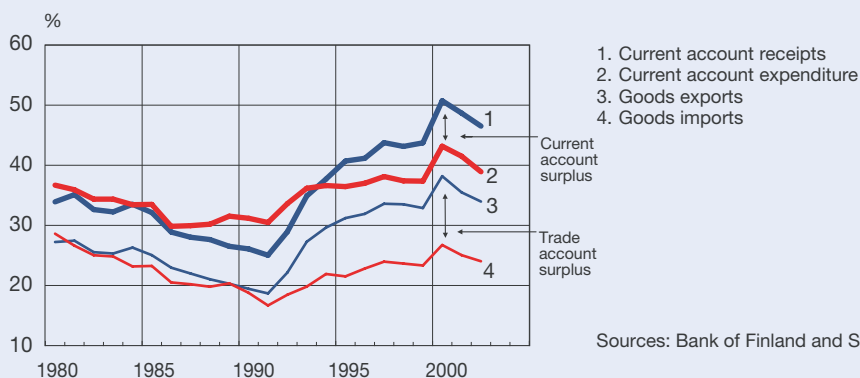
1. The current account surplus (goods, services, income, transfers)
2. The difference between savings and investment in the economy as a whole analysed by sector
3. The change in the net international investment position (ie the difference between growth in assets and liabilities)

The aforementioned variables are all commensurate. One cannot change unless the other two also change. For example, an increase in savings while the level of investments remains unchanged will reduce net external debt and increase the current account surplus by precisely the same amount. The variety of perspectives illustrates how the interpretation of the current account can be derived from highly divergent factors. Moreover, the key factors themselves can also vary. Of course, the balance sheet items are not in themselves the real cause of the financial surplus; this lies in a variety of factors that influence economic behaviour.

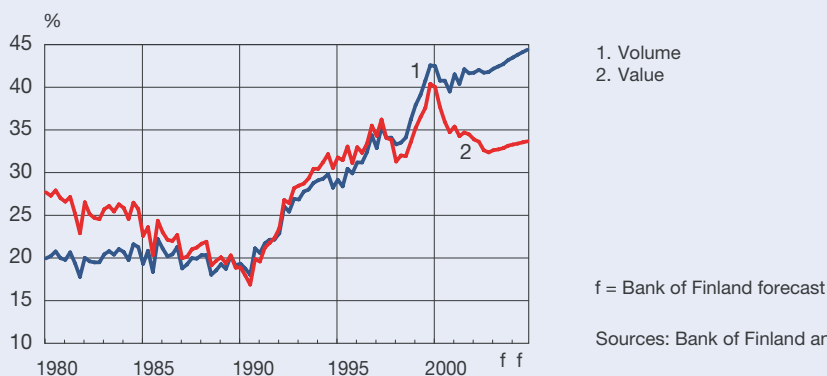
## The current account surplus and export growth

Viewed from the angle of foreign trade, the current account surplus can be explained primarily in terms

**Chart 1.**  
**GDP ratio of current account receipts and expenditure**



**Chart 2.**  
**GDP ratio of goods exports**



of the dramatic rise in the value of goods exports since 1991. The increased success of Finnish exports has been dramatic in comparison with the 1980s, when the current account was steadily weakening. The market share of exports fell at that time, as did the GDP ratio (Chart 1). Productivity improvements in export industries were insufficient to compensate for rapidly rising levels of pay.

When the drop in the price of oil in 1986 caused a collapse in Finland's trade with the Soviet Union, this revealed the vulnerability of the export sector. Despite the positive state of the international economy, Finland was able to achieve annual export growth of only 2% during the years 1985–1990. This contrasts with 1991–2002, when both the volume and the value of exports grew by an average of approximately 9% per annum, with the value of electronics

exports rising by an average of 22% per annum. Without electronics, the overall growth in the value of exports was approximately 7%. The export sector considerably expanded its share of the market, and the value of goods exports as a percentage of GDP rose throughout the 1990s (Chart 2). A peak was reached in 2000, which saw dramatic growth in both electronics and other exports. As the growth in domestic demand was slower than the growth in exports during the period 1991–2002, the value of imports grew considerably more slowly than exports, at approximately 6% per annum.

It is, however, surprising that exports other than electronics began to falter as early as 1996. While in the four-year period 1992–95 the value of exports (excl. electronics) grew by an average of 15% per annum, over the next four years growth fell back to

just over 3% per annum. Admittedly, in 2000 the value of exports other than electronics suddenly leapt ahead by 20%.

Poor export performance in several traditional sectors could be a sign of difficulties in real competitiveness. Finnish competitiveness actually improved substantially in the 1990s following devaluation of the markka. Removing electronics from the analysis has only a limited impact on the price competitiveness of Finnish industry measured in terms of relative unit labour costs,<sup>1</sup> which remains considerably better than in the 1980s. However, in the past few years there has been only a modest improvement in productivity in several traditional sectors. When, at the same time, Finnish wages have on average been rising more rapidly than in the other euro countries, the price competitiveness of Finnish industry (excl. electronics) has suffered.

The problems of Finnish industry (excl. electronics) in terms of real competitiveness are also indicated by that fact that operating surplus as a propor-

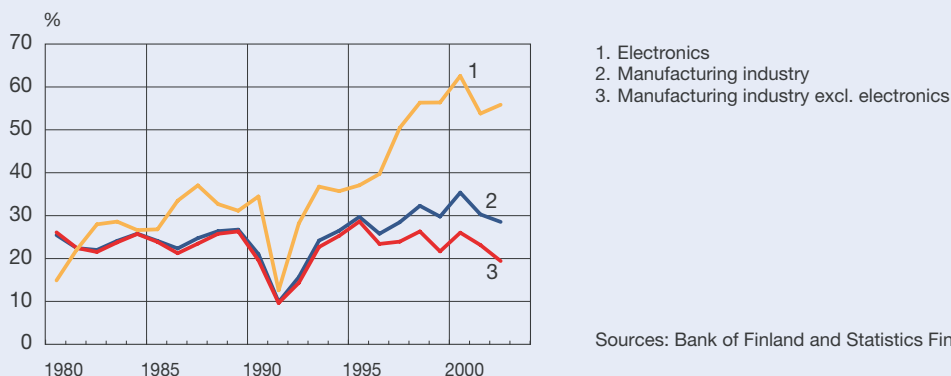
<sup>1</sup> Relative unit labour costs measure the change in labour costs (pay plus social security contributions) for a specified production unit in common currency. Faster growth in labour productivity compared with other countries will thus boost price competitiveness. The measurement does not, however, take account of the price at which products are sold. Finnish exporters, and particularly the electronics industry, have passed on a fairly substantial portion of the growth in productivity to the customer in the form of lower export prices. The end of exports to the Soviet Union also brought about a permanent reduction in Finnish export prices compared with competitors. Thus, in the case of Finland, relative unit labour costs have lost their meaning as a measure of long-term changes in price competition.

tion of value added is at the same level as in the 1980s, despite a reduction in labour costs in common currency compared with competitors. Indeed, the high level of corporate profitability has actually been achieved through more intensive exploitation of capital, which has in turn been reflected in a reduced level of investment. Are companies reluctant to invest because Finland's labour resources are all deployed despite the high level of unemployment, or is it that Finnish companies are actually incapable of change?

The electronics industry's share of goods exports has grown from under 10% in 1990 to last year's figure of 28%. Although the industry admittedly uses a lot of foreign inputs, the value added within the sector is considerable: in 2001 it was over EUR 5 bn. One difference in comparison to other sectors is that wages and salaries constitute an insignificant component of this added value. Within the electronics industry as a whole, the operating surplus has in recent years accounted for approximately 60% of added value, while at Nokia the figure has been even higher (Chart 3).

Nokia's contribution to Finland's GDP is approximately 5%, which means that this one company's operating surplus accounts for approximately 3–4% of GDP. Of this total, Nokia has paid ½–1 percentage points in Finnish taxes and almost the same amount in dividends (primarily abroad). Thus, Nokia has annually recorded undistributed profits equal to perhaps a good 2% of Finland's GDP. Only around 10% of these assets are held by Finnish residents, which means that 'savings' belonging to Nokia's foreign owners have amounted to a third of the current

**Chart 3.**  
**Operating surplus as a proportion of value added**



Sources: Bank of Finland and Statistics Finland.

account surplus.<sup>2</sup> StoraEnso and UPM have also recorded surpluses, and they, too, are only partly Finnish-owned. Because of their ownership structure, their surpluses have had no significant impact on domestic demand through the wealth effect.

## The current account as a savings surplus

Foreign trade, and export demand in particular, determined the short-term development of the Finnish economy's financial surplus, but over the longer term the recording of a surplus or a deficit depends more on savings and investment behaviour. The dramatic turnaround in Finland's balance of payments and fiscal balance from the deficits of previous decades to the present surplus is due primarily to a reduced level of investment in the national economy (Chart 4). A smaller contribution has also been made by an increase in savings.

The investment rate (ratio of investment to GDP) has fallen from a high of 25–30% to the present level of around 20%. The decline in the rate has affected all key sectors. Especially striking is the reduction in investment by households, which has fallen by almost half. The corporate investment rate has fallen approximately 4 percentage points to around 12%.

For a Western country, Finland's savings rate has already been high for several decades, at around 25–28% of GDP. During the crisis in the 1990s the savings rate fell by as much as a half, but the past few years have seen it climb back to the upper limit of the aforementioned range. Corporate savings (undistributed profits) are well above the average for previous decades. Coupled with the drop in the corporate investment rate, this has meant a considerable improvement in the financial position of Finnish companies. The corporate sector has had a surplus of approximately 2–3% of GDP for almost 10 years now, while in the past there was generally a deficit of at least the same size. As mentioned, the surplus is largely due to Nokia.

<sup>2</sup> In balance of payments statistics, undistributed profits are handled in different ways under portfolio investment and direct investment. If Nokia were a subsidiary of a foreign company, its undistributed profits would be entered in the same manner as dividends, ie as receipts from abroad, and would therefore not contribute to the current account surplus.

On the other hand, there has been a fall in the level of household savings, perhaps partly related to a simultaneous reduction in house purchases. General government savings are average for recent decades (excl. the crisis years) and are high if viewed internationally. The general government surplus accounts for over half the overall current account surplus. However, in Finland, statutory pension insurance is included under general government finances, and this by itself is equal to approximately 3% of GDP. The government surplus is actually primarily due specifically to the pension funds, although, viewed internationally, the government finances themselves are in fairly good health.

## The current account as a change in financial assets

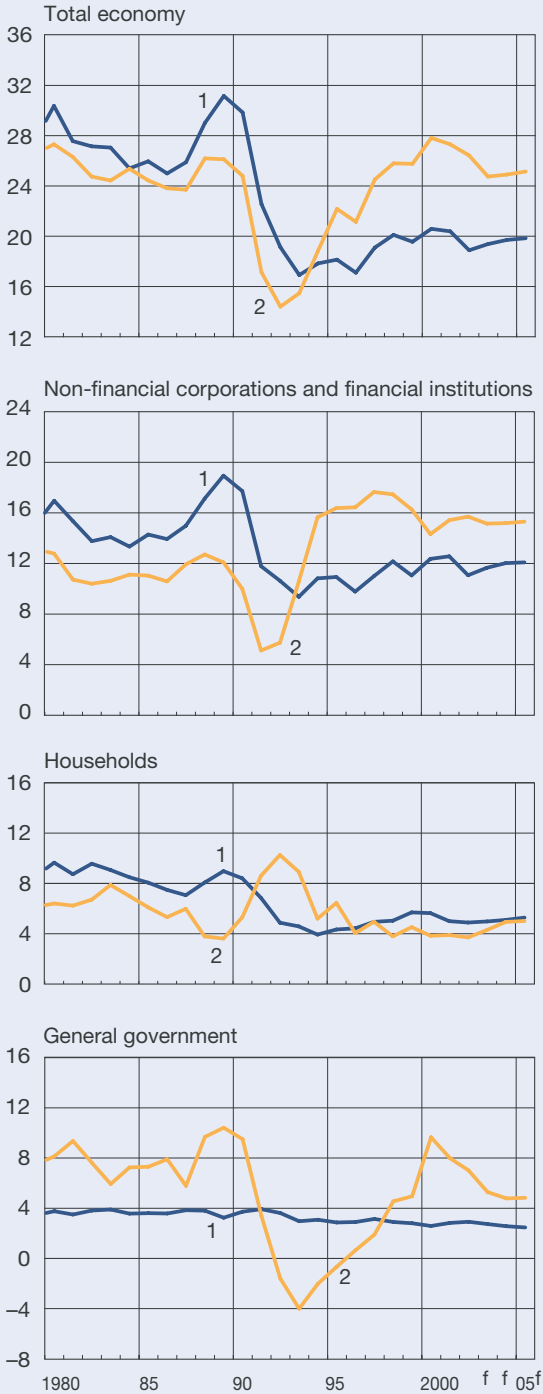
Changes in savings and investment are reflected in changes in financial assets. The current account surplus is equivalent to the difference in the growth in assets and liabilities for the economy as whole. The causal relationship normally runs from savings and investment decisions to financial assets, but it can run the other way too. The conditions attached to financial assets, particularly interest rates, plus factors such as liquidity and indebtedness all have an impact on savings and investment.

During the 1990s, companies' wish to improve their financial structure was reflected in reductions in liabilities and improvements in liquidity. However, by the end of the decade the level of indebtedness had already begun to rise again. Even so, financial assets have grown by even more. Both items have been boosted by high levels of direct investment and other inter-company financial arrangements. Household debt in relation to GDP came down during the 1990s and has not yet returned to its earlier level. The rise in the level of debt is, however, clearer if viewed in relation to household incomes.

Interest rates have contributed to some extent to the improved financial balance, but not very much. Although real interest rates in the 1970s were at times negative due to inflation, real interest rates in the 1980s did not differ greatly from the low levels of recent years. There has, however, been a clear change in real interest rate expectations: in the intoxicated atmosphere of the late 1980s people still believed inflation would take

**Chart 4.**  
**Savings and investment rate**

GDP ratio of gross savings and investment



Savings – investment = financial surplus/deficit

- 1. Investment
- 2. Savings

Estimates for 2003–2005, Bank of Finland forecast.

