



BANK OF FINLAND

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- Monetary policy and the economic outlook
- Finland's financial markets and the year 2000
- Balance of payments and capital flows
- Public finances in the euro area: growth shocks and structural factors
- Corporate insider trading and its regulation in Finland

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Monetary policy and economic outlook

Recent developments indicate that the world's economic problems have not abated. The Brazilian crisis was a further reminder of the vulnerability of the economic situation in emerging markets. Though there are already signs of an incipient recovery in several Asian economies, Japan's economic difficulties continue to cloud the world economic outlook. While the US economy continues to expand at a more robust pace than expected, the slowdown in economic activity in the euro area is largely in line with expectations.

The rate of increase in consumer prices in the euro area has decelerated further. In December the annual rate of inflation was 0.8 per cent, as measured by the Harmonized Index of Consumer Prices (HICP). But price developments are mixed. The low rate of inflation is mainly due to declines in prices of imported goods, particularly energy and other commodities. In contrast, prices of services – which tell more about domestically generated price pressures – have been rising for some time now at an annual rate of about 2 per cent. On balance, there is no threat to price stability in the near term.

The combination of price stability and economic slowdown in the euro area enabled the European Central Bank (ECB) to set its main refinancing rate, the key rate used for steering movements in short-term market rates, at a very low initial level. But this low level means that there is little room for manoeuvre in monetary policy in the euro area, even if the economic outlook should deteriorate. Real three-month interest rates, estimated by means of the HICP, were just over 2 per cent in February, almost one percentage point lower than a year ago. Similarly, real long-term interest rates were in the region of 3 per cent, more than one percentage point below their level a year earlier. Both short and long-term interest rates are currently very low in comparison with international interest rates and historical levels

in the euro countries. The present stance of monetary policy is therefore consistent with economic growth and price stability in the euro area.

Finland entered Stage Three of Economic and Monetary Union in a favourable position. The current conjunctural situation seems to be developing more or less in step with the business cycle for the euro area as a whole; the risk of overheating in the economy, which still last year was giving cause for concern, has receded. Moreover, Finland's inflation rate is in line with the price stability objective. The single monetary policy suits Finland's current economic situation very well.

While the single monetary policy can make an important contribution to promoting stable economic development, it alone cannot guarantee this. Monetary policy is formulated on the basis of conditions prevailing in the whole euro area. Therefore it cannot react to the special needs of particular countries or regions. In the context of monetary union, each participating country has a key role to play in securing stable monetary conditions and vigorous economic growth through fiscal policy and the functioning of labour markets. It is important for the whole euro area that all the participating countries respect the objectives laid down in the Stability and Growth Pact. Given that the general government fiscal position in several euro countries is still weak, the objectives set for fiscal policy in the coming years should be clearly more ambitious than at present.

Despite fiscal consolidation in recent years, central government finances in Finland are still in deficit. Moreover, there will be pressures at work in the medium term that will increase expenditure and reduce revenue. Population ageing will be the main factor contributing to increased spending needs. International tax competition, tax harmonization and lighter taxation of labour will reduce revenue. Moreover, the sensitivity of the budget to the business cy-

Chart 1.

Share prices and household saving rate in the United States



* Per cent of households' disposable income.

collapse of the real, high real interest rates and uncertainty about fiscal policy have weakened demand and growth prospects in Brazil in the longer term. The deterioration in Brazil's growth prospects and the tensions this has given rise to in financial markets in some other Latin American countries has had an adverse impact on economic developments throughout South America and thus also on US exports to the region.

Some Asian economies with fixed exchange rates, such as Hong Kong and China, have come under pressure as a result of the Brazilian crisis. Loss of confidence in the financial system could also check Asia's incipient recovery. The risks faced by the banking system in the euro area have also increased, especially in banks that are heavily exposed to Brazil.

Economic growth in the United States has remained robust, underpinned by domestic demand, particularly private consumption. Good employment developments and monetary easing have helped to sustain consumer confidence. The favourable developments in the United States have softened the impact of the financial market disturbances on the global economy.

The economic situation in the United States nevertheless gives cause for concern because the household saving rate has fallen to a very low level and the current account deficit has widened. At the same time share prices have climbed to high levels (Chart 1). The longer these trends continue the greater is the risk of a sudden reversal, leading to sharp fall in the dollar, a decline in share prices and a drying up of growth, if consumer confidence collapses.

Economic growth in the euro area is expected to slow in the near future. The slowdown is likely to be short-lived, however, as world trade is forecast to recover in the second half of this year and in 2000. Growth in the euro area will also be sustained by strong domestic demand, which makes a very important contribution to overall growth. There are already signs that the economic situation is stabilizing in Southeast Asia and Japan. The risk of a larger than expected slowdown in economic growth still exists, however. The Brazilian economic crisis could have a greater than expected impact on the global economy, the Japanese economy could sink further into recession and consumption growth, which has driven total output growth in the United States, could come to a halt, if there is a sudden weakening in consumer confidence.

cle implies a need for a stronger structural balance in Finland than in many other EU member states. Thus the present Government's stated aim of achieving a sizable surplus for the general government sector deserves to be supported. The new Government that takes office after the parliamentary elections in March will be well advised to continue the efforts of its two predecessors to strengthen the fiscal position of the general government sector and eliminate the deficit in the central government sector.

Continuing instability in the world economy

Instability in the world economy has increased again in recent months. The spread of the economic and financial crisis to Brazil led to turbulence in global financial markets, weakened the prospects for world economic growth and increased uncertainty about the future. The immediate reactions of international currency and financial markets to the almost 40 per cent devaluation of the Brazilian real were nevertheless muted.

Indeed, calm seems to have returned to markets following the nervousness of last summer. But the

Calm developments in interest rates and exchange rates in the euro area

The transition to the single monetary policy took place without any major problems. Both the euro's exchange rate and interest rates have been reasonably stable. The exchange rate of the euro against the dollar has weakened by about 7 per cent since the beginning of the year, mainly because the economic news from the United States has been better than expected and the economic outlook for the euro area has weakened to some extent. The euro has also weakened in effective terms, in part because the pound sterling and the Swedish krona have strengthened along with the dollar.

Short-term market interest rates in the euro area were slightly over 3 per cent in January–February. The market expectation is that rates will move even lower, as evidenced by fact that interest rates on forward contracts in the euro area have fallen below actual market rates. Recently, market expectations of a decline in short-term rates have eased to some extent.

Confidence in the euro has been reflected in a decline in long-term euro interest rates. The German ten-year government bond yield has fallen to about 4 per cent. This represents a decline of 150 basis points since the beginning of 1998. Part of this fall can be attributed to the greater uncertainty in international financial markets, which has increased investors' interest in the euro area. The yield on US government bonds has fallen by just under 100 basis points since the beginning of last year. As a result, the differential between long-term bond yields in the euro area and the United States has reached record proportions.

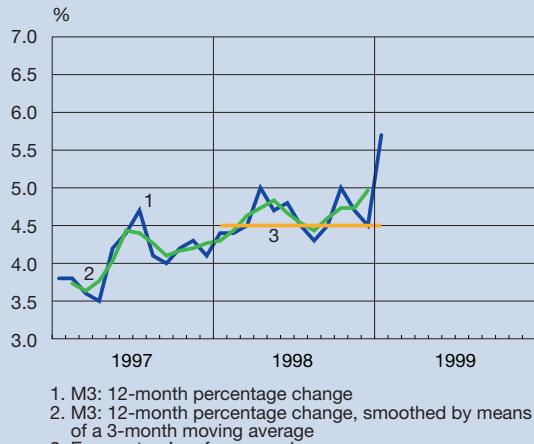
Differentials between long-term bond yields in the euro countries have remained following the start of Stage Three. They are at roughly the same levels as they were last summer. Thus the ten-year yield on Finnish government bonds is still around 20 basis points higher than the comparable German yield.

Divergent trends in the growth of monetary and credit aggregates in the euro area

The growth of the money stock in the euro area has been stable in recent months. In December the broad monetary aggregate M3 grew by 4.5 per cent on an

Chart 2.

Monetary aggregates for the euro area



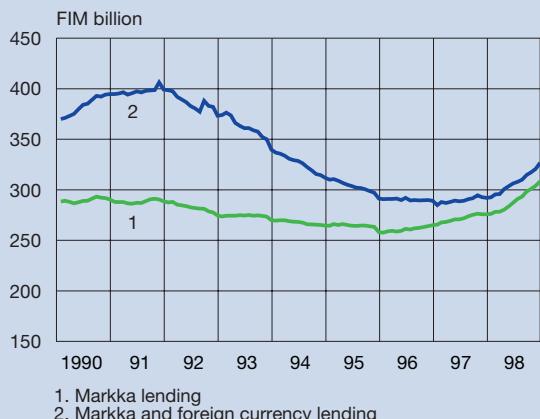
annual basis and the three-month moving average of the twelve-month growth rate was 4.7 per cent. In January the rate of growth accelerated slightly and the three-month moving average rose to 4.9 per cent. The reference value set by the Governing Council of the ECB for the growth of the broad monetary aggregate is 4½ per cent, measured as a three-month moving average. Consequently, the rate of growth in the money stock has been close to the reference value (Chart 2).

However, it is worth noting a number of special features that attach to this seemingly stable trend of money growth. One of them is that the growth rate of broad money has diverged from that of credit aggregates. Credit growth in the euro area has been substantially faster than that of the broad monetary aggregate. In January the twelve-month growth rate of credit to the private sector was 9.4 per cent. Over the long term a very close relation has prevailed between the rate of growth of credit and broad money. There is a risk that the pick up in the rate of growth of credit will gradually find its way through to the growth of the money stock.

Two factors explain a large part of the difference between the growth of credit and monetary aggregates. First, the increase on the assets side of the con-

Chart 3.

Stock of bank lending



solidated balance sheet of the MFI sector in the euro area is mainly due to growth of credit to the private sector. Growth of credit to the public sector and of the acquisition of securities has been appreciably slower. Second, on the liabilities side of the balance sheet, the growth of external liabilities – which are not included in the monetary aggregates – has been considerable. The external liabilities of banks in the euro area grew by over EUR 200 billion in the course of last year, which is almost as much as the growth of M3 in the euro area in 1998.

The rate of growth of narrow money could also become a potential risk from the point of view of the stable growth of broad money. The euro area's narrow money aggregate grew by about 10 per cent in 1998 and the rate of growth is clearly accelerating. Overnight deposits (current accounts etc), in particular, are growing at a rapid pace while the share of fixed-term deposits is decreasing. Thus the public in the euro area seems to be willing to hold an increasingly large amount of its funds in a more liquid form than before. This could portend a change in consumer behaviour. On the other hand, the differential between the rate of interest payable on overnight deposits and fixed-term deposits narrowed in the course of 1998. This could well reflect a shift in the composition of

deposits similar to that experienced in Finland during 1996.

In Finland the rate of growth of deposits included in the monetary aggregates for the euro area has been slower than the euro area average. Deposits grew by 3½ per cent in Finland in the course of 1998. The growth of credit has accelerated significantly since spring 1998 and the rate of growth now exceeds the average for the euro area by a clear margin. The stock of both markka lending and total lending in Finland grew by about 12 per cent (more than FIM 30 billion) in the course of 1998 (Chart 3).

The growth in the credit stock in 1997 still consisted almost entirely of borrowing by households since firms used mainly internally generated funds to finance their investment. A clear change occurred in the demand for credit in 1998. The growth of lending to households continued at a brisk pace, and particularly new lending for housing purchases reached record levels. The stock of housing loans grew by FIM 13 billion in the course of the year to more than FIM 110 billion. A new feature was that lending to firms also turned up, and the stock of lending to firms grew by about 14 per cent (about FIM 11 billion) in the course of the year.

In line with developments in the euro area, the growth rates of credit and deposits in Finland seem to be diverging. The reasons are to some extent the same as for the euro area as a whole. Banks' balance sheets are very liquid, reflecting developments during the preceding few years when credit demand was subdued and the total amount of deposits grew very modestly. The rapid growth of credit on banks' balance sheets in the course of last year largely corresponds to the contraction in certificates of deposit and debt securities. At the same time the share of nonresidents' deposits in Finland has increased, but to a lesser extent than in the euro area on average. However, there are signs that the growth of deposits is gradually accelerating in Finland as well.

Underlying the acceleration in the rate of growth of credit in the course of last year was the fall in lending rates to record low levels. The decline in lending rates is due to both relatively easy monetary policy and heightened interbank competition. The abolition of stamp duty on loans in 1998 also made it easier to replace existing loans with new ones. At the same time consumer confidence in continuing favourable economic developments has remained strong, accord-

ing to various confidence indicators. An interesting feature of recent developments is that the demand for business loans has also grown sharply, in spite of declining business confidence indicators.

Price stability in the euro countries

Inflation in the euro area has eased further. As measured by the HICP, the twelve-month rate of increase in consumer prices edged down to 0.8 per cent in December 1998 after having been 0.9 per cent in November and 1 per cent in October. The slowing in inflation was mainly due to the decline in prices of imported goods. Prices of energy and industrial producer goods continued to fall. Prices of services, which describe the domestic component of inflation, rose throughout 1998 at an annual rate of about 2 per cent (Chart 4).

Finland's rate of inflation also eased in the final months of 1998. The twelve-month rate of increase slowed from 1.8 per cent at the beginning of 1998 to 0.8 per cent in December and further to 0.5 per cent in January 1999. The fall in prices of imported goods was the main factor behind this development. Earnings growth has not given rise to inflationary pressures. Nominal earnings rose by 3.5 per cent in 1998 and so the increase in unit labour costs was noticeably smaller than the growth of labour productivity. According to the survey of consumer confidence, consumers' expectations that prices would remain stable strengthened throughout 1998. In January 1999 consumers expected prices to rise by 1.3 per cent over the following twelve months.

There are no significant upward or downward pressures on prices in the euro countries. The risks to price stability have remained broadly unchanged. There could be downward pressure on prices if there are further falls in prices of imported goods or producer prices as a consequence of a delayed recovery of the world economy. On the other hand, increases in real earnings in the euro area could exert upward pressure on prices if current pay claims are accepted. Moreover, the weakening in the exchange rate of the euro could push up domestic prices in the euro area.

Chart 4.

Harmonized Index of Consumer Prices



Economic growth in the euro countries continues at a reduced pace

The slowdown in world economic growth is beginning to have a more pronounced effect than before on economic growth in the euro countries. The rate of growth of euro area real GDP accelerated to over 3 per cent on average in the first half of 1998 but then slowed to 2.7 per cent in the third quarter. Domestic demand remained robust and private consumption, in particular, grew strongly, as predicted by the strengthening of the consumer confidence indicator throughout the autumn. Investment also grew considerably. Inventories, in particular, increased at a rapid pace in the first three quarters of 1998 and their subsequent adjustment to the level of demand slowed output growth in the euro area in the final quarter of 1998 and in the opening months of the current year.

The economic sentiment indicator for the euro area, which comprises the industrial, construction and consumer confidence indicators as well as stock price developments, turned down in the middle of 1998. The indicator nevertheless started to rise again towards the end of the year along with the recovery in share prices. The decline in the industrial confidence

Chart 5.

Confidence indicators for the euro area



indicator for the euro area came to halt in December–January. Industrial confidence and outstanding orders nevertheless decreased throughout 1998 and this was mirrored in a slowdown in the growth of industrial production. In the current year, however, there have been signs in some euro countries that the trough may now have been passed, and export orders are increasing again. Notwithstanding this, industrial production is likely to remain sluggish in the early months of this year. According to the annual business sentiment survey of the European Chambers of Commerce, firms' growth expectations have weakened but demand for labour is expected to increase because of growth in the service sectors. In the construction sector, economic prospects improved in the course of 1998 and the construction confidence indicator has risen above its long-term average (Chart 5).

Consumer confidence in the euro area has continued to improve and in January 1999 it reached its highest level since 1990. The rise is mainly due to an improvement in consumers' expectations about the current and future economic situation. Contributing to the improvement have been the good employment situation, an increase in real earnings, low interest rates and the stock market recovery. The strengthening in private consumption seems to be largely com-

pensating for the weaker performance of industrial production and exports.

Economic developments in Finland are in line with those in the euro countries

The Finnish economy is continuing to grow but at a slower pace than last year. Consumption and investment are still fairly buoyant. However, demand for exports has weakened and so the growth of total output is expected to slow to close to the average growth rate for the euro countries.

At present the growth of total output is being driven by domestic demand and by the electrical and electronics industries, more especially the latter. The growth of total output slowed considerably towards the end of 1998 from the peak growth figures reached in the first half of the year. The economy nevertheless grew by nearly 5 per cent for the year on average, which was slightly more than anticipated in the autumn. Although industrial production grew clearly in the latter months of the year, this was due entirely to vigorous growth in the manufacture of telecommunications products. Without the contribution of this sector, industrial production would have declined. Capacity utilization has fallen since the early summer and shortage of capacity is no longer a factor constraining production. The industrial confidence indicator fell almost continuously in 1998. Industrial confidence concerning the general economic situation nevertheless turned up slightly around the end of the year, although order books weakened further. Inventories of manufactured goods have increased slightly. With the rise in inventory levels, wholesale and retail price expectations have started to weaken.

Economic growth is being sustained by domestic demand, in addition to the electrical and electronics industries. Retail sales have continued to increase at a steady pace, and car sales, in particular, have continued to grow at rapid pace. Consumer confidence weakened slightly in the autumn but recovered at the end of the 1998 and at the beginning of the current year. When the questions on the general economic situation are excluded, the confidence indicator has declined only slightly since the summer. Activity in the construction sector remained buoyant last year and demand was good both as regards new produc-

tion and repairs and renovation. On the basis of new building permits, construction activity will continue to expand at a moderate pace despite the fact that confidence in the construction sector concerning the economic situation has recently weakened to some extent. Production in agriculture and forestry fell by about one-third in 1998 as a result of a poor grain harvest.

In spring 1998 the volume of exports of goods still seemed to be expanding vigorously despite the fact that exports to Southeast Asia fell by roughly a half. In the summer, however, it became clear that there had been a pronounced change of trend in exports. The slowdown in the growth of exports is mainly due to weaker demand and global oversupply of manufactured goods, which has led to heightened competition. In addition, exports to Russia decreased by more than one-third in the second half of 1998 from their level in the early part of the year. The food and printing and publishing industries were hit particularly badly by the contraction in exports. The competitiveness of the export sector has remained good despite the strengthening of the euro. Export performance varies considerably between sectors. The electrical and electronics industries, in particular, stand out from the rest of the export sector and their export performance is expected to remain good.

Employment has continued to develop in a favourable fashion. At the end of 1998 the number of employed was 2 per cent higher than a year earlier and the unemployment rate had fallen to just over 10 per cent.

Improvement in the fiscal position of the general government sector is slowing

The improvement in the fiscal position of the general government sector continued in 1998 as planned and, thanks to a combination of strong economic growth and low interest rates, general government fiscal deficits shrank in several euro area countries even more than had originally been forecast. But owing to the slowdown in economic growth and a pause in implementing necessary reforms, deficits are

expected to decrease only slightly further in the current year. When the cyclical effect is eliminated, there is not expected to be any structural improvement in general government fiscal positions for the euro area as a whole in the course of the current year.

Under the Stability and Growth Pact, general government deficits should remain below the ceiling of 3 per cent of GDP even in recessions. According to the stability programmes published by member states, deficits in the core euro area countries will shrink to about 1 per cent of GDP in the first years of the new millennium. But a marked slowdown in economic growth could prevent achievement of the favourable developments foreseen in the programmes. Without remedial fiscal policy action, there is a danger that general government deficits, particularly in the core countries, could widen to close to the reference value, in which case confidence in the stability programmes could weaken.

In Finland developments in the fiscal positions of the general and central government sectors have been slightly better than anticipated last autumn. Revenues from corporate tax and indirect taxes have increased by notably more than forecast. In the stability programme for Finland published in September 1998, the general government sector was projected to shift into a clear surplus in 1998, and preliminary data point to a surplus equivalent to 1 per cent of GDP. According to the programme, the general government surplus will widen to 2.4 per cent of GDP in the current year. Although the fiscal position of the general government sector in Finland is reasonably good in comparison with many other euro countries owing to the surplus of social security funds, the stability programme expects central government finances to remain in deficit. A large central government debt, the prospect of rising expenditure on pensions and health care over the medium term and pressures for tax harmonization brought about by the single market all imply the need to aim for larger surpluses, especially in central government finances.

1 March 1999

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

Finland's financial markets and the year 2000

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In the early years of computers and digital technology, only two digits were used to represent the year in order to save expensive and limited memory and thus minimize costs. At the change of the millennium, this software will be unable to tell whether '00' refers to the year 1900 or 2000 without reprogramming. The so-called 'millennium bug', or Year 2000 (Y2k) Computer Problem, has worldwide implications that impact on all sectors of the economy, albeit with varying degrees of intensity. In some cases the software has already been written so that the year is now represented using four digits or so that only minor changes are required. In other cases entire systems need to be replaced because there is no economic interest in updating outdated software or because the technical know-how to do it is lacking.

The whole financial sector is highly dependent on IT and communications links. In Finland, financial markets are largely automated. Banks, in particular, have massive IT systems whose smooth operation depends on a number of external links: for example, they have IT links with other banks in Finland and abroad, securities clearing and settlement organizations, customers, service providers and authorities of various kinds.

If Year 2000 related disruptions are to be minimized, management of banks and other financial industry firms must be committed to carrying through their Y2k projects. However, it is not enough that an institution's own systems are Y2k compliant; the parties concerned also have to work together to secure their interconnections by eg testing links. Similarly, all financial industry firms must ensure, as far as they can, that insufficient preparation on the part of customers, service providers or infrastructure providers does not give rise to insuperable problems in their own operations.

Even if Y2k projects are implemented according to timetable and all tests are successful, contingency plans are still needed to deal with potential dis-

ruptions. These could occur already in 1999, but they are more likely after the millennium change. Contingency plans are needed to deal with situations such as an extended breakdown in communications links or payment delays caused by the failure of a customer's IT systems.

Identifying software that needs to be updated

Most software and systems using only two digits to represent the year need to be reprogrammed or replaced; otherwise a significant part of them will malfunction or fail altogether. Identifying all the areas that need to be updated is difficult. Testing is the only sure way to do this.

Testing is carried out using dates from the next millennium. This requires that all tests are performed in a separate test platform or, if this is not possible, outside normal business hours, eg at weekends or during the night.

IT systems are also embedded in other systems, eg the air conditioning of the premises on which IT devices are located, access control systems, vault doors equipped with time-release locks and lifts. Their operation also needs to be verified by testing or some other appropriate method.

International cooperation

Preparations for the Year 2000 have been discussed in various international fora, eg at G7 meetings and under the auspices of the European Commission¹. In

¹ The European Commission submitted a communication *How the European Union is tackling the Year 2000 Computer Problem* to the European Council in December 1998.

a press statement released in September 1997, the Bank for International Settlements (BIS) urged financial market participants to check the Y2k compliance of their applications, test it and draw up contingency plans to deal with potential disruptions. The BIS website² includes Year 2000 Pages containing country tables on timetables for testing payment and settlement systems.

The Joint Year 2000 Council³ (Y2k Council) was set up by financial markets supervisors in spring 1998 to further the Y2k preparations of the financial industry. It has published documents dealing mainly with supervisory aspects of planning Y2k preparations, testing and minimizing the effects of disruptions.

The Global 2000 Co-ordinating Group⁴ was established to promote cooperation between financial market participants (banks, securities firms and insurance companies) on Y2k related issues. It has published guidelines for firms on its website on topics such as Year 2000 self-assessment, testing, contingency planning etc.

Preparation of the financial industry in Finland

Most Finnish banks began their Y2k preparations in good time, even though this coincided with their efforts to adapt to another historic change, ie the changeover to the euro. The banks completed most of the necessary software updates for the Year 2000 in the course of 1998. The Helsinki Stock and Derivatives Exchange Ltd (HEX), the central securities depository Suomen Arvopaperikeskus Oy (APK) and a number of securities market participants postponed part of their preparations until the current year because of euro-related changes to their IT systems. The banking industry will conduct internal and multilateral tests during the spring and early

² <http://www.bis.org>

³ The Joint Year 2000 Council consists of representatives of national banking, insurance and capital market supervisors and their international organizations. Its secretariat operates in connection with the Basle Committee on Banking Supervision on BIS premises in Switzerland (<http://www.bis.org>).

⁴ <http://www.global2k.org>

summer. In addition to interbank connections, connections between banks and the Bank of Finland, HEX and the APK will be tested. Many banks are also providing testing facilities for vendors of home and office banking software and for customers who use electronic banking services.

Successful joint testing requires that internal tests are conducted carefully. Each participant is responsible for the Y2k compliance of its own applications. If these malfunction, multilateral testing is hampered.

The focus of banks' and other financial firms' efforts in the current year is on contingency planning, in addition to testing. This will enable them to deal with any unforeseen problems that may arise, mainly at the beginning of 2000, either because they have not been uncovered in tests or because firms themselves have been powerless to prevent them. Problems may also arise because there is not enough time to correct all errors.

Role of the Bank of Finland and the Financial Supervision Authority

The Bank of Finland is responsible for the oversight of payment and settlement systems. Oversight is concerned with systems as a whole, and not with individual participants in the system. Without thorough joint testing and contingency planning, the year 2000 could pose a serious risk to the functioning of systems and thereby the stability of the entire financial system. The Bank of Finland is actively monitoring the progress made by banks and securities clearing and settlement organizations in implementing their Y2k projects.

The Bank of Finland's settlement account system (BoF-RTGS) is used for effecting, *inter alia*, interbank settlements, securities trade payments and TARGET payments. The BoF-RTGS system is scheduled to be ready for joint testing in spring 1999. The European Central Bank will organize the Y2k testing of TARGET in summer 1999 in cooperation with the national central banks. The Bank of Finland is also coordinating the joint testing of the national currency supply system.

The Financial Supervision Authority (FSA) supervises the Y2k preparations of Finnish banks, investment firms and other supervised entities as part of its normal supervisory duties. Authorizations to

conduct business are granted and withdrawn by the Ministry of Finance. The FSA may propose that authorization be withdrawn or restricted if a supervised entity no longer fulfils the authorization criteria. This situation may arise if, for example, the IT systems of a supervised entity fail or it is obvious that they will not function after the millennium change.

In a statement issued in December 1997⁵, the FSA urged the supervised entities to make preparations for the changes required by the Year 2000 and to regularly publish information on the progress made in implementing their Y2k projects. Following the release of the statement, the Year 2000 issue has figured prominently in on-site inspections, surveys and other aspects of supervision. The progress made by major banks and securities market participants in implementing Y2k projects was last monitored in autumn 1998. The next round of inspections, which will focus on testing, is due to take place this spring. The FSA's inspections are based on recommendations on Year 2000 related supervision issued by the Basle Committee on Banking Supervision⁶. The FSA is also represented in a national Year 2000 cooperation group set up by the Ministry of Finance.

In a notification issued in summer 1998, the FSA instructed supervised entities to include a section on their Y2k readiness in their annual reports. Some banks complied with this requirement in their last interim reports of 1998. HEX and the FSA issued a corresponding recommendation to all listed firms in a joint letter at the end of 1998.

The Bank of Finland and the FSA have actively endeavoured to promote cooperation between market participants and the dissemination of information on the extent of potential Year 2000 problems. In June 1998 the Bank of Finland and the FSA organized a seminar for banks, HEX and the APK on the Y2k preparations of payment and settlement systems. The

aim of the seminar was to increase the participants' knowledge of potential problem areas and to prepare ground for cooperation. Following this seminar, the Bank and the FSA organized meetings with the Y2k coordinators of banks, HEX and the APK, and more meetings are scheduled to take place at regular intervals in the course of the current year. In addition, the FSA, HEX and the APK organized a Y2k seminar for securities market participants in August 1998.

Readiness of the financial markets

The deadlines for completion of Y2k projects cannot be postponed. The aim is to correct or replace all non-compliant software. The parties concerned intend to safeguard the operation of critical systems by carrying out joint tests in early 1999. They are also preparing contingency plans to deal with any disruptions.

Banks and other firms in the financial industry will incur almost immediate income losses as a result of any disruptions that occur in connection with payment, trading and brokerage transactions. The smooth operation of payment systems is critical for the entire economy. Ensuring the continued smooth functioning of banking facilities is essential for maintaining public confidence in payment systems.

Banks and other financial market participants have made considerable progress in their Y2k preparations. Resources that were previously needed to deal with the changeover to the euro and the experience gained from that exercise are now being harnessed to address the Year 2000 Problem. Delays in responding to this challenge in some sectors of the economy pose a certain degree of risk to the smooth functioning of the financial markets at the turn of the millennium. Banks will be powerless if the rest of the economy fails to implement the bulk of the necessary changes or if the overall infrastructure of the economy and society breaks down. This makes it all the more important for those parties whose preparations are well advanced to share their experience with others.

⁵ Decision-makers, information systems and the year 2000 – a challenge for financial market participants (http://www.rata.bof.fi/english/publications/publication_series/statements/k00897ll.pdf).

⁶ The year 2000 – A challenge for financial institutions and bank supervisors and Supervisory Cooperation on Year 2000 Cross-Border Issues (<http://www.bis.org/publ/index.htm>).

15 January 1999

- Key words: Year 2000, IT system, testing, contingency planning

Balance of payments and capital flows

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In the euro environment, the external balance of the Finnish economy no longer plays the role of an indicator of the state of the economy as it did in the era of the markka and independent monetary policy. With the onset of Stage Three of EMU on 1 January 1999, Finland's national balance of payments lost its importance for monetary and exchange rate policy. Developments in Finland's current account and capital flows have hardly any impact on euro exchange rates and interest rates.

Compilation of Finland's national balance of payments will nevertheless continue in the euro environment as the national balance of payments still has an important part to play in describing the financial position of the Finnish economy. The financial balances of the private and public sectors, the sum of which is the counterpart of the current account, remain focal points of interest from the point of view of monitoring.

Finland's balance of payments is compiled monthly, both in the traditional way as a statement of the economic transactions of the economy with the rest of the world and separately vis-à-vis the rest of the euro area and vis-à-vis the countries outside the euro area. The European Central Bank (ECB) publishes monthly and quarterly balance of payments statistics for the euro area vis-à-vis the rest of the world.

Current account surplus remained large in 1998

The balance of payments for 1998, the last to be compiled during the era of independent monetary policy, was characterized by the same developments as in previous years. The external balance strengthened further, despite the fact the rate of growth in exports slowed towards the end of the year. The surplus on

current account amounted to FIM 37.3 billion, representing some 5.6 per cent of total output (Chart 1). Since 1995 the current account surplus has been in the region of 4 to 6 per cent of GDP, one of the highest levels in the EU member states. Only in Belgium and the Netherlands has the current account surplus in relation to GDP been higher than in Finland.

Thanks to the large current account surplus, there was a further decline in the level of Finland's external indebtedness in 1998. The financial balance of the private sector remained large while the public

Chart 1.

Trade account and current account

12-month moving total

FIM billion

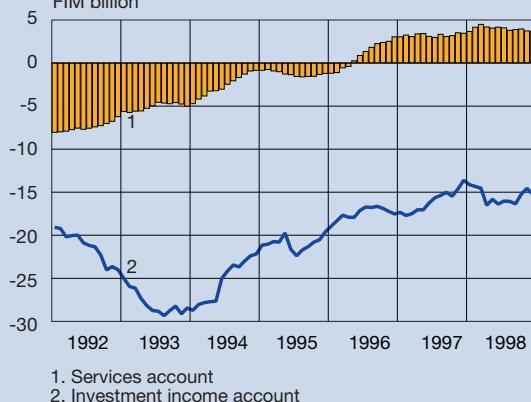


Chart 2.

Services account and investment income account

12-month moving total

FIM billion



The current transfers balance remained in deficit, in part because contributions to the EU exceeded receipts.

No improvement in the net international investment position despite the surplus on current account

Owing to the major impact that shares and other equity securities have on the balance of payments, the International Monetary Fund draws a clear distinction between the concepts 'net international investment position' and 'net external debt'. All equity securities are excluded from net external debt.

Finland's net international investment position (NIIP) is negative since the country's external liabilities exceed its assets. The NIIP showed a negative balance of FIM 473 billion at the end of 1998 (Chart 3). Fluctuations in share prices have a very pronounced impact on the NIIP because net portfolio investment in shares constitutes the largest single item in the NIIP. Portfolio investment by nonresidents in Finnish shares together with a rise in share prices have led to a marked deterioration in the NIIP in recent years (Chart 4).

At the end of 1998 the market value of nonresidents' holdings of Finnish shares stood at FIM 425 billion, of which Nokia alone accounted for FIM 286 billion. Nonresidents held 76.6 per cent of Nokia's shares at the end of last year. The market value of shares held by nonresidents rose by a full 120 per cent in 1998.

When shares and other equity securities are excluded, however, the NIIP has improved steadily in recent years thanks to the surpluses on current account. This interest-bearing, ie debt securities, component of net external debt decreased by FIM 22 billion in 1998, amounting to FIM 138 billion at the end of the year.

Capital outflows have exceeded capital inflows in recent years

Because of the large current account surpluses in recent years, capital outflows have exceeded capital inflows. The overall pattern of capital flows has remained broadly the same during this period. The bulk

sector deficit shifted into surplus. Within the EU area, the development of financial balances in Sweden and the United Kingdom has been similar to that in Finland in recent years.

The surplus on the trade account amounted to FIM 56.9 billion in 1998, an increase of some FIM 5 billion from the previous year (Chart 1), even though the growth in the volume of exports of goods tapered off towards the end of the year. A major reason for the slowdown in export growth was slackening demand and global oversupply of manufactured goods. The price competitiveness of the export sector remained good last year, despite the appreciation of the euro. The fall in world commodity prices contributed to a fall in the value of imports.

Of the other items in the current account, the investment income account weakened to some extent despite a further decrease in interest payments on interest-bearing external debt (Chart 2). The deterioration in the account was due to an increase in dividend payments on shares held by nonresidents.

of capital outflows has consisted of redemptions of foreign loans and foreign direct investment by Finnish companies. Bonds, in particular, have been redeemed at a rapid pace. In 1995–1998 net redemptions of bonds amounted to approximately FIM 45 billion. The current account surpluses have enabled the private sector to repay a very large proportion of its external liabilities.

Debt repayments over the last few years have led to a rapid fall in Finland's net external debt. The external debt at end-1998 was at the same level as at the end of the 1980s, ie equivalent to about 20 per cent of total output. At present, the central government is the only sector that has substantial external debt in net terms. In contrast, the external assets and liabilities of the private sector virtually offset each other. At the end of 1998 companies had net liabilities in the region of FIM 30 billion while financial institutions had net assets totalling approximately FIM 20 billion (Charts 5 and 6). Ten years ago the central government had only a low level of net external debt whereas the net external liabilities of the private sector were growing at an alarmingly rapid pace.