Sources: Bank of Finland and Statistics Finland.

care of debt, while in the 1990s the fear was for the return of high real interest rates. The interest burden on households has been increased by the reductions in interest tax relief during the 1990s.

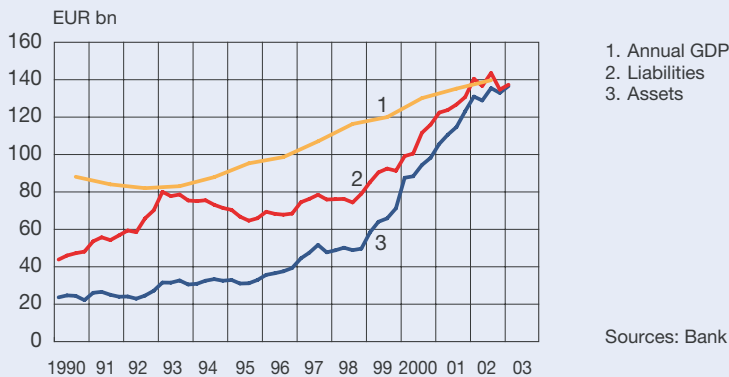
In another way, interest costs have exerted a very large influence on the current account. At their height, Finland's net external debt amounted to approximately 50% of GDP and the debt-servicing burden approximately 5% of GDP around 10 years ago. Last year, net income expenditure was already less than 1% of GDP. This trend has reduced the difference between the surpluses on the trade and current accounts. Net interest-bearing debt has been paid off completely during the course of the present year. In the future, Finland should increasingly be a recipient of net interest receipts.

The elimination of Finland's net external debt has not meant a reduction in the gross debt; alongside the

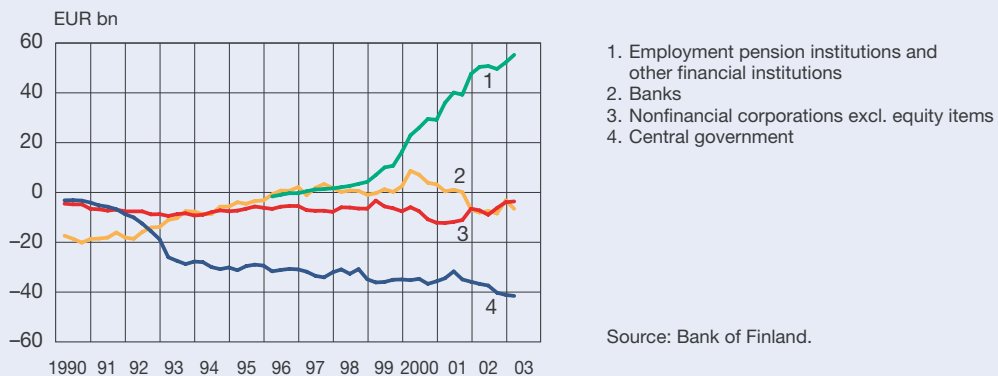
growth in assets, liabilities themselves have also actually increased. For example, in 1996 Finland's interest-bearing gross external debt amounted to approximately 70% of GDP and assets 40%, but now both approximate to the level of annual GDP (Chart 5). The figures for Finland's external gross items have reached the average for countries in the euro area. The rapid rise in gross assets and liabilities is to a large extent due to banking items. The capital outflow from pension and investment funds has from time to time exceeded the current account surplus, whereupon the banks have become indebted to foreign countries.

Central government debt is currently the dominant liability factor in Finland's net international investment position, at 25% of GDP (Chart 6). Most of the total central government debt is at present held by foreign investors. Companies' (ie nonfinancial

**Chart 5.**  
**Finland's external assets and liabilities (gross) excl. equity items, plus GDP**



**Chart 6.**  
**Finland's net international investment position by sector**





corporations') direct interest-bearing net external debt is small. Finland's external assets lie above all in pension and insurance funds and investment funds. Altogether, these investments amount at net to approximately 35% of GDP. Already around a half of Finland's pension funds are in external financial assets, the largest single item being euro-area government bonds.

The statistics on Finland's international investment position have in recent years been dominated by the changes in the market price of equity capital items, particularly Nokia's. The value of shares reflects expectations as to their future yield, and should not normally be equated with genuine liabilities. Finland's equity-related liabilities are still significantly larger than assets, at approximately 60% of GDP against just around 40% on the asset side.

## The financial account surplus will be sustained over the next few years but at a lower level

The factors presented below can be used to summarise the transformation of Finland's current account during the 1990s. They are not all entirely separate from each other, as they partly reflect the effects of the same factors viewed from slightly different angles.

1. Finland's price competitiveness has improved. The real exchange rate, measured using relative consumer prices or unit labour costs, has varied since the early 1990s at rates well below its long-term average.

2. Although Finnish wages and salaries have risen slightly faster than average for the euro area, Nokia's performance has meant that, apart from the past couple of years, productivity has improved considerably more.

3. The deficit has been reduced particularly by the decline in the rate of investment by the corporate sector and households plus the improvement in their financial structure. The Finnish economy has been much less willing to take on debt since the crisis of the 1990s, partly due to changes in taxation.

4. The adoption of the euro has made it easier to invest pension funds in the euro area, with the result that assets have no longer had to be placed in perhaps rather weak domestic investments.

5. An important development in the area of savings has been the strictness of central government budget policy, although, with the exception of the crisis of the 1990s, Finland's central government has traditionally been keen to avoid large deficits.

6. The improvement of the international investment position has reduced the previously heavy burden of interest payments abroad that Finland had to pay to almost zero in net terms.

7. The success of Nokia has been a special factor that has made a considerable contribution to the current account surplus.

These same factors can be used to assess the durability of the financial account surplus. In the short term the only factor supporting the surplus is the reduction in interest payments abroad. The turnaround in the net international investment position from negative to positive also alters the impact of changes in international interest rates. From now on Finland will benefit from rising interest rates. The euro is, however, likely to remain stronger than in recent years, which will reduce the corporate sector financial surplus. Strong earnings and financial surpluses due to other factors will also probably contract with time.

It is clear that in a global environment large undistributed corporate profits will be eroded one way or another, most commonly as a result of increased competition. If companies cannot find attractive investment options, surplus liquidity will have to be returned to the present owners in the form of dividends or allocated to new owners through corporate acquisitions. Thus, corporate financial surpluses can be expected to contract in the future, although expansion abroad by Finnish companies will certainly require sufficient capital on the part of the parent company. Profits returned to foreign owners will directly reduce the current account balance. It is also reasonable to expect that the contraction in the corporate financial surplus and the return of profits to Finnish owners will eat into the overall financial surplus through either increased investment or consumption.

It is unlikely that growth in either the household financial surplus or the public sector financial surplus will be able to compensate for the contraction of the corporate surplus over the next few years. Growth in housing investment should raise the household investment rate, but the savings rate is also likely to rise at a similar pace. Moreover, the public sector

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faces a greater risk of a weakening surplus rather than a stronger one. Local government finances are facing problems in the years ahead, while the risk of a more rapid than expected crumbling of the central government tax base can also not be discounted. There are thus clear pressures for a squeezing of the current account surplus.

A large financial surplus can also be seen as a problem. If a greater proportion of financial resources were harnessed for domestic production than at present, this would improve the employment situation and generate more income for funding pension expenditure. Finland's export growth in recent years has largely been the achievement of a single company, Nokia, whose share of the labour force has, however, been modest. Why have other companies not been able to find more investment targets in Finland whose yield would have matched the requirements of international capital? A large financial surplus can even be in part a sign of weak real competitiveness, for example a legislative environment that hampers market adaptability. Viewed from this angle, the financial account surplus will sooner or later be eroded as income formation in the national economy becomes progressively weaker as a result of ageing capacity.

Finland has worked its way clear of its heavy burden of external debt and stands poised over the next few years to accumulate net external assets. This will

help in warding off a variety of threats, increase the room for manoeuvre in economic policy and enhance the country's ability to withstand serious crises. In view of current demographic trends it is encouraging that Finland has foreign financial resources, including those in the form of pension fund investments. In this way, foreign investors will be directly paying part of the future pension bill.

Bearing in mind the ageing of the population, it would clearly make sense for Finland to seek to maintain a reasonable level of current account surplus in the future, albeit future surpluses are likely to be smaller than the present one. The size of the surplus cannot, however, be directly regulated by deliberate economic policy. The most important thing is to maintain macroeconomic balance, which includes healthy public finances, moderate cost development and strong real competitiveness. The last of the aforementioned factors also involves maintaining Finland as an attractive place for investment for both domestic and foreign companies.

15 August 2003

- **Key words: balance of payments, current account, corporate finance, savings, external debt**

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# Competition and regulation in European retail payment systems

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**R**eliable and efficient payment systems, both large-value and retail systems, form the financial infrastructure for a single goods and services market in the European Union. Regarding retail payment systems, the European Union still consists of 15, and with the accession countries even more, different and separate payment areas instead of one single payment area. Many national retail payment systems, like those in Finland, are already functioning efficiently; what has been lacking are efficient cross-border retail payment systems that can contribute to the process of financial integration.

Dissatisfaction with the banking sector's efforts to improve the situation led the European Parliament and the Council in December 2001 to adopt Regulation (EC) No. 2560/2001 on cross-border payments in euro.<sup>1</sup> Initially, the banking sector strongly criticised this regulatory intervention and argued for a market-driven solution. Later, as a concrete response to the Regulation, the banking sector established a new cooperative body, the European Payments Council (EPC), to foster development.

Viewed in broader perspective, the policy debate on the efficiency of European retail payment systems has a number of dimensions. While *competition* between payment service providers has commonly been seen as an important contributor to efficiency, the network characteristics of the payment industry have also led some commentators to raise the need for *cooperation* in building infrastructures and setting standards. The various aspects of the debate can be

better understood by highlighting the inherent characteristics of the retail payment industry.

## Network characteristics of retail payment systems

The payment service industry has many characteristics in common with other network industries such as telecommunications. A central feature of networks is that network goods or services exhibit 'network externalities'. This means that the addition of another customer adds value for the existing customers of the network: the larger the network, the greater the number of customers who will join it; and conversely, the smaller the network, the less attractive it will be to new customers. In practice, this can be seen in the difficulties that new payment initiatives, eg e-money schemes in many countries, face when trying to achieve 'critical mass', ie a sufficiently large customer base to establish their presence in the market.

The payment service industry is also subject to economies of scale in production due to the large investment in infrastructure needed to start operations and the relatively small marginal cost for services produced over the already existing infrastructure. This tends to encourage large production units and often implies highly concentrated market structures. At the national level, there is commonly just one major retail payment system. However, the heterogeneity in demand for different payment instruments may facilitate the existence of more than one system. In some cases, two or more systems may exist in parallel, but they will often be dedicated to different payment instruments. A multiplicity of parallel systems is also seen in the area of credit card payments.

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<sup>1</sup> The Regulation on cross-border payments in euro (RPE) obliges banks to reduce charges for cross-border payments of up to EUR 12,500 (EUR 50,000 as of January 2006) to the level of those of corresponding domestic payments. The RPE applies to card payments and ATM (Automated Teller Machine) withdrawals as of 1 July 2002 and to cross-border credit transfers as of 1 July 2003.

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## The competition-cooperation nexus

While competition between sellers of goods and services in many circumstances yields the most efficient outcome, markets with network externalities may benefit from cooperation between providers of the underlying goods and services. In payment systems, cooperation often occurs in the establishment of infrastructures. Joint ventures and shared networks have become common, for obvious reasons. In the first place, joint ventures make it easier to achieve the essential critical mass of users when a network is established. Secondly, joint ventures facilitate utilisation of the potential economies of scale in production. And thirdly, joint ventures allow the investment costs for establishing the network to be shared.

However, joint ventures in payment networks may also pose certain threats that can negatively affect overall market efficiency. The potential danger of dominant joint ventures abusing their market power is clear. Payment networks may be able to engage in collective actions, eg in the pricing of services, that allow their members to exercise market power. Exclusive conditions of access to joint networks can also result in significant competitive problems, most notably in terms of the foreclosure of new entrants. In this context, non-discriminatory and publicly disclosed participation criteria are essential to ensuring the contestability of the market.

## Compatibility and standardisation

Standardisation can have several positive effects on efficiency and competition in payment service provision.<sup>2</sup> In the first place, agreements on technical standards can lead to lower development and operating costs for processing payments. Secondly, standards can also facilitate compatibility, which can enable consumers and providers to choose the best technology available, thereby favouring an optimal path of technological development. Finally, compatibility between different providers' standards may lead to a large installed base for that technology, thereby facilitating its adoption.

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<sup>2</sup> For a broad discussion on the effects of standardisation in payment systems, see BIS (2000).

However, the process of defining and setting standards is complicated and can potentially raise a number of problems. Premature adoption of any standard may cause a technology to become 'locked-in', as it makes it harder to switch to a new and more efficient technology. It can also lead to excessive delay in choosing a standard as alternative producers compete to develop the market-leading standard. Moreover, agreements on standards may be used to restrict competition in particular markets. Standardisation can thus have both positive and negative effects on competition and efficiency. In retail payment systems, where the end-users and service providers form a heterogeneous group, the positive effects of standardisation in enhancing efficiency are dominant.

Standards in retail payment systems have traditionally been set domestically by national authorities and/or banking associations. However, standardisation at the cross-border level has been more of a problem because of the greater number of different parties involved and strict adherence to the heterogeneous domestic standards adopted in different payment methods.