The central government's net external debt has remained large in recent years, even though the central government has covered its net borrowing requirement almost entirely from domestic sources (Chart 4). The net external debt decreased by FIM 11 billion in 1998, amounting to FIM 175 billion at the end of the year. The central government's serial bonds held in book-entry form were converted into euro-denominated securities from the beginning of 1999.

Foreign direct investment by Finnish companies has expanded at an accelerating pace over the last few years. Direct investment has been heavily concentrated in the EU area, with Sweden and the Netherlands being the major host countries. At the end of 1997 the EU accounted for 66 per cent of outstanding foreign investment by Finnish companies. Inward direct investment has been substantially lower than outward direct investment in recent years.

The MeritaNordbanken and Stora Enso mergers explain the exceptionally large figures for direct investment and inward portfolio investment in 1998. The capital flows in connection with the Merita-Nordbanken merger were recorded as entries of equal size in the inward and outward direct investment accounts. The capital flows in connection with the Stora-

Chart 3.

Finland's net international investment position

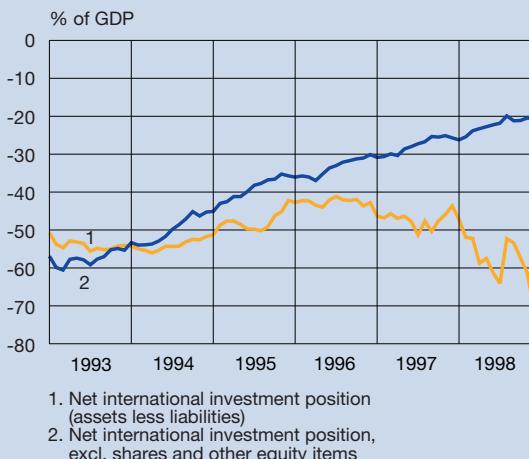


Chart 4.

Finland's net international investment position

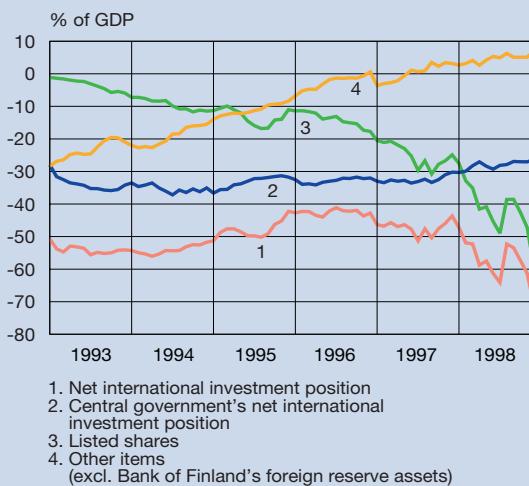


Chart 5.

Net international investment position of companies

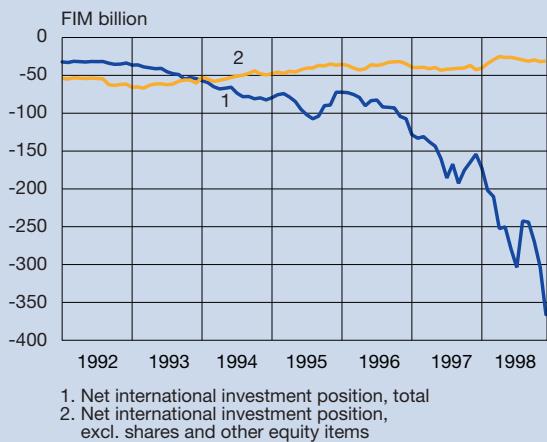


Chart 6.

Net international investment position of financial institutions



Enso merger were recorded as entries of equal size in the outward direct investment account and the inward portfolio investment account. Capital outflows related to direct investment amounted to almost FIM 50 billion in net terms last year, which was about three times the corresponding amount in 1997. Similarly, portfolio investment by nonresidents in Finnish shares increased from FIM 21 billion to FIM 47 billion.

Monitoring the competitiveness of the economy and financial flows has assumed greater importance in the euro environment

One of the key areas of concern for monitoring in the euro environment will be the corporate sector, which will face increasingly keener competition in the context of monetary union. Pressures that previously found their way through to national exchange rates will henceforth find expression in share prices and risk premia on corporate debt. Share prices depict investor confidence in companies' performance. In the future, they will also reflect market confidence, or lack of it, in the economic policies pursued by a country; before confidence was manifested mainly in the form of exchange rate pressures. Country risk will also be evident in the level of interest rates on government debt.

The real significance of balance of payments statistics is becoming less clear-cut in certain respects, despite the birth of the euro area. The use of balance of payments statistics for monitoring purposes is complicated by the existence of large multinational companies that are not tied to any particular country and whose operations extend across national borders. Statistical classification problems arise in connection with these companies because the balance of payments is based on national currency borders. Strict adherence to currency borders may mean that the balance of payments fail to provide a true picture of the full scale of operations of multinational companies. This compilation problem reduces the usefulness of and need for national balances of payments.

The problems caused for compilation of balance of payments statistics by multinational companies have given impetus to a new approach to monitoring such companies. Essentially, the idea is to construct

indices that can be used to monitor multinational companies on an industry basis. Nokia and Kvaerner are examples of companies that are highly multinational, and it is therefore natural to compare them with their competitors in the same industry across the whole spectrum of their operations.

The country breakdown of the trade account will be another key area for monitoring. The breakdown of host countries for direct investment by Finnish companies gives an indication of business strategy in the new competitive environment.

Euro area balance of payments in preparation

In theory, the balance of payments for the euro area as a whole is the sum of the balances of payments of its member states. In practice, however, bilateral balance of payments data are not fully compatible, resulting in discrepancies in the euro area balance of payments. For this reason, the euro area balance of payments is compiled by aggregating the balances of payments of the individual member states vis-à-vis countries outside the euro area.

The ECB will publish euro area balance of payments statistics using this methodology for the first time in April. These monthly figures will include the

balance of payments for January 1999 and for earlier periods. As from July the ECB, in cooperation with the Statistical Office of the European Communities (Eurostat), will start publishing a quarterly balance of payments for the euro area. This quarterly publication will include a more detailed breakdown of investment income and the main items of the financial account.

Consequently, Finland and the other member states will each compile a national balance of payments vis-à-vis the rest of the euro area and vis-à-vis countries outside the euro area. The ECB will then aggregate these figures to obtain the balance of payments for the euro area as a whole. Only the current account for the whole euro area can have any effect on the euro's exchange rate against the major currencies. According to preliminary data, Finland's current account vis-à-vis the rest of the euro area has been slightly in deficit in recent months while the current account vis-à-vis other countries has shown a sizable surplus.

15 February 1999

- **Key words: balance of payments, current account, capital flows, external debt, trade account**

Public finances in the euro area: growth shocks and structural factors

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In the run-up to the start of the Third Stage of EMU nearly all EU member states made major adjustment efforts in order to reduce their public deficits. In 1995 only three member states had deficits that were below the 3 per cent limit whereas at the end of 1997 only one country exceeded the limit. However, the margin by which public deficits were below the reference value was quite small in many countries. Furthermore, only in four member states was the debt ratio below the reference value. Even though strong economic growth and lower interest rates in 1998 seem to have led to further improvement in public finances, most of the countries which entered monetary union at the beginning of 1999 did so with a deficit of more than 2 per cent. This indicates that these countries still have some way to go before they meet the medium-term objective of the Stability and Growth Pact. The risk of unsustainable development in public finances cannot be excluded in the event of unfavourable economic conditions. Moreover, structural factors such as population ageing will place an extra burden on public finances in most member states in the longer term. Pressures deriving from international tax competition and the need for tax harmonization will limit the room for fiscal policy in countries where there are heavy pressures to lower the average tax rate.

This article is based on a study by Kinnunen and Kuoppamäki (1998) analysing the budgetary situation and sustainability of public finances in Finland and four major euro area countries, Germany, France, Italy and Spain. The article analyses the effects of growth and interest rate variation and structural factors on budgetary balance. The analytical framework is based on the intertemporal budget dynamics, which makes it possible to demonstrate long-run outcomes under various growth and interest rate assumptions. This framework is supplemented by assuming growth shocks and taking exogenously into account cost pres-

sures caused by population ageing. In addition, the room for fiscal adjustment in different countries is evaluated under different average tax rates.

Sustainability of public finances: baseline case

Calculations based on the intertemporal budget dynamics provide a simple tool for analysing whether a given fiscal policy will keep public finances on a sustainable path¹. Fiscal policy is defined to be sustainable if it leads to a stable or decreasing government debt ratio in the long run. If the debt ratio is on an expanding path, this indicates that the current policy must be tightened sooner or later. In the budget dynamics framework, the difference between the interest rate and the growth rate, the primary balance (the difference between revenues and expenditures excl. interest payments) and the debt ratio determine the condition for sustainability. A sustainable debt position requires a primary fiscal surplus in the medium to long run, when the interest rate is higher than the real growth rate of the economy. The size of the required surplus varies according to the difference between the real rate of interest and the real rate of growth and according to the magnitude of the debt ratio and the primary balance. Variation in the growth rate and interest rate produces different debt paths

¹ The idea of sustainability is based on the dynamic government budget constraint. In terms of GDP ratios, it can be expressed as $\Delta b = g + h - t - (r-\theta)b = d + (r-\theta)b$, where Δb denotes the change in the government debt ratio, g is government spending, h is transfers, t is government revenues, r is the real interest rate, d denotes a primary deficit and θ is the GDP growth rate. The dynamics of public sector finances are discussed in more detail by Blanchard (1990). The calculations require that the interest rate exceeds the growth rate. If this is not the case, the sustainability condition does not hold.

and different requirements as regards the adjustment of fiscal policy. This budgetary arithmetic also provides a convenient tool for assessing the fiscal policy constraints laid down in the Stability and Growth Pact².

The sustainability calculations cover the period from 1998 to 2005. Projections are based on the assumption that the actual fiscal position for 1997, corrected for one-off measures³, will prevail in the future. In the baseline calculations, macroeconomic developments were assumed to be uniform across countries, with real GDP growth of 2.5 per cent, an inflation rate of 2 per cent and a long-term interest rate of 4 per cent.

Continuation of the fiscal policy that prevailed in 1997 would lead to declining deficit ratios in all countries, but it is difficult to achieve the objective of the Stability Pact under the given assumptions and initial conditions (Chart 1). Only Finland and Italy seem to be able to achieve a balanced budget on average in the period 2000–2005. France, Germany, and to a lesser extent Spain, may encounter problems in meeting the Stability and Growth Pact criteria in the medium term. The debt ratio declines in all countries except France, where it increases slowly. This follows directly from the fact that France had a primary deficit and the other countries a primary surplus in 1997. The decline in the debt ratio is most rapid in Finland and Italy.

Tax gap indicators provide a more accurate picture of the pressures on fiscal policy caused by the

Table 1. Tax gaps

Criteria	Germany	Italy	Spain	France	Finland
Sustainability	-0.4	-5.2	-1.5	0.4	-3.5
Stability Pact	1.9	-1.5	1.3	1.8	-2.0

sustainability and balanced budget conditions (Table 1). They describe how much the tax rate should be changed to achieve the stated goals, ie sustainability and the Stability Pact criteria. Given the 1997 expenditure level, the tax rate should be increased by nearly two percentage points in France and Germany in order for these countries to achieve and maintain a balanced budget; tax pressure is less severe in Spain.

These results are subject to many reservations. First of all, actual growth and interest rates could differ significantly from the baseline assumptions. Secondly, the primary deficit for 1997 may not be a valid measure of feasible fiscal policy. For example, if the starting point were the average primary deficit during the period 1980–90, the projections for Italy and Spain would not be quite as favourable as was found here. In Italy the primary balance began to deteriorate in the early 1960s and led to a deficit in excess of 10 per cent of GDP by the mid-1980s. In France the primary balance has been weak owing to a significant expansion in public spending from the early 1970s until the mid-1980s, which was not matched by increased revenues. Thus the 1997 French budget seems slightly tighter than it has been on average. Compliance with EMU criteria was partly achieved by sizable one-off measures. The German fiscal position in 1997 is close to the historical average. In Finland the primary surplus for 1997 is about the average for 1980–90.

Moreover, the results would be different if the one-off measures become permanent – as has been the case in the past for some taxes that were initially intended to be temporary. Thus, if the starting point is the actual balance, ie one-off measures are assumed to become permanent, this increases the size of the primary surplus in all countries and the French primary deficit also turns into a surplus. However, the French deficit ratio does not show any clear signs of disappearing even in the better case. The latest preliminary figures, which indicate that the general

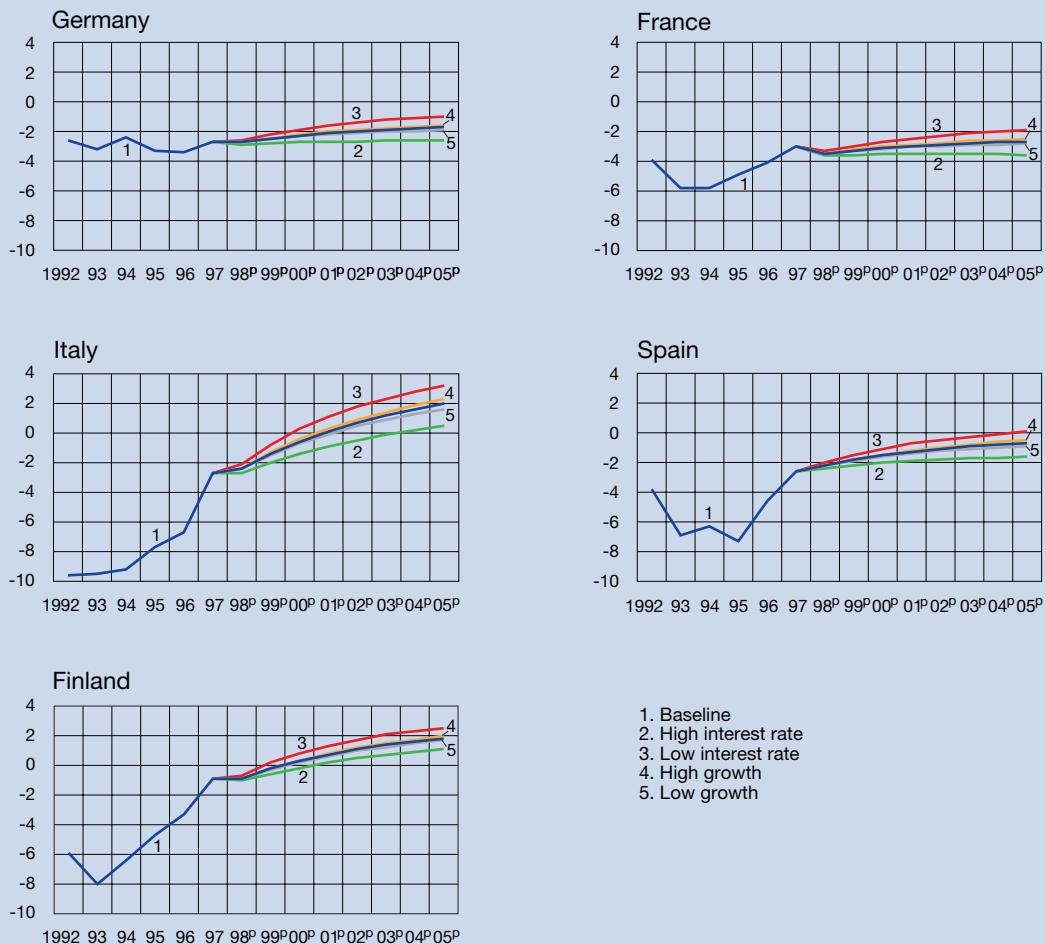
² The key element of the Pact is a 3 per cent upper limit on the deficit and a medium-term objective of a government budget that is roughly in balance. This is meant to ensure that there will be enough room for automatic stabilizers to operate in normal business cycles. The Stability and Growth Pact allows the deficit to exceed the limit only temporarily under severe economic circumstances.

³ The data series for general government are based on the National Accounts. In the case of Finland, the social security funds had to be treated separately because their surplus reduces public debt only when they invest in government securities. In recent years these funds have invested the major part of their assets in government bonds; hence the following calculations are based on the assumption that in the future this share will diminish, albeit only slowly. One-off measures are defined as deficit-reducing measures that are effective for a limited period and which in some cases imply a burden on future budgets. Estimates are based on the European Monetary Institute's Convergence Report 1998.

Chart 1.