Although the difficulties in standardisation at international level have been apparent, there have been some exceptions. In the international credit card business, a cooperative industry-sponsored approach to setting standards has led to the adoption of standards used by all players in the field. SWIFT (the Society for Worldwide Interbank Financial Telecommunication) has, in turn, been successful in developing and implementing internationally accepted standards for interbank payments, while the European Committee for Banking Standards (ECBS) has been developing and advocating the IBAN (International Bank Account Number) and IPI (International Payment Instruction) standards at European level.<sup>3</sup>

In the development of standards, broad scope and applicability are important if potential technological advances are not to be ruled out. Moreover, implementation of the agreed standards is crucial to the realisation of efficiency gains. If market participants do not independently adopt the agreed standards, the authorities can use enforcement measures to facilitate adoption.

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<sup>3</sup> For more information on the IBAN and IPI standards as well as other standardisation projects, see the European Committee for Banking Standards website: [www.ecbs.org](http://www.ecbs.org).

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## Regulatory policies

Regulatory policy has to face the fact that payment service providers often compete directly in the provision of retail payment instruments and services while at the same time cooperating in shared networks ('upstream cooperation' combined with 'downstream competition'). This arrangement can yield socially optimal outcomes in network industries. Therefore, regulators should tolerate upstream cooperation by payment service providers in order to exploit network externalities. However, cooperation on one level (the upstream market, ie operation and development of payment systems) can lead to collusive behaviour on another level (the downstream market for providing payment services), especially when access to the shared payment networks is restricted. Therefore, regular monitoring of market conditions is essential to ensure the contestability of the markets.

The authorities have several options available for regulating the retail payments market.<sup>4</sup> They can leave development to the market and aim simply to foster a competitive environment and provide investment incentives in the field, eg by assuming a tolerant attitude towards payment system joint ventures. They can also act as a catalyst or facilitator for development, eg by participating in the development of payment standards and supporting the work of cooperative groups formed within the industry. As a stronger measure, they can resort to specific regulation to influence market development, eg enforcement of standards. Finally, as the ultimate measure, the authorities can become 'operationally active' by establishing their own systems for providing payment services. This option should only be used when the authorities judge that reliable and efficient payment systems cannot be provided by the market.

## Challenges in the European retail payment market

The payment systems in the European Union were originally created to meet domestic requirements. As a result, the landscape of the European retail pay-

ment market is characterised by considerable fragmentation, diversity of standards and different levels of efficiency in national systems. These national differences constitute an obstacle to achieving an efficient pan-European retail payment market.

Cross-border retail payments currently account for roughly 1% of all retail payments in the European Union. Whether this figure will increase in the future naturally depends on customers' needs, but also on the existence of efficient cross-border retail payment systems to execute payments reliably and cheaply. The establishment of such an infrastructure will require cooperative efforts by the service-providing sector.

As mentioned above, the Regulation on cross-border payments in euro led the banking sector to form a new cooperative body, the European Payments Council (EPC).<sup>5</sup> The EPC should be able to address the potential difficulty of reaching consensus among a broad and diverse group of participants. It has announced the goal of developing a *Single Euro Payment Area* (SEPA), ie a real domestic market for euro payments, and is advocating the establishment of a Pan-European Automated Clearing House (PEACH) as a concrete measure to foster development and the smooth application of the Regulation. The Euro Banking Association's STEP 2 system should fill this need and provide a pan-European system for processing bulk payments. The crucial question for the viability of the system is whether it can attract sufficient payments to cover its costs.

The authorities also have an important role to play in promoting efficiency in European retail payment systems. They should provide a regulatory and legal framework that supports a level playing field and safeguards innovation incentives. The European Commission is currently working to harmonise the legal framework for payment services in order to facilitate the development of the Single Payment Area.<sup>6</sup> The

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<sup>5</sup> The European Payments Council was established in June 2002 as the platform mandated by the European banking industry to create the architecture, instruments and processes required for the Single Euro Payment Area. For the general framework, see the publication EPC (2002) *Euroland: Our Single Payment Area! A Summary*; for details of the first status report, see the EPC website: [www.europeanpaymentscouncil.org](http://www.europeanpaymentscouncil.org).

<sup>6</sup> European Commission (2002) *A Possible Legal Framework for the Single Payment Area in the Internal Market*. Working Document, 2002. [http://europa.eu.int/comm/internal\\_market/en/finances/payment/area/index.htm](http://europa.eu.int/comm/internal_market/en/finances/payment/area/index.htm).

Eurosystem, in turn, has been emphasising its role as a catalyst for development and is cooperating closely with the banking sector in a number of forums. The Eurosystem has communicated its policy stance on retail payment issues by publishing various reports and studies.<sup>7</sup>

When considering practical issues that are likely to arise in the future, it is worth stressing the following points. Integration and consolidation of the European retail payment market will in the long run enhance the efficiency of cross-border payment traffic. Provided a sufficiently large payment volume can be achieved, the establishment of a pan-European ACH will allow exploitation of the potential economies of scale in processing cross-border retail payments. Moreover, proper implementation of the IBAN standard will also contribute towards the automated processing of cross-border retail payments. These effects will be beneficial to all European countries.

Viewed nationally, deepening integration of European retail payment infrastructures can, however, have different effects in different countries. In countries like Finland that already have a high degree of electronification in retail payments, participants may even have to take an at least temporary step backwards in order to facilitate the development of an integrated payment infrastructure for Europe as a whole.

4 July 2003

- **Key words: competition policy, payment systems, retail payments, network economics, European Union**

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<sup>7</sup> See the European Central Bank website: [www.ecb.int](http://www.ecb.int). Recent developments are assessed in ECB (2003) *Towards a Single Euro Payment Area – Progress Report*, June 2003.

## Commemorative silver coin in honour of Finnish Field Marshal C.G.E. Mannerheim

In September 2003, the Ministry of Finance issued a silver EUR 10 commemorative coin in honour of the Finnish Commander-in-Chief during the Second World War, Field Marshal Carl Gustaf Emil Mannerheim. The coin's theme covers both Mannerheim and the city of St Petersburg, which is currently celebrating its 350<sup>th</sup> anniversary. It was in St Petersburg that Mannerheim was given his first military education, served in the Tsar's court in HM the Empress's Chevalier Guard and entered the Imperial Russian Army. The obverse side of the coin has the image of Mannerheim's face, front on, and the reverse shows one of the more famous buildings of St Petersburg, the Peter and Paul Fortress. It is 300 years since the foundation stone of the fortress, famous for its 3 towering bastions, was laid under the supervision of Peter the Great.

The commemorative coin, which was designed by Anneli Sipiläinen, weighs 27.2 grams and measures 38.6 mm in diameter. It is composed of sterling silver (92.5% silver compound) and a limited issue of 35,000 coins will be struck. The commemorative coin will be available in two different versions; proof-quality, which includes a gloss surface, at EUR 54 and Bu (brilliant uncirculated) quality, selling at EUR 32.



# Eurosystem monetary policy instruments

22 August 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.

<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 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 such marketable assets and non-marketable instruments 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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### 9/2003

Laura Solanko **An empirical note on growth and convergence across Russian regions.** 24 p. ISBN 951-686-866-5, print; ISBN 951-686-867-3, online.

## Abstracts

### Series A

#### **Maksujärjestelmäriskien sääntely ja hallinta – suomalainen näkökulma (Regulation and control of payment system risks – a Finnish perspective)**

Timo Iivarinen – Harry Leinonen – Matti Lukka – Veikko Saarinen

A:103

■ Key words: payment systems, payments, regulation, supervision, risks

This report begins by scrutinising regulation, supervision and risk management of payment systems, as well as risk analysis at a more general level. This is followed by an introduction to payment system supervision and regulation at the international level, with emphasis on the Bank for International Settlements (BIS), European Central Bank (ECB) and International Monetary Fund (IMF). Also included is a discussion of the proper role of national bodies, approached from the Finnish perspective. Payment system risks are discussed in terms of the writers' conceptions of the key risks involved and their classification and measurement.

The payment system risk classifications and framework presented in this report can be systematically examined in terms of either specific types of systems and instruments or as an integrated whole. This framework is used to evaluate the risks of Finnish payment systems. A product-specific risk model

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is also introduced, which can be used eg by banks to evaluate the risks of specific payment transfer products and their importance. Model development was a joint project of the banks and public authorities.

The report also presents means by which risks can be eliminated or reduced and explains how they have been alleviated in Finnish payment systems. In this connection, the book describes – again in terms of the risks involved – Finnish interbank payment systems and how Finnish banks are linked to international payment systems. According to evaluations by the ECB and IMF, Finnish payment systems meet international standards and are relatively free of risks.

Finally, a view is presented of the overall course of future developments in payment transfers. The primary trends cited are globalisation, electrification and integration of systems.

### **Arvopaperistaminen (Securitisation)**

Katja Taipalus – Kari Korhonen – Pertti Pyllkkönen  
A:104

- Key words: securitisation, risk management, regulation, capital adequacy management

The present study sets out to increase knowledge on securitisation, a process which has been rapidly gaining ground in international financial markets. We begin by examining the background to securitisation and its basic structures and take a broad look at the main features that distinguish the different approaches to the securitisation process. At this point, we also consider the aims of securitisation, primarily from the point of view of banks and non-financial corporations, and assess the impact of securitisation on financing opportunities and the financial markets. Another aim of the study is to assess the possible problems attendant on securitisation, such as legal issues connected with the provision of incentives. In chapter 6, we look at securitisation in Finland and possible obstacles to the process in our country, and present the views of Finnish banks and investors.

The authorities are taking an increasing interest in securitisation, as it has led to the restructuring of financial markets and introduced new methods of managing and redistributing risk. From a central bank perspective, it would be beneficial to assess the impact of securitisation on the transmission of mone-

tary policy, in particular, and the opportunities it provides for the development of collateral practices.

We also present the current regulations on securitisation and assess the need for development in this area. The regulations on capital adequacy requirements for banks are currently being updated, and the new requirements will probably see the introduction of provisions on securitised items. The study assesses the likely impact of the new capital adequacy requirements on areas such as the securitisation of banks' assets.

We conclude the study with a review of the development of securitisation and the legislative measures and other action undertaken in different countries to encourage the practice.

### **Discussion papers**

#### **Competition and regulation in European retail payment systems**

Kari Kempainen  
16/2003

- Key words: competition policy, payment systems, retail payments, network economics

In this study, the interaction between the competition-cooperation nexus and regulation in retail payment systems is analysed by applying the main lessons from the theory of network industries. This is justifiable on the grounds that the payment systems industry inherently has many characteristics in common with network industries. On the other hand, since the provision of payment services also has many special characteristics, the regulatory tools commonly used in many other network industries cannot be applied directly. In general, the main role of payment system regulators is to provide a level playing field for different service providers. To secure dynamic efficiency, the regulators also need to ensure adequate incentives for innovation and investment. In this respect, it is important that they do not take too restrictive an attitude towards cooperation among payment service providers. In addition to general policy analysis, the study also analyses developments in the European retail payment system field and the roles and aims of market participants.

## **Investor protection and business creation**

Ari Hyytinen – Tuomas Takalo

17/2003

- Key words: investor protection, start-up financing, private equity market, entrepreneurship, corporate finance

We study the effects of investor protection on the availability of external finance, entrepreneurship, and creation of new firms in an equilibrium search model of private capital markets. In addition to search frictions, we examine contract frictions, specifically interim and ex post moral hazard problems stemming from entrepreneurs' possibilities to expropriate financiers. In our model, the government chooses the level of investor protection that determines the transferability of match surplus between entrepreneurs and financiers. The results indicate that anything that increases (decreases) entrepreneurship also increases (decreases) the creation of start-ups. The effect of investor protection on the creation of start-ups thus hinges on the relative importance of various search and contract frictions. Only when investor protection has a sufficiently large impact on the ex post moral hazard problem relative to the interim moral hazard does strengthening investor protection enhance start-up creation. We also find that search frictions dilute the beneficial effect of investor protection and that contract frictions modify the standard Hosios condition for efficiency.

## **A positive theory of monetary policy and robust control**

Juha Kilponen

18/2003

- Key words: risk-sensitivity, robust control theory, monetary policy, Brainard conservatism, model uncertainty

This paper applies the robust control approach to a simple positive theory of monetary policy, when the central bank's model of the economy is subject to misspecifications. It is shown that a central bank should react more aggressively to supply shocks when the model misspecifications grow larger. Moreover, the model misspecifications aggravate the inflation

bias and a trade-off between output stabilisation and inflation worsens when the uncertainty surrounding the central bank's model increases. This implies that the larger the model misspecifications are, the more inflation-averse the central bank should be.

## **Equilibrium unemployment under negotiated profit sharing**

Erkki Koskela – Rune Stenbacka

19/2003

- Key words: wage bargaining, profit sharing, efficiency wages, equilibrium unemployment

We study employment, employee effort, wages and profit sharing when firms face stochastic revenue shocks and when base wages and profit shares are determined through collective bargaining. The negotiated profit share depends positively on the relative bargaining power of the trade union and has effort-enhancing and wage-moderating effects. We show that higher profit sharing reduces equilibrium unemployment under circumstances with sufficiently 'rigid' labour market institutions, ie sufficiently high benefit-replacement ratios and relative bargaining powers of trade unions. Conversely, profit sharing seems to be destructive from the point of view of employment when the labour market 'rigidities' are sufficiently small.

## **Learning, inflation expectations and optimal monetary policy**

Eric Schaling

20/2003

- Key words: learning, rational expectations, separation principle, Kalman filter, time-varying parameters, optimal control

In this paper we analyse disinflation policy in two environments. In the first, the central bank has perfect knowledge, in the sense that it understands and observes the process by which private sector inflation expectations are generated; in the second, the central bank has to learn the private sector inflation forecasting rule. With imperfect knowledge, results depend on the learning scheme that is employed.

Here, the learning scheme we investigate is that of least-squares learning (recursive OLS) using the Kalman filter. A novel feature of a learning-based policy – as against the central bank’s disinflation policy under perfect knowledge – is that the degree of monetary accommodation (the extent to which the central bank accommodates private sector inflation expectations) is no longer constant across the disinflation, but becomes state-dependent. This means that the central bank’s behaviour changes during the disinflation as it collects more information.

## BOFit Discussion papers

### **The euro goes East: Implications of the 2000–2002 economic slowdown for synchronisation of business cycles between the euro area and CEEs**

Jarko Fidrmuc – Iikka Korhonen  
6/2003

■ Key words: optimum currency area, EU enlargement, structural VAR.

We assess the correlation of supply and demand shocks between current countries in the euro area and EU accession candidates from 1993/1995 to 2002. Supply and demand shocks are recovered from estimated structural VAR models of output growth and inflation. Notably, the economic slowdown between 2000 and 2002 increased heterogeneity of business cycles between the euro area and acceding countries. We find that several acceding countries have a quite high correlation of underlying shocks with the euro area and conclude that continuing integration within the EU is likely to align the business cycles of these countries in a manner similar to the synchronisation of supply and demand shocks we document for the EU in the 1990s.

### **Choice of ownership structure and firm performance: Evidence from Estonia**

Derek C. Jones – Panu Kalmi – Niels Mygind  
7/2003

■ Key words: privatisation, ownership change, employee ownership, transition economies, Estonia

In this paper we use rich panel data for a representative sample of Estonian enterprises to analyse diverse issues related to the determinants of ownership structures and ownership changes after privatisation. A key focus is to determine whether ownership changes are related to economic efficiency. While employee owned firms are found to be much more prone than other firms to switch ownership categories, often ‘employee owned’ firms remain ‘insider-owned’ as ownership passes from current employees to managers and former employees. Logit analyses of the determinants of ownership structures and ownership changes provides mixed support for several hypotheses. As predicted: (i) wealth and resource constraints play a crucial role in the determination of ownership, with foreigners buying firms with the highest equity levels and insiders buying firms with the lowest equity valuations; (ii) risk aversion explains subsequent ownership changes, especially away from employee ownership; (iii) allocation of ownership depends on the pre-privatisation origin and location of the firm, and these factors also influence subsequent ownership changes. Finally we compare our findings with those achieved by using more conventional approaches to analyse efficiency that use very similar data. Reassuringly, the evidence presented in this paper is consistent with the view that efficiency considerations drive ownership changes (while earlier analysis for Estonia and for many other transition economies has identified the impact of ownership on economic performance.) However, the findings in this paper also establish that there are important influences besides economic efficiency that affect enterprise ownership and ownership changes.

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## **Export variety and economic growth in East European transition economies**

Michael Funke – Ralf Ruhwedel

8/2003

- Key words: product variety, transition economies, Eastern Europe, economic growth, panel data

Utilising panel data for 14 East European transition economies, we find support for the hypothesis that a greater degree of export variety relative to the US helps to explain relative per capita GDP levels. The empirical work relies upon some direct measures of product variety calculated from 5-digit OECD trade data. Although the issue is far from settled, the emerging view is that the index of relative export variety across countries correlates significantly with relative per capita income levels.

## **An empirical note on growth and convergence across Russian regions**

Laura Solanko

9/2003

- Key words: convergence, divergence, Russia, regions, growth

This empirical note uses publicly available Goskomstat data to investigate income growth and convergence across Russian regions. Using data for 1992–2001, we find strong sigma divergence simultaneously with beta convergence. The results indicate that per capita income in Russian regions may be converging towards two separate steady states. The poorest regions seem to be converging among themselves, while growth experiences among other regions have been highly heterogeneous.

## **Taxation, growth and welfare: Dynamic effects of Estonia's 2000 income tax act**

Michael Funke – Holger Strulik

10/2003

- Key words: growth, welfare, taxation, tax reform, Estonia

This paper analyses the long-run effects of Estonia's 2000 Income Tax Act with a dynamic general equilibrium model. Specifically, we consider the impact of the shift from an imputation system to one where companies only pay taxes on distributed profits. Balanced growth paths, transitional dynamics and welfare costs are computed. Our results indicate that the 2000 Income Tax Act leads to higher per capita income and investment, but lower welfare. A sensitivity analysis shows the results are rather robust.



### 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 Mr Matti Vanhanen 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 121 billion in basic values in 2002, 1.6% was generated in agriculture, hunting and fishing, 2.1% in forestry, 26.3% in industry, 5.5% in construction, 11.8% in trade, restaurants and hotels, 10.9% in transport and communications, 3.8% in finance and insurance, 19.7% in other private services and 18.3% by producers of government services. Of total employment of 2.3 million persons in 2002, 5.4% were engaged in primary production, 26.9% in industry and construction and 67.8% in services.

In 2002 expenditure on the gross domestic product in purchasers' values amounted to EUR 140 billion and was distributed as follows: net exports 8.6% (exports 38.7%,

imports –30.1%), gross fixed capital formation 18.9%, private consumption 50.9% and government consumption 21.7%. Finland's tax ratio (gross taxes including compulsory employment pension contributions relative to GDP) was 45.8%.

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 2002 was USD 25,401.

**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 122.9 billion at end-June 2003 and was broken down by lender group as follows: deposit banks 67%; insurance companies 2%; pension insurance institutions 11%; other credit institutions 11%; central and local governments and social security funds 9%.

In the money market, the total value of instruments outstanding was about EUR 26.3 billion at end-June 2003; bank certificates of deposit accounted for 56.2% of the total and Treasury bills, commercial paper and local authority paper for the rest.

At end-June 2003 there were 103 companies on the main list, 28 on the investors' list and 14 on the NM list of the HEX. At end-March 2003 total market capitalisation was EUR 152.8 billion for the main list, EUR 0.4 billion for the investors' list and EUR 0.32 billion for the NM list. Domestic bonds and debentures in circulation at end-March 2003 amounted to EUR 55.9 billion; government bonds accounted for 85% of the total. Share turnover on the HEX amounted to EUR 69.2 billion in January-June 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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## Balance sheet of the Bank of Finland, EUR million

	30.5.	2003		
		27.6	25.7.	29.8.
<b>Assets</b>				
<b>1 Gold and gold receivables</b>	485	486	476	476
<b>2 Claims on non-euro area residents denominated in foreign currency</b>	8,398	8,440	8,385	8,404
2.1 Receivables from the IMF	835	801	778	854
2.2 Balances with banks and security investments, external loans and other external assets	7,564	7,639	7,607	7,550
<b>3 Claims on euro area residents denominated in foreign currency</b>	708	721	680	671
<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>	920	2,527	2,430	2,233
5.1 Main refinancing operations	913	2,519	2,423	1,795
5.2 Longer-term refinancing operations	7	7	7	438
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>	1	4	4	4
<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>	3,616	3,616	3,687	3,764
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	2,847	2,847	2,918	2,996
<b>10 Other assets</b>	999	1,008	1,205	1,199
<b>Total assets</b>	15,128	16,802	16,867	16,753

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

	<b>2003</b>			
	<b>30.5.</b>	<b>27.6</b>	<b>25.7.</b>	<b>29.8.</b>
<b>Liabilities</b>				
<b>1 Banknotes in circulation<sup>1</sup></b>	5,888	5,953	6,098	6,196
<b>2 Liabilities to euro area credit institutions related to monetary policy operations denominated in euro</b>	5,035	2,338	2,115	2,670
2.1 Current accounts (covering the minimum reserve system)	5,035	2,338	2,115	2,670
2.2 Deposit facility	–	0	0	0
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>	10	4	2	13
4.1 General government	–	–	–	–
4.2 Other liabilities	10	4	2	13
<b>5 Liabilities to non-euro area residents denominated in euro</b>	1	1	0	1
<b>6 Liabilities to euro area residents denominated in foreign currency</b>	–2	–2	–2	–2
<b>7 Liabilities to non-euro area residents denominated in foreign currency</b>	26	73	120	17
7.1 Deposits, balances and other liabilities	26	73	120	17
7.2 Liabilities arising from the credit facility under the ERM II	–	–	–	–
<b>8 Counterpart of special drawing rights allocated by the IMF</b>	180	180	175	175
<b>9 Intra-Eurosystem liabilities</b>	–1,404	2,821	2,868	2,171
9.1 Liabilities related to promissory notes backing the issuance of ECB debt certificates	–	–	–	–
9.2 Liabilities related to TARGET and correspondent accounts (net)	–1,404	2,821	2,868	2,171
9.3 Liabilities related to other operational requirements within the Eurosystem	–	–	–	–
<b>10 Other liabilities</b>	322	361	354	375
<b>11 Revaluation account</b>	580	580	643	643
<b>12 Capital and reserves</b>	4,493	4,493	4,493	4,493
<b>Total liabilities</b>	<b>15,128</b>	<b>16,802</b>	<b>16,867</b>	<b>16,753</b>

<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

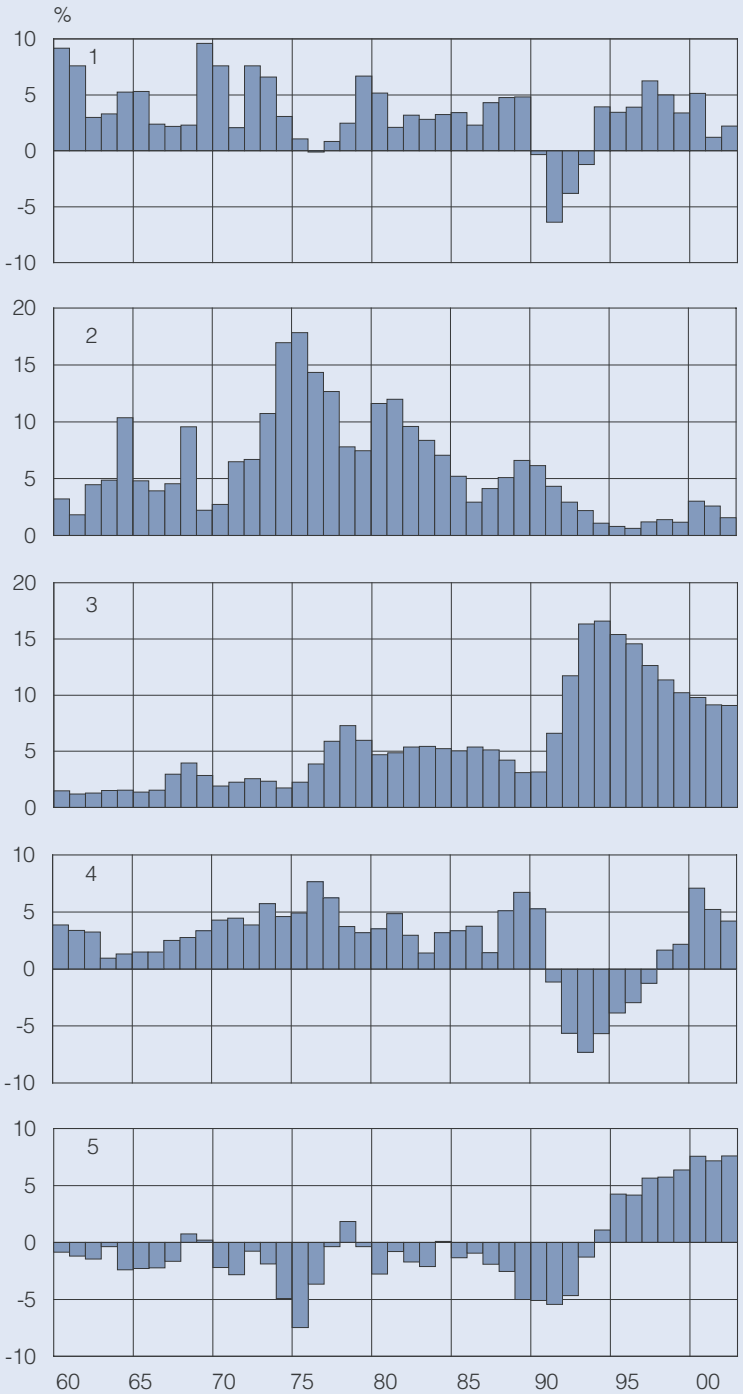
basis too, whereby each NCB shows in its balance sheet a share of the euro banknotes issued corresponding to its paid-up share in the ECB's capital. The difference between the value of the euro banknotes allocated to the NCB according to the aforementioned accounting regime, and the value of euro banknotes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

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5. Eurosystem interest rates and money market rates
6. Eurosystem (Bank of Finland) interest rates
7. Official interest rates
8. Euribor rates, daily values
9. Euribor rates, monthly values
10. Differentials between ten-year yields for Germany and selected euro area countries
11. International three-month interest rates, daily values
12. Three-month interest rates in the Nordic countries, daily values
13. International long-term interest rates, daily values
14. International three-month interest rates, monthly values
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17. Yields on Finnish benchmark government bonds
18. Yields on five and ten-year Finnish government bonds
19. Bank reference rates in Finland
20. Bank deposit rates in Finland
21. Bank lending and deposit rates in Finland
22. Interest rates charged by Finnish banks on new lending to households
23. Stock of bank lending in Finland
24. Stock of bank deposits in Finland by interest rate linkage
25. Stock of bank deposits in Finland by tax treatment
26. Liabilities of Finnish monetary financial institutions included in monetary aggregates for the euro area (excl. currency in circulation with the public)
27. MFI deposits, euro area and Finland
28. MFI loans to private sector, euro area and Finland
29. Euro exchange rates against the US dollar and the yen, daily values
30. Euro exchange rates against the US dollar and the yen, monthly values
31. Euro exchange rates against the pound sterling and Swedish krona
32. Euro exchange rates against the Scandinavian currencies
33. Euro's external value and Finland's competitiveness indicator
34. Competitiveness indicators for Finland
35. Selected stock price indices in the euro area, daily values
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37. Listed shares in Finland: total market capitalization and non-residents' holdings
38. Securities issued in Finland
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41. Central government revenue and expenditure in Finland
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44. Net lending in Finland by sector
45. Finland: goods account and current account
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48. Finnish exports by industry
49. Finland's foreign trade: export prices, import prices and terms of trade
50. Non-residents' portfolio investment in Finnish shares
51. Finland: direct investment
52. Finland's net international investment position
53. Industrial confidence indicator in the euro area and Finland
54. Consumer confidence indicator in the euro area and Finland
55. Finland: GDP and industrial production
56. Unemployment rate in the euro area and Finland
57. Level of industrial earnings in the euro area and Finland
58. Selected asset prices in Finland