Baseline projections and deficit and debt ratio under different growth and interest rates

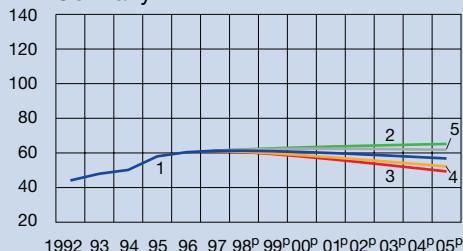
Deficit ratio under different growth and interest rates, per cent of GDP



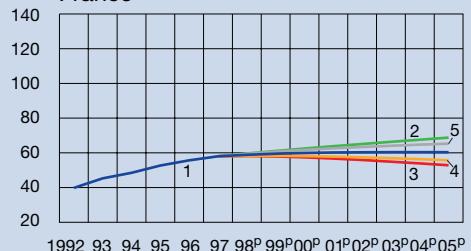
1. Baseline
2. High interest rate
3. Low interest rate
4. High growth
5. Low growth

Debt ratio under different growth and interest rates, per cent of GDP

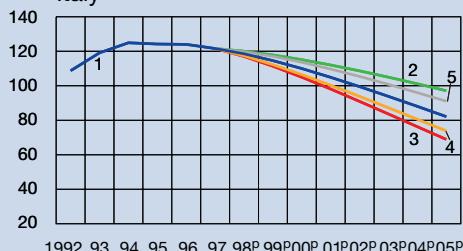
Germany



France



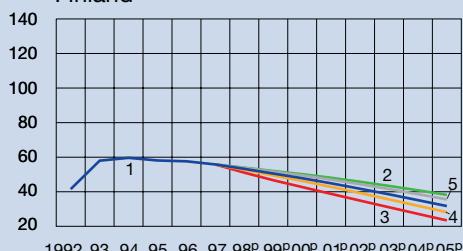
Italy



Spain



Finland



- 1. Baseline
- 2. High interest rate
- 3. Low interest rate
- 4. High growth
- 5. Low growth

government balance in Finland was already positive in 1998, imply that the baseline estimates would be more favourable for Finland and Spain also. For all the other countries the situation seems to be much the same as in 1997.

Sensitivity of public finances to growth and interest rate variation

The reactions of public finances to interest rate and growth variation differ between countries depending on the magnitude of automatic stabilizers and the debt level. The sensitivity calculations indicate that the response of the public debt and deficit ratios is stronger with respect to interest rate changes than it is to growth changes. Small changes in the growth rate do not change the outcome significantly compared with the baseline (Chart 1). However, a GDP growth rate that is one percentage point lower than the baseline rate prevents the German debt-to-GDP from declining. Budgetary conditions in France worsen, but budget positions in other countries survive the slowdown without reverting to a downward spiral.

Interest rate variation has the largest effect on the fiscal position in Italy, indicative of the fact that it is a highly indebted country (Chart 1). However, a strong positive primary balance prevents Italy from embarking on an explosive debt path. From the point of view of the Stability Pact, an interest rate that is one percentage point higher than the baseline rate also causes problems for the fiscal balance in France and Germany. Finland would have no problem coping with the higher interest rate. On the other hand, a one percentage lower interest rate would shift the deficit ratio on to a clearly declining path even in France. In Italy the surplus would be nearly 3 per cent in 2005, which is 1.5 percentage points higher than in the baseline projection. Clearly, a low interest rate is the factor that can prevent fiscal balances from deteriorating under conditions of slow growth.

The results illustrate the interdependence between public finances and interest rates in indebted countries. For example, there is a risk that a rise in the interest rate could easily push the deficit too high in terms of the objectives of the Stability Pact. In our calculations this risk cannot be excluded in the cases of France and Germany. Another critical issue from

the point of view of the Stability Pact concerns growth shocks, which may have harmful effects on fiscal balances lasting several years.

The effects of growth shocks on public finances

One obvious effect of the Stability and Growth Pact is that it might hinder the operation of automatic stabilizers during recessions, especially if the budget is already in deficit before the shock. If a country is hit by an asymmetric, country-specific economic disturbance, there is a danger that it might be induced to undertake procyclical measures in order to avoid breaching the 3 per cent deficit ceiling.

Recessionary shocks affect public finances through several channels. Most importantly, deviations of growth from trend affect tax revenues and expenditures by increasing or decreasing taxes and social security transfers. Debt-to-GDP ratios change because of the instant growth effect. Furthermore, over a longer time horizon, the debt ratio is affected by the intertemporal budget dynamics. Since revenue and expenditure changes derive mainly from changes in unemployment, it is clear that the economy will return only slowly to its pre-shock position. Thus labour market hysteresis is also reflected in public finances. This kind of effect is taken into account in the following calculations by assuming that public expenditures and revenues as a share of GDP return to the pre-shock level in five years.

A recessionary shock (zero growth) in 2000 would lead to temporary public finance problems in all countries and continuous deficit growth in France. The rise in the debt-to-GDP ratio in Germany would not level off until 2004, and the shock would force the debt ratio in France to peak at over 73 per cent in 2005. All countries except France would be able to bring their deficits down slowly to 3 per cent within five years. The situation would be most critical in France where the deficit ratio would rise to nearly 6 per cent in 2000. Finland's and Italy's budgetary positions would not come under serious attack, but in the other countries excessive deficits would ensue for several years (Chart 2).

A severe recession involving a 2 per cent decline in output in 2000 causes a similar but more pronounced reaction; ie a 4.5 percentage point shortfall

from trend growth would lead to temporary problems in public finances in all countries and continuous deficit growth in France. The rise in the debt-to-GDP ratio in Germany would not level off until 2004, and the shock would force the debt ratio in France to peak at over 75 per cent in 2005. All countries except France would be able to bring their deficits down slowly to 3 per cent within five years. Finland would be able to reduce its deficit to less than 3 per cent in two years, which indicates that it could withstand even a severe recession without significant risk of incurring a penalty for an excessive deficit as defined in the Stability Pact.

In summary, public finances in the countries studied do not at present seem to be such that they could withstand significant shocks. The room for fiscal discretion is very limited in most of the countries, which portends difficult problems in the event of a severe growth shock. The long-run implication is that only countries with a sound budget balance in ‘normal’ times and the political discipline necessary to maintain primary surpluses will be able to absorb large shocks.

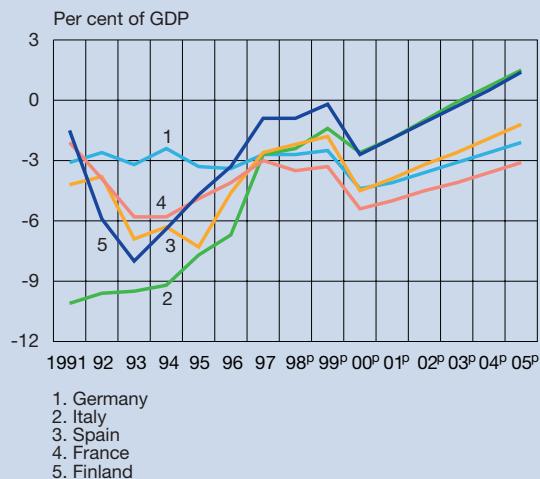
Tax competition and budget balance

Country comparisons, which rely on very rough fiscal policy indicators, do not necessarily tell us much about the constraints that policymakers actually face. In fact the scope for fiscal policy also depends on the size and structure of the public sector. Measured by the expenditure-to-GDP ratio, the public sector has been about 12 percentage points smaller in Spain than in Finland. The public sector is also relatively large in France and Italy. These size differences are reflected directly in differences in the tax burden. The average tax rate in Finland is about 8 percentage points above the average for the other countries, and Italy and France also have high tax rates. On the other hand, taxation is relatively light in Spain.

A potentially critical constraint for fiscal policy is the pressure that tax competition could place on tax rates in euro area countries. It is possible that the pressure to harmonize national tax rates across the euro area will increase with the changeover to the single currency. Pressures for harmonization would require further adjustment efforts in highly taxed countries. For example, if tax ratios were to converge

Chart 2.

Deficit ratios with no change in GDP in 2000



to the average level for the euro area (25 per cent of GDP), this would imply an increase in tax-to-GDP ratios of about two percentage points in Germany and Spain. By contrast, Italy and France would have to lower their tax ratios by 3 and 2 percentage points respectively. And Finland would have to reduce its tax ratio by 8 percentage points.

Lower taxation would worsen fiscal balances in Finland and Italy to the extent that budget balance could not be achieved without spending cuts (Chart 3). In Germany and especially Spain the situation is the reverse, and France’s budgetary position would remain difficult.

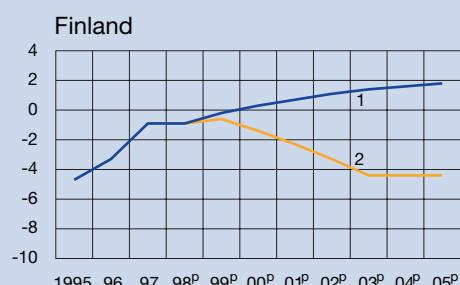
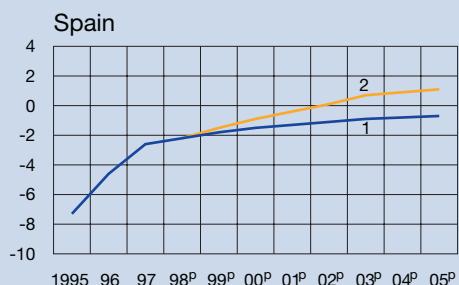
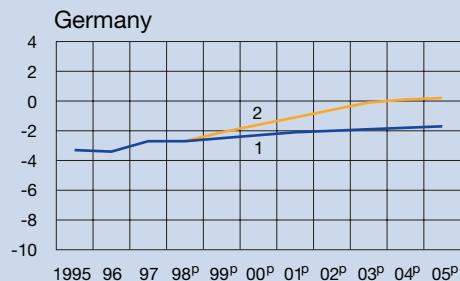
Population ageing and sustainability

Population ageing poses a major challenge for public finances in the future. In two or three decades, the baby boom generation will be retiring and leaving productive work to smaller generations in most EU states. The rising dependency ratio will place a burden on future generations because the funding rate for public pensions has been relatively low in most

Chart 3.

Deficit in baseline with a shift to a more uniform tax burden

Per cent of GDP



1. Baseline
2. Uniform tax burden

Table 2. Pension expenditures, per cent of GDP

Commission	1995	2000	2010	2020	2025	2030	2040
Germany	10.1	10.7	11.7	12.5	13.5	14.6	n.a.
Italy	15.5	15.3	16.0	17.2/17.7	17.8/18.6	18.1/19.4	17.8/19.7
Spain	9.9	10.0/10.1	10.0/10.6	10.1/11.2	10.1/11.5	10.3/12.0	n.a.
France	n.a.						
Finland	14.0	13.4/14.8	14.6/17.4	16.5/17.9	16.8/17.9	17.1/17.9	n.a.
<i>OECD</i>	1995	2000	2010	2020	2025	2030	2040
Germany	11.1	11.5	11.8	12.3	n.a.	16.5	18.4
Italy	13.3	12.6	13.2	15.3	n.a.	20.3	21.4
Spain	10.0	9.8	10.0	11.3	n.a.	14.1	16.8
France	10.6	9.8	9.7	11.6	n.a.	13.5	14.3
Finland	10.1	9.5	10.7	15.2	n.a.	17.8	18.0

Split figures (x/y) indicate (best/worst) scenarios.

countries and because ageing also typically increases health care costs. Moreover, as the population ages, productivity tends to decline, resulting in a lower output growth rate. There is some evidence that ageing will lead to lower saving rates, thus putting upward pressure on real interest rates. From the point of view of sustainability of fiscal policy, the question arises as to whether prevailing fiscal policies can be maintained in the face of changing demographic trends and fixed benefit shares.

The projected increase in pension expenditures⁴ shows that ageing imposes the heaviest cost burden on public finances in Finland and Italy and the lowest in Spain (Table 2). As above, a strong primary balance is imperative for sustainable public finances. Countries with a weak balance, ie France and Germany, face exploding deficits when pension expenditures start to increase soon after 2000, assuming no additional measures are taken (Chart 4). By contrast, Italy, with its strong primary surplus, would be able to pay off its debt by 2030. For Spain and Finland, the debt ratio stabilizes below 60 per cent of GDP even under the simulated pension pressures. For Finland, the greatest pension pressures occur after 2020, but some effects are already discernible by 2010. Under this scenario all countries except Italy

face higher debt ratios compared with the baseline scenario.

If the countries studied want to reduce their debt ratios, they will have to adjust their fiscal policies. The mechanical calculations used here are, however, too rough to provide any measure of the necessary adjustments in current fiscal policy. They do show, however, that there is some time – at least a decade – in which to reform pension schemes before the problems become acute.

Concluding remarks

Given a single currency, fiscal balances will certainly have a more critical effect on economic developments than has been the case so far. Under a common monetary policy, the ability of a single country to smooth out its economic cycles becomes more dependent on the state of its government's fiscal balance. The Stability and Growth Pact places a three per cent ceiling on fiscal deficits. A combination of a weak fiscal position and a large structural deficit means that there will be no room for fiscal response during an economic downturn. In the worst case, the countries may have to react in a pro-cyclical manner to growth disturbances.

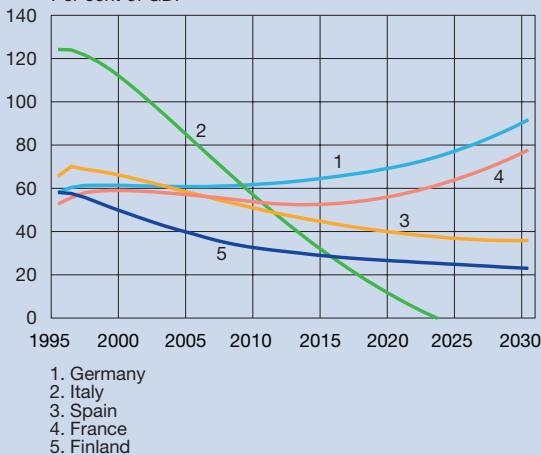
In this article we have analysed whether current fiscal policies are sufficient to lead to government fiscal balances that are strong enough from the point of view of sustainability and the requirements of the Stability and Growth Pact. The medium-term calculations showed that the fiscal position prevailing in 1997, under given interest rate and growth assump-

⁴ The calculations utilize forecasts made by the European Commission (Franco and Munzi 1997). These scenarios are based on national estimates and differ to some extent from OECD calculations (Rosewaren et al. 1996), which are made using model-based simulations. Our computations add the increase in pension expenditures in a piecewise linear manner to the expenditures in the baseline case.

Chart 4.

Long-run debt ratios

Per cent of GDP



tions, would lead to a non-increasing debt ratio in all the countries except France. The latest preliminary figures for 1998 are broadly similar to the 1997 figures for most countries; the figures for Finland indicate that the fiscal balance has already shifted into surplus. But given a future trend growth rate that is below the past trend growth rate, debt ratios could start to grow in all of the countries, including Germany and Spain. By contrast, if the tight fiscal positions in Finland and Italy in 1997 were to continue, it would lead to a rapid decrease in debt under all scenarios. However, Italy, which is a deeply indebted country, is sensitive to changes in interest rates.

The calculations also showed that just one severe recession shock would lead to prolonged fiscal imbalances in France, Germany and Spain. It seems that only Finland and Italy would not violate the Stability Pact in the event of zero growth in 2000. On the other hand, if tax competition were to intensify in the euro area, fiscal positions would deteriorate mainly in Finland and Italy, where the tax burden is heavy as compared with the average for the euro area. In France too the budgetary position would remain problematic. The situation is just the reverse in Germany and

especially in Spain. Population ageing tends to increase deficit and debt ratios in all the countries studied in the long run (after 2010). Maintaining sustainable development of public finances would require more restrictive fiscal policies than in 1997, especially in France and Germany.

1 March 1999

- Key words: public finance, sustainability, stability pact, tax competition, population ageing, pensions

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Corporate insider trading and its regulation in Finland

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It is considered important for the reliable and credible functioning of a stock market that all investors have the possibility to make investment decisions on the basis of the same public information. In order to implement this principle and prevent misuse of inside information, persons in Finland who, in the course of their work, frequently handle confidential corporate information are subject to disclosure requirements. Persons falling into this category include managing directors, auditors and board members of listed companies.

Public disclosure of share trades is based on the Securities Markets Act. The primary aim of the Act is to ensure investors' confidence in the fairness and efficiency of the securities markets. Increased transparency of trades is considered the best way of achieving this aim. Disclosure of insider trades has been prescribed by law since 1989. Access to such information has become increasingly easy as listed companies have transferred their shares to the book-entry system.

Almost all shares on the main list of the Helsinki Securities and Derivatives Exchange (HEX) are now included in the book-entry system. All corporate insider trades in the book-entry system are automatically entered into an insider register, which enables close monitoring of these trades. Monitoring compliance with insider rules is the responsibility of the Financial Supervision Authority (FSA). It does this by issuing regulations on insider disclosure and registration and supervising compliance with these regulations.

Although insider trading of shares of listed companies is a topic of continuing public interest in many countries, relatively little research has been done on the subject.

A research project was recently carried out at the Bank of Finland¹ with the aim of determining the extent of share ownership by insiders and insider trad-

ing on HEX. Another aim was to find out whether insiders who work for listed companies are able to time their share trades better than investors on average.

The present article is based on this research. It starts by describing the main features of the rules on corporate insider trading and the manner in which such trading is supervised in Finland. It then turns to consider share ownership by insiders and insider trading on HEX. Finally, key findings of the research are presented.

Regulation of trading activity

According to the Securities Markets Act that entered into force in 1989, a person who obtains unpublished information on publicly traded securities that is likely to have a material effect on the value of those securities is prohibited from using that information for his own benefit. Nor is an insider permitted to advise others, directly or indirectly, on how they can use unpublished inside information for their own benefit in trading securities. It is worth emphasizing here that the prohibition against misuse of inside information applies to all investors, not only those who are employees of issuing companies. The penalty for misuse of inside information is a fine or imprisonment of up to two years.

In connection with the amendment of the Securities Markets Act in 1996, the existing restriction on insider trading was rescinded, since it was no longer considered necessary. Previously, those subject to the restriction could acquire securities only as long-term

¹ Kasanen, J (1998), *Corporate Insider Holdings and Share Trading in Finland*, Bank of Finland Discussion Papers 11/98 (in Finnish only); Kasanen, J (1998), *Share Trading by Persons Subject to the Disclosure Requirement: Timing and Returns*, Bank of Finland Discussion Papers 30/98 (in Finnish only).

investments, which meant that at least six months had to elapse between the dates of purchase and sale. To compensate for the removal of the trading restriction the definition of persons considered to be insiders was widened. The most important change was the extension of the disclosure requirement to include trades by persons who are under the guardianship of an insider and corporate entities that are controlled by an insider.

Insiders

The prohibition of misuse of inside information applies to all investors, but the requirement to disclose share trades applies only to those investors specified in the Securities Markets Act. The purpose of the disclosure requirement is to ensure that general trust and confidence in the markets is maintained. Under the Act everyone is entitled to easy access to detailed information on insiders' securities trades and, where necessary, extracts from and copies of registers maintained by companies.

Ownership of shares or securities with share warrants is public information if

the owner is employed by the issuing company as, for example, managing director, board member or auditor;

the owner is employed by a broking firm or investment firm and his duties include the processing of orders or research work in respect of shares;

the owner is an employee of the Central Securities depository Suomen Arvpaperikeskus Oy (APK) or HEX;

the owner is a corporate entity or foundation in which an insider exercises controlling power, either alone or together with another insider; or

the owner is employed by the FSA.

the book-entry system, shares are not treated as share certificates. Instead share holdings and changes therein are entered directly in book-entry accounts. A shareholder receives a statement showing details of his account balance just as a bank account holder receives a bank statement. Similar systems are in use in the other Nordic countries.

The book-entry system, HEX clearing and settlement system and the insider register are linked together so that insider trades are published automatically. The automatic insider register reduces the probability of human error, improves the reliability of information on insider trading and enables close monitoring of trades by the supervisory authorities.

With a few exceptions, all listed companies have changed over to the book-entry system and agreed that the APK maintain the insider register. Information on trades by insiders of listed companies is automatically transferred from the book-entry system to the APK insider register system. Thus, unlike most other marketplaces which require disclosure, publication of information on trades on HEX does not require separate written notification. Information on a change in ownership is public information for a period of twelve months.

When an insider takes up a position with a new employer, he is obliged to disclose information on his holdings of shares, options and convertible bonds.² This information is entered into the register kept by the new employer. The insider must also provide similar information on persons for whom he acts as a guardian or corporate entities over which he exercises control. A period of two weeks is allowed for provision of such information. In the case of insiders employed by a listed company, this requirement applies only to shares issued by the employer whereas, for example, brokers working for securities houses are required to disclose all of their shareholdings.

Chart 1 illustrates, in broad outline, how the public disclosure requirement is fulfilled in the book-entry system. It can be seen that the APK's computer applications are at the very hub of the system.

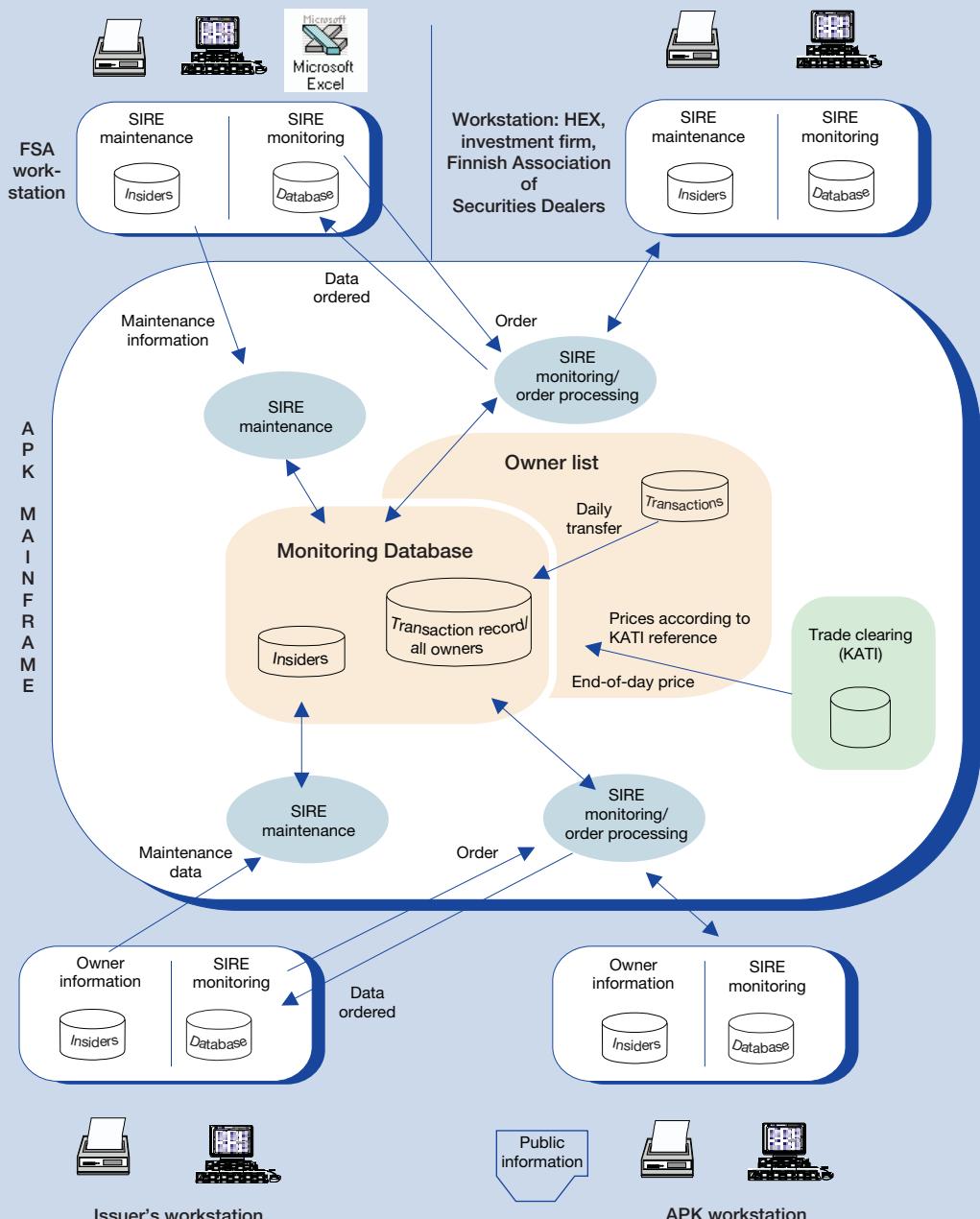
The book-entry system and disclosure

The book-entry system is a computer-based system of registers, which has replaced the need for share certificates and safekeeping facilities in Finland. In

² This requirement applies to all insiders, regardless of residence or citizenship.

Chart 1.

Disclosure of insider trades in the book-entry system



Source: Finnish Central Securities Depository Ltd (Suomen Arvopaperikeskus Oy – APK)
(SIRE = sisäpiirirekisteri = insider register; HEX = Helsinki Securities and Derivatives Exchange)

Table. Distribution of insider holdings according to position held in the company, December 1997, FIM 1000

Position	Number	Total ownership	Mean holding	Median holding	Combined holdings of five largest owners
Managing director	62	462 396	7 458	121	429 819
Chairman of the board of directors	55	287 232	5 222	16	195 601
Member of the board of directors	311	1 072 131	3 447	0	650 122
Deputy member of the supervisory board	14	11 775	841	0	11 762
Member of the supervisory board	263	116 567	443	1	61 056
Chairman of the supervisory board	22	9 003	409	1	8 853
Deputy managing director	30	11 985	400	50	9 405
Deputy member of the board of directors	18	498	28	0	484
Auditor	81	2 227	27	0	2 227
Deputy auditor	24	82	3	0	802
Chief auditor	33	0	0	0	0

Supervision of trading activity

In Finland the FSA is responsible for supervising compliance with insider regulations. The FSA's task is to issue regulations on publication of information by insiders and maintenance of insider registers and to monitor compliance with these regulations.

The FSA's system for monitoring trades is up to date and based on flexible IT applications. Detailed information concerning all trades on the stock exchange can be accessed via the FSA's workstation. This information includes the trader's name and the price and number of shares traded, etc. Besides information on specific trades, the FSA can also quickly find out the persons who are under the guardianship of a particular trader or the corporate entities that are controlled by him or eg all the share trades carried out by him during a given period. For each share trade, more than 50 items of trade-specific information are recorded in the insider register system. Within the FSA's monitoring system, it is possible to combine or classify share trades using any datum as a search key. The FSA's monitoring system is being continuously developed and automated. One focal area of this development effort is the rapid combining of trades in the derivatives and cash markets.

Insiders' ownership and trading activity³

At the end of 1997 there were 80 companies on the HEX Main List, with a combined market capitaliza-

tion of FIM 390 billion. Nokia was by far the largest company, its market capitalization accounting for 31.6 per cent of the total. Nokia accounted for 41.9 per cent of the total turnover on HEX in 1997.⁴

In 1997 insider holdings and trades accounted for a very small proportion of total market capitalization and turnover on HEX, the respective percentages being about 2 per cent and 1 per cent. There were, however, major differences between companies. Only in a few companies did insiders have stakes amounting to over 35 per cent of total market capitalization, whereas in 25 listed companies insiders holdings amounted to less than 0.1 per cent.

The bulk of insider holdings are owned via companies under insiders' control. These so-called controlled companies own much more than individual persons on average and they trade shares much more actively. Controlled companies own about 60 per cent of all shares owned by insiders and account for almost 90 per cent of insider trades.

Generalization of these key figures on insider holdings and trading activity to cover all insiders does not give an accurate overall picture of insider holdings and trading activity on HEX. Listed companies

³ The findings reported in this section are based on the situation at 31 December 1997.

⁴ At end-1998 there were 91 companies on the HEX Main List, with a market capitalization of FIM 765 billion; Nokia's share was 48.9 per cent. In terms of turnover, Nokia accounted for 56.6 per cent of the total. Finnish GDP was some FIM 670 billion in 1998 (FIM 622.1 billion in 1997).

employ about 1 500 insiders. Over a half of these do not own any of their employers' shares. Among those who do own such shares, ownership is highly concentrated. About 45 insiders (3 per cent) own some 80 per cent of all shares owned by insiders.

Trading among insiders is also highly concentrated. The vast majority (over 80 per cent) of insiders do not trade their employers' shares at all. This concentration is further illustrated by the fact that about 1 per cent of insiders accounted for over 60 per cent of insider trades in the period 1 August 1996 – 31 December 1997.

Managing directors of Finnish listed companies owned on average FIM 7.5 million worth of shares in their own companies at the end of 1997. These holdings were highly concentrated. According to the situation at the end of 1997, managing directors of 11 listed companies owned over FIM 1 million worth of their employers' shares. By contrast, 26 managing directors owned less than FIM 50 000 worth of such shares, and 20 of them had no holdings at all.

Among board members of listed companies, average holdings were FIM 5.2 million. The data included 23 companies in which the chairman of the board owned shares amounting to less than FIM 10 000 and seven in which the chairman owned shares worth more than FIM 10 million.

The data on listed companies covered 138 auditors, only seven of whom owned shares in a company that they audited.

Returns on insider trades

Another aim of the research was to ascertain whether insiders were able to time their share trades better than investors on average. If this were the case, one might well suspect that much of insider trading is based on inside information.

If insiders were to systematically trade shares on the basis of inside information, this would be reflected in insiders' after-trade returns. One would expect that, after an insider purchase, the price of the shares in question would rise faster than the average price rise and that, after an insider sale, the price would fall faster than the average price fall.

One way of analysing insiders' after-trade returns is to carry out an event study. This method, which is used widely in econometric literature and research,

is used here first to separate a share's price movements into the part that is due to movements in the total market (systematic risk) and the part that is company-specific (unsystematic risk). Next, statistical methods are used to determine whether the company-specific part of the after-trade return on insider trades differs significantly from normal returns.

The findings suggest that insiders are not any more successful in their trades than investors on average.⁵ Returns on insiders' share trades were randomly distributed, nor was there any statistically significant causal relationship found between share returns and insider trades. The findings suggest that insiders do not generally benefit from an information advantage in trading their companies' shares. However, the findings do not rule out the possibility of individual instances of misuse of inside information.

The statistical results are not surprising nor are they at odds with an informal analysis of the time series data. At the start of the research project, several charts were constructed, each including a share price time series and the associated insider share trade dates. Chart 2 is one such example. Merely by looking at the chart, the impression is gained that there is no systematic relationship between share returns and insider trades.

Analyses of excess returns were carried out for the entire stock market and on a company-by-company basis. The longest time period tested for excess returns was six weeks. For insider trades, the 17-month period 1 August 1997 – 31 December 1998, was studied. All in all, there were some 2 000 trades, with a combined value of about FIM 1.6 billion. The data were obtained directly from the FSA's monitoring system.

Since certain econometric problems attach to the modelling of excess returns, several different methods were employed in analysing insider share trades, including residual analysis of the market model and the Granger causality test. The results obtained for the various tests were similar, thus providing support for the reliability of the findings.

⁵ The results from this research are similar to those from recent work based on data on foreign stock exchanges; see eg Eckbo, E and Smith, D (1998), 'The Conditional Performance of Insider Trades', *Journal of Finance*, Vol LIII, No 2 or Lakonishok, J and Lee, I (1998), *Are Insiders' Trades Informative*, National Bureau of Economic Research, Working Paper 6656.

Chart 2.



Concluding remarks

The research data indicate that insiders own some 2 per cent of the capitalized value of shares listed on HEX. Ownership is, however, very unevenly distributed. The majority (56 per cent) of insiders do not own any shares issued by their employers and 83 per cent of them do not trade in such shares. There were about 120 insiders (7 per cent of all insiders) whose trades exceeded FIM 100 000. The concentration of trading is well illustrated by the fact that about 1 per cent of the insiders carried out some 60 per cent of the trades, in value terms. It is apparent that the regulation of insider share trading affects a very small group of persons, since very few of them actively trade shares.

It is difficult to find bases for international comparisons regarding the above figures. However, according to sector data published by the Securities and Exchange Commission (SEC), the relative share of US companies owned by insiders is about twice the corresponding figure for insider ownership of Finnish companies. Owing to reporting differences, a direct comparison is not possible. In terms of share value, insider trading accounts for about 1 per cent

of total turnover on HEX. According to a study by Lakonishok and Lee (1998), insiders account for about 2 per cent of the value of trades on the New York Stock Exchange, ie twice as much as for HEX.

The findings of this research suggest that insider share trading is not a particularly important factor as regards the reliability and credibility of share trading on HEX. This conclusion is founded primarily on three findings of the research on which this article is based:

The proportion of the total capitalized value of HEX that is owned by insiders and corporate entities under their control is quite small; ie some 2 per cent at end-1997.⁶

The proportion of insider trades on HEX is very small, ie some 1 per cent of total turnover during the period studied.⁷ Thus insider trading cannot be considered to play an important role in determining share prices.

As statistical tests indicate that the timing of insider share trades is no better than that for investors on average, it seems unlikely that insider trades are generally based on inside information.

Despite the findings of the research project reported here, individual instances of misuse of inside information are always possible. In order to study such cases, a different approach is required, ie one involving the testing of systematic excess returns. The FSA's system for monitoring trades is under continuous development so as to enable the swift and effective analysis and combination of data from different sources. The aim is to ensure that the FSA can intervene more effectively in the event of possible individual cases of misuse of inside information.

29 January 1999

■ **Key words:** corporate insider, insider trading, inside information, disclosure, insider holdings

⁶ For 23 of the companies, the proportion of market capitalization owned by insiders was less than 0.1 per cent.

⁷ For 24 of the companies, insiders accounted for less than 0.1 per cent of total turnover.

The Bank of Finland's assessment of credit risk associated with collateral

The Bank of Finland grants credit to its counterparties only against adequate collateral. This also applies to the Bank's credit operations within the framework of the European System of Central Banks (ESCB). As from the beginning of 1999 the collateral base for ESCB credit operations was widened so that the same assets are now eligible for use as collateral throughout the euro area. In order to ensure the equal treatment of counterparties and enhance operational efficiency, eligible assets must also fulfil certain criteria that are uniform throughout the euro area. At the same time, however, efforts have been made to take account of the special features of the member states' financial markets, as evidenced above all in the national tier two lists of eligible assets.

Eligible assets must also meet certain minimum credit standards that are jointly approved by the respective national banks and the ECB. National central banks may base their assessment of the credit risk that attaches to underlying assets on, *inter alia*, ratings published by market rating agencies or on their own corporate analyses.

The Bank of Finland decided last year that assets would be accepted in tier two only if they had been awarded an acceptable credit rating by a rating agency. At the same time the Bank decided that it would not reimburse companies for the expenses incurred in obtaining a rating. Ratings may be awarded by either domestic or foreign rating agencies, provided that certain criteria are met. These criteria include, *inter alia*, publicity of ratings, good predictive power and comparability with international credit ratings. Rating agencies must also be as independent as possible of the companies rated.