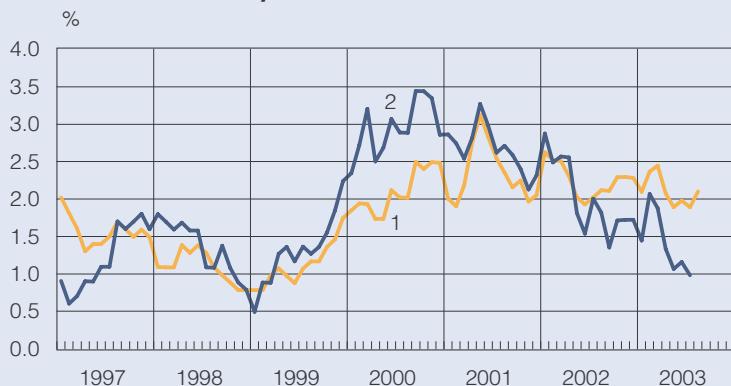
# 1. Finland: key economic indicators



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

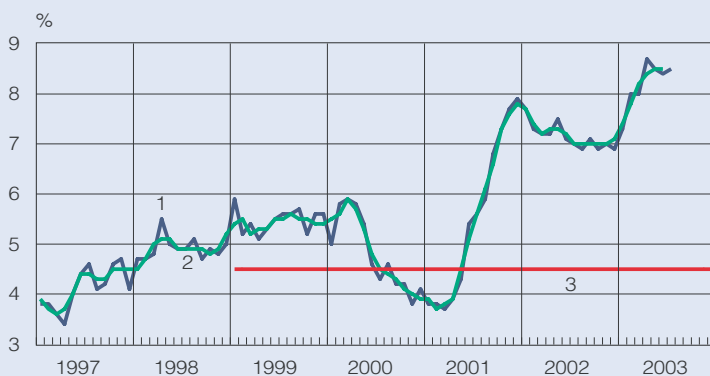


Harmonised index of consumer prices, 12-month change, %

1. Euro area
2. Finland

Sources:  
Eurostat and Statistics Finland.

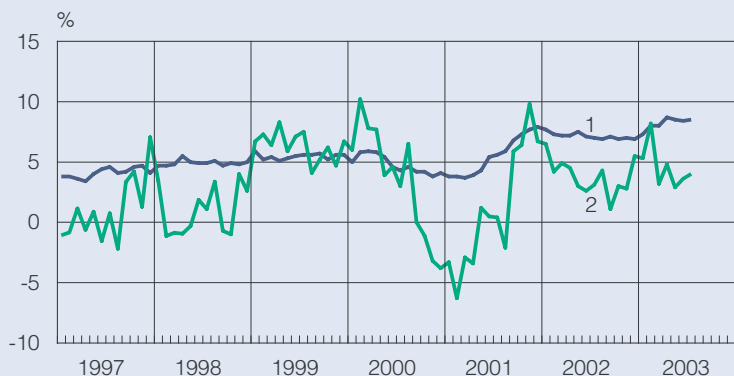
## 3. Monetary aggregates for the euro area



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



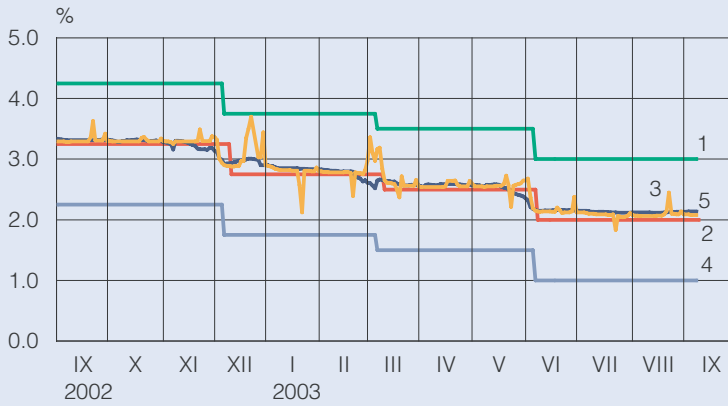
12-month change, %

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.



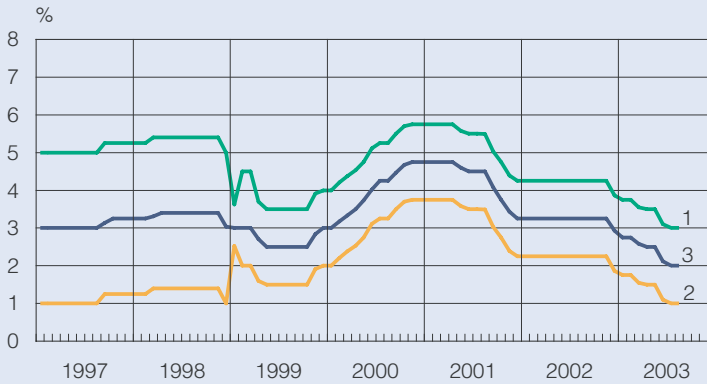
## 5. Eurosystem interest rates and money market rates



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

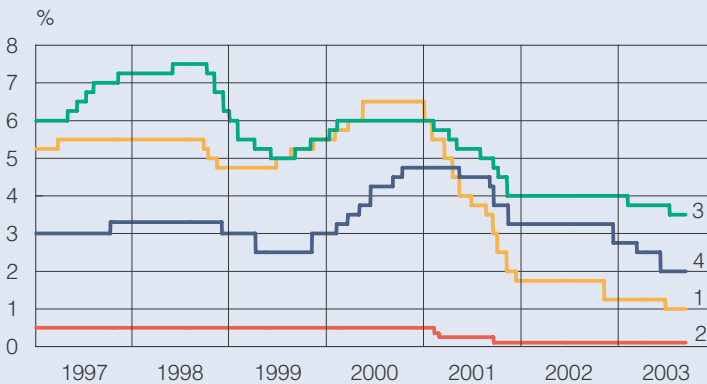


Bank of Finland interest rates until end-1998

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)
5. Eurosystem: main refinancing rate

Source: Bloomberg.

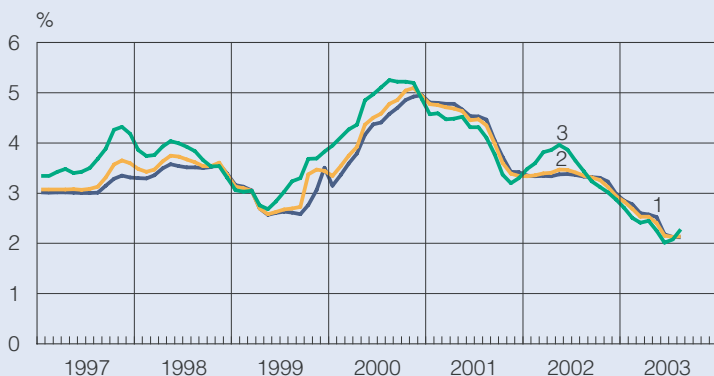
## 8. Euribor rates, daily values



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.

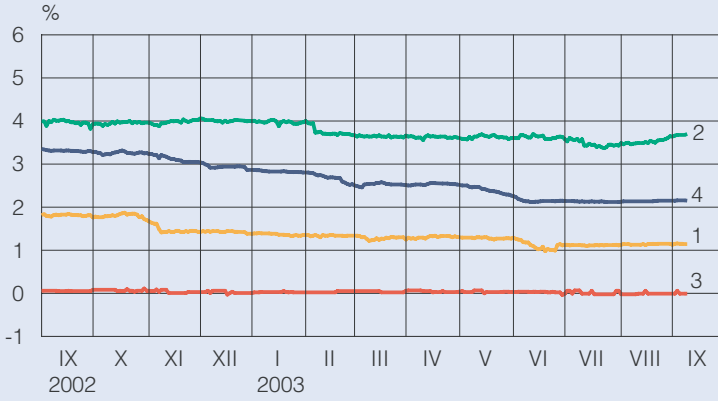
## 10. Differentials between ten-year yields for Germany and selected euro area countries



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

Source: Reuters.

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

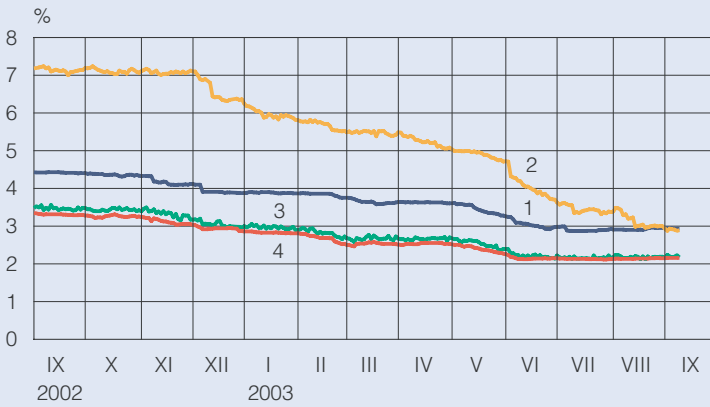


Interbank rates

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

Source: Reuters.

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

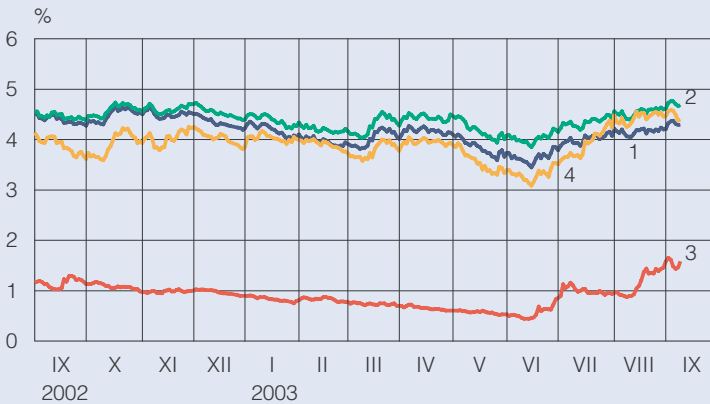


Interbank rates

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

Source: Reuters.

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

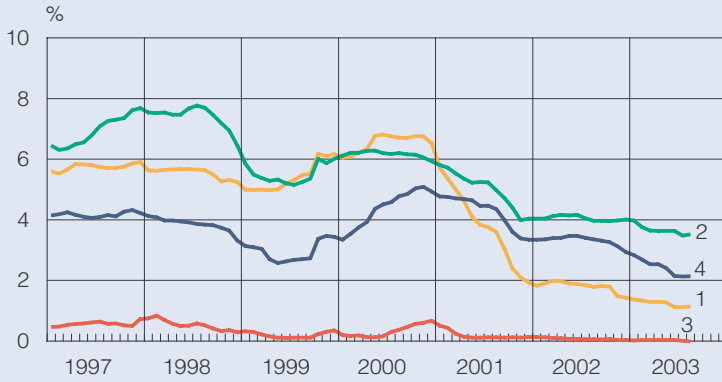


Yields on ten-year government bonds

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

Source: Reuters.

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

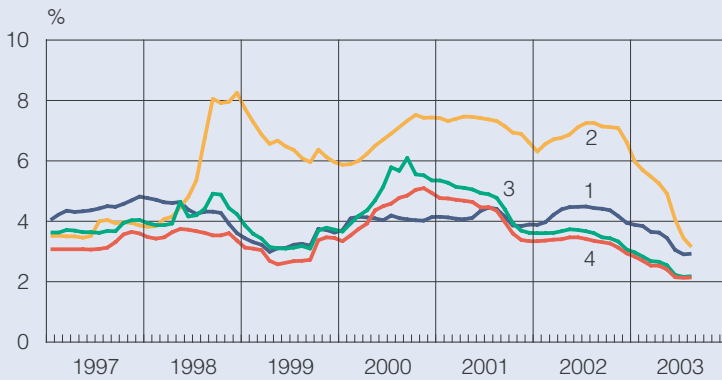


Interbank rates

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

Source: Reuters.

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

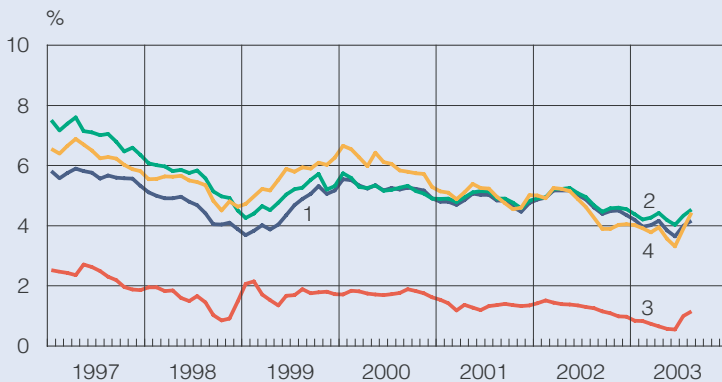


Interbank rates

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

Source: Reuters.

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

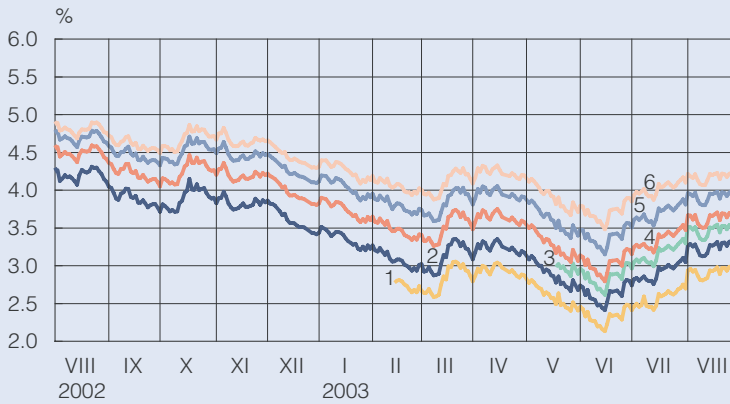


Yields on ten-year government bonds

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

Source: Reuters.