The Bank of Finland made a decision on domestic rating agencies in December last year. The studies carried out in support of the decision revealed that Dun & Bradstreet Finland Oy was in a position to start making extended credit risk assessments meeting the criteria set by the Bank of Finland. Two other Finnish companies, Finnvera Oyj and Vakuutusosakeyhtiö Garantia, also indicated their willingness to make credit risk assessments fulfilling these criteria. If the proposed rating services of these companies meet the conditions laid down by the Bank of Finland, the Bank will be prepared to use the rating services of these companies as well in assessing credit risks.

Monetary Policy Instruments

Key interest rates of the Eurosystem

The Eurosystem comprises the ECB and the eleven national central banks participating in Stage Three of Economic and Monetary Union. The main refinancing operations are the principal monetary policy instrument used by the Eurosystem. Changes in the interest rate applied in the main refinancing operations signal the stance of the Eurosystem's monetary policy and have a major impact on the shortest money market rates. Since 1 January 1999 the interest rate applied to the main refinancing operations has been 3 per cent.

The Eurosystem uses the rates on its standing facilities to bound overnight market interest rates. The interest rates on the marginal lending facility and the deposit facility are set separately by the Eurosystem. Since 22 January 1999 the interest rate on the Eurosystem's marginal lending facility has been 4.5 per cent and the overnight interest rate on the deposit facility 2 per cent.

The Eurosystem's open market operations

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

The *main refinancing operations* are weekly liquidity-providing operations executed by the national central banks on the basis of tenders and with a maturity of two weeks. They play a pivotal role in pursuing the purposes of the Eurosystem's open mar-

ket operations and provide the bulk of refinancing to the financial sector.

The *longer-term refinancing operations* are liquidity-providing tender operations with a monthly frequency and a maturity of three months. These operations aim to provide counterparties with additional longer-term refinancing. In these operations, the Eurosystem does not, as a rule, intend to send signals to the market and therefore the operations are normally executed on the basis of variable-rate tenders.

Fine-tuning operations are executed on an ad hoc basis in order to smooth the effects on interest rates of unexpected liquidity fluctuations in the market. Fine-tuning operations are executed by the national central banks primarily as reverse transactions, but they can also take the form of outright transactions, foreign exchange swaps and the collection of fixed-term deposits.

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.

The Eurosystem's standing facilities

The standing facilities are intended to bound overnight interest rates, provide and absorb overnight liquidity and 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 the 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 with

the national central banks. The interest rate on the deposit facility provides a floor for the overnight market interest rate.

The Eurosystem's minimum reserve system

The Eurosystem's minimum reserve system applies to credit institutions in the euro area and primarily pursues the aims of stabilizing money market interest rates and creating (or enlarging) a structural liquidity shortage. The reserve base of each credit institution is defined in relation to liability items on its balance sheet. The reserve base includes deposits, debt securities issued and money market paper. However, liabilities vis-à-vis other institutions subject to the minimum reserve system are not included in the reserve base. Liabilities included in the reserve base are subject to either a 2 per cent reserve ratio or to a 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 stabilizing interest rates, the Eurosystem's minimum reserve system enables institutions to make use of averaging provisions. Compliance with the reserve requirement is determined on the basis of the institution's average

daily reserve holdings over a one-month maintenance period. Institutions' holdings of required reserves are remunerated at the rate of the Eurosystem's main refinancing operations.

Counterparties to the Eurosystem's monetary policy operations

All institutions subject to the Eurosystem's minimum reserve system may access the Eurosystem's standing facilities and participate in the Eurosystem's main refinancing operations and longer-term refinancing operations. The Eurosystem may, however, limit the number of counterparties for fine-tuning operations and structural operations.

Assets eligible for the Eurosystem's monetary policy operations

Under the ESCB/ECB Statute, all the Eurosystem's credit operations must be based on adequate collateral. The Eurosystem accepts a wide range of securities, issued by both public sector and private sector entities, as underlying assets for its operations. A list of assets eligible for the Eurosystem's monetary policy operations is available on the ECB's website (<http://mfi-assets.ecb.int>).

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Indicators of the Cyclically Adjusted Budget Balance:

The Bank of Finland's Experience

Anne Brunila – Juhana Hukkinen – Mika Tujula
1/99

Cyclically adjusted government budget balances have become increasingly popular as a means of analysing the fiscal situation and changes in policy that result from the intentional actions of the government. As the actual budget balances are affected both by cyclical factors ('automatic stabilizers') and structural ('discretionary') measures, they may not, in general, be very useful when seeking to assess the orientation of underlying fiscal policy and possible structural imbalances in the budget balance. The problem however is that there is no generally accepted method of calculating cyclically adjusted (structural) budget balances. The results tend to be fairly noisy and sensitive to the method of calculation. The purpose of this article is to highlight these issues by reviewing three estimation methods used by the Bank of Finland – GDP smoothing based on the Hodrick-Prescott trend estimation method, the production function approach and Blanchard's method – and the corresponding estimates of the cyclically adjusted budget balances for Finland.

■ **Key words:** fiscal policy, cyclically adjusted budget balance

Accountability of the ECB and a Government's Incentives to Rebel against the Common Monetary Policy in EMU

Olli Castrén

2/99

This paper considers how the ‘true’ common monetary policy that is conducted by the ECB under various sources of uncertainty will differ from the policy that was agreed in the Maastricht Treaty, and how the uncertainties may induce a representative government to criticize the common monetary policy. Acquiring information about the transmission mechanism, and revealing that information as well as information about the ECB reaction function, is incentive compatible for the ECB both directly and indirectly. The direct effect means that the ECB’s own welfare is decreasing in uncertainties. The indirect effect arises because less uncertainty reduces the risk of criticism from individual governments. The risk of criticism is the larger, and consequently the indirect incentive to reduce uncertainty is the higher, the larger are the leftward shifts in national political preferences from those that prevailed when the Maastricht Treaty was signed. The model also provides an explanation for the ECB’s choice of a monetary policy strategy that incorporates elements of both monetary targeting and inflation targeting.

■ **Key words:** monetary uncertainty,
monetary strategy, EMU

Euroopan pankkien kehitysnäkymä

(Future Prospects for European Banks)

Atso Andersen – Mikko Niskanen –

Sami Yläoutinen

3/99

European internal markets and deregulation are among the factors that have given rise to certain pressures for change in the banking industry in continental Europe. Stage Three of EMU is expected to serve as a catalyst for such changes. This discussion paper analyses prospective structural changes, accesses factors behind current and future banking mergers and

acquisition activity and analyses the level of bank profitability, solvency and efficiency. In terms of overall financial stability foregoing structural change in banking is inevitable, because a macroeconomic shock in Europe, in addition to having repercussions on the real economy, could weaken the profitability of European banks. On the other hand increasing competition for market share in the euro area might incline some individual banks toward excessive risk-taking and in turn lead to even larger losses.

■ **Key words:** financial system, EMU, banks

BOFIT Discussion Papers

Currency Crisis Theories – Some Explanations for the Russian Case

Tuomas Komulainen

1/99

The paper examines currency crisis theories and applies them in searching for the main causes of the Russian crisis. We first study the determination of the exchange rate and then the first and second generation theories on currency crisis and finally the recent theoretical discussions of the Asian crisis. The main reason for the Russian crisis was the long-standing federal budget deficit. During the last years the deficits were financed mainly via short-term domestic debt. This created expectations of government insolvency and central bank financing. Moreover, the Russian economy has its own basic weaknesses, which render the country incapable of growth and prone to crisis. The Asian crisis was a trigger for the Russian crisis. Lower prices for Russian export products, inadequate financial regulations and lack of information in emerging markets in general are factors explaining this contagion effect. But the main mistakes that led to the crisis were those of the Russians themselves – the federal budget deficits. Thus the repair work should also start from there.

■ **Key words:** currency crisis, Russia, budget,
contagion

Finland in brief

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 8 % 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 5 159 646 (31 December 1998) and an average population density of 17 per square kilometre. The largest towns are Helsinki (Helsingfors), the capital, with 546 317 inhabitants, Espoo (Esbo) 204 962, Tampere (Tammerfors) 191 254, Vantaa (Vanda) 173 860 and Turku (Åbo) 170 931.

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 her 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 1994 to 1 March 2000, is Mr Martti Ahtisaari.

Parliament, comprising 200 members, is elected by universal suffrage for a period of four years. Following the parliamentary elections of 1995, the seats of the various parties in Parliament are distributed as follows:

Social Democratic Party 63; Centre Party 44; National Coalition Party 39; Left Wing Alliance 22; Swedish People's Party 12; Green League 9; Christian League 7; Progressive Finnish Party 2; Rural Party 1; and Ecological Party 1.

Of the 18 ministerial posts in the present Government appointed in April 1995, 7 are held by the Social Democratic Party, 5 by the National Coalition Party, 2 by the Left Wing Alliance, 2 by the Swedish People's Party, 1 by the Green League and 1 by an expert with no party affili-

ation. The Prime Minister is Mr Paavo Lipponen of the Social Democratic Party.

Finland is divided into 452 self-governing municipalities. Members of the 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.

Having abolished most quantitative restrictions on foreign trade in 1957, Finland first took part in European free trade arrangements under the auspices 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 beginning of 1994. Finland became a member of the European Union on 1 January 1995. Finland and ten other EU countries entered to Stage Three of EMU in 1999.

The economy

Output and employment. Of the gross domestic product of FIM 583 (EUR 98) billion in basic values in 1998, 2 % was generated in agriculture and fishing, 3 % in forestry, 30 % in industry, 5 % in construction, 12 % in trade, restaurants and hotels, 9 % in transport and communications, 4 % in finance and insurance, 15 % in other private services and 20 % by producers of government services. Of total employment of 2.2 million persons in 1998, 6.5 % were engaged in primary production, 27.6 % in industry and construction and 65.9 % in services.

In 1998, expenditure on the gross domestic product in purchasers' values amounted to FIM 676 billion and was distributed as follows: net exports 9 % (exports 40%, imports -31%), gross fixed capital formation 19 %, private consumption 51 % and government consumption 22 %. Finland's tax ratio (gross taxes including compulsory employment pension contributions relative to GDP) was 46.9 per cent, which is somewhat below the average for the Nordic countries.

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, 3.7 % in 1980–89 and 3.7 % in 1990–98. Finland's GDP per capita in 1997 was USD 24 537.

Foreign trade. EU countries absorb the bulk of Finnish merchandise exports. In 1993–1998 their average share was 53.5 %. Over the same period, Finland's exports to other European countries (including Russia) accounted for 20.6 % and to the rest of the world for 25.9 %. The regional distribution of Finland's merchandise imports in the same period has been quite similar to that of exports: EU countries accounted for 56.4 %, other European countries for 19.6 % and the rest of the world for 24.0 %.

In 1998, the share of forest industry products in total merchandise exports was 30.5 %, the share of metal and engineering products 45.8 % and the share of other goods 23.7 %. Raw materials and intermediate goods (incl. crude oil) accounted for 56.3 % of merchandise imports, fuels for 2.7 %, investment goods for 16.7 % and consumption and other goods for 24.3 %.

Forest resources. Finland has abundant forest resources but only limited amounts of other raw materials. The growing stock comprises 1 937 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 1989–1994, the annual volume increment was about 75.4 million cubic metres. Over the same period the average annual drain was about 55 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 beginning 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 beginning of 1999 the currency unit used in Finland is the euro, which is divided into 100 cent. The markka will, however, remain as the national denomination of the euro until the year 2002, and during this time notes and coins denominated in markkaa will continue to be used.

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 Com-

munity 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 from 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 4 branch offices in other towns.

Other banks (31 Dec 1998). Finland has three major groups of deposit banks with a total of about 1 600 offices. There are two big commercial banks with national branch networks and seven smaller ones. The commercial banks have a total of 11 foreign branches, subsidiaries and associate banks and 17 representative offices abroad. There are 40 savings banks and 289 cooperative banks, both with extensive branch networks. In addition, 6 foreign banks have branches and 6 foreign banks have representative offices in Finland.

Financial markets. The total stock of domestic credit amounted to FIM 710 billion at end-September 1998 and was broken down by lender group as follows: deposit banks 51 %; insurance companies 6 %; pension insurance institutions 24 %; other credit institutions 9 %; central and local authorities and social security funds 10 %.

In the money market, the total value of instruments outstanding was about FIM 136 billion at end-December 1998; bank certificates of deposit accounted for 81 % of the total and Treasury bills, commercial paper and local authority paper for the rest.

At end-December 1998 there were 91 companies on the Main List, 40 on the Investors' List and one company on the Prelist of the HEX, Helsinki Exchanges. At end-December 1998 total market capitalization was FIM 764 billion for the Main List, FIM 9 billion for the Investors' List and FIM 10 billion for the Prelist. Domestic bonds and debentures in circulation at end-December 1998 amounted to FIM 313 billion; government bonds accounted for 78 % of the total. Share turnover on the HEX, Helsinki Exchanges amounted to FIM 323 billion in 1998.



VISITING SCHOLARS PROGRAMME

BANK OF FINLAND

The Bank of Finland, the national central bank, has 750 employees, some 30 of whom are involved in research. The Bank is located in Helsinki.

The Bank of Finland welcomes applications from foreign and Finnish scholars for a post under the Bank's 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 electronification 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

to:
Research Department
Bank of Finland
P.O.Box 160
Helsinki, Finland
Fax: +358 9 183 2560
Email: Kaisa-Liisa.Nordman@bof.fi

Inquiries: Juha Tarkka, Head of Research Department,
phone +358 9 183 2581, email Juha.Tarkka@bof.fi
or
Jouko Vilmunen, Research Supervisor, Research Department
phone +358 9 183 2594, email Jouko.Vilmunen@bof.fi

Balance sheet of the Bank of Finland, EUR million

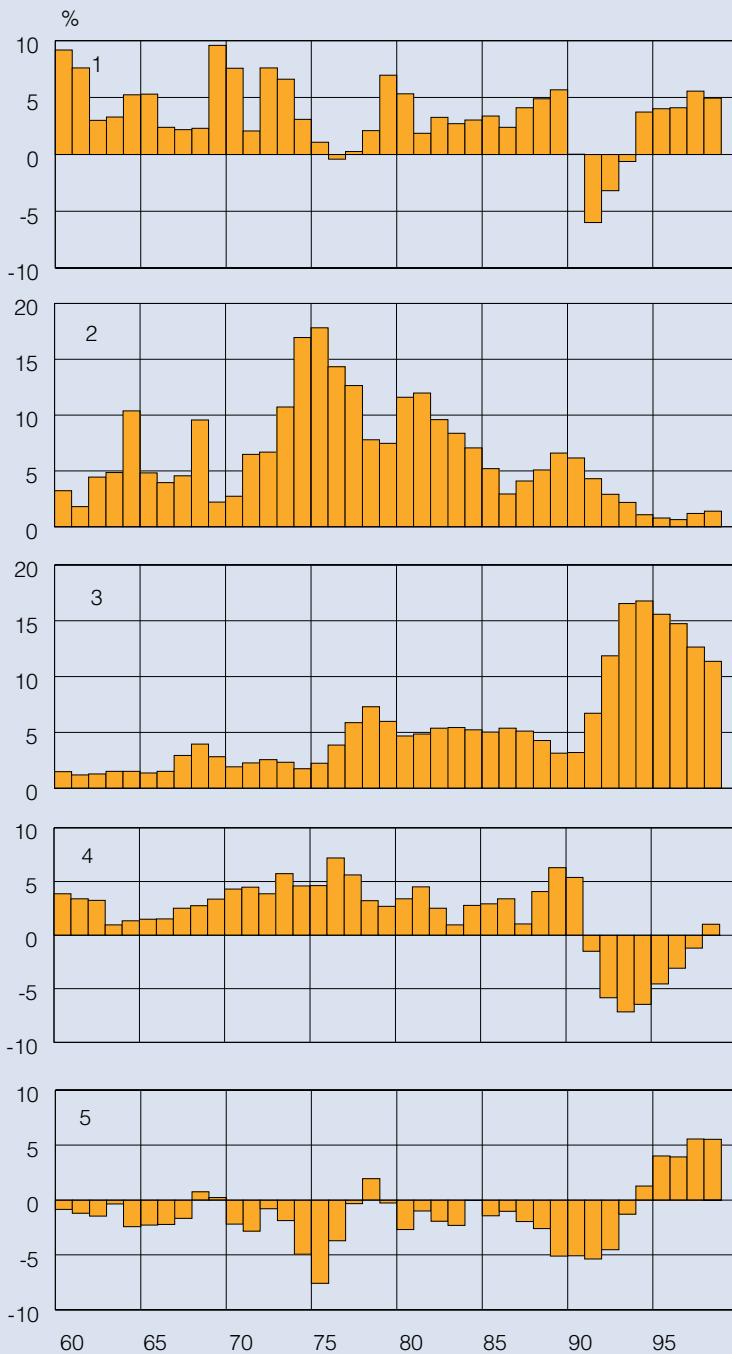
Assets	1999	
	29 Jan	26 Feb
1 Gold and gold receivables	389	389
2 Claims on non-euro area residents denominated in foreign currency	7 293	7 068
2.1 Receivables from the IMF	945	789
2.2 Balances with banks and security investments, external loans and other external assets	6 348	6 278
3 Claims on euro area residents denominated in foreign currency	320	459
4 Claims on non-euro area residents denominated in euro	680	3 848
4.1 Balances with banks, security investments and loans	680	3 848
4.2 Claims arising from the credit facility under the ERM II	0	0
5 Lending to financial sector counterparties of euro area	1 234	1 644
5.1 Main refinancing operations	619	1 191
5.2 Longer-term refinancing operations	611	452
5.3 Fine-tuning reverse operations	0	0
5.4 Structural reverse operations	0	0
5.5 Marginal lending facility	0	0
5.6 Credits related to margin calls	0	0
5.7 Other lending	3	1
6 Securities of euro area residents denominated in euro	0	0
7 General government debt denominated in euro	0	0
8 Intra-Eurosystem claims	768	1 873
8.1 Participating interest in ECB	70	70
8.2 Claims equivalent to the transfer of foreign currency reserves	699	699
8.3 Claims related to the issuance of ECB debt certificates	0	0
8.4 Other claims within the Eurosystem (net)	0	1 104
9 Other assets	602	623
Total assets	11 286	15 903