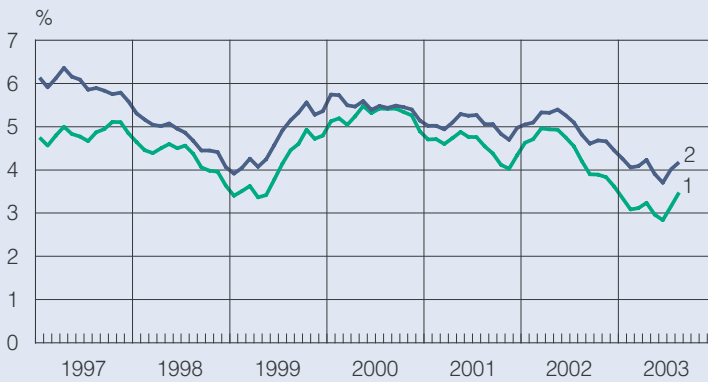
## 17. Yields on Finnish benchmark government bonds



1. Bond maturing on 4 July 2006, 2.75%
2. Bond maturing on 4 July 2007, 5%
3. Bond maturing on 4 July 2008, 3%
4. Bond maturing on 25 April 2009, 5%
5. Bond maturing on 23 February 2011, 5.75%
6. Bond maturing on 4 July 2013, 5.375%

Source: Reuters.

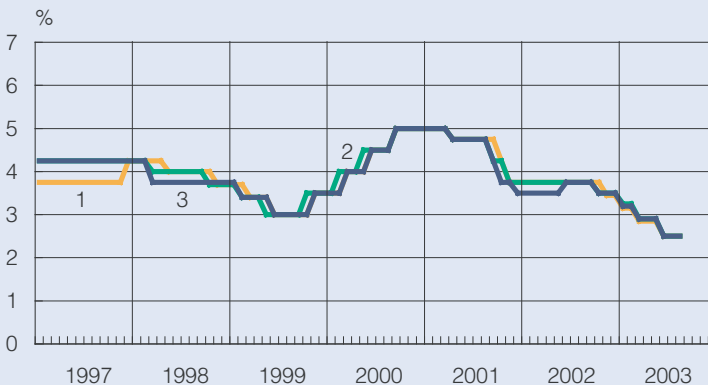
## 18. Yields on five and ten-year Finnish government bonds



1. 5 years
2. 10 years

Source: Reuters.

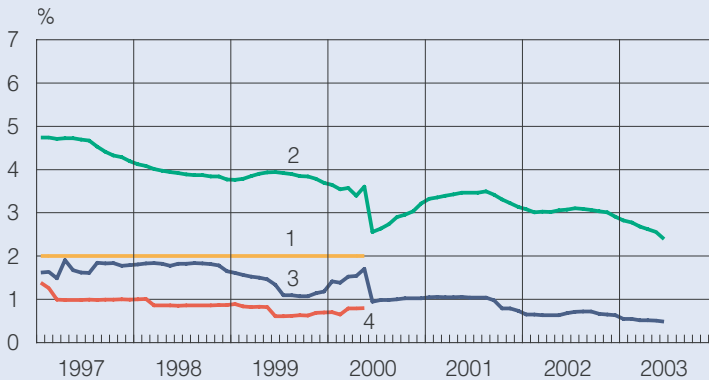
## 19. Bank reference rates in Finland



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

Source: Banks.

## 20. Bank deposit rates in Finland

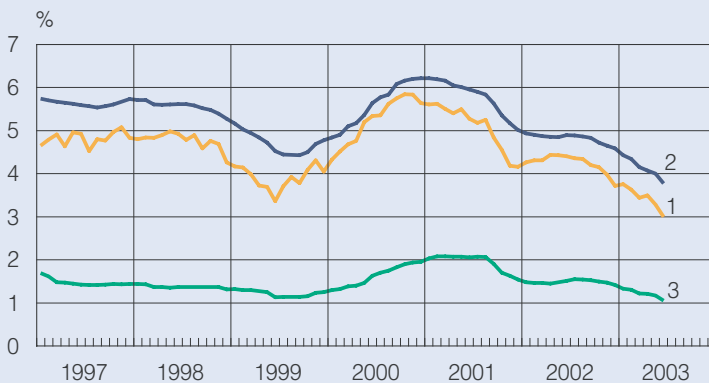


The tax treatment of deposits changed on 1 June 2000.

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.

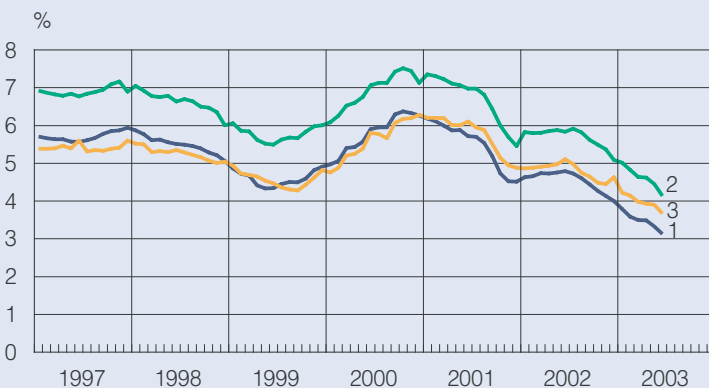
## 21. Bank lending and deposit rates in Finland



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

Source: Bank of Finland.

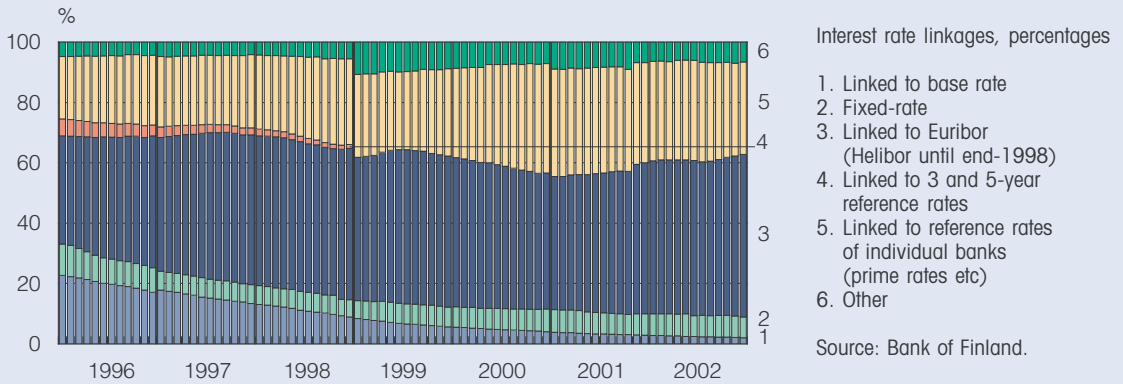
## 22. Interest rates charged by Finnish banks on new lending to households



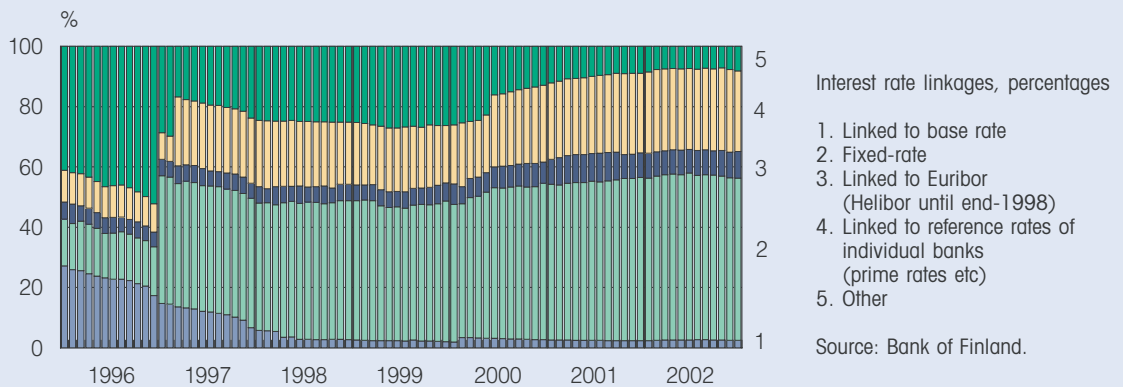
1. New housing loans
2. New consumer credits
3. New study loans

Source: Bank of Finland.

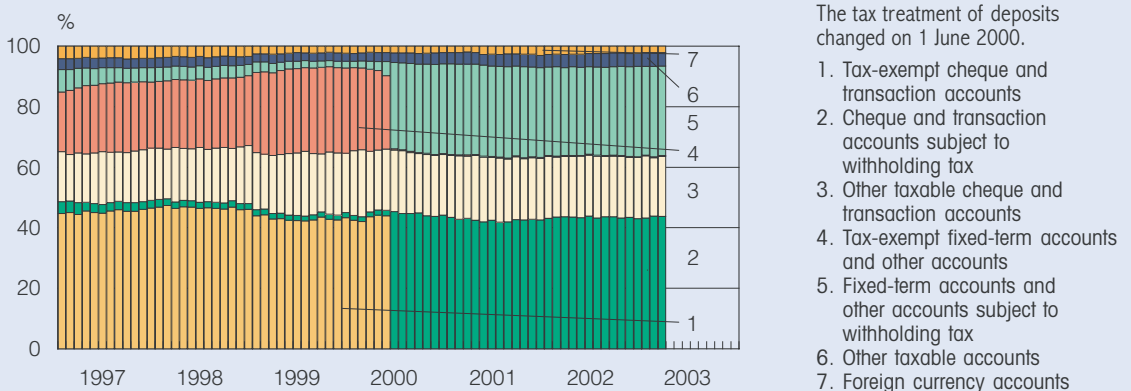
### 23. Stock of bank lending in Finland



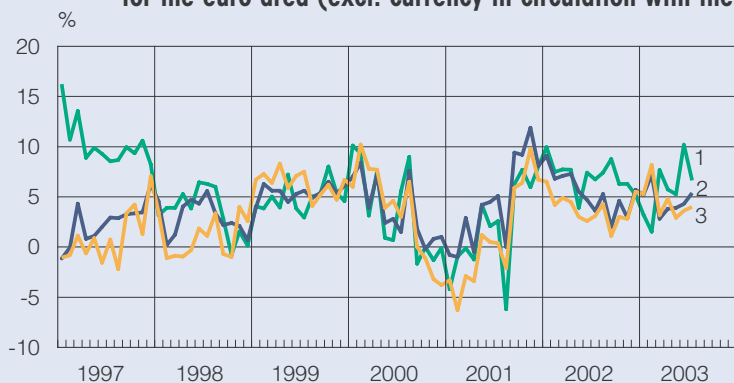
### 24. Stock of bank deposits in Finland by interest rate linkage



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



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

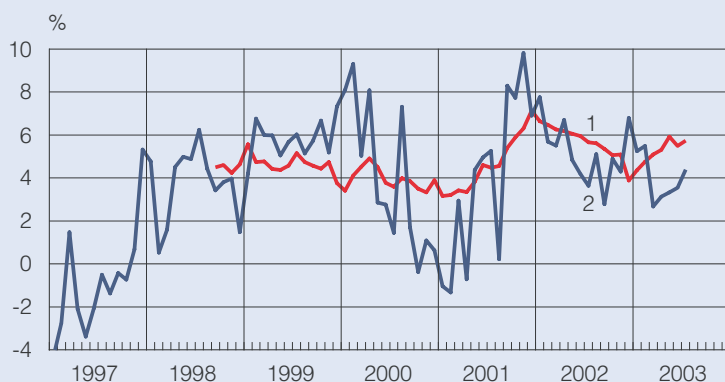


12-month change, %

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

Source: Bank of Finland.

**27. MFI deposits, euro area and Finland**

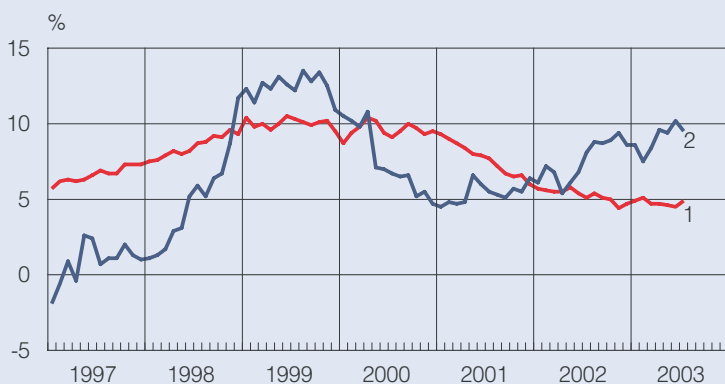


12-month change, %

- 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**



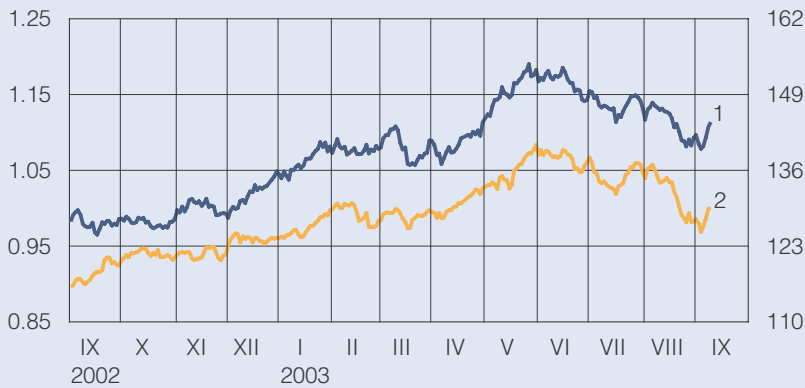
12-month change, %

- 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

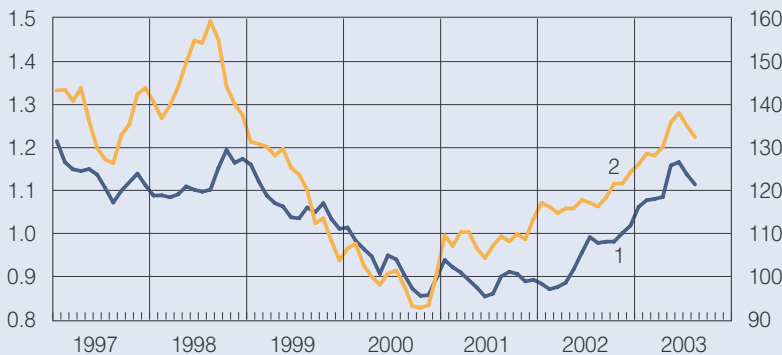


Rising curve indicates appreciation of euro

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



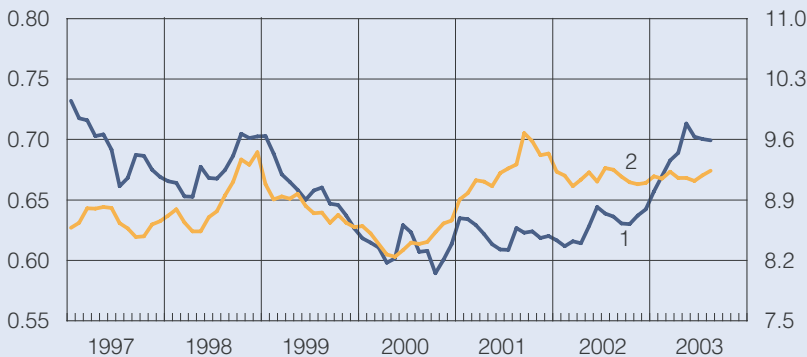
(ecu exchange rate until end-1998)

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

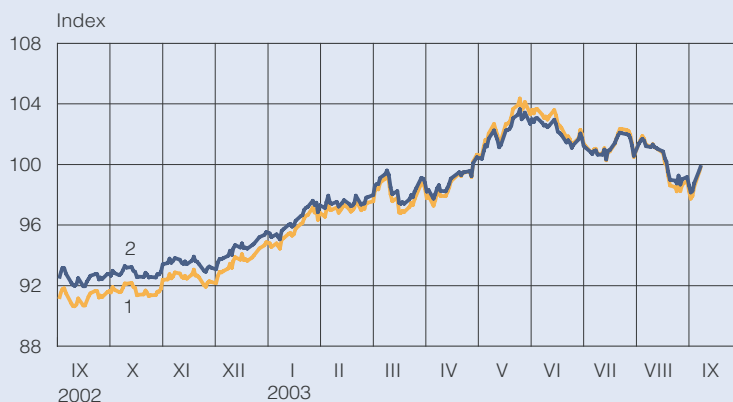


Rising curve indicates appreciation of euro

1. Value of one euro in Swedish kroner
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



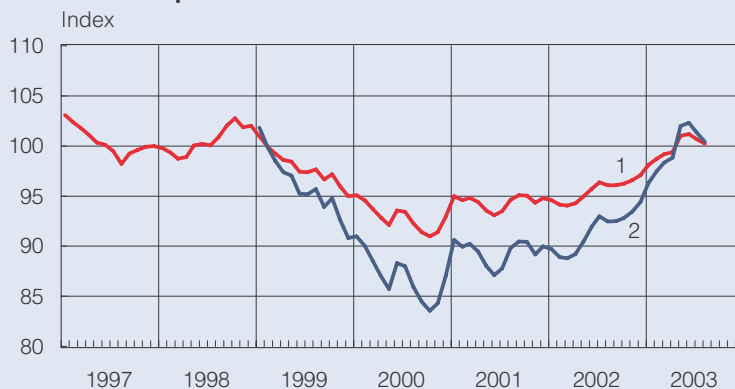
1999 Q1 = 100

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



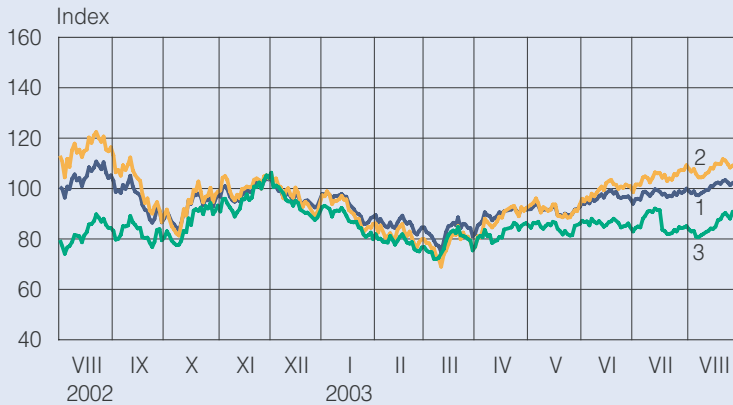
1999 Q1 = 100

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

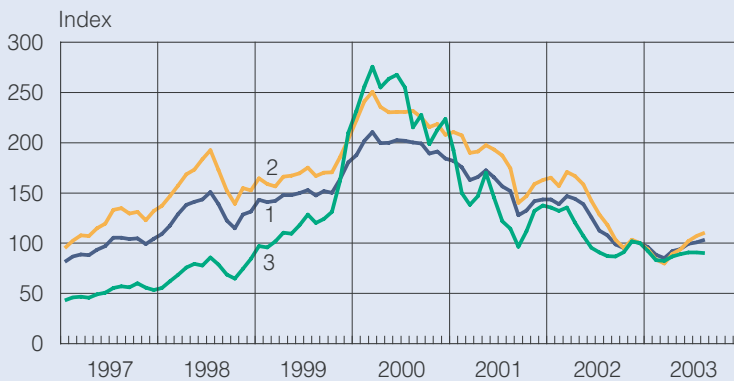


26 November 2002 = 100

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

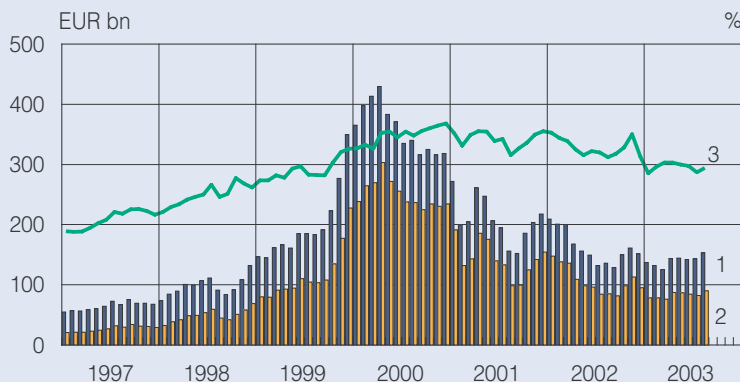


31 December 2002 = 100

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.

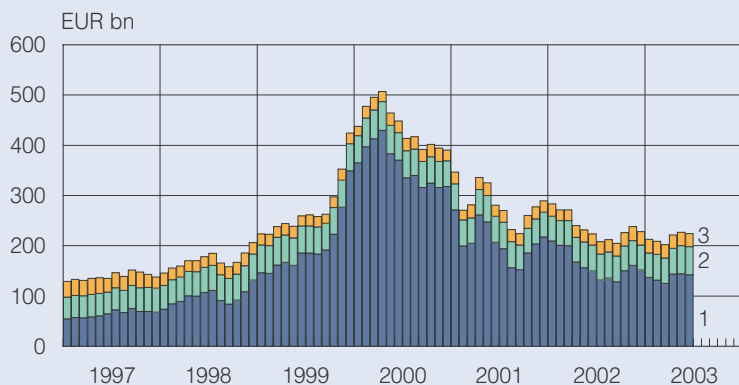
### 37. Listed shares in Finland: total market capitalisation and non-residents' holdings



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

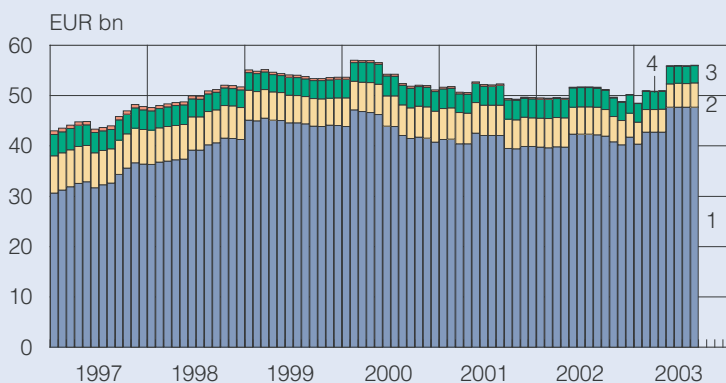


End-month stock

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

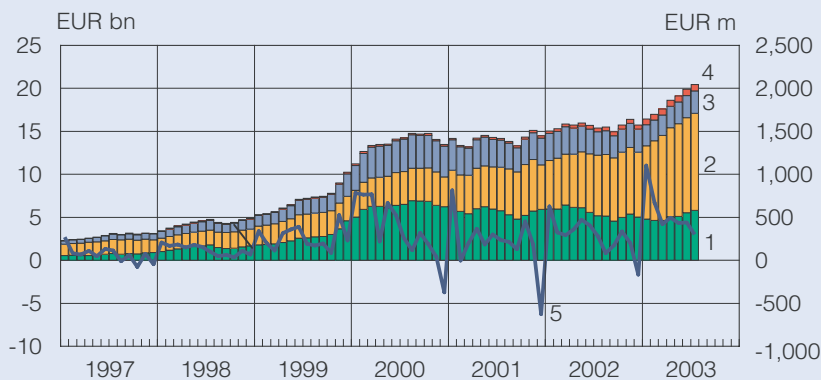


End-month stock

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

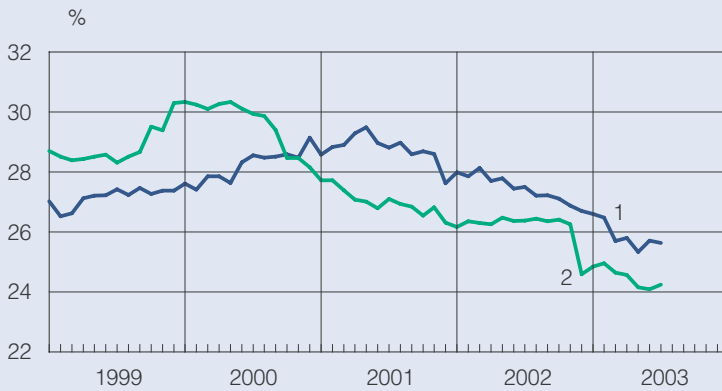
Source: Statistics Finland.

### 40. Mutual funds registered in Finland



Source: HEX Helsinki Exchanges.

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

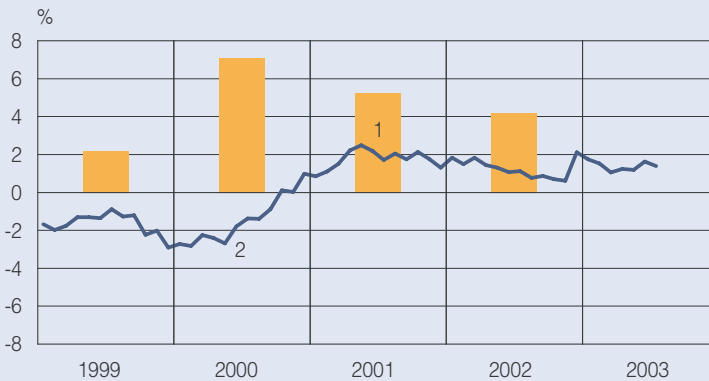


Excluding financial investments  
12-month moving totals, % of GDP

1. Revenue
2. Expenditure

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

### 42. Public sector balances in Finland

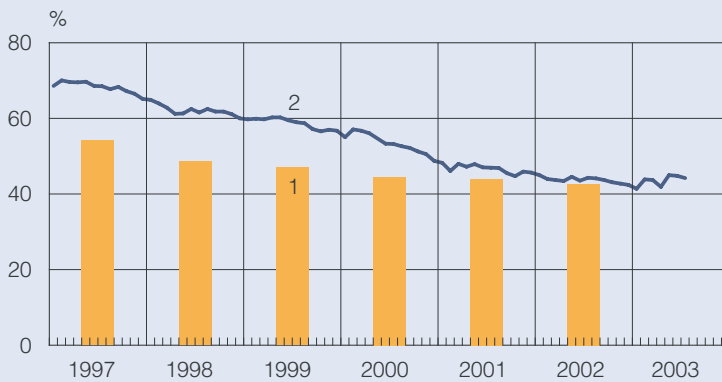


% of GDP

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

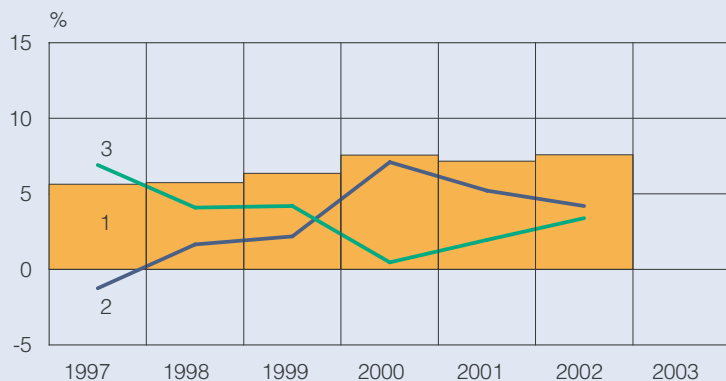


% of GDP

1. General government debt
2. Central government debt

Sources: Statistics Finland and  
State Treasury.