	1999	
	29 Jan	26 Feb
Liabilities		
1 Banknotes in circulation	2 492	2 463
2 Liabilities to euro area financial sector counterparties denominated in euro	1 030	1 962
2.1 Current accounts (covering the minimum reserve system)	1 030	1 962
2.2 Deposit facility	0	0
2.3 Fixed-term deposits	0	0
2.4 Fine-tuning reverse operations	0	0
2.5 Deposits related to margin calls	0	0
3 Liabilities to other euro area residents denominated in euro	28	53
3.1 General government	0	0
3.2 Other liabilities	28	53
4 Liabilities to non-euro area residents denominated in euro	1 520	7 544
5 Liabilities to euro area residents denominated in foreign currency	0	0
6 Liabilities to non-euro area residents denominated in foreign currency	99	115
6.1 Deposits, balances and other liabilities	99	115
6.2 Liabilities arising from the credit facility under the ERM II	0	0
7 Counterpart of special drawing rights allocated by the IMF	172	172
8 Intra-Eurosystem liabilities	2 370	0
8.1 Liabilities related to promissory notes backing the issuance of ECB debt certificates	0	0
8.2 Other liabilities within the Eurosystem (net)	2 370	0
9 Other liabilities	29	47
10 Revaluation account	430	430
11 Capital and reserves	3 116	3 116
Total liabilities	11 286	15 903

Charts

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2. Price stability in the euro area and Finland
3. Monetary aggregates for the euro area
4. Growth of the money stock
5. Eurosystem interest rates and money market rates
6. Eurosystem (Bank of Finland) interest rates
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9. Eurobor rates, monthly values
10. Differential 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
15. Three-month interest rates in the Nordict countries, monthly values
16. International long-term interest rates, monthly values
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52. Net international investment position
53. Industrial confidence indicator
54. Consumer confidence indicator
55. GDP and industrial production
56. Unemployment rate
57. Level of earnings in industry
58. Asset prices

1. 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

2. Price stability in the euro area and Finland



Harmonized index of
consumer prices,
12-month percentage change
1. Euro area countries
2. Finland

3. Monetary aggregates for the euro area



1. M3, 12-month percentage change
2. M3, 12-month percentage change, smoothed by means of a 3-month moving average
3. Eurosystem's reference value for the growth of M3

4. Growth of the money stock



- 12-month percentage change
1. M3 for the euro area
2. Deposits and other liabilities of
Finnish monetary financial
institutions included in M3

5. Eurosystem interest rates and money market rates



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

6. Eurosystem (Bank of Finland) interest rates



Bank of Finland interest rates until end-1998

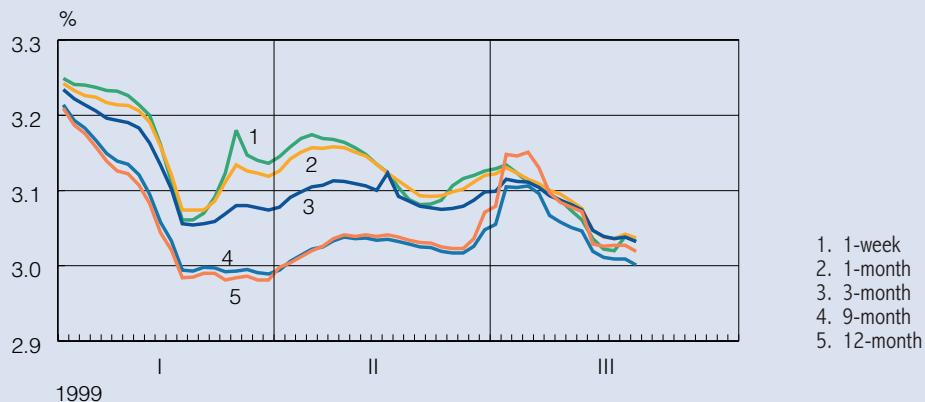
1. Marginal lending rate (liquidity credit rate until end-1998)
2. Deposit rate (excess-reserve rate until end-1998)
3. Main refinancing rate (tender rate until end-1998)

7. Official interest rates



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

8. Euribor rates, daily values



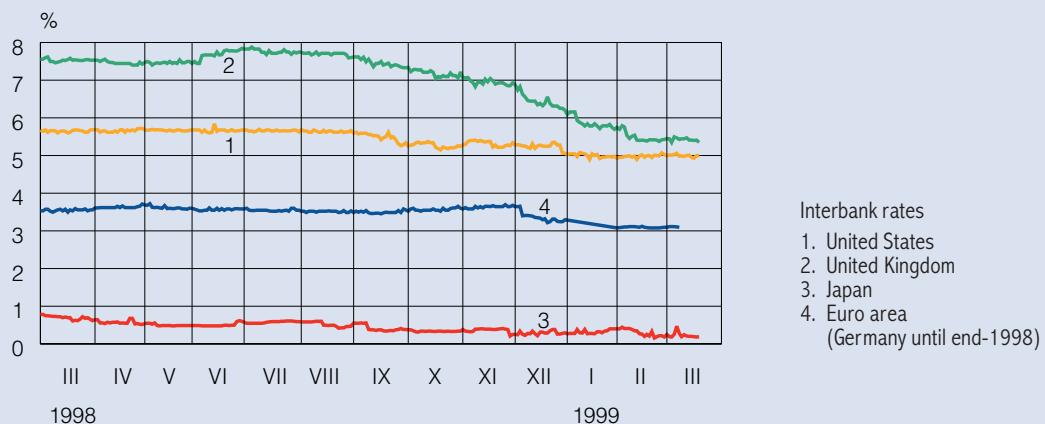
9. Euribor rates, monthly values



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



11. International three-month interest rates, daily values



Interbank rates

1. United States
2. United Kingdom
3. Japan
4. Euro area
(Germany until end-1998)

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



Interbank rates

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

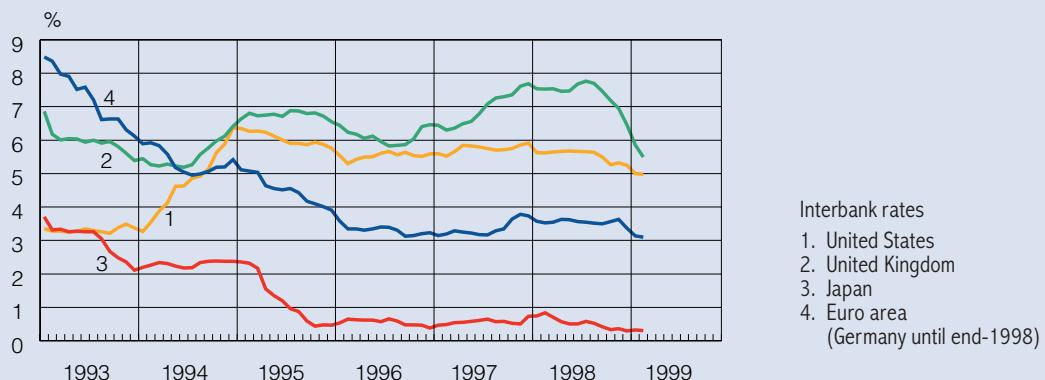
13. International long-term interest rates, daily values



Yields on ten-year government bonds

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

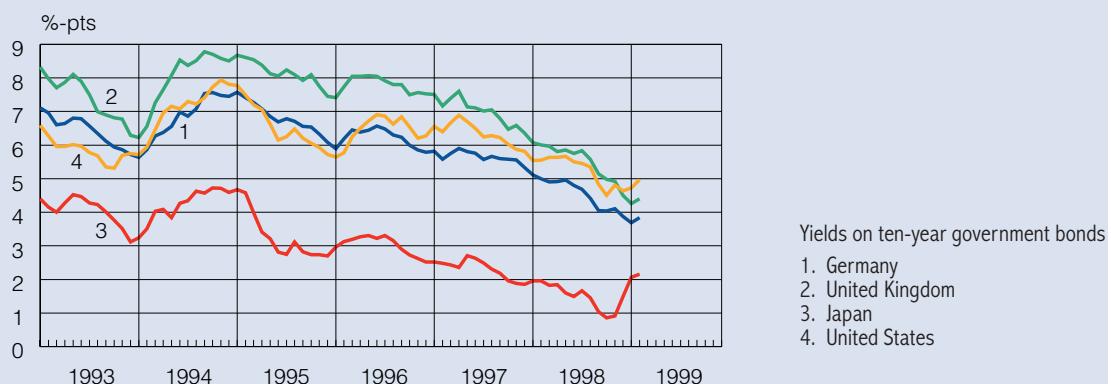
14. International three-month interest rates, monthly values



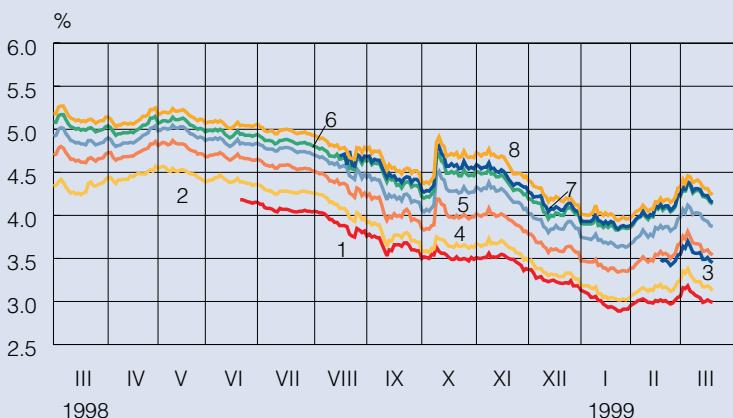
15. Three-month interest rates in the Nordic countries, monthly values



16. International long-term interest rates, monthly values



17. Yields on benchmark government bonds



1. Bond maturing on 21 June 2000, 4 %
2. Bond maturing on 15 September 2001, 10 %
3. Bond maturing on 12 November 2003, 3.75 %
4. Bond maturing on 15 March 2004, 9.5 %
5. Bond maturing on 18 April 2006, 7.25 %
6. Bond maturing on 25 April 2008, 6 %
7. Bond maturing on 25 April 2009, 5 %
8. Bond maturing on 15 October 2010, 8.25 %

18. Yields on five and ten-year government bonds



1. 5 years
2. 10 years

19. Bank reference rates



1. Merita prime
2. Leonia prime
3. Op prime

20. Bank deposit rates



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

21. Bank lending and deposit rates



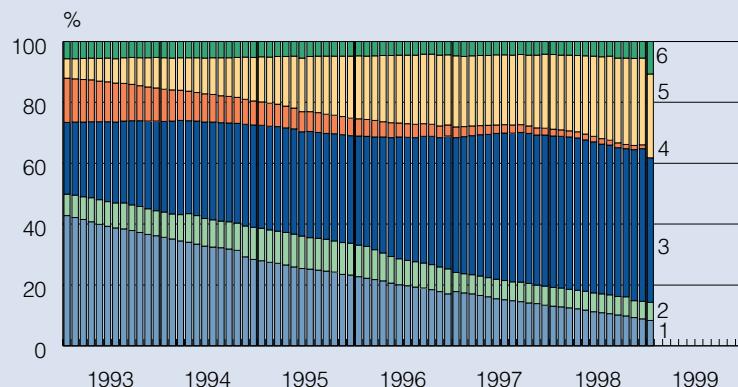
1. Rate on new lending
2. Average lending rate
3. Average deposit rate

22. Bank lending rates on new lending to households



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

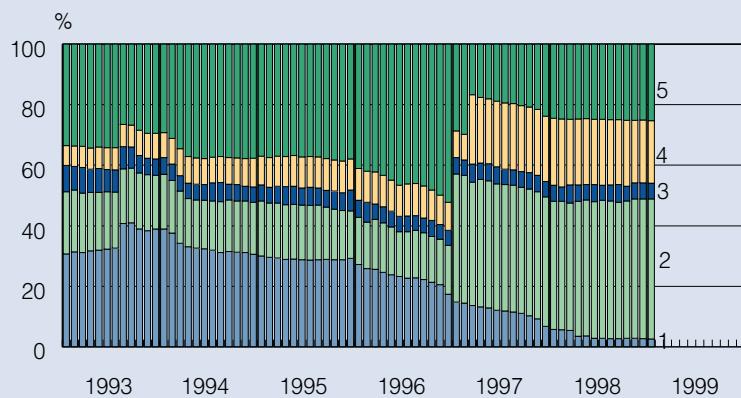
23. Stock of bank lending



Interest rate linkages, percentages

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

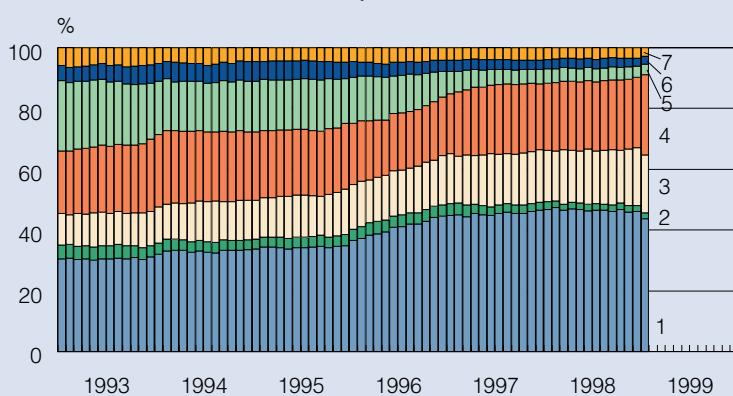
24. Stock of bank deposits



Interest rate linkages, percentages

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

25. Structure of bank deposits



1. Tax-exempt cheque and transaction accounts

2. Cheque and transaction accounts subject to withholding tax

3. Other taxable cheque and transaction accounts

4. Tax-exempt fixed-term accounts and other accounts

5. Fixed-term accounts and other accounts subject to withholding tax

6. Other taxable accounts

7. Foreign currency accounts

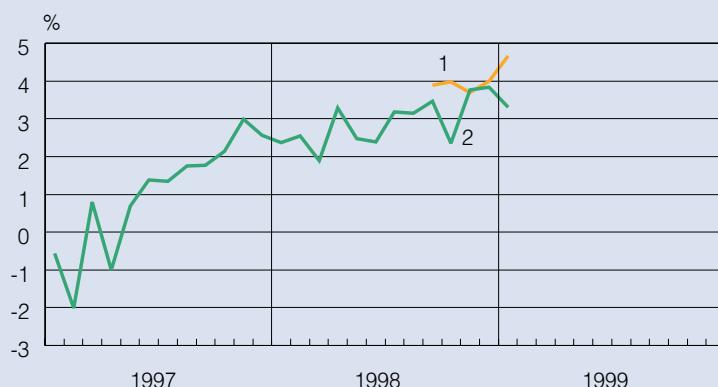
26. Liabilities of Finnish monetary financial institutions included in monetary aggregates for the euro area



12-month percentage change

1. Items included in M1:
transaction accounts
(=overnight deposits)
2. Items included in M2:
all deposits except fixed-term
deposits of over 2 years
3. Items included in M3: M2
deposits plus certain
securities and other items

27. Euro area and Finnish banks: growth of deposits



12-month percentage change

1. Deposits of euro area residents with euro area banks
2. Deposits of Finnish residents with Finnish banks

28. Euro area and Finnish banks: growth of lending



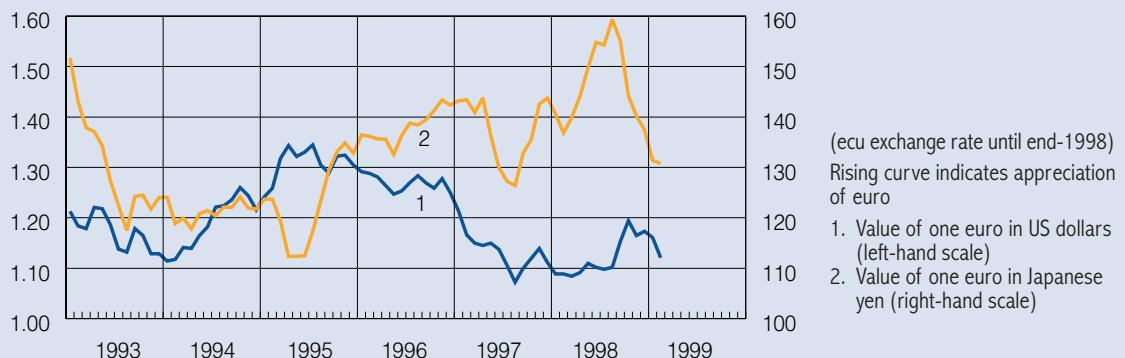
12-month percentage change

1. Lending by euro area banks to euro area residents
2. Lending by Finnish banks to Finnish residents

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



Rising curve indicates appreciation of euro

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

33. Trade-weighted indicator of competitiveness, daily values



4 January 1999 = 100

Rising curve indicates decrease in Finland's price competitiveness
Former Bank of Finland currency index