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

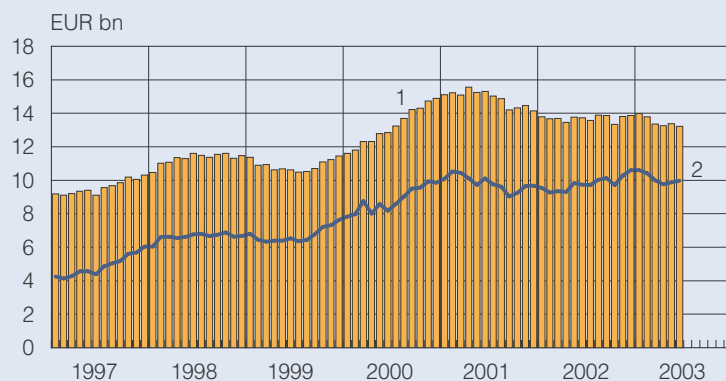


Main sectoral financial balances, % of GDP

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

Sources: Bank of Finland and Statistics Finland.

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

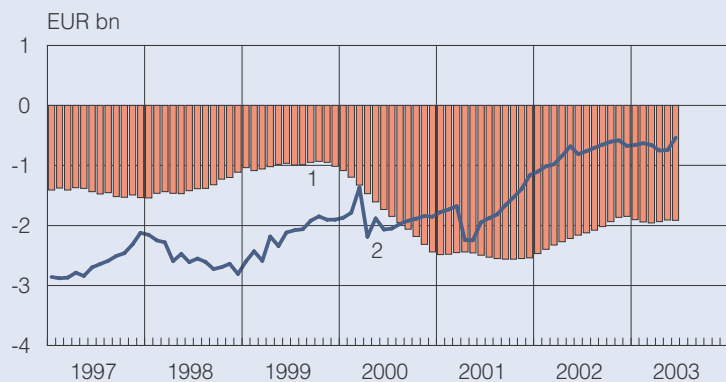


12-month moving totals

1. Goods account, fob
2. Current account

Source: Bank of Finland.

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

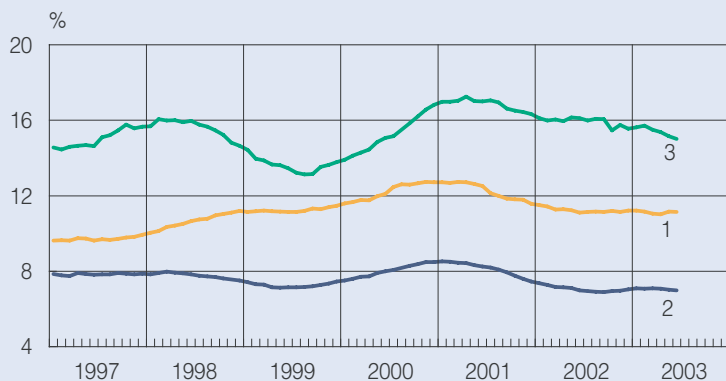


12-month moving totals

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

Source: Bank of Finland.

#### 47. Regional distribution of Finnish exports

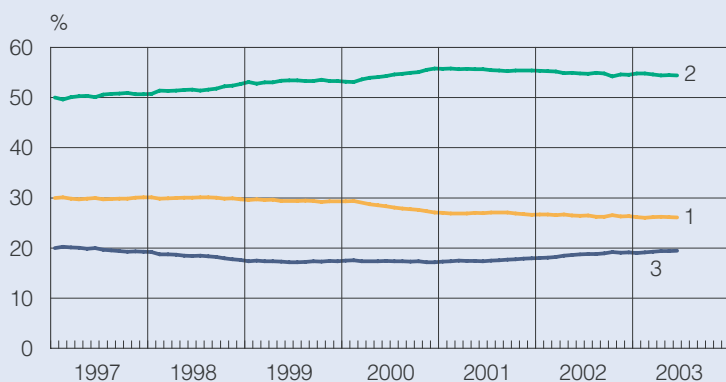


12-month moving totals, % of GDP

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

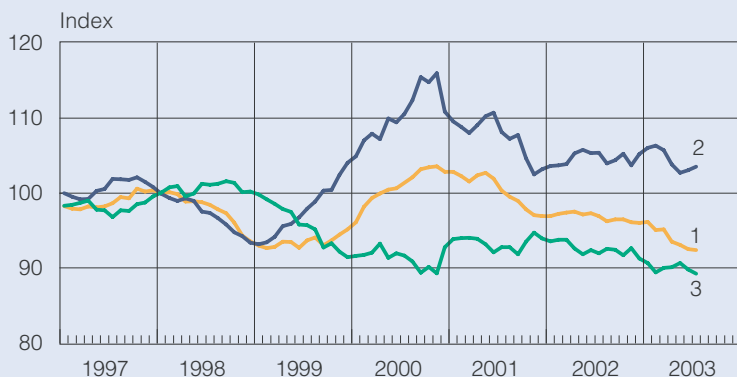


12-month moving totals, percentage of total exports

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

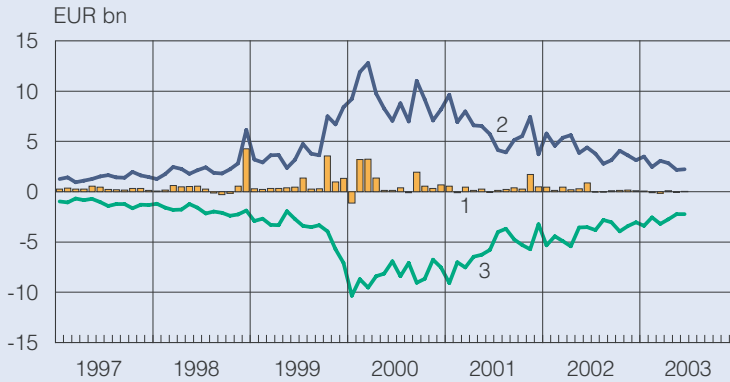


1995 = 100

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

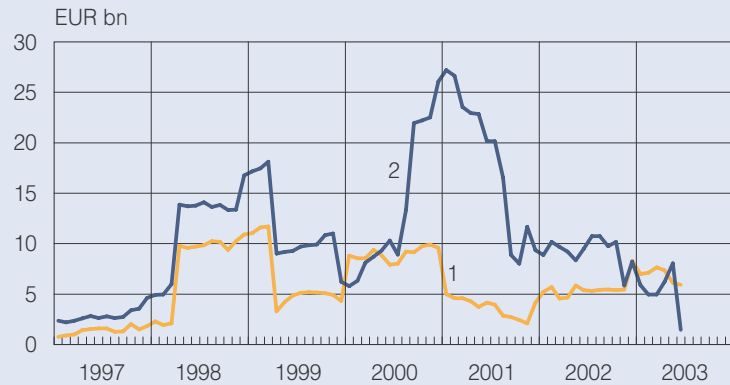
Source: Statistics Finland.

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



Source: Bank of Finland.

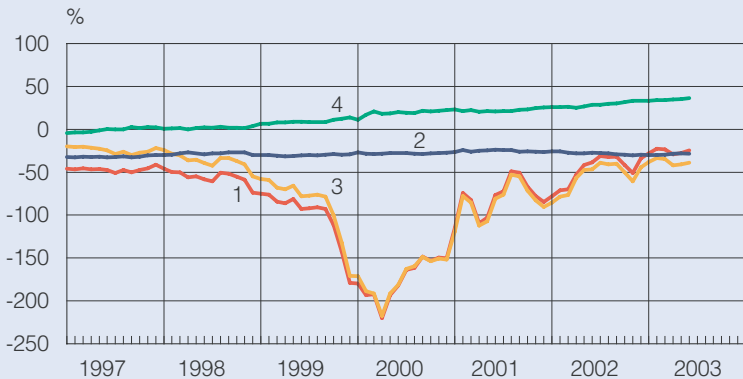
## 51. Finland: direct investment



12-month moving totals

Source: Bank of Finland.

## 52. Finland's net international investment position

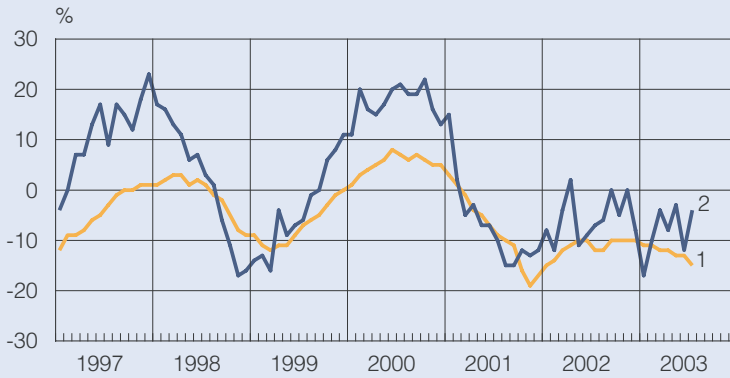


% of GDP

Sources: Bank of Finland and Statistics Finland.



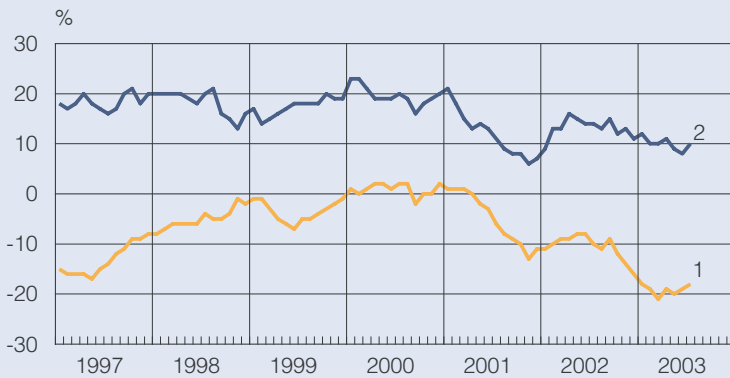
### 53. Industrial confidence indicator in the euro area and Finland



- 1. Euro area
- 2. Finland

Source: European Commission.

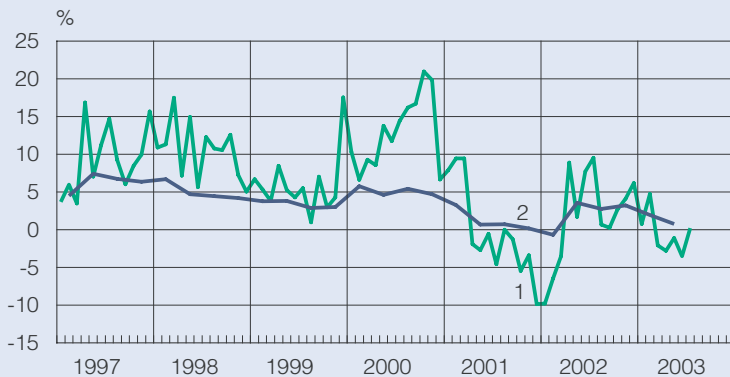
### 54. Consumer confidence indicator in the euro area and Finland



- 1. Euro area
- 2. Finland

Source: European Commission.

### 55. Finland: GDP and industrial production

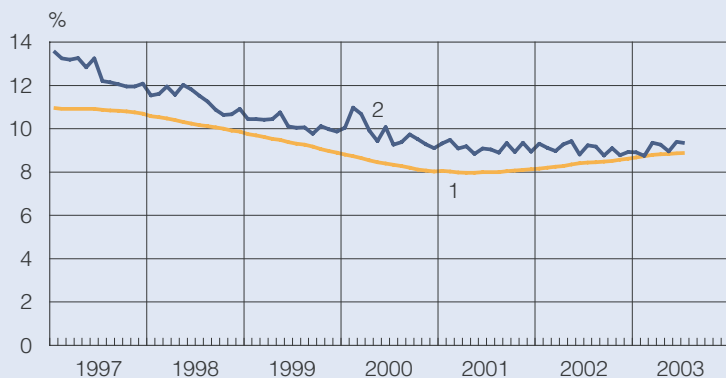


Percentage change from previous year

- 1. Industrial production
- 2. Gross domestic product

Source: Statistics Finland.

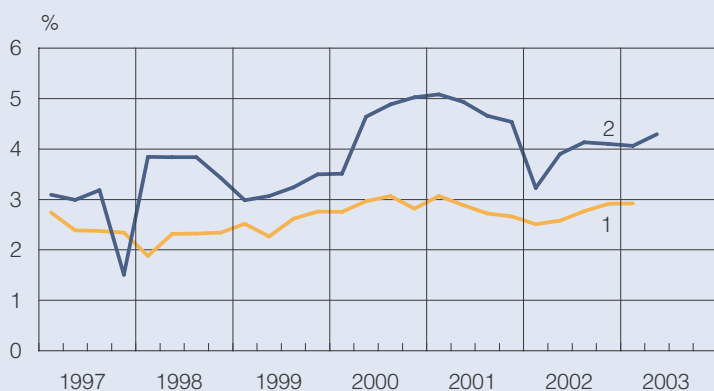
## 56. Unemployment rate in the euro area and Finland



- 1. Euro area
- 2. Finland

Sources: Eurostat, Statistics Finland and Bank of Finland.

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

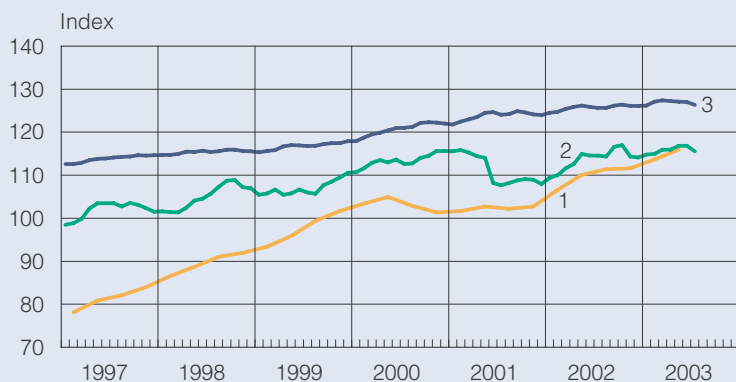


Percentage change from previous year

- 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,  
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Anton Mäkelä, Secretary to the Parliamentary Supervisory Council

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**Matti Louekoski**  
Deputy Governor

**Sinikka Salo**  
Member of the Board

**Pentti Hakkarainen**  
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Management  
Secretarial Staff

**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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