1. In relation to all countries (incl. euro area)
2. In relation to countries outside the euro area

34. Trade-weighted indicator of competitiveness, monthly values



4 January 1999 = 100

Rising curve indicates decrease in Finland's price competitiveness
Former Bank of Finland currency index

1. In relation to all countries (incl. euro area)
2. In relation to countries outside the euro area

35. Stock price indices in the euro area, daily values



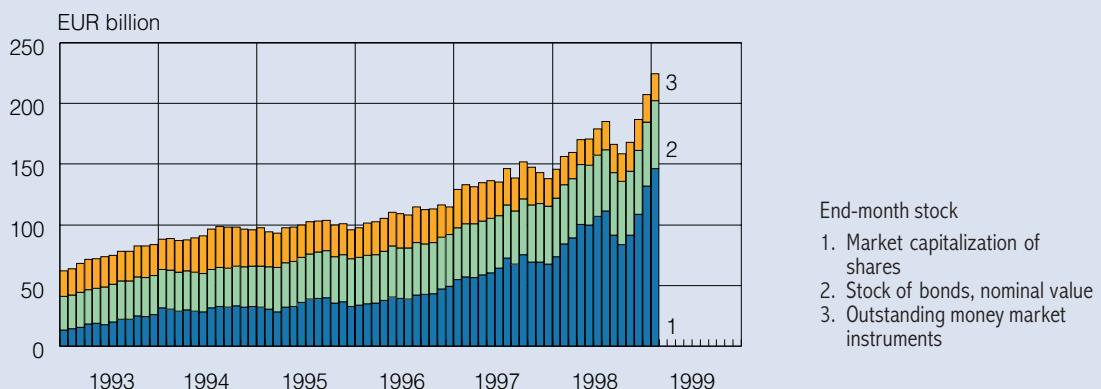
36. Stock price indices in the euro area, monthly values



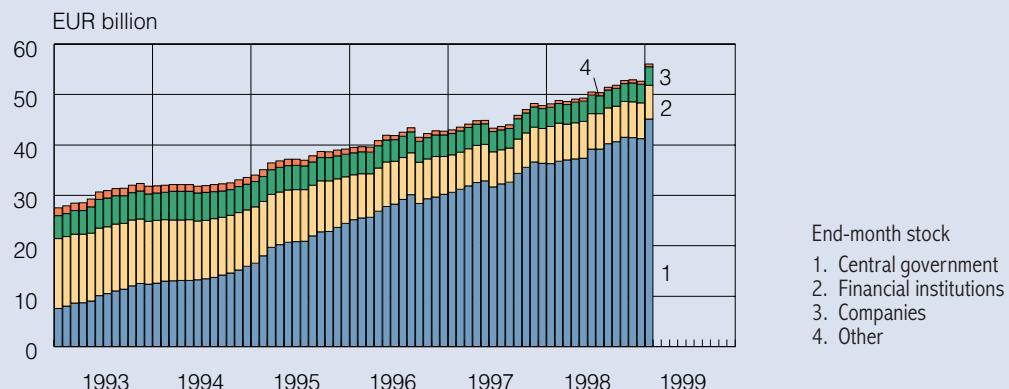
37. Listed shares: total market capitalization and foreigners' holdings



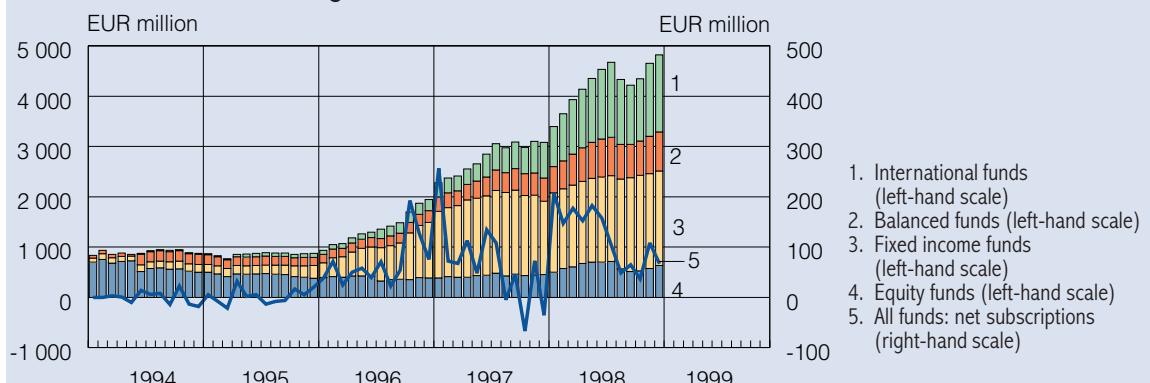
38. Securities issued in Finland



39. Bonds issued in Finland



40. Mutual funds registered in Finland



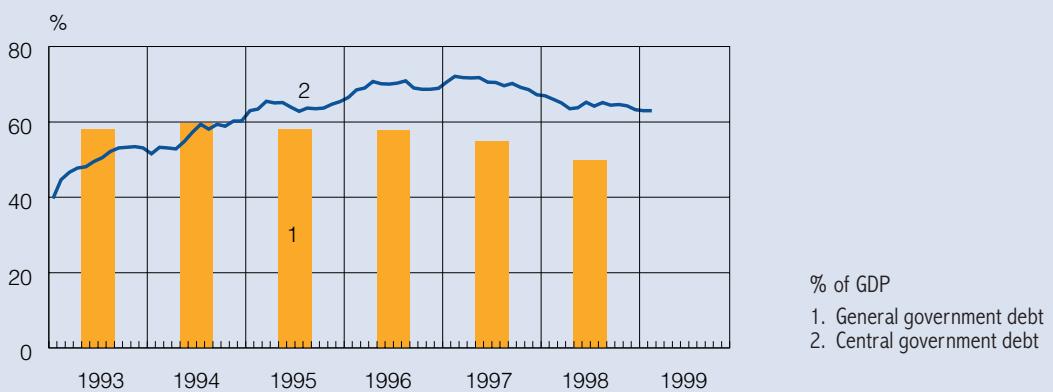
41. Central government revenue and expenditure



42. Public sector balances



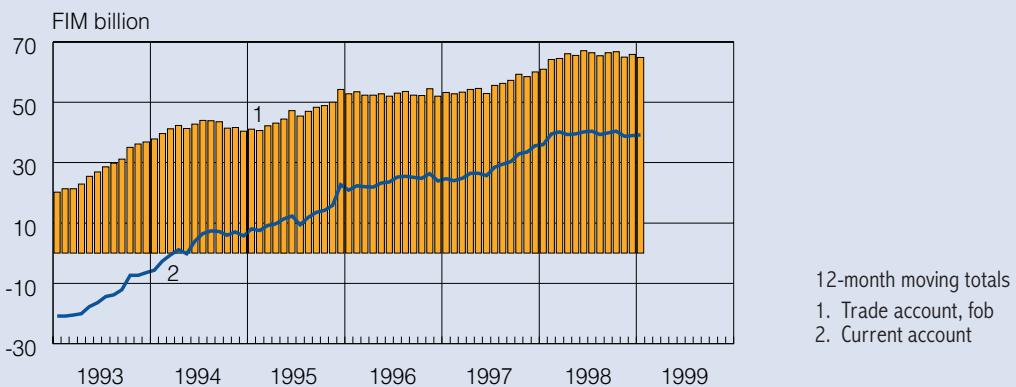
43. Public debt



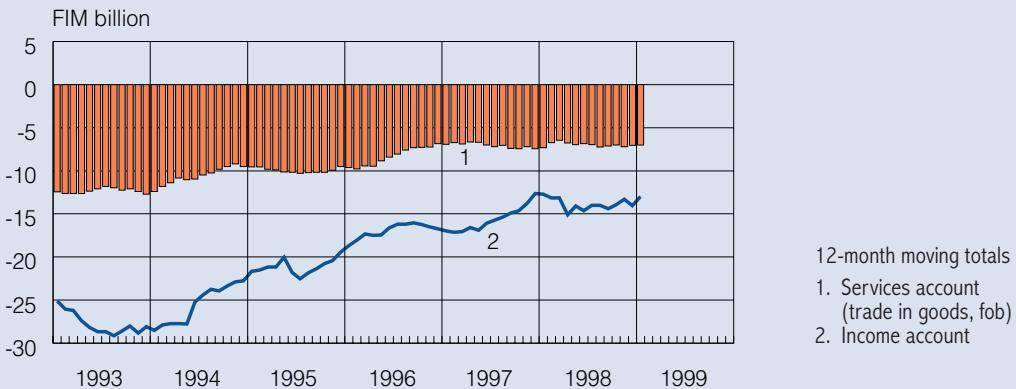
44. Net lending by sector



45. Trade account and current account



46. Services account and income account



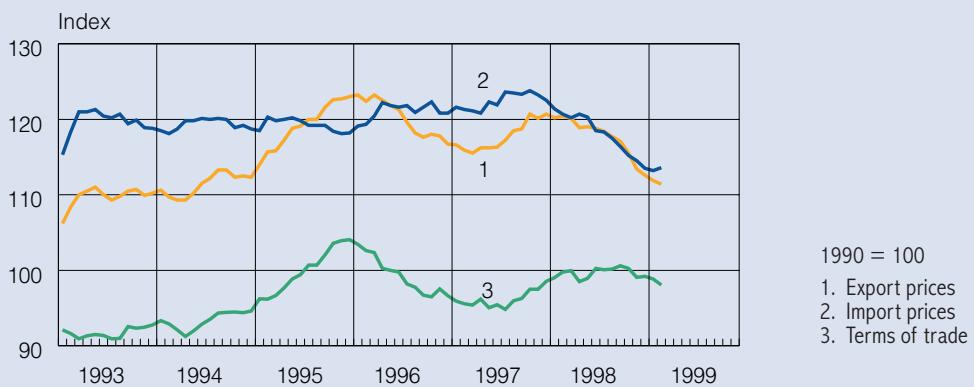
47. Regional distribution of exports



48. Exports by industry

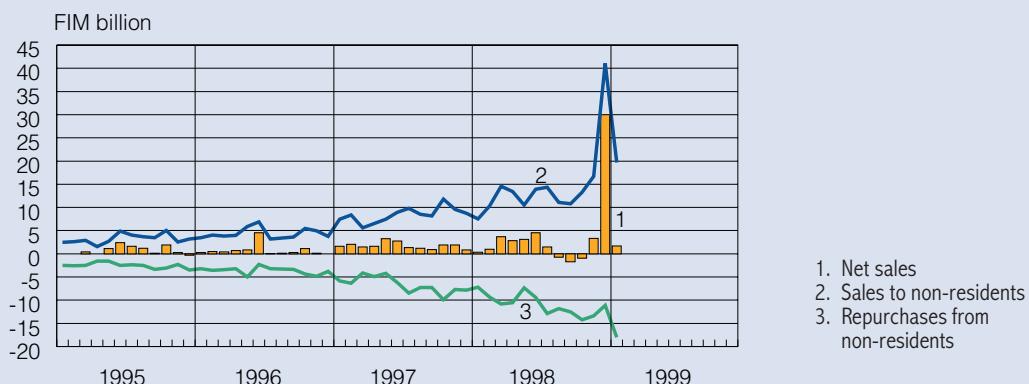


49. Foreign trade: export prices, import prices and terms of trade



Source: Statistics Finland

50. Non-residents' portfolio investment in Finnish shares



51. Direct investment



52. Net international investment position



53. Industrial confidence indicator



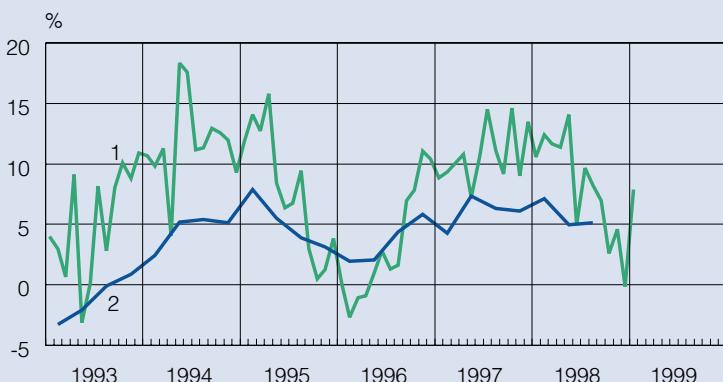
1. Euro area countries
2. Finland

54. Consumer confidence indicator



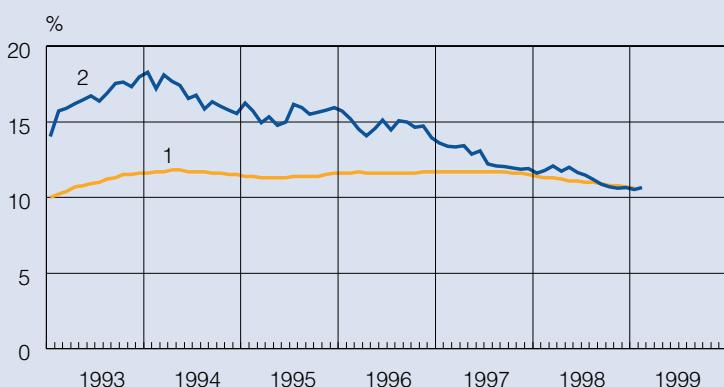
1. Euro area countries
2. Finland

55. GDP and industrial production



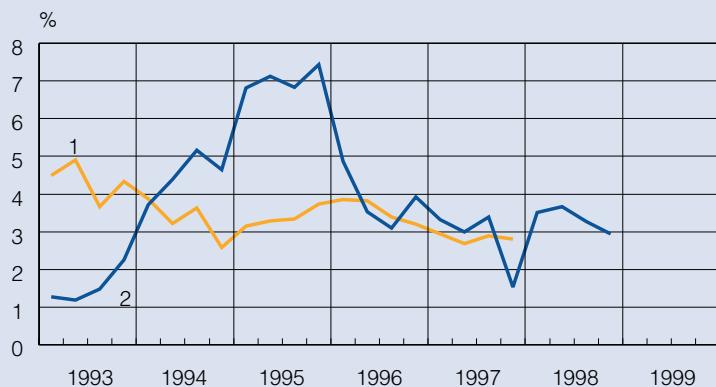
Percentage change from
previous year
1. Industrial production
2. Gross domestic product

56. Unemployment rate



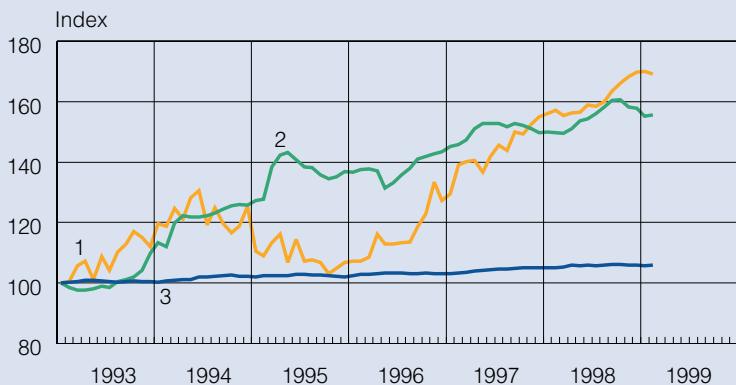
1. Euro area countries
2. Finland

57. Level of earnings in industry



- Percentage change from previous year
1. Euro area countries
2. Finland

58. Asset prices



- January 1993 = 100
1. Housing prices (old two-room flats; debt-free price per m²)
2. Stumpage prices
3. Consumer prices

The Organization of the Bank of Finland

26.1.1999

The Parliamentary Supervisory Council

Ikka Kanerva, Chairman, Johannes Koskinen, Vice Chairman,
Olavi Ala-Nissilä, Ben Zyskowicz, Tuulikki Hääläinen, Mauri Pekkarinen,
Anneli Jäättämäki, Martti Korhonen, Virpa Puisto

Anton Mäkelä, Secretary to the Parliamentary Supervisory Council

Financial Supervisory Authority

Kaarlo Jännäri, Director General

The Board

Matti Vanhala
Governor

Esko Ollila
Deputy Governor

Matti Louekoski
Member of the Board

Matti Korhonen
Member of the Board

Heikki T. Hääläinen, Secretary to the Board

Pentti Koivikko, Director

Pentti Pikkarainen
Monetary Policy
Kari Puumanen*

Heikki Koskenkylä
Financial Markets
Ralf Pauli*

Juha Tarkka
Research
David Mayes*

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Economics

Markus Fogelholm
Market Operations

Raimo Hyvärinen
Payments and
Settlement

Aura Laento
Personnel
Anton Mäkelä*

Urpo Levo
Payment Instruments

Heikki T. Hääläinen
Management
Secretarial Staff

Jyrki Ahvonen
Security

Pertti Simola
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Administration

Taina Kivelä
Internal Audit

Arno Lindgren
Legal Affairs

Martti Lehtonen
Information Services

Kjell Peter Söderlund
International Secretariat

Terhi Kivilahti**
Management
Development and
Organization

Antero Arimo
Publication and
Language Services

Antti Juusela
Communications

Institute for
Economies in Transition
Pekka Sutela

* Adviser to the Board

** In addition to own duties

Branch offices: Kuopio, Oulu, Tampere, Turku